DETAIL PROJECT REPORT

VISHWAKARMA YOJNA: - VIII
AN APPROACH TOWARDS RURBANISATION

Lilapur Village
AHMADABAD DISTRICT

PREPARED BY

NAME	BRANCH NAME	ENROLLMENT NO
PANKAJ BADGHA	CIVIL ENGINEERING	151130106024
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SAL COLLEGE OF ENGINEERING

GUIDE BY

PROF. HEMA V. VANAR

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

LILAPUR VILLAGE
AHMADABAD DISTRICT
Under
VISHWAKARMA YOJNA: Phase - VIII
AN APPROACH TOWARDS RURBANISATION

In partial fulfillment of the project offered by

GUJARAT TECHNOLOGICAL UNIVERSITY, CHANDKHEDA

During the academic year 2020-21.

Thisprojectworkhasbeencarriedoutbythemunderour supervisionand guidance.

NAME	BRANCH NAME	ENROLLMENT NO.
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Date of Report Submission:	
Principal Name and Signature:	**DR. RUPESH VASANI SIR**
VY-Nodal Officer Name and Signature:	
Internal (Evaluator) Guide Name and Signature:	**PROF. HEMA V.VANAR**
College name:	**SAL COLLEGE OF ENGINEERING**
College Stamp:	

ABSTRACT

- **Vishwakarma Yojana project and how you do your vision project?**
- Vishwakarma yojana is require for the rural areas which are actual help development in areas to provide better life style and fulfill basic requirement of the villagers. In this yojana we will try to reduce the distance between the rural and urban areas. Also we will try to make a better connectivity between the rural and urban areas.
- **About your village description:**
- The main objective of this yojana is 'creation of all the basic facilities or infrastructure such as Connectivity, civic, physical infrastructure along with the provision of economy generation by maintaining the natural surroundings of the area is the key element of this yojana' **lilapur** is a village in **Daskroi** taluka in Ahmedabad District of Gujarat State, India. It is located 22 km towards east from district headquarters Ahmedabad and 13 km away from the KALOL.
- **About existing village condition:**
- According to our survey in this village water supplied to the people is sufficient. Drainage system is not available. The condition of roads is Poor except entrance. There is no transportation facility in the village. In the village lack of basic facilities like public toilet, poor condition of panchayat building, Drainage system, there is no health center, Poor network connectivity, shortage of water for irrigation there is no public garden etc.
- **About your proposed designs your view for village development:**
- For the better future prospect they have to improve their infrastructure and also use some advance technologies . For development of the village infrastructure facilities like panchayat building, secondary school and public facilities like bus station are required. For sustainable development of the village rain water harvesting system, solar street light may be provided.
- **For cleaning purpose Bio-Gas plant providedAbout future scope of the village development:**
- Based on the survey we tried to give design of required basic facilities to fulfill their needs. By providing these basic facilities to villagers migration rate will be decreased. We can also implement the waste collection system and drainage system in the village so villagers can live life healthy. We can also provide better network connectivity in the village and also the mobile library in the village so villagers can improve their knowledge. It is the ultimate goal of the vishwakarma yojana.

- **Key Words:**
- **Rurbanization, Sustainable Development**
- **Infrastructure Facilities, Smart Development**

ACKNOWLEDGEMENT

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

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

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

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

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

We are also thankful to our **Prof**. (**Dr.) Rupesh vasani sir 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, **Mrs HEMA V. VANAR from SAL COLLEGE OF ENGINEERING** for their invaluable guidance, constant inspiration and active involvement in our project work.

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

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

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

CONTENT

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LIST OFFIGURES

ABBREVIATIONS

Short Name / Symbol	Full Name
PHC	Primary Health Center
CHC	Community Health Center
TDO	Taluka Developer Officer
DDO	District Developer Officer
PPP	Public Private Partnership
NGO	Non Governmental Organization
PURA	Provision of Urban Amenities in Rural Area
CSS	Centrally Sponsored Schemes
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
DEWATS	Decentralized Wastewater System
ZWM	Zero Waste Management
DRDA	District Rural Development Agency
EPF	Eco-friendly Plastic Fuel
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
PMGSY	Pradhan Mantri Gram Sadak Yojana
IAY	Indira Awash Yojana
NRuM	National Rurban Mission
PHC	Primary Health Center

-: Summary of Project Villages:-

Village features	Allocated Village	Ideal Village	Smart Village
Village	Lilapur	Raysan	Punsari
Taluka	Daskroi	Gandhinagar	Modasa
District	Ahmadabad	Gandhinagar	Sabarkantha
Sarpanch	Thakor Ganeshbhai	-	sunandaben
Talati	-	-	Ashishbhai chaudhary
Distance (km)	25	20	55.5
Population(As per Census 2011)	1567	1191	5500
Pin code	380060	383001	383307
Surveys	Techno-economic Survey	Techno-economic Survey	Smart Village Survey
Facilities/ Key Features	Gram Panchayat, RoadNetwork, Primary education, Anganwadi, O/H water tank, Post office,Sump, etc.	Gram Panchayat, Road Network, Outpost, Bus station, primary,& higher. Secondary education hospital, O/H Water tank, sump,Post office, college, etc.	Gram Panchayat, Road Network, Bus station, primary and secondary education, PHC, Entrancegate, O/H Water tank, sump, Post office, Village Pond, Recreational area, etc.
Drawbacks	Poor Maintenance	More people, traffic, etc.	Lack of services

Chapter 1: Ideal Village Visit From District Of Gujarat State:

1.1 Background

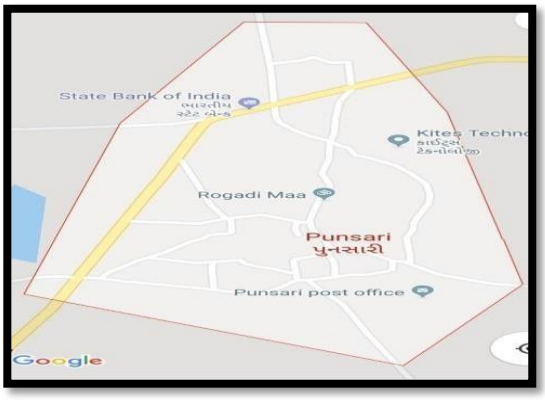


Figure: 1.1.1(a)
Map of PUNSARI

Figure: 1.1.1(b)
Satellite view of Punsari

The Image That Come In Minds of A Typical Indian Village Consists Of Rugged Roads, Frequents Power Cuts, Improper Working Of Schools, Improper Water Distribution, Garbage's Everywhere. But not In Case Of Punsari Village of Gujarat in India. The Village Is Located In Sabarkantha District Of Gujarat, India.

- Vishwakarma yojana is one of the platform for the development of the village.
- Vishwakarma yojana is the approach towards the urbanization.
- Vishwakarma yojana is the government project for the development of the village and try to make a better life style for them and also increase their health & wealth.
- By this project we can approach the rural area try to find actual problems of the rural areas and also we can find some solution for them.
- By this project we can connect directly to the villagers which are doing various occupation like farming, govt. job, business, animal husbandry labour work, house industry andmany more things.
- By interactingwith these peoplewe can realise and alsowe can find actual problemsfacing by them and also we can develop some ideas and some solution for them.
- This project can reduce migration, unemployment and also itwill increase the development of rural areas.

❖ Though various govt. departments are involved in various infrastructural development works, an ideal view and modern solution etc. can be provided by this

❖ By this project we can also connect the urban area to the rural areas and employment will be increase also farmers can learn new technique and new method for the farming.

The Panchayat Has Installed A Reverse Osmosis Plant In 2010 To Ensure The Supply Of Clean Drinking Water To The Villagers. During Wedding and Other Ceremonies Water Tankers Are Arranged. Drinking Water applications Available for All. The Gram Panchayat Has Created 3.5Km Of Underground Drainage System. The Village Has An Area Of 1.5 Square Km. The Gram Panchayat Has Spent 1.5crore To Build A Wall To Wall Extended Concrete Road Inside The Village.

Fig.1.1.2 Street lights

The Village Has Set Up The Electricity Generation Plant For The Generation Of Electricity By Waste Generated In The City. A Tractor Trailer Collects Waste Twice In A Day From The Village. The Government Has Installed A 66 Kv Sub-Station In The Village That Supplies 24x7 Power To Village. This Has Helped Improving the Lives of People And Helped The Panchayat To Implement Various Other

Infrastructure Facilities. There Have Been Around 350 Street Lights Have Been Set Up With LED Lights, Which Run On Solar Power.

Figure1.1.3 Street Light & C.C.T.V. Camera

Figure 1.1.4 Wi-Fi Connectivity

The Village Has Wi-Fi Connectivity since 2010 and Has Entered Into A Lease Line Agreement with Reliance Communication. The Gram Panchayat Takes 10rs Per Month For Unlimited Internet Excess With A Speed Of 3 Mbps. CCTV Camera Installations At Key

Locations Has Helped Maintain A Civil Discipline Inside The Village. Similarly, CCTV Cameras Have Been Installed Inside The Schools And Health Centre And It Consist of 124 Cameras In Whole Village At Every Street And Corners. For The Announcement Of Any Instructions In Emergency Situation They Have Installed 140 Speakers On Every Streets Of This Village, Which Is Directly Operated From The Panchayat.

Fig1.1.5 Primary School

There Are Five Primary Schools in Punsari. All The Five Schools Have CCTV Cameras Placed To Enable Parents Check Their Wards 'Performance Without Interrupting The Lectures And Also To Keep A Watch On The Teachers.

The School Drop-Out Rate Is Zero In Punsari. The Village Was Rated B+ During Ganotsav 2011 Which Is An Annual Education Campaign Run By The State Government. Similarly, There Are Eight Anganwadi Centers Running In The Village With 450 Kids Enrolled. There Is One Milk Bank And One Outpost Police Station. There Is Proper Sanitization With All Houses Having A Toilet.

Figure: 1.1.6 Anganwadi

The Gram Panchayat Has Digitized All Land Records, Which Can Be Accessed By Anyone By Paying Adnominal Fee Of Rs 10. Similarly, The Gram Panchayat Facilitates People In Paying Electricity And Other Utility Bills. This Has Brought Transparency In The System And Helped In Implementing Infrastructure Facilities Faster.

The Gram Panchayat Has A Swift Approach Towards Development Where They Spend In Creating Fixed Assets Whereas Day To Day Running Has Been Outsourced To Private Individuals Who Ensure The Facilities Remain

Profitable As A Commercial Activity. Currently, the Gram Panchayat Has A 75, 00,000/- Surplus Fund Against A Net Debt Of 10Lakh In 2006. All The People In The Village Have Opened Bank Accounts. However, Loans For Consumer Durables Are Not Prevalent. Every People In The Village Have Their ADHAAR Card And Election Card.

- Study Area Location:

  Country: - INDIA

  State: - GUJARAT

  District: - SABARKANTHA

  Coordinates: - 23'20'59.46"N 73'8'12.48"E

Figure.1.1.7 Punsari village

1.2 Concept: IDEAL Village

1.2.1 Objectives:

- To Improve The Living Standards Of The Peoples By Providing Various Basic And Non- Basic Facilities In The Village.
- To Increase The Literacy Rate Of The Village By Providing The Primary And Secondary Schools In Village And Also By Improving The Facilities Available In This Schools.
- Prevent Distress Migration from Rural to Urban Areas, Which A Common Phenomenon

  In India's Villages Due To Lack Of Opportunities And Facilities That GuaranteeADecent Standard Of Living.
- Provision Of Security To The Village By Providing CCTV Cameras And Street Lights In The Village.
- Provision Of Better Infrastructure Facilities, Ex: Residential and Agricultural Infrastructure.
- Provide Easier, Faster And Cheaper Access To Urban Markets For Agricultural Produce Or Other Marketable Commodities Produced In Such Villages

1.2.2 IDEAL VILLAGE: - RAYSAN

Raysan is an in Gandhinagar, Gandhinagar District, Gujarat, India.

Koba (4.57 Km), Kudasan (6.18 Km), Sughad (6.85 Km), Bhat (8.56 Km), Sargasan (8.63 Km) are the nearby areas to Raysan.

Pirojpur, Bhaijipura, Gandhinagar, Juna Koba, Ahmedabad, Urjanagar 2, Por, Randesan, Koba are the nearby cities to Raysan.

Introduction :

1.2.3 BAPS Swaminarayan Vidyamandir, Raysan, is a Day & Residential Boys English Medium School providing comprehensive education from nursery to class XII (Science, Commerce & Arts streams). The school is situated off the Ahmedabad-Gandhinagar Highway. In the vicinity of the school, state government has also developed many educational institutes. It was inaugurated on 28 June 2006 by Param Pujya Pramukh Swami Maharaj and Honourable Chief Minister of Gujarat, Shri Narendra Modi.

The Idea of Model/Smart Village

By Moving People And Businesses To Smart Villages, Revenue, Resources And Job Opportunities Will Increase In Rural India, While Cities Can Decongest. The Idea Of An "Adarsh Gram" Or Model Village Has Been Explored Earlier As Well, Most Notably Through The Pradhanmantri Adarsh Gram Yojana, Launched By The Central Government In 2009-10. The Scheme Was Implemented In Pilot Model In 1000 Villages Of Assam, Bihar,

Himachal Pradesh, Rajasthan And Tamil Nadu, With An Allocation Of Rs 10 Lakh Per Village. This Limit Was Later Raised To Rs 20 Lakh Per Village. The Target Villages Under The Scheme Were Those With More Than 50% Of The Population Belonging To Scheduled Castes (Sacs). Additionally, State governments Have Also Taken Steps in This Direction. Himachal Pradesh Launched A MukhyaMantri Adarsh Gram Yojana Along Similar Lines In 2011, With The Allocation Of Rs 10 Lakh Per Village.

Key Elements

A 21st Century Model Village In India Needs To Incorporate Certain Key Themes Which Would Be Essential For Its Success.

Key Elements Of A Model Village Are Given Below:

1. Better Road Network
2. Drainage System
3. Ro Plant
4. Bus Service
5. Electro-Osmosis Plant
6. Recreational Facilities
7. Skill Development Centre
8. Case lesspayment
9. Baba Shaheb Aambetkar university
10. Bank , ATM
11. Hospital , animal hospital
12. CCTV , sound system

1.2.4 Resources

ForAnMp,ThereAre3PrimaryResourceStreamsWhichCanBeUtilizedForThisPurpose:

- Funds Under Existing Schemes Across Different Sectors Such As Health, Education, Skill Development, Livelihood Etc Could Be Utilized, And Based On The Specific Demands Of The Village; Resources Could Be Channelized Into The Development Of The Village. Some Important Centrally Sponsored Schemes (Css) Which Could Be

UtilizedAreNrlm,Nhm,SSA,Nrega,Brgf,RkvyAndMid-DayMealScheme.

- Mplad Funds (Rs 5 Corer Per Year) Could Be Utilized For The Construction Of High Quality, Sustainable Assets Such As School Buildings, Hospitals, Anganwadi Centers And School Kitchens For Mid-Day Meals. Funds Could Also Be Channelized Into Road Construction, And The Construction Of Toilets In Schools And Homes, Particularly For Girls.
- Css Funds, Of Which A Much Larger Corpus Is Available After The Latest Amendment To The Companies Act, Could Also Be Used For The Purpose Of Infrastructure Development In The Constituency.
- Gram panchayat could Also Raise Loans, If Legally Permitted to do so under the State Panchayat Raj Acts like In The Case of Kerala.

1.3 Physical and Demographic Profile

The Population Of Punsari Was 5500 As Per 2011 Cencus Of India Which Has Increased To 5500 In 2011. As Of June 2012, The Population Is 6000.

Economic Profile

In 2006 The Economic Condition Of The Village 'Punsari' Was Not Good. But After The New Sarpanch Is Elected In 2006 The Village Has Done A Tremendous Development In Economy, Life Style Of Peoples, Scopes Of Jobs Etc. In The Last Decade, With The Help Of Governments Various Schemes And Opportunity The Economy Of The Village Has Raised.

Social Scenario

This Village Generally Consist Of A Large Number Of Rajput Families And Other Communities. The Main Source of Income Is Farming, Gardening of Varieties of Fruits like Lemon, Amala, Mangoes, Plums, Chickus, Papaiya Etc. Of Late People Have Migrated To Other Town & Cities In Search Of Job. Earlier People of Rajput Community Were Recruited By Government in Police & Army., This Days Community Has Entered Different Profession Like. The Population Of Village Today Is 10000 Appx.

Infrastructure Facilities

In The Punsari Village There Are Good Infrastructure Facilities As Compared To Other Villages Like, Banks, Playgroups, Primary Health Center, Mobile Library, Skill Development Center, and Primary School Etc.

How to Develop the Ideal Village / Key Elements of Ideal Village

To Make Any Village An Ideal Village, We Need To Provide This Key Elements Or Facilities that Village.

1. **Better Road Network**
2. **Drainage System**
3. **Overhead tank**

Fig.1.3.1 Roads

Fig.1.3.2 overhead tank

Fig.1.3.3 Bus service

Fig.1.3.4 Electro-Osmosis plant

1. **Electro-Osmosis Plant**
2. **Recreational Facilities**
3. **Skill Development Centre.**
4. **Mobile Library**

1.4 SWOT Analysis of Ideal Village

Strength	Weakness	Opportunities	Threats
Proper Drainage Facilities	Improper Disposal Of Waste	Improving In Waste Management	Lack Of Awareness Of Villagers About Cleaning
Transportation Facilities	Improper Layout Of Village	Woman Empowerment	Lack Of Awareness Of Villagers About Educations
Sanitation Facilities	No Facilities For Higher Secondary Education	Educational Awareness	Lack Of Funds And Technical Knowledge In Agricultural Fields

Table 1.4.1 SWOT analysis of ideal village

1.5 Future Prospects:

In This Village The Gram Panchayat Is Planning To Build A College In The Village, So That The Students In The Village Will Not Have To Go To Other Village For Graduation Studies And So Their Time And Money Both Will Be Saved.

1.6 Benefits of the Visits

After Visiting The Ideal Village We Learn What Is Truly Be Called An Ideal Village And What We Need To Kept In Mind While Doing This Project About Our Village. We Also Learn What Points We Need To Focus In Making Our Village An Ideal One.

1.7 civil aspects required in ideal village

We have observed the balance of commercial, residential and recreational land use in the

Raysan village but as per the feedback which were given by villagers some facilities are lacking in the village from civil aspects and these are, Gas Pipelines, Biogas Plant, Cold Storage Area, Rain Water Harvesting, Solar Street Lights, Public Wi-Fi Connection, Fire Station, etc.

Fig 1.7.1 IDEAL VILLAGE RAYSAN

Moreover, by providing skill development centers for the youth, panchayat should also focus on enabling the youth to setup the self-employment units. Water harvesting, Ground water recharge and improvement of village tanks/lakes are also projects to be pursued.

Chapter 2: Village Literature Review -Civil

2.1 Introduction: Urban &Rural:

2.1.1 Urban:

An Urban Area Is The Region Surrounding A City. Most Inhabitants Of Urban Areas Have Nonagricultural Jobs. Urban Areas Are Very Developed, Meaning There Is A Density Of Human Structures such As Houses, Commercial Buildings, Roads, Bridges and Railways."Urban Area" Can Refer To Towns, Cities, And Suburbs.

Figure.2.1.1 Urban area

2.1.2 Rural:

A Rural Area is An Open Swath of Land That Has Few Homes or Other Buildings, And Not Very Many People. A Rural Areas Population Density Is Very Low. Many People Live In A City, Or Urban Area. Their Homes And Businesses Are Located Very Close To One Another.

Figure.2.1.2 Rural area

2.2 Importance in rural context:

Rural Development Is The Process Of Improving The Quality Of Life And Economic Well- Being Of People Living In Rural Areas, Often Relatively Isolated And Sparsely Populated Areas. Education, Entrepreneurship, Physical Infrastructure, and Social Infrastructure All Play An Important Role In Developing Rural Regions.

- By Developing The Rural Areas We Can Improve Life Style Of The Residential.
- By Developing The Rural Area We Can Make Easy Life Style Of The Villagers.
- By Developing The Rural Area We Can Solve The Problems About Migration.
- By Developing The Rural Areas We Can Prevent The Unemployment.
- By Developing The Rural Areas We Can Increase The Literacy Ratio.
- By Developing The Rural Areas We Can Increase Growth Rate Of The Country.

2.3 Ancient Villages / Different Definition Of: Rural Area /Villages:

A village is a Community Larger than Hamlet but Smaller than Town Having population

Range between Hundreds to Few Thousands. Villages Are Permanent Dwellings. In Past Villages Were Usually Form Of Community Involved In Agriculture Practice.

Definition of Rural Area:

Census Board Define "Urbanized Area Which Is of Group Having Population Density of at Least Thousand People Per Square Mile". Whereas "Rural Area Is Any Non-Urban Or Non- Highly Rural Area". The Majority Of The Population Of The Region Involved In Agricultural Practice Is Known As Rural Area.

2.4 Scenario: Rural / Urban India & Gujarat as Per Census 2011

Particulars	Total	Male	Female
Total No. Of Houses	924	-	-
Population	4774	2463	2311
Child (0-6)	643	338	305
Schedule Caste	591	304	287
Schedule Tribe	29	16	13
Literacy	73.93%	84.42%	62.81%
Total Workers	751	652	99
Main Worker	738	-	-
Marginal Worker	170	96	74

Table: 2.3 Population growth

2.4Rural issues & Concerns:

Despites of having facilities of basics amenities in the village the villages have many problems due to which the village growth had decreased.

The following are the concern and issue

- ❖ Bad road network
- ❖ Unplanned irrigation system
- ❖ Insufficient sewer lines
- ❖ Poor condition of houses
- ❖ Poor conditions of public buildings
- ❖ Unhygienic environment
- ❖ Unavailability of hospitals

2.5 Various Measures for Rural development

The rural development is a process of increasing the quality of the life and living standards of the people of the village by providing them various rural facilities.

The development of the rural areas can be done by providing the villagers various facilities which includes:

1. Better infrastructure
2. Proper houses
3. Pure and safe drinking water
4. Better road network
5. Better transit system
6. Provision of recreational areas
7. Rainwaterharvestingfacilities

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

❖ The foremost priority with the government is to enhance quality of life in villages so that it is on a par with urban areas, the department said. The department has asked GPs to make the amenities available through ongoing schemes, including the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA).

❖ Since the government is committed to provide at least 55 litres per capita day (LPCD) of water to every family in a village, the GPs should focus on providing individual households tap connections.

❖ At the same time, focus should also be given to construction of toilets for each household under the MNREGA and the Nirmal Bharat Abhiyan . Schools and anganwadi in villages should be provided with toilets even as panchayat have to take steps towards solid waste management, the department said.

2.7Importance in rural context :

Rural development is the process of improving the quality of life and economic well-being of people living in rural areas, often relatively isolated and sparsely populated areas. ... Education, entrepreneurship, physical infrastructure, and social infrastructure all play an important role in developing rural regions.

❖ By developing the rural areas we can improve life style of the residential.

❖ By developing the rural area we can make easy life style of the villagers.

❖ By developing the rural area we can solve the problems about migration.

❖ By developing the rural areas we can prevent the unemployment.

❖ By developing the rural areas we can increase the literacy ratio.

❖ By developing the rural areas we can increase growth rate of the country

2.8SUSTAINABLE VILLEGE DEVLOPMENT CONCEPT

Sustainable development is the organizing principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services

upon which the economy and society depend. The desired result is a state of society where living and conditions and resource use continue to meet human needs without undermining the integrity and stability of the natural systems.

2.9 Other projects and schemes :

- ❖ Recently the gram panchayat had raised the fund for the construction of new Gram panchayat for the better management of the village . The gram panchayat with the help of the government has carried out the construction of the road network from the last year but the construction work is not going on currently from last few months.
- ❖ Gram panchayat also requesting for the approval of the construction of the panchayat building and also send design to them for approval.
- ❖ Gram panchayat also try to build up a network for the garbage collection and try make a village clean and neat. And also try to use some garbage for the fertilizer and also
- ❖ At some place in village paver blocks are provided in the village but the leveling is not so good.

Chapter 3: Smart Cities/ Village Concept as Per Your Idea And Its Visit:

3.1 Introduction: Concepts, Definition and Practices:

An urban area that uses different types of electronic data collection sensors to supply information which is used to manage assets and resources efficiently. This includes data collected from citizen , devices , and assets that is processed and analyzed to monitor and manage traffic and transportation systems , power plants, water supply networks, waste management , law enforcement ,schools , hospitals etc.

Figure.3.1 Smart Cities/ Village Concept

Equality and Democratic Engagement.

The Challenge:

Unfortunately It Is A Fact That, In The World Today, 1.3 Billion People Remain Without Access To Electricity. In Addition, 3 Billion Are Still Cooking On Dangerous And Inefficient Stoves. Many Of Them Live In Remote Rural Village Communities. Until Such Communities Have Access To Modern Energy Services, Little Progress Can Be Made To Develop Their Economies And Improve Their Lives.

3.2 Smart Cities Bench Marks, Standards and Performance Measurement Indicators:

- The Main Benchmarks Of The Smart Cities/Villages Are,
- Clean Medaled Roads
- Literacy And Compulsory Education Up To Final Basic Course
- Work And Means Of Earning
- Proper Inter And Intra Village Connectivity
- Dust Free Lanes & Streets
- Hygienic And Clean Water Supply And Access Toll
- Houses Of Worship For All
- Primary And Secondary Schools With Industry Driven Education
- Library With E-Library Facility
- Professional Institutions Within An Area Of 10Kms

- Proper Means For Health Check-Up And Treatment
- Access to Multi-Facility Hospital within an Area of 10Km.
- Empowered Panchayat For Settling Disputes
- Produce Its Own Grains, Vegetable, Fruits And khadi
- Fixed Place For Evacuation
- Wi-Fi/ Broadband Connectivity
- Recreation And Playgrounds For Adults And Children
- Village Theatre, School And Public Hall

For Smart Village:

Following Mandatory Targets Are Necessary To Achieve Before Declaring Any Gram Panchayat A Smart Village. State Government Can Make Changes In The Mandatory Targets From Time To Time By Considering Certain Programs Or Targets.

- 100% Vaccination
- 0% Drop Out Ratio
- Open Defecation Free Village
- 90% Tax Collection
- Compulsory Door To Door Solid Waste Disposal
- Distribution Of ATVT Services At E-Gram Center
- 'A' Grade Primary School
- 100% Individual Toilet
- Remove Encroachments On Public Roads
- Malnutrition - No Child Should Be In 'Redone'
- Mandatory Organizing Four Gram Sabha In A Year With 50% Presence
- 100% Implementation Of Direct Deposit Of Government Assistance Into
- Beneficiary's Account.(D.B.T.)
- 100% Enrollment of Children in Anganwadi.
- To Update Revenue/ Gram Panchayat Records.
- Road Side Plantation in the Village.
- 100% Wi-Fi Village.

3.3 Technological Options for Smart Cities:

- Smart Energy.
- Smart Mobility.
- Smart Infrastructure.
- Smart Public Services.
- Smart Care.

3.4 Road Map and Safe Guards for Smart Cities:

India Is A Country Of Villages. Any Product Or Solution That Has To Succeed And Be Popular In The Country Has To Be Of Direct Relevance To Village Life Of This Country. As Per Census Of India 2011, The Country Has A 69% Rural Population Spread Across More Than 600,000 Villages. Now, That Being The Case, No Marketer Worth His Salt Can Ever Dream Of Ignoring Rural India.

Globally The Concept Of 'Smart City' Is A Significant Initiative That Seeks To Improve The Quality of Life Of Urban Citizens. In India to the New Central Government's stated Priority of Building 'Smart Cities' Has Found a Relatively Modest Budgetary Allocation of Rs. 7,060 corer For FY 2014-15, Though Its Significance for the Long Term Can Be Much Larger. Be It the Push of the 'Smart City' Concept from Solution Providers, Real Estate Developers or the Government Itself, the Concept Finds Wide Appeal. The Government of India's Stated Plan to set up 100 Smart Cities across the Country Has the Potential to Be a Game- Changer in the Country's Urban Landscape and the Lives of Ordinary Citizens.

3.5 Issues &Challenges:

Smart City Council Of Is Facing Many Issues and Challenges in the Smart City Project. Some of the Issues Are Shown Below,

- Retrofitting Existing Legacy City Infrastructure To Make It Smart
- Financing Smart Cities
- Availability Of Master Plan Or City Development Plan
- Three-Tier Governance
- Providing Clearances In A Timely Manner
- Dealing With A Multivendor Environment
- Capacity Building Programmer

3.6 Smart Infrastructure:

Figure.3.2 Smart Infrastructure

Cyber Security In The Context Of Smart Cities Is A Hot Topic. The Objective Of Smart Cities Is To Optimize The City In A Dynamic Way To Offer A Better Quality Of Life To The Citizens Through The Application Of Information And Communication Technology (ICT). The Range Of Areas Where Cities Can Become Smarter Is Extensive Smart Infrastructure Is one of the Main Points in the Smart Village Development .It Is Essential to Provide smart homes in the Smart Cities/Villages.

- The Main Points Of Smart Infrastructure Are,
- Energy Efficient Buildings
- Low Cost Houses
- Use Of Environment Friendly Materials
- Use Of Solar Rooftops For Saving Energy
- Rain Water Harvesting
- Recycling Of Used Water
- Recycling Of Waste Products

3.7 Cyber Security:

It Is An Evolution Of Connected Cities With The Prevalence Of Data Exchange At A Larger Scale. The Increase Of Data Exchange Controls Multiple Services And Assets Leads To More Automation In The City. As Several Critical Services Become Interconnected, The Need For Cyber Security Surges To Protect Data Exchanges, Privacy As Well As The Health And Safety Of Citizens. However, There Is Currently No Harmonized Guideline Or Standard To Model These Data Exchanges. This Leads IPT Operators, Municipalities, Policy Makers As Well As Manufacturers, Solution Providers and Vendors To Adopt Specific Solutions With Low Scalability And Disparate Requirements.

3.8 Retrofitting-redevelopment-Greenfield development district Cooling:

Air Condition from Hammond Services, In The Southeast, Air Conditioners Are Almost

Crucial Pieces Of Equipment For Home Comfort. However, It Can Be Difficult To Find The Right Air Conditioner For Your Home, One That Will Provide Enough Cool Air In The Summer To Cool Your Home Without Driving Your Energy Costs Through The Roof. We Can Help! At Hammond Services, We Can Help You Choose The Perfect Air Conditioner For Your Home, Installs Professionally, And Even Maintain/Repair It In The Years Ahead. Energy Efficient and Affordable Air Conditioners, When It Comes Down To Selecting A New Air Conditioner For Your Home, There Are A Few Things You Should Consider. First Of All is Efficiency. By Choosing Energy Efficient Model, You Can Be Sure Your Money Is Being Well Spent And Isn't Being Thrown Away With Inefficiencies. Get the Most Bang For Your Buck with an Air Conditioner That Won't Cost a Fortune to Run. Reliability You Can Count On. As A Carrier Factory Authorized Dealer, Our Commitment To Quality Products You Can Count On Is Clear. We're Confident When We Say That with the Proper Maintenance, You Can Count on Our Air Conditioners to Operate Efficiently for Years to Come. If you're Having Trouble Choosing an Air Conditioner for Your Home, Contact Us Today – We Can Help You Weigh Your Options.

The Average Annual Temperature of the District (SABARKANTHA):

TEMPRATURE			
Months	**Normal**	**Warmest**	**Coldest**
January	20.1°C	28.3°C	11.8°C
February	22.2°C	30.4°C	13.9°C
March	27.3°C	35.6°C	18.9°C
April	31.7°C	39.8°C	23.7°C
May	33.9°C	41.5°C	26.2°C
June	32.8°C	38.4°C	27.2°C
July	29.5°C	33.4°C	25.6°C
August	28.2°C	31.8°C	24.6°C
September	29.1°C	34.0°C	24.2°C
October	28.5°C	35.8°C	21.1°C
November	24.7°C	32.8°C	16.6°C
December	21.3°C	29.3°C	13.2°C

Table 3.8 the Average Annual Temperature of the District (SABARKANTHA)

3.8.1 Green Building:

Figure 3.3 Green building

- A Green Building Is A Structure That Is Environmentally Responsible And Resource-Efficient Throughout Its Life-Cycle. These Objectives Expand and Complement the Classical BuildingDesignConcernsofEconomy,Utility.
- Green Buildings May Incorporate Sustainable Materials In Their Construction (E.G., Reused, RecycledContent,OrMadeFromRenewableResources).
- Create Healthy Indoor Environments With Minimal Pollutants (E.G., Reduced Product Emissions).
- And Feature Landscaping That Reduce Water Usage (E.G., By Using Native Plants That Survive Without Extra Watering).
- A Green Building Is A Structure That Is Environmentally Responsible And Resource-Efficient Throughout Its Life-Cycle. These Objectives Expand and Complement the Classical Building Design Concerns of Economy, Utility. Durability and Comfort.

3.8.2 Features of a Green Building:

- Minimal Disturbance To Landscapes And Site Condition
- Use Of Non-Toxic And Recycled / Recyclable Material
- Efficient Use Of Water And Water Recycling
- Use of Energy Efficient and Eco-Friendly Equipment.
- Use Of Renewable Energy

- Quality Of Indoor Air Quality For Human Safety And Comfort
- Effective Controls And Building Management Systems

3.9 Strategic Options for Fast Development:

- The Strategic Components Of Area-Based Development In The Smart Cities Mission Are City Improvement (Retrofitting), City Renewal (Redevelopment) And City Extension (Greenfield Development) Plus A Pan-City Initiative In Which Smart Solutions Are Applied Covering Larger Parts Of The City.
- Below Are Given The Deion's Of The Three Models Of Area-Based Smart City Development:
- Retrofitting Will Introduce Planning In An Existing Built-Up Area To Achieve Smart City Objectives, Along With Other Objectives, To Make The Existing Area More Efficient And Livable.
- Redevelopment Will Effect A Replacement Of The Existing Built-Up Environment And Enable Co-Creation Of A New Layout With Enhanced Infrastructure Using Mixed Land Use And Increased Density.
- Greenfield Development Will Introduce Most Of The Smart Solutions In A Previously Vacant Area (MoreThan250Acres) 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

India Is A Very Much Density Populated Country with Almost Population Of 134crore Approximately And Majority Of The Population Are Residing In Villages. Despites of Having Various Facilities for Sanitation and Water Supply, Some Parts of the Country Are Lack in Proper Supply of the Water, People Had To went To Well or Hand Pumps In Order To Get the Water to Carry out Their Various Domestic Purpose. Also Some Parts Of The Country Are Not Having Proper Drainage System, They Are Lacked Of Having Proper Sewer Line, Manhole, Various Biogas Plants, Water Treatment Plants, Maintenance Of Sewer Lines Due To Which They Have No Other Option To Carry Out They Daily Activities. The Provision Of The Various Technologies Such As Water Treatment Plant With

Technologies Like Water Filter Tanks, Aeration Tanks, Sedimentation Tank, Flocculation Tanks, Better Water Supply Pipes And Networks Increase The Quality Of The Water Supply. Also We Have Technologies In Sanitation Department Which Includes Proper Underground Sewer Lines, Manholes, And Facilities Of Public Toilets Etc.

❖ Indigenous Water Purification Technologies:

These Technologies Can Improve The Drinking Water Quality Of Smaller Villages As Well As Larger Cities. It Uses The Pressure Driven Membrane Processes. These Are Suitable For All Capacity Units E.G. They Are Adaptable From Household Level Unit Or Community Level Unit To Large Scale Unit. Water Purification Technologies Make Use Of The Nuclear Energy And Solar Energy Also.

❖ Environment Friendly Plasma Technologies:

Solid Waste Dumping Sites Or Land fill Sites Need More Amount Of Land Which Is Not Available In Urban Areas. Incineration Of Solid Waste Pollutes The Environment If The Incinerators Are Not Designed Or Operated Properly. Thermal Plasma Technology Is Ideally Suited For Waste Treatment. By Plasma Technology Hazardous & Toxic Compounds Are Broken Down To Elemental Constituents At High Temperatures; Inorganic Materials Are Converted To Vitrified Mass; And Organic Materials Are Paralysis Or Gasified, Converted To Flue Gases (H2 & CO)& Lower Hydrocarbon Gases When Operated At Low Temperature (500 – 600OC). Disposal Of Carcass Is Also Being Thought Of Using Plasma Paralysis.

❖ Environment Friendly Plasma Technologies:

Solid Waste Dumping Sites Or Landfill Sites Need More Amount Of Land Which Is Not Available In Urban Areas. Incineration Of Solid Waste Pollutes The Environment If The Incinerators Are Not Designed Or Operated Properly. Thermal Plasma Technology Is Ideally Suited For Waste Treatment. By Plasma Technology Hazardous & Toxic Compounds Are Broken Down To Elemental Constituents At High Temperatures; Inorganic Materials Are Converted To Vitrified Mass; And Organic Materials Are Paralysis Or Gasified, Converted To Flue Gases (H2 & CO) & Lower Hydrocarbon Gases When Operated At Low Temperature (500–600 C). Disposal Of Carcass Is Also Being Thought Of Using Plasma Paralysis.

❖ Role of Environmental Isotope Techniques In The Water Resources Development And Management:

There Are Two Types Of Isotopes, Stable Isotopes And Radioactive Isotopes. Isotope Techniques Are Used To Find Out The Type Of Contamination In Surface Water And Ground Water, The Sources And Origin Of Contamination, Pollutant Dispersion In Surface Water Bodies, To Assess The Groundwater Salinity, To Assess The Changes Due To Long- Term Exploitation Of Groundwater, For Hydro-Chemical Investigation And To Carry Out Geochemical Evolution Of Groundwater.

❖ The BARC UF Membrane Technology for Domestic Water Purifiers:

Water Filters Manufactured By Songhua Based On Membrane Based Water Purification Technology Has Been Developed By BARC. Benefits of BARC Poly Sulfide Membrane Are High Tech 0.02micron or 20nm, Simple Form Factor, Rugged (Life Of More Than 1 Year) And Low Maintenance (About Rs. 500 Per Year). It Is Very Easy To Use And Very Low- Cost Solution For The Water Contamination.

❖ Deployment of BARC Domestic Water Purifier in Rural Area through AKRUTI Program:

Rural Human & Resource Development Facility Is Disseminating BARC Technologies, Namely Nisargruna Biogas, Soil Organic Carbon Testing Kit, Seed Bank, Domestic Water Purifier, Weather Forecasting, LLL, RIA, FSD, VTD; Under The AKRUTI(Advance Knowledge Of Rural Technology Implementation) Program. Activities Carried Out Under The AKRUTI Program Are Surveys For Safe Drinking Water, Interaction With The Villagers, Entrepreneurship Development For Domestic Water Purifier Production And Awareness Programs For Benefits Of Use Purified Water. RHRDF Has Also Launched a Scheme for Safe Drinking Water for Village under CSR

❖ Radiation Hygienization of Municipal Sewage Sludge:

The Sewage Is The Waste Water Generated From Domestic Premises And Consists Mainly Of Human Waste. It Typically Contains 99.9% Water and About 0.1% Solid. The Solid Waste In Sewage Is Typically Organic In Nature And Is Broken Down In The Sewage Treatment Plants Resulting In Sewage Sludge As A Byproduct. In Radiation Hygienization Process Dry Sludge Generated At STP'S Is Hygienized Using Radiation Technology Using Standard Gamma Facility At A Dose Of 10 Kegs'. Such Radiation Plants Are Operating In India For Sterilizing Medical Products.

3.11 Initiatives in Village Development by Local Self-Government

The Village Gram panchayat Has Taken Various Steps For The Betterment Of The Village Through Various Government Schemes And Raising The Funds From The Governments. With The Help Of The Government The Village Had Developed Better And Sustainable Road Networks, Proper Drainage System, Proper Water Supply With RO Facilities, Sufficient Electric Supply, Better Infrastructure Facilities Etc. Also They Have Provided Bus Facility For The Village Peoples To Help Them In Travelling In Between Other Villages And Also Gram panchayat Has Provided More Than 140 CCTV Camera sin Village For The Safety Purpose. Financial Systems. Constraints On Government Budgets And The Rigidities Of The Present System Of Intergovernmental Transfers Prevent An Adequate Response Of Traditional Arrangements To The Challenge Of Urbanization. A New And More Decentralized System Of Public And Private Financial Intermediaries Will Be Required. The Establishment Of The NHB Represents An Important Step: An Apex Institution That Will Stimulate The Creation Of A Network Of Mortgage Financing. The NCU Also Calls For The Creation Of Urban Infrastructure Development Banks To Permit Local Governments To Borrow For Infrastructure. Non Governmental Organizations. Given The Size Of The Job And The Difficulty Governmental Agencies Have In Dealing Directly In Some Aspects Of The Development Of Urban Areas (E.g., Stimulating Informal Sector Enterprise And Provision Of Shelter)There Is A Recognition Of The Need For New And Expanded Ngo's To Assist In Facilitating The Urbanization Process.

3.12 Smart Initiatives By District Municipal Corporation:

The Village Gram panchayat Has Taken Initiatives For The Betterment Of The People Like, They Had Developed The 'Reverse Osmosis Plant', Which Provide Pure And Hygienic Water Supply And Also Provide Cool Water To The Every House Of The Village. The Village Has Also Developed Solid Waste Treatment Plant In Order To Use The Solid Waste For Various Purposes. The Village Has Also Adopted The Smarter Facilities Like CCTV Cameras, Speakers, and Wi-Fi Connectivity.

3.13 Contributed Working by Government/ NGO / Other Digital Country Concepts:

The S.B.I. Gives A Digital Banking To The Gram Panchayat. Telecom Company Gives Internet On Reasonable Prices. Some Donor Gives Money for the Village Development.

3.14 How to Implement Other Countries Smart Village Projects in Indian Village Context:

- By Learning About Other Countries Village Situation We Can Make Some Report On It And Try To Implement That Facility In Our Indian Village.
- By Learning About Problems Of Indian Village We Can Find Solution And After That We Have To Try To Solve That Problem.
- By Improving the Construction Technologies of India.
- By Adopting the Best Ideas from the Other Countries Village. Try To Convince An Investor To Invest From Out Side Of India. By Hiring the Engineers and Staff from Foreign Countries.
- By Taking Concepts From Other Countries Village and Try To Convince The Indian Villager To Help In Development.

CHAPTER:-4 ABOUT Lilapur VILLAGE :

4.1 INTRODUCTION

4.1.1 INTRODUCTION ABOUT LILAPUR VILLAGE DETAILS:

Lilapur Is A Village In Daskroi Taluka In Ahemadbad District Of Gujarat State, India. It Is Located 22 KM Towards South From District Head Quarters Ahemadabad. 13 KM From Nearest Town kalol. . Lilapur Pin Code Is 380060 Gram Panchayat Building Is In Good Condition The Educational Status Of The People In The Of Lilapur Is So not Good, Lilapur Havn't School, But There Are Only 7th Std In The School. But There has No Water Supply, No Indoor Toilets. The Main Water Source Of The Village Is Bore Well Or Hand Pump.

The Main Source Of Income Is Farming.

Some People Are Also Doing The Job In Companies And Government Sectors. SomeAre Having A Shops In Village People With Various Casts Are Living Together In The Village. Some Of The People Are Migrate To The City Area For The Better Future And Education. The Population Of The Village Is 1567.

4.1.2 Study Justification/ Need of the Study

We Are As Students Doing The Study About The Village 'Lilapur' To Understand The Infrastructural, Agricultural And Economic Condition Of The Village. Than After To Propose Some Ideas About Improving The Facilities In This Village And To Make Those People's Lives Easier To Live In.

4.1.3 Study Area (Broadly Define):

Study Area Mainly Includes The Study Of The Village Lilapur Which Is Located 22 KM Towards From South District Head Quarters Ahemdabad And 13 KM From The kalol.

4.1.4 Objectives of the Study

Following Are The Various Objectives Of The Study:

- To Provide Basic Physical Infrastructure – Water Supply, Transport, Sewerage And Solid Waste Management Should Be The Priority Focus And Be Provided.
- To Provide Insufficient Social Infrastructure Like Health And Education Facilities And To Ensure Proper Delivery Of Facilities To Village Dwellers.
- To Promote Integrated Development Of Rural Areas With Provision Of Quality Housing, Better Connectivity, Employment Opportunities And Supporting Physical And Social Infrastructure.
- Reduce Migration From Rural To Urban Areas Due To Lack Of Basic Services And

Sufficient Economic Activities In Rural Areas.

- Electricity Connection Like Street Lighting That Is Energy Efficient And Eco- Friendly.
- Identification Of Sanitation Facilities That Need Improvement.

4.1.5 Scope of the Study:

- By Studying The Present Status And Techno-Economic Survey Of 'Lilapur' Village In Ahmedabad District Of The Gujarat State In Terms Of Basic Services, Public Amenities, Other Infrastructural Facilities For The Need Of The People And To Prepare A Report On The Expected Socio-Economic Growth Of The Area With The Consultation Of TDO, DDO And Sarpanch; Will Help Full In Providing Better Facilities And Services In Village.
- From The Gap Analysis, Development Strategies For Village Development Will Be Proposed And Planning Proposals For Physical Infrastructure, Social Infrastructure And Renewable Energy Source Will Be Suggested For The Village. The Study Will Focus On The Development Of The Village.

4.1.6 Methodology Study/ Frame Work:

- Firstly, We Studied What Are Various Objectives And The Need Of The Vishwakarma Yojana.
- Then We Completed Our Literature Review That Includes The Basic Definitions Of Rural Area, Urban Area, Urbanization, Sustainable Development Etc.
- We Also Visited An Ideal Village Named Punsari Which Is Also Located In The Taluka In Sabarkantha District. There We Understood What Kind Of Facilities Are Required In The Village And How To Implement It.
- After This We Met Our Village Sarpanch, Talati Mantra And Other Gram Panchayat Members.
- We Collected All the Required Data Related To the Various Facility and Completed Our Techno-Economic Survey and Smart Village Form.

4.1.7 Objects Related To Civil:

- To contribute to the development and maintenance of building and infrastructural facilities and systems, especially in the local and neighboring regions.
- To making better infrastructure for the villagers.

- To improve the quality of the construction and also the development of the structure.
- To making their life smooth by making road networking and also try to connect them with the urban area.

4.2 Lilapur village study area profile:

4.2.1 Study Area Location:

Lilapur village is located in Daskroi Tehsil of Ahmadabad district in Gujarat, India. It is situated 22km away from Ahmadabad, which is both district & sub- district headquarter of Lilapur village.

Figure.4.2.1 Study Area Location

Country	India
State	Gujarat
District	Ahmedabad
Sub-District	Daskroi
Nearest Town	Kalol 15 Km
Area	391.32 Hectares
Government	Gram Panchayat
Population	1567
Time Zone	Its (Utc+5:30)
Pin Code	380060

Table4.2.1-: Primary details of Lilapur village

❖ Physical & Demographical Growth:

Particulars	Total	Male	Female
Total No. Of Houses	289	-	-
Population	1567	810	757
Child (0-6)	303	156	147
Schedule Caste	95	51	44
Schedule Tribe	10	6	4
Literacy	81.86 %	99.22%	72.83%
Total Workers	751	652	99
Main Worker	738	-	-
Marginal Worker	13	11	2

Table4.2.2-: Physical & Demographical Growth

4.2.2 Base Location Map, Land Map, Gram Tal Map:

Fig.4.2.2 Satellite map of Lilapur

4.2.3 Physical Growth

- Primary School
- Post Office
- Dairy
- Temple

Brief History of Village:

Lilapur Is A Village In Daskroi Taluka In Ahemadbad District Of Gujarat State, India. It Is Located 22 Km Towards South From District Head Quarters Ahemadabad. 13 Km From State Capital Gandhinagar. Lilapur Pin Code Is 380060 Gram Panchayat Building Is In Dead Condition The Educational Status Of The People In The Of Lilapur Is So Good, Lilapur Have School, But There Are Only 7th Std In The School. But There Are No Water Supply, No Indoor Toilets. The Main Water Source Of The Village Is Bore Well Or Hand Pump.

- Data Collection By Visiting The Site
- By Referring Journals
- By Internet Search
- By Searching In Other Projects

The negative portion is that illiteracy rate of Lilapur village is 29%.Here 646 out of total 2194 individual are illiteracy. Male illiteracy rate here is 22% as 252 males out of total 1138 are uneducated. In female the illiteracy rate is 37% and 394 out of total 1056 females are illiteracy in this village.

4.2.4 Economic Profile /Banks

About The Economic Profile of This Village, Many Citizens' Work Interest Is Farming And Labor Work. The Village Doesn't Have Any Better Facilities Regarding Infrastructure But Has Good Electrification System Which Distributed 24*7 Hours For Domestic Use And 8 Hours For Agricultural Use. Village Does Not Have Good Drainage System Because There Is Open Drainage Etc. Dairy And Milk Production Is Also The Prime Source Of Income.

4.2.5 Actual Problem Faced By Villagers and Smart Solution:

PROBLEMS:

1. Transportations
2. Shortage Of Irrigation Water
3. Drainage System
4. External Road
5. Waste Collection
6. Rain Water Does Not Harvesting
7. Unemployment
8. Poor Infrastructure
9. Migration
10. Network Connectivity
11. Lack Of Awareness
12. Health Centre
13. Community Hall
14. School
15. Bus Station
16. Lack Of Awareness About Smart Technologies
17. Old Agriculture Methods
18. Bank

SOLUTION:

1. Make A Better Transportations Facilities
2. To Improve Irrigation Methods And Provide Sufficient Water
3. Make A Proper Drainage System And Storage Of The Water
4. Make A Bituminous Road For External Road, And R.C.C. Roads For Internal Roads And Also Try Paver Blocks
5. Make A Waste Collection System In Village And Try To Use That Wastage For Producing Electricity
6. Make A Rain Water Harvesting And Try To Store Maximum Rain Water Which Is Stored Properly
7. To Make A Home Industries For Prevent The Unemployment And Also Villagers Can Earn The Money From It. So Their Economy Will Be Increase
8. Make A Good Infrastructure For The Village So Their Life Time Is Increase And Also It Will Be Long-lasting.
9. Make A Better Life Style For The Villagers To Prevent Migration.
10. Try To Make A Better Connectivity By Help Of Government Or A Telecom Company.
11. Try To Aware The Villagers By Pestering And Printed On The Walls.
12. Make A Primary Health Centre With The Sufficient Staff.
13. Make A Community Hall For Social Functions And Village Meetings
14. Make A Primary And Secondary Schools For The Children Of Villages
15. Make A Bus Station For Improving The Facility Of Transportation.
16. Aware the Villagers for the Usage of the Smart Technologies And Better Knowledge.
17. Improving Agriculture Methods And Try To Make Better And Effective Farming.
18. Make A Garmin Bank For The Villagers To Improve Their Savings And Economical Status.

4.2.6 Social Scenario:

It Was Found That All the People Of This Village Are Not Very Much Connected With Today's Technology Environment Rather Than Their Main Major Working Area. The Major Crops Produced In The Village Are Cotton, Danger, Wheat And Vegetables. The Major Population Is Get Income Through The Farming And Dairy There Are No Other Job Opportunities. The Education Is Limited To Primary School.

❖ Preservation Of Tradition, Festivals, Cuisine:

- By Promoting The Traditions Of The Village We Can Try To Make It Long-lasting.
- Make A Brief Report Or Stories On The Traditions, Festival And Cuisine.
- We Can Aware The Children And The Youth Of The Village By Telling Them About Their Traditions And Their Festivals.
- We Can Arrange The Functions And Programs On Their Traditional Festival
- We Can Also Do The Events And Competition In Their Cultural Festival
- We Have To Aware The People Which Are Living In The Urban Areas About Tradition Of The Village And Also About The Cuisine.
- We Have To Find The People Which Are Migrated From The Village And Try To Convince Them To Come And Participate In The Festivals.
- We Can Also Do A Stage Programmer In The Urban Areas To Aware And Give Them Knowledge About Tradition Of The Village.
- By Using Smart Technology We Can Make It Viral To The Different Religions And Different Countries.
- We Have To Make It Interesting To The People For Preservation Of The Tradition, Festivals And Cuisine.

4.2.7 Reasons Of Migration / Trends Of Migration / Problems And Potentials Of Migrate:

- Unemployment
- Poverty
- Poor Health Status for Better Education for Better Future
- Poor Connectivity with Urban Areas Lack of Awareness
- Poor Infrastructure Atmosphere

4.3 Data Collection:

4.3.1 Methods for Data Collections:

There Is Not Any Specific Method about Collecting the Data for the Project but, There Are Several Methods That We Have Used For the Collection of the Data Which Includes,

- Data Collection By Visiting The Site
- By Referring Journals
- By Internet Search

- By Searching In Other Projects

4.3.2 Primary Survey Details:

Lilapur Is A Village In Daskroi Taluka In Ahemadbad District Of Gujarat State, India. It Is Located 22 Km Towards South From District Head Quarters Ahemadabad. 13 Km From State Capital Gandhinagar. Lilapur Pin Code Is 380060 Gram Panchayat Building Is In Dead Condition The Educational Status Of The People In The Of Lilapur Is So Good, Lilapur Have School, But There Are Only 7th Std In The School. But There Are No Water Supply, No Indoor Toilets. The Main Water Source Of The Village Is Bore Well Or Hand Pump.

4.3.3 Average Size of the House:

Average Size Of The House Is 318SqFt.

4.3.4 No of Human Being in One House:

There Are 3-6 People in One House

4.3.5 Materials available locally in the village

The Materials Used Locally In Lilapur Brick, Cement, Aggregate Etc. Which Are Normally Common in Urban Areas

There Is Only 10 To 15Percent of the Houses Which Are Built of Earth work

Out Sourced Material:

The Outsourced Material Should Be Used In Villages Is Like Fertilizer, Steel, Cement, Aggregate Etc.

Labor Work Doing:

Lilapur Has 44% Population Engaged In either Main or Marginal Works. 57.34% Male And 29% Female Population Are Working Population. 75.23% Of Total Male Population Are Main (Full Time) Workers And 24% Are Marginal (Part Time) Workers. For Women 0% Of Total Female Population Are Main And 72.93% Are Marginal Workers.

Village Name	Lilapur
Taluka Name	Daskroi
District	Ahemdabad
Language	Gujarati
Area	391.32 Hectares

Table 4.3.1: Geographical Details

4.3.6 :

4.3.7 Demographical Details

Particulars	Total	Male	Female
Total No. Of Houses	289	-	-
Population	1567	810	757
Child (0-6)	248	-	-
Literacy	74.60%	87.03%	61.35%

Table 4.3.3: Demographical Details

4.3.8 Occupational Details:

In This Village 65 To 70 % People Connected With Agriculture Activities it's The Village's Main Source Of Income. But Village Has The Milk Production Business So That's A Income Of Source Too There Are Approx. 20 To 29 % People Are Connected With Milk Production And Other Are Doing Labor Work For Money.

4.3.9 Agricultural Details:

In This Village There Are Some Normal Agricultural Crops Available But, There Is Not Any Organic Farming or Fish Culture Available Here

4.3.10 Physical Infrastructure Facility:

The Village Is Boon with the Following Physical Infrastructure Facilities

- Primary School
- Water Tanks
- Open Drainage
- GOOD CONDITION
- Panchayat Building Dead Condition
- Milk Dairy

- **Tourism development available in the village for attracting**

Fig 4.4.2 Drainage Network:

Lilapur Village Is Not A Part Of Any Kind Of Tourism Cluster.

4.4 Infrastructure Details:

4.4.3 Transportation & Road Network:

For Transport Network Railway Station, Available Within 10 Km In Daskroi. Bus Station Is Not Available In Lilapur . Mainly People Use Local Transport Like Auto Rickshaw, Jeep, Chhakda Etc. Approach Road Of Village Is Bagodara Highway Is Bituminous Road.

Rough road of Lilapur (internal roads) **Rough road of (external roads)**

Fig-4.4.3 Road Network in Lilapur

4.4.4 Housing Condition:

There Are 373 Households In The Village. 70% Households Are Pucca And 30% Are Kutcha. Some Of The Houses Have Number Plates On The Outside Wall.

Fig - 4.4.4 House in Lilapur

4.4.5 Social Infrastructure Facilities:

- **Health:**

  There Is No Health Centre In Village. For Minor Dieses Villagers Have To Go To The Daskroi Which Is 1 Km Away From The Village And For Major Dieses They Have To Go A District Head Quarter Ahmedabad.

- **Education:**

There Is A Primary School In The Village Which Has 8th Std. But Now Days Because Of maintainance of Infrastructures They Are Teaching Only For 1 to 8th Std. higher education is not available in village

Fig -4.4.5 primary School in Lilapur

Community Hall:

There Is No Community Hall.

Library:

There Is No Library in Village

Existing condition of public buildings and maintenance of existing

4.4.6 public Infrastructures:

- The Village Need a Gram Panchayat Building
- Solid Waste Management Plant Is Also Needed Because They Just Dumped The Waste On The Land And It Create Foul Environment.
- Village Needs Better and Closed Drainage System. They Flush All The Sewage Into Water Bodies.
- Village Need A Bio Gas Plant So That Use Of Unconventional Fuel Is Reduced.
- Most Of the Roads is Very Damaged by Rainy Season So the Maintenance of the Road Is Required.

- **Existing Condition of Public Buildings:**

There Is One Public Building in the Village Gram Panchayat Building And It's In Dead Condition. The Drainage Is Open And It Needs To Redesign. The Roads Need Maintenance. There Is No Bus Stand.

- **Maintenance of existing Public Infrastructures**

In The Lilapur Village There Are Few Structures Which Require Maintenance.

- School Building Flooring
- Gram Panchayat Building
- Temple
- Post Office

4.4.7 / WI-FI / Internet Usage Details. In%:

Very Few Peoples Of Lilapur Is Aware Of Any Kind Of Mobile Technology And Internet Which Mostly Includes Youngsters.

4.4.8 Sports Activity as Gram Panchayat

There Is No Sports Activities Conducted Through Gram Panchayat.

4.4.9 Socio-Cultural Facilities

There Is No Social Cultural Facilities.

- **Public Garden/Park/Playground**

Not Available

- **Other Recreation Facilities**

Not Available

4.4.10 Other Facilities

Post Office, Shops, Panchayat Building, Agriculture and Milk Co-Operative Facilities, animal hospital Are Available.

4.4.11 Any Other Details

Post office Are Available and One Milk Dairy Is Available.

❖ Renewable Energy Source Planning Particularly For Villages

- ❖ Renewable Energy Plays An Important Role In Reducing Greenhouse Gas Emissions. When Renewable Energy Sources Are Used, The Demand For Fossil Fuels Is Reduced. Unlike Fossil Fuels, Non- Biomass Renewable Sources Of Energy (Hydropower, Geothermal, Wind, And Solar) Do Not Directly Emit Greenhouse Gases

- ❖ Solar Energy Is Commonly Used On Public Parking Meters, Street Lights And The Roof Of Buildings. Wind Power Has Expanded Quickly, Its Share Of Worldwide Electricity Usage At The End Of 2014 Was 3.1%. Most Of California's Fossil Fuel Infrastructures Are Sited In Or Near Low-Income Communities, And Have Traditionally Suffered The Most From California's Fossil Fuel Energy System.

- ❖ These Communities Are Historically Left Out During The Decision-Making Process, And Often End Up With Dirty Power Plants And Other Dirty Energy Projects That Poison The Air And Harm The Area. These Toxicants Are Major Contributors To Health Problems In The Communities.

4.5 Existing Institution like - Village Administration - Detail Profile:

4.5.1 SWATCH BHARAT MASSEGE :

Fig. -4.4.6 Post office

4.5.3 Mahila Forum:

There Is No Any Mahila Forum In The Village.

4.5.4 Plantation for the Air Pollution:

In Lilapur Village the Plantation are not Done by Some Farmers for the Agricultural Purposes.

4.5.5 Rain Water Harvesting:

There Is Only Open Drain Channel So The Rain Water Is Not Harvesting Properly.

4.5.6 Agricultural Development:

There Is No Agricultural Development.

4.5.7 Any Other:

Infrastructure Are Very Poor. Basic Facilities Are Not Available.

Transportations Are Not Available Easily

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

5.1Concept:

5.1.1 Advance Construction Techniques:

- Precast Flat Panel System
- 3D Volumetric Modules
- Flat Slab Construction
- Precast Cladding Panels
- Concrete Wall And Floors
- Twin Hall Technology
- Precast Concrete Foundation
- Concrete Formwork Insulation
- R.M.C.Plant

Causes Prevention And Repair Of Cracks In Building/Rectification Of Building Tilt/Rehabilitation Techniques:

Causes of cracks:

Causes Of Cracks 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.

Prevention of the cracks:

- By Creating Slip Joints Under The Support Of RCC Slab On Walls, Cracks By Elastic Deformation Can Be Prevented.
- Construct Various Joints Such As Expansion Joints, Construction Joints, Slip Joints And Control Joints To Prevent Cracks From Thermal Movement.
- Slab Should Be Provided With Thermal Insulation.

Concrete Should Be Of Good Quality. Use Richer Mix Of Cement Concrete 1:1.5:3 To Prevent Cracks.

- In Mixing Of Cement Concrete Or Cement Mortar, Use Minimum Quantity Of Water, As PerWater Cement Ratio.
- Do Not Use Excessive Cement In The Mortar Mix. Because As A General Rule, The Richer The Mix Is, The Greater The Shrinkage Will Be. And Shrinkage Is One Of The Major Causes OfOccurrence Of Cracks.
- Use Largest Possible Aggregate And The Materials Should Be Of Good Grading And Quality.
- As Soon As Initial Setting Has Taken Place, The Curing Should Be Started And Be ContinuedFor At Least Seven To Ten Days.
- Fine Materials Which Contain Silt, Clay And Dust Should Not Be Used. The Coarse Sand/Fine Aggregate Used In Cement Concrete And Cement Mortar Mix Should Has Silt And Clay Less Than 4%.
- Use Coarse And Fine Aggregates After Washing To Reduce Silt Contents.
- Strong Bond Between Concrete And Plaster Prevents Shrinkage Cracks, If Rendering Is DoneAs Early As Possible After Removal Of Shuttering.
- Due To Growth Of Roots Under Foundation, Cracks Can Occur In The Vicinity Of A Wall. To Prevent Such Cracks, Do Not Let Trees Grow Too Close To The Buildings, Compound WallsEtc.
- Remove Any Saplings Of Trees As Soon As Possible If They Start Growing In Or Near Of WallsEtc.
- The Best Control Measure Against Corrosion Is The Use Of Concrete With Low Permeability.
- The Structural Design Of The Foundation Should Be Carried Out In Such A Manner As To Achieve Uniform Distribution Of Pressure On The Ground To Avoid Differential Settlement.
- Use Good Quality Of Building Materials According To The Specification.
- The Workmanship Should Be According To The Prescribed Norms And Best Practice In TheBuilding Construction.Proper Monitoring Is Required At The Time Of Construction. Above Points Should Be
- KeptIn Mind While Constructing Buildings So That The Hazard Of Cracks Can BePrevented.

Repair of cracks:

Repair Of Cracks The Repair Of Cracks Can Be Achieved With The Following Techniques:

1) By Epoxy-Injection Grouting

2) By Routing And Sealing

3) By Flexible Sealing

4) By Stitching

5) By Providing Additional Reinforcement

6) By Drilling And Plugging

7) By Prestressing Steel

8) By Grouting

9) Dry Packing

10) Overlays

11) Autogeneous Healing

12) Surface Coatings

Here We Will Discuss About Most Popular Repair Technique Of Cracks Such As Epoxy-Injection Method And Grouting.

❖ Rectification methods used to uplift over tilted buildings include:

1. Compaction GroutingMethod
2. Chemical GroutingMethod
3. Underpinning Method
4. Micro-Tunneling Method

1. Compaction Grouting Method:

ItIsOneOfTheMethodsUsedToRectifyBuildingsThatTiltedOrSettledExcessively. Compaction Grouting Technique Needs Detailed Preparation And Plan Prior To The Beginning Of The Work. For Example, It Is

Required To Determine Grouting Pressure, Grouting Depth, Grouting Rate, Configurations Of Grouting Stations, And The Method Used To Execute The Task. It Is Necessary To Equip The Structure With Adequate Number Of Monitoring Devices. This Is To Observe The Process And Makes Suitable Changes During Lifting Operation If It Is Needed. There Are Two Methods Used For Compaction Grouting Including Drilling Holes Through Floor Slab Of The Building Vertically And Perform The Work Or Dug Holes At A Specified Degree From The Side Of The Structure. It Should Be Known That The Function Of The Structure May Be Disrupted Or Stopped When During the latter 1950s the use of low mobility grouts for void filling had become common. The use of these plastic consistency grouts was further extended to jacking of structures, using the important feature of such grouts; that they move as a globular mass and their movement can be controlled. However, compaction grouting for increasing the soil's strength was not yet a primary focus of the technology. The earliest mention of the use of stiff mortar-like grout, termed "compaction grout", was by Graf (1969) which described use of the Koehring Mudjack, a machine dating to 1934 for the purpose of pumping a clayey loam mixture under pavement for highway maintenance. He reported that some of the mudjack operators had found it useful to pump "zero slump" grout through pipes driven into the ground for raising structures and that larger than calculated quantities were sometimes used, concluding that the surrounding soil was being compacted. He referred to this as compaction grouting, and stated that "hundreds of jobs have now been successfully completed together with some failures" although no examples were provided. The term compaction grouting was further used by Mitchell (1970) as a method of foundation soil treatment. The first reported use of compaction grouting to densify soil that the committee is aware of, and reported by Warner (2003), was in June of 1957 to remediate settlement of a swimming pool in a new apartment complex, and the densification was purely accidental! The pool was enclosed by a large building, preventing the use of large equipment. Additionally, it was located in what had previously been a basement boiler room. The bottom slab of this boiler room should have been perforated and the entire original basement filled with granular fill. However, this apparently had not been achieved. Instead the shallow end of the pool was founded on fine grained fill, resulting in cracking of the new pool, allowing water to leak and saturate the fill. One end of the pool had undergone significant settlement. Paraphrasing Warner (2003), "For jacking, grout holes were placed on a grid of about four feet throughout the bottom of the pool (Figure 1-1). The geotechnical engineer had requested the grout holes in the shallow end be extended to the old floor slab. Though recognizing that fine grained soils couldn't be grouted, he reasoned a number of small holes filled with grout might provide needed support and prevent further settlement. For Warner (the contractor) the job was a disaster. As soon as

Compaction Grouting Is Conducted Through Holes Dug Through The Floor, But Its Effect Is Great. However, The Latter Technique Will Not Influence Building Functionality, But It Is Less Effective Compared With Former Technique. It Is Recommended To Concentrate Grouting Stations On The Largest Settled Locations And Major Grouting Points Should Be Arranged At The Greatest Depth. Regarding Minor Grouting Points, They Are Aimed At Smaller Settled Locations And Their Depth Is Smaller. Finally, The Process Of Grouting Is Begun From The Major Points Configured At Largest Settled Area And Then Minor Points Close To The Major Stations. If The Settlement Is Large, Then The Process May Be Conducted In More Than One Stage.

2. Chemical Grouting Method:

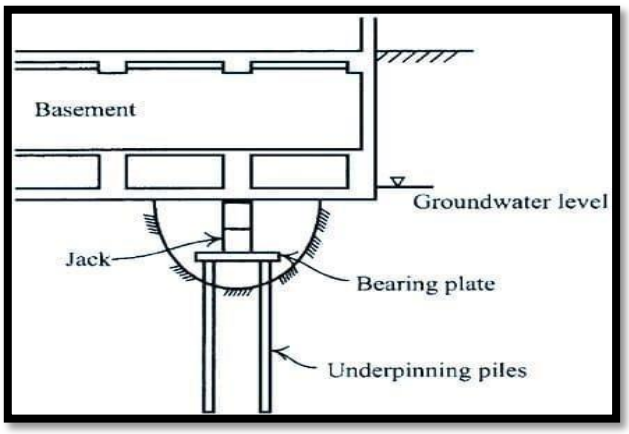
Chemical Grouting Is Another Technique Used To Restore Tilted Building To Its Original Position. This Method Is Economical But Grouting Process Requires Substantial Care To Achieve The Desired Outcome. If Chemical Grouting Is Not Carried Out Properly, Unanticipated Grout Flow May Occur And May Lead To

Fig.5.1.1. – chemical

Pipe And Structural Damages And Decline Grouting Affect. Similar To Compaction Grouting, It Is Necessary To Establish Detailed Plan Grouting Pressure, Injection Point Configuration, Techniques To Prevent The Disappearance Of Grouting Flow Before The Grouting Process Is Started. The Determination Of Injection Point Arrangement, Amount Of Injected Grouting, And Grouting Pressure Is Based On The Experience And Observation Obtained From Devices Placed On The Structure. Regarding Methods Used For Prevention Of Grout Fugacious Flowing, Either Sheet Piles Placed Within Grouting Range Or Grouting Setting Time Reduction Is Employed.

3. Underpinning Method

Underpinning Technique Used To Restore Verticality Of Tilted Structures. It Is More Expensive Compare With Other Aforementioned Methods. Moreover, This Technique Can Be Used To Rectify Structures That Constructed On Individual Footing And Mat Foundation.



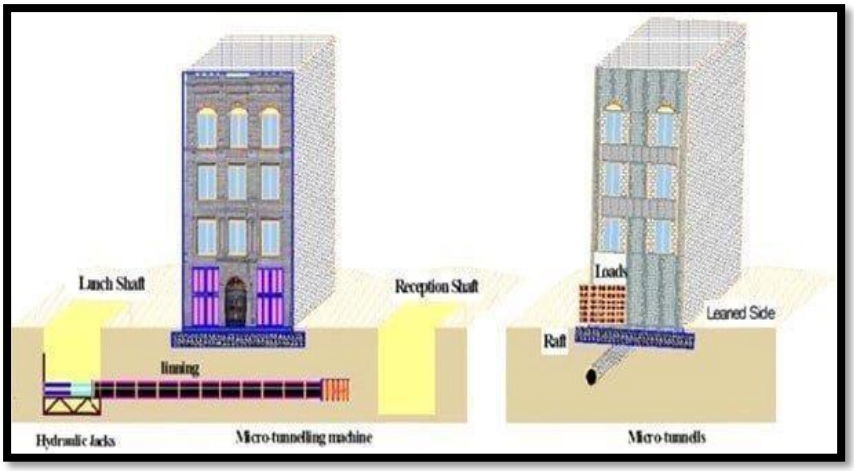
Furthermore, Underpinning Method Lacks Those Disadvantages That Encountered When Compaction Grouting Or Chemical Grouting Is Employed. For Example, Grout Flowing To Location Which Is Not Planned And Predicted, And Improper Uplifting Or Columns Which Is Possible In The Case Of Chemical And Compaction Grouting.

Underpinning Method Procedure Involves

Figure 5.1.2 Underpinning Method

Excavate Working Place, For Underpinning Pile Construction, Around The Foundation And Then Set Jacks Between The Foundation And Pile Cap To Uplift The Structure, And Lastly Carry Out Load Transfer Operation. As Far As Disadvantages Of Underpinning Are Concerned, Poor Design Of Underpinning May Lead To Increase The Settlement Of The Structure.

4. Micro-Tunneling Method:



This Method Is Used For Structures Which Is Built On Cohesive Soil And Suffered From Limited Leaning. In This Case, It Might Be More Feasible To Create Deformations Under Less Settled Side Of The Structure Using Micro Tunnels.

Fig5.1.3: Micro-Tunneling Method

The Procedure Includes Application Of Micro Tunneling For Drilling Unsupported Small Holes Under Less Settled Side Of The Structure, Then These Holes Would Be Deformed Due To Load Of The Structure And Additional Loads Imposed To Deform Small Holes. When These Holes Are Collapsed Under Structural Load And Additional Load, A Sliding Surface Would Be Produced, And The Foundation Would Rotate Opposite The Direction Of Inclination.

❖ Rehabilitation Techniques:

The Success Of Repair Activity Depends On The Identification Of The Root Cause Of The Deterioration Of The Concrete Structures. If This Cause Is Properly Identified, Satisfactory Repairs Can Be Done For The Improvement Of Strength And Durability, Thus Extending The Life Of The Structure, Is Not Difficult To Achieve. General Procedure in The Repair Of Distressed Concrete Structure

- Support The Structural Members Properly As Required.
- Remove All Cracked, Palled And Loose Concrete.
- Clean The Exposed Concrete Surfaces And Steel Reinforcement.
- Provide Additional Reinforcing Bars, If The Loss In Reinforcement Is More Than 10%
- Apply Short Creating/Polymer Concrete For Patch Repair Work And Grouting For Porous/Honeycombed Concrete.
- Apply Protective Coatings Over The Exposed/Repaired Surface.

Disaster management in natural calamities:

Disaster Management In India Refers To Conservation Of Lives And Property During A Natural And Man-Made Disaster. Disaster Management Plans Are Multi-Layered And Are Planned To Address Issues Such As Floods, Hurricanes, Fires, Mass Failure Of Utilities And The Rapid Spread Of Disease. India Is Especially Vulnerable To Natural Disasters Because Of Its Unique Geo-Climatic Conditions, Having Recurrent Floods, Droughts, Cyclones, Earthquakes, And Landslides. As India Is A Very Large Country, Different Regions Are Vulnerable To Different Natural Disasters. For Example, During Rainy Season The Peninsular Regions Of South India Is Mostly Affected By Cyclones And States Of West India Experience Severe Drought During Summer. Natural Calamities: Floods Hurricane Fires Droughts EarthquakesLandslides

Natural Calamities:

- Floods
- Hurricane
- Fires
- Droughts
- Earthquakes

The Disaster Management Act, 2005:

Main article: Disaster Management Act, 2005

The Disaster Management Act Was Passed By The Look Sabha On 28 November 2005, And By The Rajah Sabha On 12 December 2005. It Received The Assent Of The President Of India On 9 January 2006. The Act Calls For The Establishment Of A National Disaster Management Authority (NDMA), With The Prime Minister Of India As Chairperson. The NDMA Has No More Than Nine Members At A Time, Including A Vice-Chairperson. The Tenure Of The Members Of The NDMA Is 5 Years. The NDMA Which Was Initially Established On 30 May 2005 By An Executive Order Was Constituted Under Section-3(1) Of The Disaster Management Act, On 27 September 2005. The NDMA Is Responsible For "Laying Down the Policies, Plans And Guidelines For Disaster Management" And To Ensure Very Timely And Effective Response To Disaster". Under Section 6 Of The Act It Is Responsible For Laying "Down Guidelines To Be Followed By The State Authorities In Drawing Up The Country Plans".

Disaster Management plan:

Objectives:

1. Improve The Understanding Of Disaster Risk, Hazards, And Vulnerabilities
2. Strengthen Disaster Risk Governance At All Levels From Local To Centre
3. Invest In Disaster Risk Reduction For Resilience Through Structural, Non-Structural And Financial Measures, As Well As Comprehensive Capacity Development
4. Enhance Disaster Preparedness For Effective Response
5. Promote "Build Back Better" In Recovery, Rehabilitation And Reconstruction
6. Prevent Disasters And Achieve Substantial Reduction Of Disaster Risk And Losses In Lives, Livelihoods, Health, And Assets (Economic, Physical, Social, Cultural And Environmental)
7. Increase Resilience And Prevent The Emergence Of New Disaster Risks And Reduce The Existing Risks
8. Promote The Implementation Of Integrated And Inclusive Economic, Structural, Legal, Social, Health, Cultural, Educational, Environmental, Technological, Political And Institutional Measures To Prevent And Reduce Hazard Exposure And Vulnerabilities To Disaster
9. Empower Both Local Authorities And Communities As Partners To Reduce And Manage Disaster Risks
10. Strengthen Scientific And Technical Capabilities In All Aspects Of Disaster Management
11. Capacity Development At All Levels To Effectively Respond To Multiple Hazards And For Community-

Based Disaster Management

12. Provide Clarity On Roles And Responsibilities Of Various Ministries And Departments Involved In Different Aspects Of Disaster Management
13. Promote The Culture Of Disaster Risk Prevention And Mitigation At All Levels
14. Facilitate The Mainstreaming Of Disaster Management Concerns Into The Developmental Planning And Processes

❖ Salient Features of the Plan

- The Plan Covers All Phases Of Disaster Management: Prevention, Mitigation, Response And Recovery.
- For Each Hazard, The Approach Used In This National Plan Incorporates The Four Priorities Enunciated In The Sendai Framework Into The Planning Framework For Disaster Risk Reduction Under The Five Thematic Areas For Actions:
- Understanding Risk
- Inter-Agency Coordination
- Investing In DRR – Structural Measures
- Investing In DRR – Non-Structural Measures
- Capacity Development
- The Response Part Of The Plan Has Identified Eighteen Broad Activities Which Have Been Arranged Into A Matrix To Be Served As A Ready Reckoned:
- Early Warning, Maps, Satellite Inputs, Information Dissemination
- Evacuation Of People And Animals
- Search And Rescue Of People And Animals
- Medical Care
- Drinking Water/Dewatering Pumps/Sanitation Facilities/Public Health
- Food & Essential Supplies
- Communication
- Housing And Temporary Shelters
- Power

- Transportation
- Relief Logistics And Supply Chain Management
- Disposal Of Animal Carcasses
- Fodder For Livestock In Scarcity-Hit Areas
- Rehabilitation And Ensuring Safety Of Livestock And Other Animals, Veterinary Care
- Data Collection And Management
- Relief Employment
- Media Relations
- The Plan Has Also Incorporated A Chapter On Strengthening Disaster Risk Governance. The Generalized Responsibility Matrix Given In This Section Summarizes The Themes For Strengthening Disaster Risk Governance And Specifies Agencies At The Centre And State With Their Respective Roles. The Matrix Has Six Thematic Areas In Which Central And State Governments Have To Take Actions To Strengthen Disaster Risk Governance:
- Mainstream And Integrate DRR And Institutional Strengthening
- Capacity Development
- Promote Participatory Approaches
- Work With Elected Representatives
- Grievance Redress Mechanism
- Promote Quality Standards, Certifications, And Awards For Disaster Risk Management
- It Provides For Horizontal and Vertical Integration among All the Agencies And Departments Of The Government. The Plan Also Spells Out The Roles And Responsibilities Of All Levels Of Government Right Up To Panchayat And Urban Local Body Level In A Matrix Format. The Plan Has A Regional Approach, Which Will Be Beneficial Not Only For Disaster Management But Also For Development Planning.
- It Is Designed In Such A Way That It Can Be Implemented In A Scalable Manner In All Phases Of Disaster Management. It Also Identifies Major Activities Such As Early Warning, Information Dissemination, Medical Care, Fuel, Transportation, Search

And Rescue, Evacuation, Etc. To Serve As A Checklist For Agencies Responding To A Disaster. It Also Provides A Generalized Framework For Recovery And Offers Flexibility To Assess A Situation And Build Back Better.

- To Prepare Communities To Cope With Disasters, It Emphasizes On A Greater Need For Information, Education And Communication Activities.

5.1.2 Soil liquefaction

- Soil liquefaction occurs when a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress such as shaking during an earthquake or other sudden change in stress condition, in which material that is ordinarily a solid behaves like a liquid.

- In soil mechanics, the term "liquefied" was first used by Allen Hazen in reference to the 1918 failure of the Calaveras Dam in California. He described the mechanism of flow liquefaction of the embankment dam as: If the pressure of the water in the pores is great enough to carry all the load, it will have the effect of holding the particles apart and of producing a condition that is practically equivalent to that of quicksand… the initial movement of some part of the material might result in accumulating pressure, first on one point, and then on another, successively, as the early points of concentration were liquefied.

5.1.3 Sustainable sanitation

This guide provides an approach to local sanitation based on the whole chain, from beginning to end, to ensure that equal consideration is given to the collection of wastewater and excreta, its evacuation and its treatment. Indeed, addressing only one particular segment just transfers the problem elsewhere. For example, households equipped with toilets in an area where there are no pit emptying or treatment services are likely to empty their full pits into the street: thereby transferring the problem from the private home into the public domain

5.1.4 Various types of Roads / Intelligent transport system:

A Road Is Thoroughfare Route, or Way on Land between Two Places That Has Been Surfaced Or Otherwise Improved To Allow Travel By Foot Or Some Form Of Conveyance, Including A Motor Vehicle, Cart, Bicycle, Or Horse. Roads Have Been Adapted To a Large Range Of Structures and Types In Order To Achieve a Common Goal Of Transportation Under A Large And Wide Range Of Conditions. The Specific Purpose, Mode Of Transport,

And Location Of A Road Determine The Characteristics It Must Have In Order To Maximize Its Usefulness. Following Is One Classification Scheme.

Types of Roads:

1. **Internal Roads(R.C.C.)**
2. **External Roads(Bituminous)**
3. **Highway (Approach The Village)**

Intelligent transport system:

An Intelligent Transportation System (ITS) Is an Advanced Application Which Aims To Provide Innovative Services Relating To Different Modes Of Transport And Traffic Management And Enable Users To Be Better Informed And Make Safer, More Coordinated, And 'Smarter' Use Of Transport Networks.

Intelligent transport technologies:

Intelligent Transport Systems Vary In Technologies Applied, From Basic Management Systems Such As Car Navigation; Traffic Signal Control Systems; Container Management Systems; Variable Message Signs; Automatic Number Plate Recognition Or Speed Cameras To Monitor Applications, Such As Security CCTV Systems; And To More Advanced Applications That Integrate Live Data And Feedback From A Number Of Other Sources, Such As Parking Guidance Systems; Weather Information; Bridge De-Icing (US Deicing) Systems; And The Like. Additionally, Predictive Techniques Are Being Developed To Allow Advanced Modeling And Comparison With Historical Baseline Data. Some Of These Technologies Are Described In The Following Sections.

❖ Various types of Environmental Factors:

❖ Environment factors

- Exposure to Hazardous Substances In The Air, Water, Soil, And Food.
- Natural and Technological Disasters.
- Climate Change.
- Occupational Hazards.
- The BuiltEnvironment.
- **Major issues:**
- Population Growth and Environmental Quality.
- Water Pollution.
- Air Pollution.

- Solid Waste Pollution.
- Noise Pollution.
- Land or Soil Pollution.
- Greenhouse Gas Emissions.

- **E – Waste disposal / Any West disposal:**

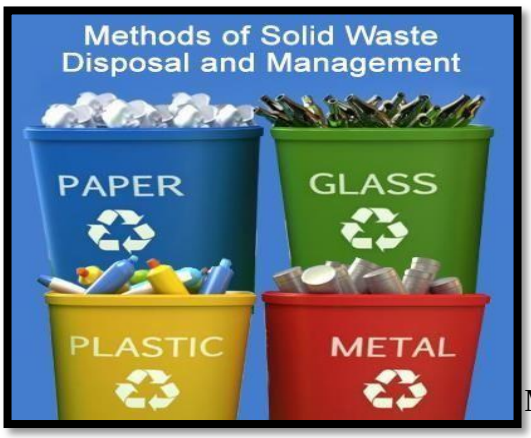


Fig. 5.1.4: Waste disposal

Waste Management (Or Waste Disposal) Are The Activities And Actions Required Managing Waste From Its Inception To Its Final Disposal.[1] This Includes the Collection, Transport, Treatment and Disposal of Waste, Together With Monitoring And Regulation Of The Waste Management Process. Waste Can Be Solid, Liquid, Or Gas And Each Type Has Different Methods Of Disposal And Management. Waste Management Deals With All Types of Waste, Including Industrial, Biological And Household. In Some Cases, Waste Can Pose A Threat To Human Health. Waste Is Produced By Human Activity, For Example, The Extraction And Processing Of Raw Materials. Waste Management Is Intended To Reduce Adverse Effects Of Waste On Human Health, The Environment Or Aesthetics. Waste Can Be Solid, Liquid, Or Gas And Each Type Has Different Methods Of Disposal And Management. Waste Management Deals With All Types Of Waste, Including Industrial, Biological And Household. In Some Cases, Waste Can Pose A Threat To Human Health.

5.1.5 Vertical farming

Fig.5.1.5 vertical farming

Vertical farming often falls in line with ‘indoor farming’, ‘urban agriculture’ and ‘controlled- environment agriculture’ (which also encompasses greenhouse cultivation), but the concept remains unique. With vertical farming, the growing takes place where factors such as temperature, nutrients, lighting, irrigation, and air circulation are constantly monitored and adjusted. Here's a peak at the inside of a vertical farm in the Netherlands: Vertical

farming's reduced use of water and land, and decreased waste and CO2 emissions could already be helpful in mitigating climate change were it to become more widely explored. The controlled and contained nature of the technology could reduce agricultural runoff as well, which in traditional farming, is any water that is carrying away by-products from a farm and may contain fertilizers and other contaminants

5.1.6 Corrosion Mechanism, Prevention &Repair Measures of RCC Structure:

Corrosion Is A Natural Way Of Deterioration Of Material. In The Presence Of Moisture, An Oxidation Reaction Takes Place On The Energized Area Of The Metal Surface To Elute Metal As An Ion (Anode). A Reduction Takes Place On Low Energy Area (Cathode).Normally, Corrosion Of Metal Occurs On Anode.

Figure 5.1.6: CORROISIONIN R.C.C.

Deterioration of RCC Structures:

Unexpected Cracking Of Concrete Is A Frequent Cause Of Complaints. Cracking Can Be The Result Of One Or A Combination Of Factors, Such As Drying Shrinkage, Thermal Contraction, Restraint (External Or Internal) To Shortening, Sub grade Settlement, And Applied Loads. Cracking Can Be Significantly Reduced When The Causes Are Taken Into Account And Preventive Steps Are Utilized. Deterioration Of Concrete Occurs Due To One Or More Of The Following Mechanisms.

5.1.7 Sewage treatment plant

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

Plant that has usually received pre-treatment at the factories to reduce the pollutant load. If

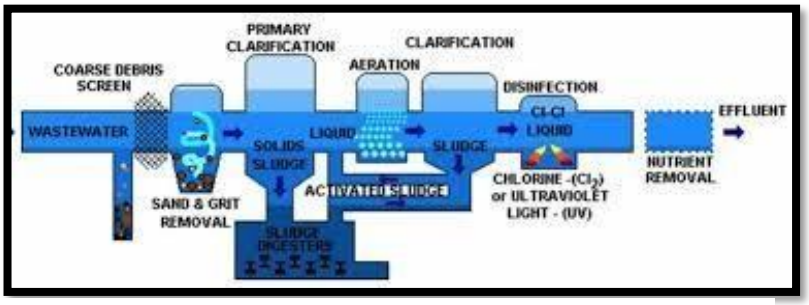


Fig.5.1.7 sewage treatment plant.

the sewer system is a combined sewer, then it will also carry urban runoff (storm water) to the Sewage water can travel towards treatment plants via piping and in a flow aided by gravity and pumps. The first part of the filtration of sewage typically includes a bar screen to filter solids and large objects that are then collected in dumpsters and disposed of in landfills.Fatandgreasearealsoremovedbefore the primary treatment of sewage.

5.1.8 Technical case study on "India gate (Delhi)"

- **HISTORY**

This stupendous structure was constructed by the Imperial War Graves Commission aka IWCG, which was established in 1917 to build war memorials and graves for soldiers who lose their lives in the First World War. The memorial was designed by a famous English architect by the name Sir Edwin Lutyens and its foundation was laid by the Duke of Connaught, third son of Queen Victoria, on 10 February 1921. After 10 long years, on February 12, 1931, Viceroy Lord Irwin inaugurated and dedicated this structure to the nation and its future generations. The names of over 13,000 soldiers who lost their lives during the war are also inscribed on the memorial. In the honor of soldiers who sacrificed their lives in the Indo-Pakistan War of 1971, a new structure was added to the India Gate in 1972. Known as Amar Jawan Jyoti (which means the Flame of the Immortal Soldier), this was inaugurated by Indira Gandhi, who was the then PM of India.

- **DESIGN**

Sir Edwin Lutyens, who designed the India Gate, was a leading war memorial architect and was also a member of IWGC. He built it as a secular memorial free of any religious association or cultural ornamentation. Also, Lutyens wanted the monument to be a classical one, so refused to incorporate any Asian motifs such as pointed arches. The architectural style of India Gate is that of a triumphal arch and is

often compared with the Arc de Triumphal in Paris, the Gateway of India in Mumbai, and the Arch of Constantine. Situated in the middle of a hexagonal complex, the structure is 42 meters tall and 9.1 meters wide. The whole structure is made using yellow and red sandstone which was brought in directly from Bharatpur. About 150 meters towards the east of the India Gate, there is a canopy that was built in 1936 as a tribute to former Emperor of India, King George V. There used to be a marble statue of George V, but it was removed due to opposition from some political parties after India's independence. Currently the statue is located in Delhi's Coronation Park. India Gate also houses a small structure called Amar Jawan Jyoti, which consists of a marble pedestal with a cenotaph on its top. The cenotaph has the words 'Amar Jawan' written on all four sides in golden letters and also has a reversed rifle, capped by a soldier helmet, installed on it. The structure is surrounded by permanently burning flames fueled by CNG on all the four sides

- **INFORMATION**

Location	Rajpath, New Delhi
Type	Memorial
Also Known as	All India War Memorial
Timings	Morning till evening; every day
Entry Fee	Free
Still and Video Cameras	Free
Architect	Edwin Lutyens
Architectural Style	Triumphal Arch
Period of Construction	1921 to 1931
Commissioned by	Imperial War Graves Commission

Dimensions	42 meters (height) x 9.1 meters (width)
Area	306,000 square meters
Material Used	Yellow and red sandstone and granite
Nearest Metro Station	Central Secretariat

Table: Information of India gate

- ## Cost of India gate

The India Gate is located at the heart of India's capital city, New Delhi. About 2.3 km from the Rashtrapati Bhavan, it is located on the eastern extremity of the ceremonial boulevard, Rajpath. India Gate is a war memorial dedicated to honor the soldiers of the Undivided

Indian Army who died during World War I between 1914 and 1921. War memorials are buildings, installations, statues or other edifices dedicated either to celebrate victory in war, or to pay tribute to those who died or were injured in war. Delhiites and t monument for a leisurely evening, enjoying the light show at the fountains along with snacking on street food. A National War Memorial to honor all armed forces members killed after 1947 is under construction at the 'C' Hexagon of India Gate.

Type: War Memorial

Construction Started: 10 February, 1921

Construction Completed: February 12, 1931

Where is it Located: New Delhi, India

Why was it Built: Memorial to Undivided Indian Army soldiers who died during World War I

Dimensions: 42 m in height; 9.1 m in width; the complex is 625 m in diameter and 306,000 m² in area

Materials Used: Yellow and red sandstone and granite

Architectural Style: Triumphal Arch

Designer: Sir Edwin Lutyens

Visit Timing: 24 hours a day, all days of the week

BEST INFRASTURECTURE

- **FEATURES**

India Gate, an important monument of the city, is a memorial built in commemoration of more than 80,000 **Indian** soldiers who were killed during World War I. The monument is an imposing 42 meters high arch and was designed by the famous architect Edwin Lutyens. **India gate** was earlier named All **India** War Memorial.

- **LOCATION**

India Gate, which is located at the eastern end of the **Rajpath** (formerly called **the Kingsway**), is about 138 feet (42 meters) in height. **All India War Memorial** arch (1931; commonly called India Gate), **New Delhi**, India

- **RECENT NEWS ON INDIA GATE**

The sandstone arch has often been compared to Paris' Arc de Triumph. Standing forty-two meters high, Memorial Arch was built to honor the brave men who died in WWI and the Third Anglo-Afghan War. The monument bears the name of over 13,516 soldiers among the 80,000 who died in those wars.

CHAPTER 6 Swatchh Bharat Abhiyan (Clean India):

6.1 Introduction

Swachh Bharat Abhiyan Is A Campaign That Was Launched On 2 October 2014 And Aims To Eradicate Open Defecation By 2019.[6] The National Campaign Spans 4,041 Statutory Cities And Towns.[7][8] It Is The Current Of A Few Prior Campaigns, Including Nirmal Bharat Abhiyan And The Total Sanitation Campaign, Which Had Similar Goals.

Figure: 6.1: Sawachh bharat Abhiyan

Swachh Bharat Abhiyan (SBA) (Or Swachh Bharat Mission (SBM) Or Clean India Mission In English) Is A Campaign In India That Aims To Clean Up The Streets, Roads And Infrastructure Of India's Cities, Smaller Towns, And Rural Areas. The Objectives Of Swachh Bharat Include Eliminating Open Defecation Through The Construction Of Household- Owned And Community-Owned Toilets And Establishing An Accountable Mechanism Of Monitoring Toilet Use. Run By the Government Of India, The Mission Aims To Achieve An Open-Defecation Free (ODF) India By 2 October 2019, The 150th Anniversary Of The Birth Of Mahatma Gandhi, By Constructing 12 Million Toilets In Rural India At A Projected Cost Of ₹1.96 Lakh Corer (US$30 Billion).The Campaign Was Officially Launched On 2 October 2014 At Right, New Delhi By Prime Minister Narendra Modi. It Is India's Largest Cleanliness Drive To Date With 3 Million Government Employees, School Students, And College Students From All Parts Of India Participating In 4,041 Statutory Cities, Towns And Associated Rural Areas. The Mission Contains Two Sub-Missions: Swachh Bharat Abhiyan ("Gram in" Or Rural), Which Operates Under The Ministry Of Drinking Water And Sanitation; And Swachh Bharat Abhiyan (Urban), Which Operates Under The Ministry Of Housing And Urban Affairs The Mission Includes Ambassadors And Activities Such As National Real-Time Monitoring And Updates From Non-Governmental Organizations (Ngos) That Are Working Towards Its Ideas Of Swachh Bharat.

6.2 Objectives of Swachh Bharat Mission

Swachh Bharat Abhiyan Set A Lot Of Objectives To Achieve So That India Could Become Cleaner And Better. In Addition, It Not Only Appealed The Sweepers And Workers But All The Citizens Of The Country. This Helped In Making The Message Reach Wider. It Aims To Build Sanitary Facilities For All Households. One Of The Most Common Problems In Rural Areas Is That Of Open Defecation. Swachh Bharat Abhiyan Aims To Eliminate That. Moreover, The Indian Government Intends To Offer All The Citizens With Hand Pumps, Proper Drainage System, Bathing Facility And More. This Will Promote Cleanliness Amongst Citizens. Similarly, They Also Wanted To Make People Aware Of Health And Education Through Awareness Programs. After That, A Major Objective Was To Teach Citizens To Dispose Of Waste Mindfully.

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

Figure 6.2: Need Swatchhta in village

- Need Swatchhta:
- Sanitation Plan for Health in the Village.
- Waste Collection System.
- Drainage System.
- Waste Disposal System.
- Public Toilet.
- Increase in Health Status of Public.

Guidelines for the Process of the implementation in your village with photograph:

First of all we have to give some information about Swatchhta Abhiyan and also the benefits of the Swatchhta. We also aware them about the illness because of the dirty roads and village. In our allocated village we were arranged a presentation on Swachh bharat Abhiyan for the student and also try to convince them for the stop throwing garbage on the roads and in the village. We also do a activity with the help of student for the Swatchhta in village and also try to encourage the villagers to take part in this Abhiyan

6.3 Actual Activity done by student for making village clean with photographs

Figure 6.3: Student activity and presentation on Swatchhta

CHAPTER 7: VILLAGE CONDITION DUE TO COVID -19

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. 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. 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.

7.1 Taken steps in Lilapur village related to existing situation

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

7.2 Any other steps taken by the students / villagers:

During interaction with the Sarpanch, he told us that the home quarantine facilities were implemented during the lockdown. In the COVID-19 situation cleaning, fogging and sanitization weredone in the village and also village condition is most fine and number of cases isless.

Steps taken by villagers in lockdown

CHAPTER 8 : Sustainable Design Planning Proposal (Prototype Design)- Part- I (Scenario / Existing Situation / Proposed Design In Auto Cad / Recapitulation Sheet / Measurement Sheet / Abstract Sheet / Sustainability Of Proposal):

8.1 Design Proposal:

In Our Allocated Village "Lilapur" There Is No Infrastructure Development And Also There Is No Any Public Buildings For The Villagers. The Village Has Not Evened a Bus Station for the Busses so that's Why There Is No Any Transportations Facilities like State Transport. In That Village There Is No Any Public Garden For The Villagers To Seat And Also There Is No Any Play Ground For The Children Also The Village Has Not A Proper Infrastructure Or Building For The School And Also There Is No Any Community Hall For The Purposes Of The Social Functions And Also For The Meetings Of Villagers. Lilapur Has Not A Primary Health Center For The Primary Treatment Of The Villagers. Gram Panchayat Is Also In The Dead Condition. So In the Village the Infrastructure Is Very Poor that's Why We Suggest or We Propose Some Designs for the Village.

Proposed Design:

1. Bus Stand.
2. Community Hall.
3. Garden.
4. Health Center.
5. High school.
6. Library

8.1.1 Sustainable design: Bus stop

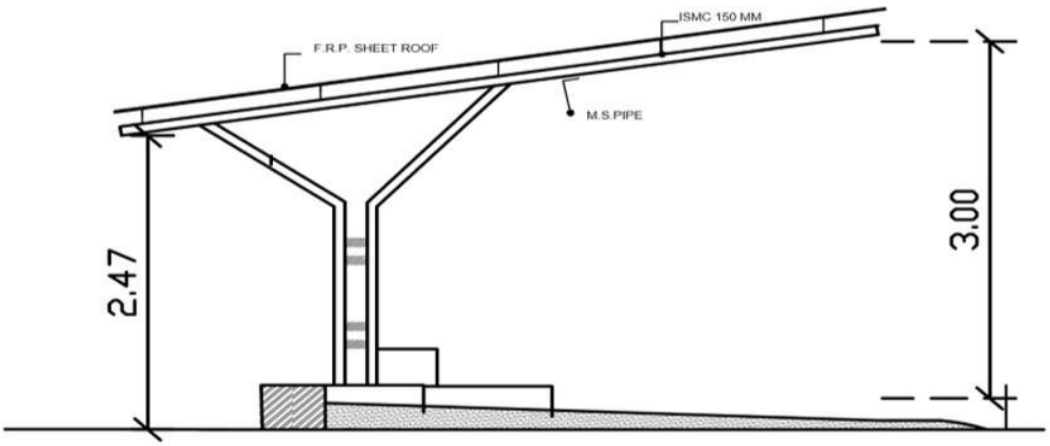
BUS STAND

For improving the transportation facility we have to build a bus stand in village for the sitting of the passengers and also they can wait there for the busses and other transportation services.

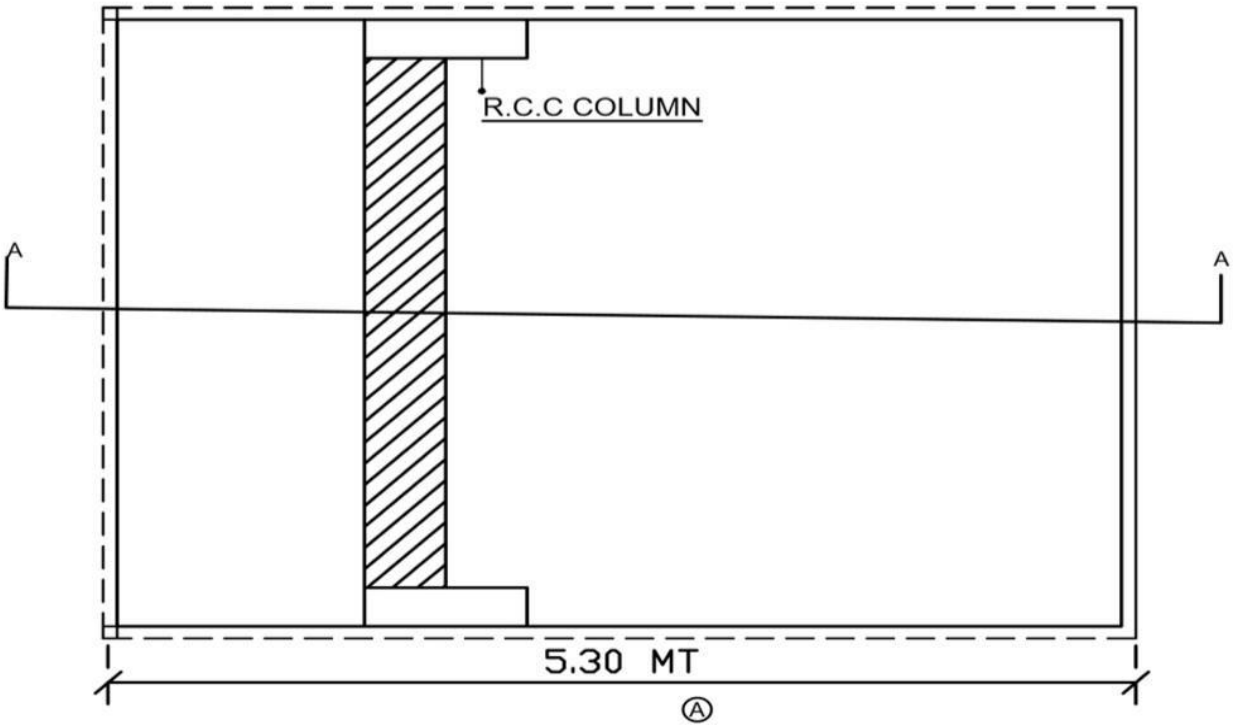
Existing Situation:

There is no any bus stand in the village.

Proposed:



SECTION ELEVATION :- A-A



PLAN

We are proposed the design for the bus stand which has toilets for women and men and also there is a water cooler which is provides the cold and clean water to the passengers.

Measurement Sheet, Maintenance cost Quantity sheet (Bus Stand):

MEASUREMENT SHEET							
Sr.No.	**Item**	**No.**	**Length**	**Bredth**	**Height**	**Quantity**	**Total Quantity**
1	2	3	4	5	6	7	8
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)						
	Column (0.45 X 0.30)	2.00	2.80	2.95	1.50	24.78	
							24.78
						TOTAL	**24.78**
							C.Mt.
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)						
	Column (0.45 X 0.30)	2.00	2.50	2.65	0.15	1.99	
							1.99
						TOTAL	**1.99**
							C.Mt.
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass						

	concrete.						
	Formula=(L*B*D)+(h/6 (a_1+a_2+4a_m))						
	2.56	2.00			5.12		
							5.12
						TOTAL	**C.Mt.**
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)						
	Plinth Level						
	col. up to Footing Lvl.to Plinth Lvl.(0.45 X 0.30)	2.00	0.30	0.45	0.30	0.08	
							0.08
							C.Mt.
	Pedstal (0.45 X 0.30)	2.00	0.50	0.65	0.60	0.39	
							0.39
							C.Mt
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)						
	Beam						
	H1(0.23X .45)	1.00	3.00	0.23	0.45	0.31	

							0.31
	Plinth Beam						**0.31**
6	Filling excavated earth soil from outside and curing etc.						
	Excavation	1.00				24.78	**24.78**
	less Rcc footing filling **(Iteam No. 4)**	1.00				5.12	**5.12**
	less col. up to Footing Lvl.to Plinth Lvl.(0.45 X 0.30)	12.00	0.30	0.45	0.30	0.49	**0.49**
	Less Pedstal (0.45 X 0.30)	12.00	0.50	0.65	0.60	2.34	**2.34**
	Total Filling of Soil						**16.84**
							C.Mt
7	Teen Roof Shed With ISMC 150 Chanel Section	1.00	5.30	3.00			15.90
							Sq. Mtrs

Quantity sheet (Bus stand)

Abstract sheet (Bus Stand building):

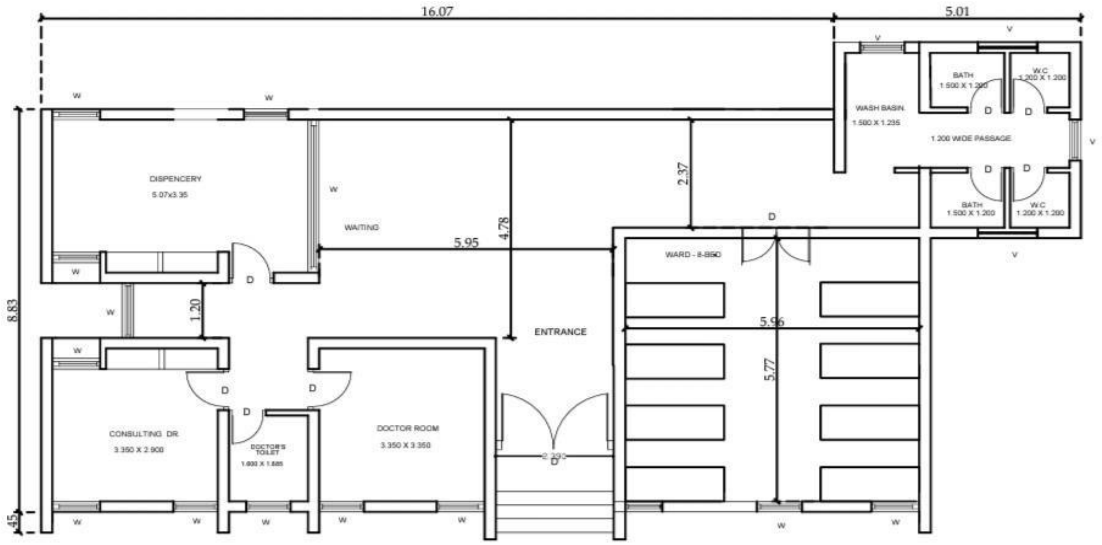
ABSTRACT SHEET					
Sr.No.	**Description**	**Quantity**	**Rate**	**Per**	**Amount**
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)	24.78	100.44	Cmt.	2488.90
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)	1.99	3184.00	Cmt.	6328.20
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.	5.12	3327.00	Cmt.	17017.61
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)				
	Plinth Level	0.08	7900.00	Cmt.	639.90
	Pedstal	0.39	7900.00	Cmt.	3081.00
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)				

	Plinth Level	0.31	6850.00	Cmt.	2126.93
6	Filling in plinth with sand under floors including watering,ramming,consolidating and dressing etc. complete. (Upto 10 ton)	16.84	397.71	cmt.	6697.04
7	Teen Roof Shed With ISMC 150 Chanel Section	15.90	6000.00	Sq.Mtrs	95400.00
	Total				**133779.57**
	Total Construction cost			**Say**	**134000.00**
	Rupees One Lacs & Thirty - Four Thousand Only.				

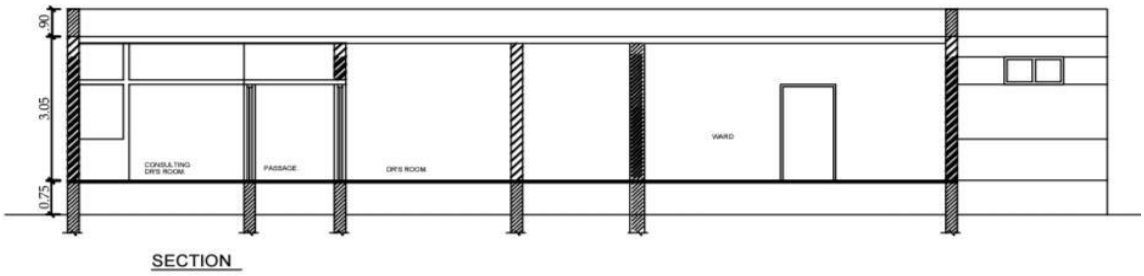
Table 8.5.2 Abstract sheet (Bus stand building)

8.1.2 PHYSICAL DESIGN: HEALTH CENTER

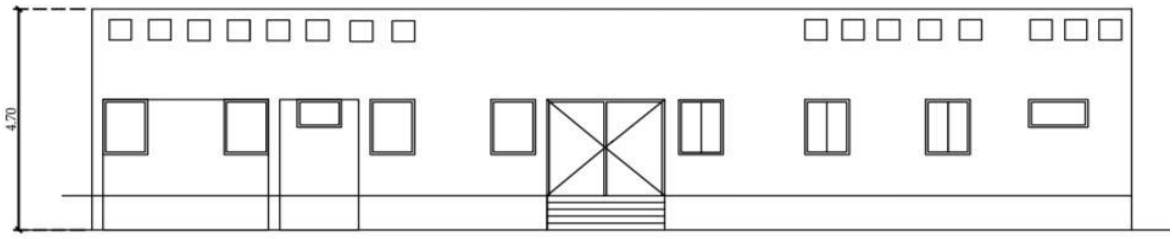
HOSPITAL



PLAN



SECTION



FRONT SIDE ELEVATION

Measurement Sheet, Quantity sheet (Hospital building):

MEASUREMENT SHEET							
Sr.No.	**Item**	**No.**	**Length**	**Bredth**	**Height**	**Quantity**	**Total Quantity**
1	2	3	4	5	6	7	8
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)						
	Column (0.45 X 0.30)	12.00	2.80	2.95	1.50	148.68	
							148.68
						TOTAL	**148.68**
							C.Mt.
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)						
	Column (0.45 X 0.30)	12.00	2.50	2.65	0.15	11.93	
							11.93
						TOTAL	**11.93**
							C.Mt.
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.						
	Formula=(L*B*D)+(h/6 (a_1+a_2+4a_m))						
	2.56	12.00			30.69		
							30.69
						TOTAL	**C.Mt.**
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)						
	Plinth Level						
	col. up to Footing Lvl.to Plinth Lvl.(0.45 X 0.30)	36.00	0.30	0.45	0.30	1.46	

							1.46
							C.Mt.
	col. up to Plinth Lvl.to G.F slab Lvl.(0.45 X 0.30)	36.00	0.30	0.45	3.20	15.55	**15.55**
							C.Mt.
	Pedstal (0.45 X 0.30)	36.00	0.50	0.65	0.60	7.02	
							7.02
							C.Mt
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)						
	Beam						
	H1(0.23X .45)	1.00	11.06	0.23	0.45	1.14	
	H2(0.23X .45)	1.00	5.01	0.23	0.45	0.52	
	H3(0.23X .45)	1.00	9.12	0.23	0.45	0.94	
	H4(0.23X .45)	1.00	17.69	0.23	0.45	1.83	
	V1(0.23X .45)	2.00	8.38	0.23	0.45	1.73	
	V2(0.23X .45)	2.00	5.77	0.23	0.45	1.19	
	V3(0.23X .45)	1.00	1.24	0.23	0.45	0.13	
	V4(0.23X .45)	1.00	3.83	0.23	0.45	0.40	**7.89**
							C.Mt
	Plinth Beam						**7.89**
							C.Mt
	Ground floor level						**7.89**
							C.Mt
6	Filling excavated earth soil from outside and curing etc.						
	Excavation	1.00				148.68	**148.68**
	less Rcc footing filling **(Iteam No. 4)**	1.00				30.69	**30.69**
	less col. up to Footing Lvl.to Plinth Lvl.(0.45 X 0.30)	12.00	0.30	0.45	0.30	0.49	**0.49**
	Less Pedstal (0.45 X 0.30)	12.00	0.50	0.65	0.60	2.34	**2.34**
	Total Filling of Soil						**115.16**
							C.Mt
7	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) (A) Modular (Upto 10 ton)						
	Fourt Floor level						

	wall(0.12) (h)						
	H1	1.00	16.07		3.05	49.01	
	H2	1.00	5.01		3.05	15.28	
	H3	2.00	3.05		3.05	18.57	
	H4	2.00	9.24		3.05	56.33	
	H5	2.00	6.19		3.05	37.76	
	H6	1.00	5.76		3.05	17.57	
	H7	1.00	1.83		3.05	5.58	
	H8	2.00	3.58		3.05	21.84	
	H9	1.00	5.30		3.05	16.17	
	wall (v)						
	V1	1.00	8.60		3.05	26.23	
	V2	2.00	1.89		3.05	11.50	
	V3	1.00	3.35		3.05	10.22	
	V4	2.00	5.77		3.05	35.20	
	V5	1.00	1.24		3.05	3.77	
	V6	6.00	1.20		3.05	21.96	
							325.02
	Less Doors ,Windows & Column						**Sq.Mt.**
	Doors D1	4.00	1.00	2.13		8.52	
	D2	4.00	0.76	2.13		6.48	
	Windows						
	W1	13.00	1.20	1.20		18.72	
	V	4.00	0.60	0.60		1.44	
	Column	12.00	0.45	2.13		11.50	
						46.66	**46.66**
	Total Brick Masnory					**TOTAL**	**278.37**
							Sq.Mt.
8	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) at floor parapet railing .						
	Wall (H)	1.00	55.44	1.15		63.76	
						63.76	**63.76**
						TOTAL	**63.76**
							S.Mt.

9	providing and laying controlled cement concrete M150 and exposed work with curing etc. complete including cost of form work but excluding the cost of reinforcement (iii) slabs having more than 10 cm and up to 13 cm thickness (up to 10 ton)						
	Slab(1)	1.00	16.07	8.83	0.12	17.03	17.03
	Slab(2)	1.00	5.01	3.62	0.12	2.18	2.18
							19.20
							SQ-Mt.
10	providing T.M.T.bar &mild reinforcement for R.C.C work.				70.00		
	As per item No: 04 footing		30.69	cmt		kg	2148.30
	As per item No: 05						
	column-up to footing to Plinth		1.46	cmt	120.00	kg	174.96
	Column up to Slab Floor		15.55	cmt	120.00	kg	1866.24
	Pedstal		7.02	cmt	120.00	kg	842.40
	As per item No: 06				120.00		
	Plinth beam		7.89	cmt	120.00	kg	946.90
	G.Floor Beam		7.89	cmt	120.00	kg	946.90
	As per item no 10 Fourth floor slab						
	Slab		19.20	cmt	110.00	kg	2112.45
						Total	**9038.15**
							SQ.MT

11	providing &fixing extruded aluminium window having extruded aluminium colour anodized section frame main outerside127mm x38.10mm x1.35mm (of jindal section no.2443 @Wt.1.384Kg/Mt.) Horizontal Four track member size122.20mm x 31.75mm x 1.10mm (of jindal section no.8787@ Wt.1.205 Kg/Mt.) vertical member of size 122.20 mm x 31.75 mm x 1.50mm(of jindal section no.8935 @Wt. 1.398 Kg/Mt.)with sliding shutters of horizontal member size40mmx 18mmx 1.29mm (of jindal section no. 8949@Wt.0.456Kg/Mt.) vertical member size 40mm x 18mm x 1.29mm(of jindal section no.8947 @Wt.0.456Kg/Mt. ,section no.8948 @ Wt.0.457 Kg/Mt.) with5mm thick trasparant bronze colour tinted float glass with powder coated aluminium fittings and fixtures and transparant silicon sealent glass fixing to frame as per details etc. complete.						
	Frame with Shutters						
	Windows	13.00	1.20	1.20		18.72	
	W						
	V	2.00	0.60	0.60		0.72	19.44
							Sq.Mt.
12	providing wood work in frames of doors windows clear story windows & other similar works,wrought framed and fixed in position (A) Indian Teak wood						
	(A) Frame						
	Main door (D) Vertical	2.00	2.13	0.10	0.15	0.06	
	Horizontal	1.00	1.65	0.10	0.15	0.02	
	D1-4 Vertical	8.00	2.13	0.10	0.15	0.26	
	Horizontal	4.00	1.15	0.10	0.15	0.07	
	D2-4 Vertical	8.00	2.13	0.10	0.15	0.26	
	Horizontal	4.00	1.06	0.10	0.15	0.06	
							0.73
							Cmt.
	(B)Shutter						
	D	1.00	1.30		2.03	2.64	
	D1	4.00	0.80		2.03	6.50	
	D2	11.00	0.71		2.03	15.85	
						24.99	
						Total	**24.99**

								S.Mt.
	Frame						**0.73**	**Cmt.**
	Shutter						**24.99**	**Sq.Mt.**
13	providing 20 mm thick double coat mala cement plaster on interior brick/concrete work for plastering comprising of base coat of 12mm thick cement plaster in cement mortar(1: cement,4:coarse sand)in rough finishing and 8mm thick top coat of cement mortar 1:2(1: cement,4:Coarse sand) finished with trovel including scaffolding curing etc. complete.							
	Plaster							
	Dispencery	Celing	1.00	5.07	3.35		16.98	
		wall	3.00	5.07	2.98		45.33	
		Wall	1.00	3.35	2.98		9.98	**72.29**
	Consulting Room	Celing	1.00	3.35	2.90		9.72	SQ Mt.
		wall	3.00	3.35	2.98		29.95	
		Wall	2.00	6.00	2.98		35.76	**75.42**
	Doctors Toilet	celing	1.00	1.60	1.87		2.98	SQ Mt.
		wall	2.00	1.60	2.98		9.54	
		Wall	2.00	1.87	2.98		11.12	**23.64**
	Doctors room	celing	1.00	3.35	3.35		11.22	SQ Mt.
		wall	3.00	3.35	2.98		29.95	
		Wall	3.00	3.35	2.98		29.95	**71.12**
	Waiting room	celing	1.00	5.95	4.78		28.44	SQ Mt.
		wall	1.00	12.02	2.98		35.80	
		Wall	3.00	4.78	2.98		42.73	**106.98**
	Ward	celing	1.00	5.96	5.77		34.39	SQ Mt.
		wall	3.00	5.96	2.98		53.28	
		wall	3.00	5.77	2.98		51.58	**139.26**
	Wash Basin	Celing	1.00	1.50	1.23		1.84	SQ Mt.
		wall	1.00	1.50	2.98		4.47	
		wall	1.00	1.23	2.98		3.65	**9.96**
	Bath	Celling	1.00	1.50	1.20		1.80	SQ Mt.
		wall	3.00	1.50	2.98		13.41	
		wall	2.00	1.20	2.98		7.15	**22.36**
	Wc	Celling	1.00	1.20	1.20		1.44	SQ Mt.
		wall	4.00	1.20	1.20		5.76	**7.20**
								SQ Mt.
	Less Doors ,Windows							**528.23**
	Doors	**D**	1.00	1.50	2.13		3.20	**SQ Mt.**
		D1	4.00	1.00	2.13		8.52	
		D2	4.00	0.91	2.13		7.75	

	Windows						
	W	13.00	1.22	1.22		19.35	
	V	4.00	0.60	0.60		1.44	**40.26**
	Total						**487.97**
							SQ Mt.
14	providing and laying Vitrified tiles flooring over 20 mm (average) the base of cement mortar 1:6, 1: cement , 6 : coarse sand) laid over and jointed with white cement slurry including rubbing & polishing etc. complete. (1) 25 mm thick.						
	Dispencery	1.00	5.07	3.35		16.98	
	Consulting Room	1.00	3.35	2.90		9.72	
	Doctors Toilet	1.00	1.60	1.87		2.98	
	Doctors room	1.00	3.35	3.35		11.22	
	Waiting room	1.00	5.95	4.78		28.44	
	Ward	1.00	5.96	5.77		34.39	
	Wash Basin	1.00	1.50	1.23		1.84	
	Bath	1.00	1.50	1.20		1.80	
	Wc	1.00	1.20	1.20		1.44	**108.81**
			29.48	**25.64**			SQ Mt.
	skirting		29.48	0.08		2.21	
			25.64	0.08		1.92	**4.13**
	Total Flooring						**112.95**
							SQ.Mt
15	Appliying two coats of Birla or Asian Acreylic papi(Putty) & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including throughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.						
	As per Plaster	1.00					**487.97**
							SQ.Mt
16	wall painting(Two coats)with plasticemulsion paint of approved brand &manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.						
	As per Plaster	1.00					**487.97**
							SQ.Mt

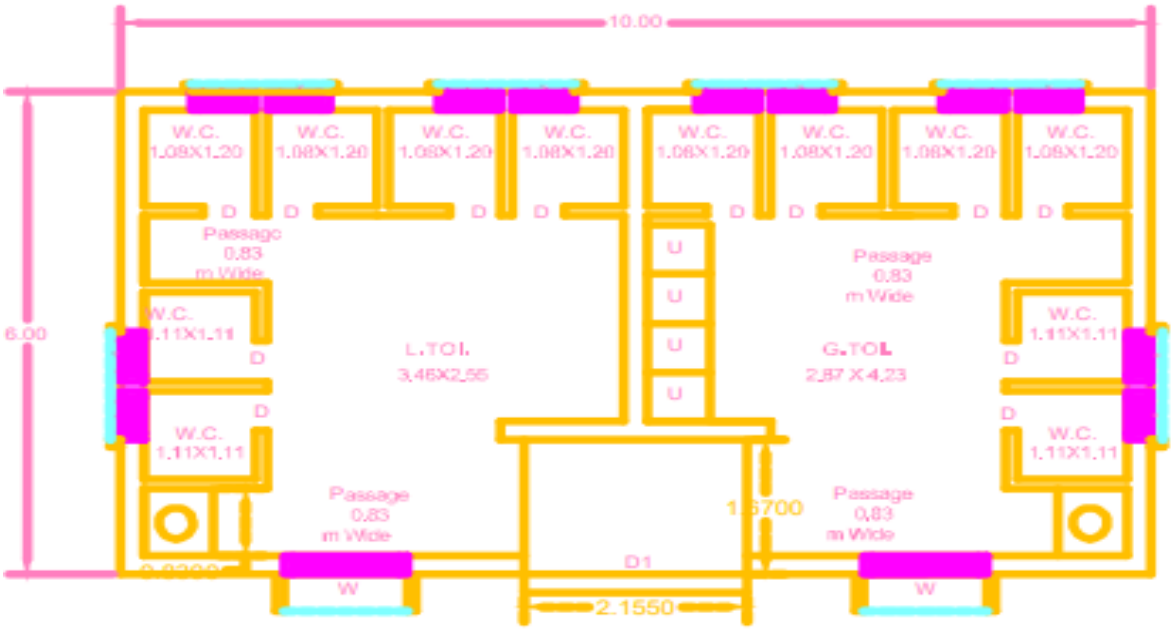
Abstract sheet (Hospital building):

ABSTRACT SHEET					
Sr.No.	**Description**	**Quantity**	**Rate**	**Per**	**Amount**
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)	148.68	100.44	Cmt.	14933.42
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)	11.93	3184.00	Cmt.	37969.20
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.	30.69	3327.00	Cmt.	102105.63
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)				
	Plinth Level	1.46	7900.00	Cmt.	11518.20
	Ground floor level	15.55	7900.00	Cmt.	122860.80
	Pedstal	7.02	7900.00	Cmt.	55458.00
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)				
	Plinth Level	7.89	6850.00	Cmt.	54052.25
	Ground floor level	7.89	6850.00	Cmt.	54052.25
6	Filling in plinth with sand under floors including watering,ramming,consolidating and dressing etc. complete. (Upto 10 ton)	115.16	397.71	cmt.	45801.87

7	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) (A) Modular (Upto 10 ton)				
	Total Brick Masnory	278.37	425.00	Smt.	118305.57
8	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) at floor parapet railing .(Upto 10 ton)	63.76	425.00	Smt.	27096.30
9	providing and laying controlled cement concrete M150 and exposed work with curing etc. complete including cost of form work but excluding the cost of reinforcement (iii) slabs having more than 10 cm and up to 13 cm thickness (up to 10 ton)				
	RCC Slab	19.20	5500.00	Cmt.	105622.64
10	providingT.M.T.bar for reinforcement for r.c.c work.				
	Footing	2148.30	46.00	kg	98821.80
	As per item No: 05				
	column-up to footing to Plinth	174.96	46.00	kg	8048.16
	Column up to Slab Floor	1866.24	46.00	kg	85847.04
	Pedstal	842.40	46.00	kg	38750.40
	As per item No: 06				
	Plinth beam	946.90	46.00	kg	43557.44
	G.Floor Beam	946.90	46.00	kg	43557.44
	As per item no 10 Fourth floor slab				
	Slab	2112.45	46.00	kg	97172.83
11	providing &fixing extruded aluminium window having extruded aluminium colour anodized section frame main outerside127mm x38.10mm x1.35mm (of jindal section no.2443 @Wt.1.384Kg/Mt.) Horizontal Four track member size122.20mm x 31.75mm x 1.10mm (of jindal section no.8787@ Wt.1.205 Kg/Mt.) vertical member of size 122.20mm x 31.75 mm x 1.50mm(of jindal section no.8935 @Wt.1.398 Kg/Mt.)with sliding shutters of horizontal member size40mmx 18mmx 1.29mm (of jindal section no. 8949@Wt.0.456Kg/Mt.) vertical member size 40mm x 18mm x 1.29mm(of jindal section no.8947 @Wt.0.456Kg/Mt.,section no.8948 @ Wt.0.457 Kg/Mt.) with5mm thick trasparant bronze colour tinted float glass with powder coated aluminium fittings and fixtures and transparant silicon sealent glass fixing to frame as per details etc. complete.				
	Total	19.44	2520.35	Smt.	48995.60

12	providing wood work in frames of doors windows clear story windows & other similar works,wrought framed and fixed in position (A) Indian Teak wood				
	Frame	0.73	78300.00	Cmt.	57350.84
13	providing & fixing 35mm thick shutters for doors and windows clearstory windows including anodised alluminium butt hinges with necessary screws (A) Indian Teak wood				
	Shutters	24.99	1695.92	Smt.	42379.85
14	providing 20 mm thick double coat mala cement plaster on interior brick/concrete work for plastering comprising of base coat of 12mm thick cement plaster in cement mortar(1: cement,4:coarse sand)in rough finishing and 8mm thick top coat of cement mortar 1:2 (1: cement,4:Coarse sand) finished with trovel including scaffolding curing etc. complete.				
	Total	487.97	173.18	Smt.	84506.66
15	providing and laying Vitrified tiles flooring over 20 mm (average) the base of cement mortar 1:6, 1: cement , 6 : coarse sand) laid over and jointed with white cement slurry including rubbing & polishing etc. complete. (1) 25 mm thick.	112.95	1009.42	Smt.	114011.67
16	Appliying two coats of Birla or Asian Acreylic papi(Putty) & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including throughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.				
	Total	487.97	36.00	Smt.	17566.92
17	wall painting(Two coats)with plasticemulsion paint of approved brand &manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.				
		487.97	81.16	Smt.	39603.65
	Total				**1569946.44**
	Total Construction cost			**Say**	**1570000.00**
	Rupees Fifteen Lacs & Seventy Thousand Only.				

8.1.3 SOCIAL DESIGN: TOILET



GROUND FLOOR PLAN

FRONT ELEVATION

TOILET BLOCK

ELEVATION OF TOILET

Measurement Sheet, Maintenancecost

MEASUREMENT SHEET							
Sr.No	**Item**	**No.**	**Length**	**Bredth**	**Height**	**Quantity**	**Total Quantity**
1	2	3	4	5	6	7	8
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)						
	Column (0.30 X 0.30)	10.00	2.80	2.80	1.50	117.60	
							117.60
						TOTAL	**117.60**
							C.Mt.
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)						
	Column (0.45 X 0.30)	10.00	2.50	2.50	0.15	9.38	
							9.38
						TOTAL	**9.38**
							C.Mt.
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.						
	Formula=(L*B*D)+(h/6 (a_1+a_2+4a_m))						
	2.40	10.00			24.00		
							24.00
						TOTAL	**C.Mt.**
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)						

	Plinth Level						
	col. up to Footing Lvl.to Plinth Lvl.(0.30 X 0.30)	10.00	0.30	0.30	0.30	0.27	
							0.27
							C.Mt.
	col. up to Plinth Lvl.to G.F slab Lvl.(0.30X 0.30)	10.00	0.30	0.30	3.05	2.75	**2.75**
							C.Mt.
	Pedstal (0.30 X 0.30)	10.00	0.50	0.50	0.60	1.50	
							1.50
							C.Mt
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)						
	Beam						
	H1(0.23X .30)	3.00	10.00	0.23	0.30	2.07	
	V1(0.23X .30	2.00	5.54	0.23	0.30	0.76	
	V2(0.23X .23	1.00	4.33	0.23	0.30	0.30	**3.13**
							C.Mt
	Plinth Beam						**3.13**
							C.Mt
	Ground floor level						**3.13**
							C.Mt
6	Filling excavated earth soil from outside and curing etc.						
	Excavation	1.00				117.60	**117.60**
	less Rcc footing filling **(Iteam No. 4)**	1.00				24.00	**24.00**
	less col. up to Footing Lvl.to Plinth Lvl.(0.30 X 0.30)	12.00	0.30	0.30	0.30	0.32	**0.32**
	Less Pedstal (0.30 X 0.30)	12.00	0.50	0.65	0.60	2.34	**2.34**
	Total Filling of Soil						**90.94**
							C.Mt
7	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) (A) Modular (Upto 10 ton)						
	Fourt Floor level						
	wall(0.12) (h)						
	H1	3.00	10.00		2.83	84.90	

	H2	6.00	1.93		2.83	32.69	
	H3	1.00	2.62		2.83	7.40	
	wall (v)						
	V1	2.00	5.54		2.83	31.36	
	V2	7.00	1.20		2.83	23.77	
	V3	6.00	1.11		2.83	18.85	
	V4	1.00	2.56		2.83	7.23	
							206.19
	Less Doors ,Windows & Column						**Sq.Mt.**
	Doors D1	1.00	2.16	2.13		4.60	
	D2	12.00	0.76	2.13		19.43	
	Windows						
	W1	2.00	1.20	1.20		2.88	
	V	12.00	0.60	0.60		4.32	
	Column	10.00	0.30	2.13		6.39	
						37.62	**37.62**
	Total Brick Masnory					**TOTAL**	**168.58**
							Sq.Mt.
8	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) at floor parapet railing .						
	Wall (H)	1.00	32.00	1.15		36.80	
						36.80	**36.80**
						TOTAL	**36.80**
							S.Mt.
9	providing and laying controlled cement concrete M150 and exposed work with curing etc. complete including cost of form work but excluding the cost of reinforcement (iii) slabs having more than 10 cm and up to 13 cm thickness (up to 10 ton)						
	Slab	1.00	10.00	6.00	0.12	7.20	7.20
							7.20
							SQ-Mt.
10	providing T.M.T.bar &mild reinforcement for R.C.C work.						
	As per item No: 04 footing		24.00	cmt	70.00	kg	1680.00
	As per item No: 05						

	column-up to footing to Plinth		0.27	cmt	120.00	kg	32.40
	Column up to Slab Floor		2.75	cmt	120.00	kg	329.40
	Pedstal		1.50	cmt	120.00	kg	180.00
	As per item No: 06				120.00		
	Plinth beam		3.13	cmt	120.00	kg	375.99
	G.Floor Beam		3.13	cmt	120.00	kg	375.99
	As per item no 10 Fourth floor slab						
	Slab		7.20	cmt	110.00	kg	792.00
						Total	**3765.79**
							SQ.MT
11	providing &fixing extruded aluminium window having extruded aluminium colour anodized section frame main outerside127mm x38.10mm x1.35mm (of jindal section no.2443 @Wt.1.384Kg/Mt.) Horizontal Four track member size122.20mm x 31.75mm x 1.10mm (of jindal section no.8787@ Wt.1.205 Kg/Mt.) vertical member of size 122.20 mm x 31.75 mm x 1.50mm(of jindal section no.8935 @Wt. 1.398 Kg/Mt.)with sliding shutters of horizontal member size40mmx 18mmx 1.29mm (of jindal section no. 8949@Wt.0.456Kg/Mt.) vertical member size 40mm x 18mm x 1.29mm(of jindal section no.8947 @Wt.0.456Kg/Mt. ,section no.8948 @ Wt.0.457 Kg/Mt.) with5mm thick trasparant bronze colour tinted float glass with powder coated aluminium fittings and fixtures and transparant silicon sealent glass fixing to frame as per details etc. complete.							
	Frame with Shutters						
	Windows	2.00	1.20	1.20		2.88	
	W						
	V	12.00	0.60	0.60		4.32	7.20
							Sq.Mt.
12	providing wood work in frames of doors windows clear story windows & other similar works,wrought framed and fixed in position (A) Indian Teak wood						
	(A) Frame						
	Main door (D) Vertical	2.00	2.13	0.10	0.15	0.06	

		Horizontal	1.00	2.31	0.10	0.15	0.03	
	D1	Vertical	24.00	2.13	0.10	0.15	0.77	
		Horizontal	12.00	0.90	0.10	0.15	0.16	
								1.03
								Cmt.
	(B)Shutter							
		D	1.00	1.96		2.03	3.98	
		D1	12.00	0.55		2.03	13.40	
							17.38	
							Total	**17.38**
								S.Mt.
	Frame						**1.03**	**Cmt.**
	Shutter						**17.38**	**Sq.Mt.**
13	providing 20 mm thick double coat mala cement plaster on interior brick/concrete work for plastering comprising of base coat of 12mm thick cement plaster in cement mortar(1: cement,4:coarse sand)in rough finishing and 8mm thick top coat of cement mortar 1:2(1: cement,4:Coarse sand) finished with trovel including scaffolding curing etc. complete.							
	Plaster							
	WC TYPE 1	Celing	8.00	1.08	1.20		10.37	
		wall	24.00	1.08	2.83		73.35	
		Wall	16.00	1.20	2.83		54.34	**138.06**
	WC TYPE 2	Celing	4.00	1.11	1.11		4.93	SQ Mt.
		wall	6.00	1.11	2.83		18.85	
		Wall	12.00	1.11	2.83		37.70	**61.47**
	Passage 1	celing	2.00	0.83	4.65		7.72	7.72
	Passage 2	celing	2.00	0.83	3.69		6.13	
		WALL	2.00	3.69	2.83		20.89	**27.01**
	L.Toi	celing	1.00	3.46	2.55		8.82	8.82
	G.Toi	celing	1.00	2.87	4.23		12.14	
		WALL	2.00	2.62	2.83		14.80	**26.94**
	Less Doors ,Windows							**270.03**
	Doors	**D**	1.00	2.16	2.13		4.60	**SQ Mt.**
		D1	12.00	0.75	2.13		19.17	
	Windows							

	W	2.00	1.20	1.20		2.88	
	V	12.00	0.60	0.60		4.32	**30.97**
	Total						**239.06**
							SQ Mt.
14	providing and laying Vitrified tiles flooring over 20 mm (average) the base of cement mortar 1:6, 1: cement , 6 : coarse sand) laid over and jointed with white cement slurry including rubbing & polishing etc. complete. (1) 25 mm thick.						
	WC TYPE 1 Celing	8.00	1.08	1.20		10.37	
	WC TYPE 2 Celing	4.00	1.11	1.11		4.93	
	Passage 1 celing	2.00	0.83	4.65		7.72	
	Passage 2 celing	2.00	0.83	3.69		6.13	
	L.Toi celing	1.00	3.46	2.55		8.82	
	G.Toi celing	1.00	2.87	4.23		12.14	50.10
			10.18	**17.43**			SQ Mt.
	Skirting		10.18	0.08		0.76	
			17.43	0.08		1.31	**2.07**
	Total Flooring						**52.17**
							SQ.Mt
15	Appliying two coats of Birla or Asian Acreylic papi(Putty) & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including throughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.						
	As per Plaster	1.00					**239.06**
							SQ.Mt
16	wall painting(Two coats)with plasticemulsion paint of approved brand &manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.						
	As per Plaster	1.00					**239.06**
							SQ.Mt

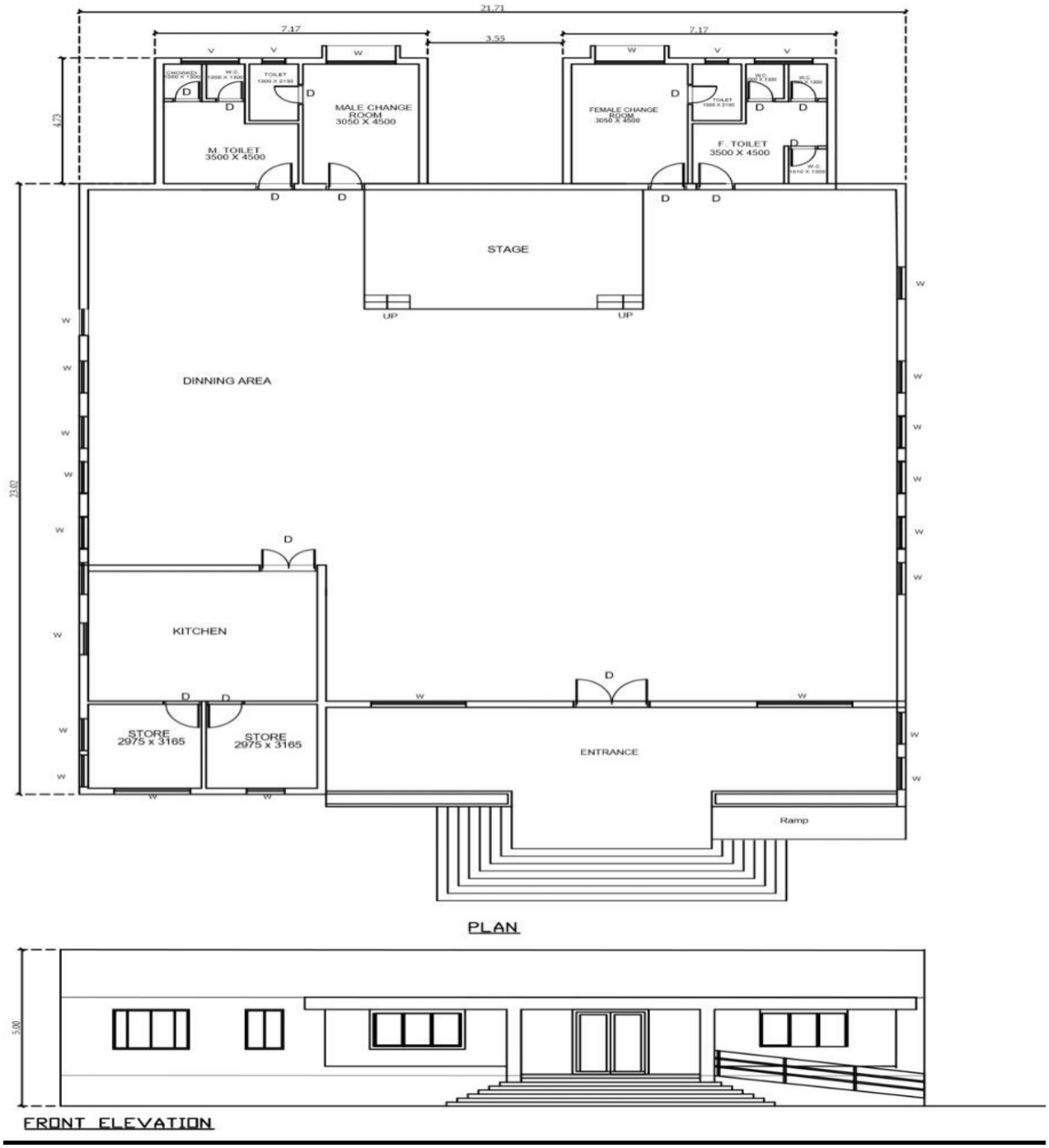
Abstract sheet (TOILET):

ABSTRACT SHEET					
Sr.No.	**Description**	**Quantity**	**Rate**	**Per**	**Amount**
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)	117.60	100.44	Cmt.	11811.74
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)	9.38	3184.00	Cmt.	29850.00
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.	24.00	3327.00	Cmt.	79848.00
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)				
	Plinth Level	0.27	7900.00	Cmt.	2133.00
	Ground floor level	2.75	7900.00	Cmt.	21685.50
	Pedstal	1.50	7900.00	Cmt.	11850.00
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)				
	Plinth Level	3.13	6850.00	Cmt.	21463.04
	Ground floor level	3.13	6850.00	Cmt.	21463.04
6	Filling in plinth with sand under floors including watering,ramming,consolidating and dressing etc. complete. (Upto 10 ton)	90.94	397.71	cmt.	36166.16

7	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) (A) Modular (Upto 10 ton)				
	Total Brick Masnory	168.58	425.00	Smt.	71645.40
8	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) at floor parapet railing .(Upto 10 ton)	36.80	425.00	Smt.	15640.00
9	providing and laying controlled cement concrete M150 and exposed work with curing etc. complete including cost of form work but excluding the cost of reinforcement (iii) slabs having more than 10 cm and up to 13 cm thickness (up to 10 ton)				
	RCC Slab	7.20	5500.00	Cmt.	39600.00
10	providingT.M.T.bar for reinforcement for r.c.c work.				
	Footing	1680.00	46.00	kg	77280.00
	As per item No: 05				
	column-up to footing to Plinth	32.40	46.00	kg	1490.40
	Column up to Slab Floor	329.40	46.00	kg	15152.40
	Pedstal	180.00	46.00	kg	8280.00
	As per item No: 06				
	Plinth beam	375.99	46.00	kg	17295.76
	G.Floor Beam	375.99	46.00	kg	17295.76
	As per item no 10 Fourth floor slab				
	Slab	792.00	46.00	kg	36432.00
11	providing &fixing extruded aluminium window having extruded aluminium colour anodized section frame main outerside127mm x38.10mm x1.35mm (of jindal section no.2443 @Wt.1.384Kg/Mt.) Horizontal Four track member size122.20mm x 31.75mm x 1.10mm (of jindal section no.8787@ Wt.1.205 Kg/Mt.) vertical member of size 122.20mm x 31.75 mm x 1.50mm(of jindal section no.8935 @Wt.1.398 Kg/Mt.)with sliding shutters of horizontal member size40mmx 18mmx 1.29mm (of jindal section no. 8949@Wt.0.456Kg/Mt.) vertical member size 40mm x 18mm x 1.29mm(of jindal section no.8947 @Wt.0.456Kg/Mt.,section no.8948 @ Wt.0.457 Kg/Mt.) with5mm thick trasparant bronze colour tinted float glass with powder coated aluminium fittings and fixtures and transparant silicon sealent glass fixing to frame as per details etc. complete.				
	Total	7.20	2520.35	Smt.	18146.52
12	providing wood work in frames of doors windows clear story windows & other similar works,wrought framed and fixed in position (A) Indian Teak wood				
	Frame	1.03	78300.00	Cmt.	80441.51

13	providing & fixing 35mm thick shutters for doors and windows clearstory windows including anodised alluminium butt hinges with necessary screws (A) Indian Teak wood				
	Shutters	17.38	1695.92	Smt.	29469.66
14	providing 20 mm thick double coat mala cement plaster on interior brick/concrete work for plastering comprising of base coat of 12mm thick cement plaster in cement mortar(1: cement,4:coarse sand)in rough finishing and 8mm thick top coat of cement mortar 1:2 (1: cement,4:Coarse sand) finished with trovel including scaffolding curing etc. complete.				
	Total	239.06	173.18	Smt.	41399.68
15	providing and laying Vitrified tiles flooring over 20 mm (average) the base of cement mortar 1:6, 1: cement , 6 : coarse sand) laid over and jointed with white cement slurry including rubbing & polishing etc. complete. (1) 25 mm thick.	52.17	1009.42	Smt.	52666.14
16	Appliying two coats of Birla or Asian Acreylic papi(Putty) & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including throughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.				
	Total	239.06	36.00	Smt.	8606.01
17	wall painting(Two coats)with plasticemulsion paint of approved brand &manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.				
		239.06	81.16	Smt.	19401.77
	Total				**786513.47**
	Total Construction cost			**Say**	**787000.00**
	Rupees Seven Lacs & Eighty-Seven Thousand Only.				

8.14 COMMUNITY HALL DESIGN



Measurement Sheet

MEASUREMENT SHEET							
Sr.No.	**Item**	**No.**	**Length**	**Bredth**	**Height**	**Quantity**	**Total Quantity**
1	2	3	4	5	6	7	8
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)						
	Column (0.45 X 0.30)	36.00	2.80	2.95	1.80	535.25	
							535.25
						TOTAL	**535.25**
							C.Mt.
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)						
	Column (0.45 X 0.30)	36.00	2.50	2.65	0.15	35.78	
							35.78
						TOTAL	**35.78**
							C.Mt.
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.						
	Formula=(L*B*D)+(h/6 (a_1+a_2+4a_m))						
	3.24	36.00			116.51		
							116.51
						TOTAL	**C.Mt.**
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)						
	Plinth Level						
	col. up to Footing Lvl.to Plinth Lvl.(0.45 X 0.30)	36.00	0.30	0.45	0.30	1.46	

							1.46
							C.Mt.
	col. up to Plinth Lvl.to G.F slab Lvl.(0.45 X 0.30)	36.00	0.30	0.45	3.20	15.55	**15.55**
							C.Mt.
	Pedstal (0.45 X 0.30)	36.00	0.50	0.65	0.60	7.02	
							7.02
							C.Mt
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)						
	Plinth Level Beam						
	V (0.45 X 0.30)	4.00	23.02	0.23	0.45	9.53	
	H (0.45 X 0.30)	9.00	21.71	0.23	0.45	20.22	
	Plinth Beam						**29.75**
							C.Mt
	Ground floor level						**29.75**
							C.Mt
							C.Mt
6	Filling excavated earth soil from outside and curing etc.						
	Excavation	1.00				535.25	**535.25**
	less Rcc footing filling (Iteam No. 4)	1.00				116.51	**116.51**
	less col. up to Footing Lvl.to Plinth Lvl.(0.45 X 0.30)	36.00	0.30	0.45	0.30	1.46	**1.46**
	Less Pedstal (0.45 X 0.30)	36.00	0.50	0.65	0.60	7.02	**7.02**
	Total Filling of Soil						**410.27**
							C.Mt
7	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) (A) Modular (Upto 10 ton)						
	Fourt Floor level						
	wall(0.12) (h)						
	H1	3.00	21.60		3.05	197.64	
	H2	1.00	6.18		3.05	18.85	
	H3	2.00	3.50		3.05	21.35	
	H4	2.00	2.12		3.05	12.90	
	H5	2.00	1.13		3.05	6.89	
	wall (v)						

	V1	2.00	22.91		3.05	139.75	
	V2	1.00	9.28		3.05	28.30	
	V3	6.00	4.50		3.05	82.35	
	V4	2.00	1.30		3.05	7.93	
	V5	2.00	2.13		3.05	12.99	
							528.96
	Less Doors ,Windows & Column						**Sq.Mt.**
	Doors **D**	1.00	2.50	2.13		5.33	
	D1	4.00	1.00	2.13		8.52	
	D2	11.00	0.91	2.13		21.32	
	Windows **W**	1.00	1.80	1.20		2.16	
	W	24.00	1.22	1.22		35.72	
	V	2.00	0.60	0.60		0.72	
	Column	36.00	0.45	2.13		34.51	
						108.27	**108.27**
	Total Brick Masnory					**TOTAL**	**420.69**
							Sq.Mt.
	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) at floor parapet railing .						
	Wall (H)	1.00	108.38	1.15		124.64	
						124.64	**124.64**
						TOTAL	**124.64**
							S.Mt.
8	providing and laying controlled cement concrete M150 and exposed work with curing etc. complete including cost of form work but excluding the cost of reinforcement (iii) slabs having more than 10 cm and up to 13 cm thickness (up to 10 ton)						
	Slab(1)	1.00	21.72	23.02	0.12	60.00	60.00
	Slab(2)	2.00	4.73	7.17	0.12	8.14	8.14
							68.14
							SQ-Mt.
9	providing T.M.T.bar &mild reinforcement for R.C.C work.				70.00		
	As per item No: 04 footing		116.51	cmt		kg	8155.35
	As per item No: 05						

	column-up to footing to Plinth		1.46	cmt	120.00	kg	174.96
	Column up to Slab Floor		15.55	cmt	120.00	kg	1866.24
	Pedstal		7.02	cmt	120.00	kg	842.40
	As per item No: 06				120.00		
	Plinth beam		29.75	cmt	120.00	kg	3570.38
	G.Floor Beam		29.75	cmt	120.00	kg	3570.38
	As per item no 10 Fourth floor slab						
	Slab		68.14	cmt	110.00	kg	7495.26
						Total	**25674.96**
							SQ.MT
10	providing &fixing extruded aluminium window having extruded aluminium colour anodized section frame main outerside127mm x38.10mm x1.35mm (of jindal section no.2443 @Wt.1.384Kg/Mt.) Horizontal Four track member size122.20mm x 31.75mm x 1.10mm (of jindal section no.8787@ Wt.1.205 Kg/Mt.) vertical member of size 122.20 mm x 31.75 mm x 1.50mm(of jindal section no.8935 @Wt. 1.398 Kg/Mt.)with sliding shutters of horizontal member size40mmx 18mmx 1.29mm (of jindal section no. 8949@Wt.0.456Kg/Mt.) vertical member size 40mm x 18mm x 1.29mm(of jindal section no.8947 @Wt.0.456Kg/Mt. ,section no.8948 @ Wt.0.457 Kg/Mt.) with5mm thick trasparant bronze colour tinted float glass with powder coated aluminium fittings and fixtures and transparant silicon sealent glass fixing to frame as per details etc. complete.							
	Frame with Shutters						
	Windows	24.00	1.22	1.22		35.72	
	W						
	V	2.00	0.60	0.60		0.72	36.44
							Sq.Mt.
11	providing wood work in frames of doors windows clear story windows & other similar works,wrought framed and fixed in position (A) Indian Teak wood						
	(A) Frame						
	Main door (D) Vertical	2.00	2.13	0.10	0.15	0.06	

	Horizontal	1.00	2.65	0.10	0.15	0.04	
	D1-4 Vertical	8.00	2.13	0.10	0.15	0.26	
	Horizontal	4.00	1.15	0.10	0.15	0.07	
	D2-11 Vertical	22.00	2.13	0.10	0.15	0.70	
	Horizontal	11.00	1.06	0.10	0.15	0.17	
							1.31
							Cmt.
	(B)Shutter						
	D	1.00	2.30		2.03	4.67	
	D1	4.00	0.80		2.03	6.50	
	D2	11.00	0.71		2.03	15.85	
						27.02	
						Total	**27.02**
							S.Mt.
	Frame					**1.31**	**Cmt.**
	Shutter					**27.02**	**Sq.Mt.**
12	providing 20 mm thick double coat mala cement plaster on interior brick/concrete work for plastering comprising of base coat of 12mm thick cement plaster in cement mortar(1: cement,4:coarse sand)in rough finishing and 8mm thick top coat of cement mortar 1:2(1: cement,4:Coarse sand) finished with trovel including scaffolding curing etc. complete.						
	Plaster						
	Main Hall Celing	1.00	23.02	21.71		499.76	
	wall	2.00	23.02	2.98		137.20	
	Wall	2.00	21.71	2.98		129.39	**766.36**
	Store wall	3.00	6.07	2.98		54.22	SQ Mt.
	wall	2.00	6.07	2.98		36.15	
	Wall	1.00	6.00	2.98		17.88	**108.25**
	Toilets celing	2.00	7.17	4.73		67.83	SQ Mt.
	wall	4.00	7.17	2.98		85.47	
	Wall	6.00	4.73	2.98		84.57	**237.87**
	Less Doors ,Windows						**1112.47**

	Doors **D**	1.00	2.50	2.13		5.33	**SQ Mt.**
	D1	4.00	1.00	2.13		8.52	
	D2	11.00	0.91	2.13		21.32	
	Windows **W**	1.00	1.80	1.20		2.16	
	W	24.00	1.22	1.22		35.72	
	V	2.00	0.60	0.60		0.72	**73.77**
	Total						**1038.70**
							SQ Mt.
13	providing and laying Vitrified tiles flooring over 20 mm (average) the base of cement mortar 1:6, 1: cement , 6 : coarse sand) laid over and jointed with white cement slurry including rubbing & polishing etc. complete. (1) 25 mm thick.						
	Main Hall	1.00	21.71	23.02		499.76	
	Toilets & Change Room	2.00	7.17	4.73		67.83	
		1.00	1.80	1.20		2.16	
			30.68	**28.95**			
	Skirting		30.68	0.08		2.30	
			28.95	0.08		2.17	
	Total Flooring						**574.22**
							SQ.Mt
14	Appliying two coats of Birla or Asian Acreylic papi(Putty) & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including throughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.						
	As per Plaster	1.00					**1038.70**
							SQ.Mt
15	wall painting(Two coats)with plasticemulsion paint of approved brand &manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.						
	As per Plaster	1.00					**1038.70**
							SQ.Mt

- **Abstract Sheet**

ABSTRACT SHEET					
Sr.No.	**Description**	**Quantity**	**Rate**	**Per**	**Amount**
1	Excavation for foundation for Depth from 3.0 mt. to 5.00 mt. including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50.00 mt. lead.(B) Dense or Hard Soil. (Earthwork Mechanized)	535.25	100.44	Cmt.	53760.31
2	Providing and laying (p.c.c) cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20mm nominal size) and curing etc.complete excluding cost of form work in (A) foundation and plinth. (Upto 10 ton)	35.78	3184.00	Cmt.	113907.60
3	Providing and laying cement concrete 1:2:4 (1:Cement, 2: coarse sand, 4: Graded stone aggrigate 20 mm nominal size) and curing etc. complete excluding cost of form work & reinforcement for reinforced concrete work in (A) foundations,footings of columns and mass concrete.	116.51	3327.00	Cmt.	387612.14
4	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (B)columns (ii)Having cross-sectional area more than 0.08 Sq.M & upto 0.18 Sq.M. (Upto 10 ton)				
	Plinth Level	1.46	7900.00	Cmt.	11518.20
	Ground floor level	15.55	7900.00	Cmt.	122860.80
	Pedstal	7.02	7900.00	Cmt.	55458.00
5	providing and laying controlled cement concrete M250 exposed work with curing etc. complete including the cost of form work but excluding the cost of reinforcement for R.C.C. work in (A)Beams (iii)Having cross-sectional area more than 0.08 Sq.M & upto 0.12 Sq.M. (Upto 10 ton)				
	Plinth Level	29.75	6850.00	Cmt.	203809.04
	Ground floor level	29.75	6850.00	Cmt.	203809.04
6	Filling in plinth with sand under floors including watering,ramming,consolidating and dressing etc. complete. (Upto 10 ton)	410.27	397.71	cmt.	163166.49

7	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) (A) Modular (Upto 10 ton)				
	Total Brick Masnory	420.69	425.00	Smt.	178792.23
8	Half (0.115 mt.) brick masonary in common burntclay building bricks having crushing strength not less than 35 kg/cm2 in cement mortar 1:4 (1: cement,4: coarse sand) at floor parapet railing .(Upto 10 ton)	124.64	425.00	Smt.	52970.73
9	providing and laying controlled cement concrete M150 and exposed work with curing etc. complete including cost of form work but excluding the cost of reinforcement (iii) slabs having more than 10 cm and up to 13 cm thickness (up to 10 ton)				
	RCC Slab	68.14	5500.00	Cmt.	374762.92
10	providingT.M.T.bar for reinforcement for r.c.c work.				
	Footing	8155.35	46.00	kg	375146.10
	As per item No: 05				
	column-up to footing to Plinth	174.96	46.00	kg	8048.16
	Column up to Slab Floor	1866.24	46.00	kg	85847.04
	Pedstal	842.40	46.00	kg	38750.40
	As per item No: 06				
	Plinth beam	3570.38	46.00	kg	164237.36
	G.Floor Beam	3570.38	46.00	kg	164237.36
	As per item no 10 Fourth floor slab				
	Slab	7495.26	46.00	kg	344781.88
11	providing &fixing extruded aluminium window having extruded aluminium colour anodized section frame main outerside127mm x38.10mm x1.35mm (of jindal section no.2443 @Wt.1.384Kg/Mt.) Horizontal Four track member size122.20mm x 31.75mm x 1.10mm (of jindal section no.8787@ Wt.1.205 Kg/Mt.) vertical member of size 122.20mm x 31.75 mm x 1.50mm(of jindal section no.8935 @Wt.1.398 Kg/Mt.)with sliding shutters of horizontal member size40mmx 18mmx 1.29mm (of jindal section no. 8949@Wt.0.456Kg/Mt.) vertical member size 40mm x 18mm x 1.29mm(of jindal section no.8947 @Wt.0.456Kg/Mt.,section no.8948 @ Wt.0.457 Kg/Mt.) with5mm thick trasparant bronze colour tinted float glass with powder coated aluminium fittings and fixtures and transparant silicon sealent glass fixing to frame as per details etc. complete.				
	Total	36.44	2520.35	Smt.	91845.59
12	providing wood work in frames of doors windows clear story windows & other similar works,wrought				

	framed and fixed in position (A) Indian Teak wood				
	Frame	1.31	78300.00	Cmt.	102263.72
13	providing & fixing 35mm thick shutters for doors and windows clearstory windows including anodised alluminium butt hinges with necessary screws (A) Indian Teak wood				
	Shutters	27.02	1695.92	Smt.	45822.57
14	providing 20 mm thick double coat mala cement plaster on interior brick/concrete work for plastering comprising of base coat of 12mm thick cement plaster in cement mortar(1: cement,4:coarse sand)in rough finishing and 8mm thick top coat of cement mortar 1:2 (1: cement,4:Coarse sand) finished with trovel including scaffolding curing etc. complete.				
	Total	1038.70	173.18	Smt.	179882.52
15	providing and laying Vitrified tiles flooring over 20 mm (average) the base of cement mortar 1:6, 1: cement , 6 : coarse sand) laid over and jointed with white cement slurry including rubbing & polishing etc. complete. (1) 25 mm thick.	574.22	1009.42	Smt.	579633.85
16	Appliying two coats of Birla or Asian Acreylic papi(Putty) & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including throughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.				
	Total	1038.70	36.00	Smt.	37393.29
17	wall painting(Two coats)with plasticemulsion paint of approved brand &manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and stand papered smooth.				
		1038.70	81.16	Smt.	84301.10
	Total				**4224618.43**
	Total Construction cost **Say**				**4225000.00**
	Rupees Forty-Two Lacs &Twenty-Five Thousand Only.				

8.2 Recommendations of the Design:

- There Is No Bus Station For The Transportation Service
- There Is No Primary Health Center For The Villagers.
- There Is No Any Community Hall For The Social Functions And Meetings.
- Infrastructure Are Very Poor.
- Gram Panchayat Is Also In Dead Condition.
- There Is No Any Rain Water Harvesting System.
- There Is No Any Public Garden for The Villagers And Also There Is No Any Children Play Ground.
- There Is Some Roads Are Very Damaged And Also They Are Full Off Water In Rainy Weather So We Can Construct The Roads.

8.3 Suggestions / Benefit of the Villagers:

- **By** Making The Bus Stand The Transportation Facility For The Public Is Increased
- By Making a Primary Health Center We Can Increase The Health Status Of The Villagers.
- By Making a Community Hall We Can Increase Sociality in the Villagers.
- By Making Rain Water Harvesting System We Can Stored The Water And Solve The Problems Of The Villagers Which Are Related To The Water.
- By Making The Public Toilet We Can Make A Better Environment For The Village.
- By Making The Roads We Can Improve The Transportations System For The Villagers.

8.4 ABOUT MAINTANACE

- Prevent the process of decay and degradation.
- Maintain structural stability and safety.
- Prevent unnecessary damage from the weather or from general usage.
- Optimize performance.
- Determine the causes of defects and so help prevent re-occurrence or repetition.
- Ensure continued compliance with statutory requirements.
- For maintenance to be most effective, it should be organized through a programmer of cyclical maintenance. At the most basic level this includes daily routines, and works upwards to periodic programmers of weekly, monthly, semi-annual, annual, quinquennial and so on routines.

Common maintenance tasks include:

- Exterior painting and plastering.
- Landscaping and gardening.
- Paving repairs.
- Window and door repairs.
- Debris/rubbish removal and clearance.
- Jet washing with chemical cleaning agents to remove fungal stain or mould.
- Gutter clearance and repair.
- Carpentry.
- Lighting repairs.
- Re-plastering and plaster repairs.
- Tiling.
- Carpeting and flooring.
- Plumbing.
- Repairing cracking or leaning walls.

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

The main scope of the project is to contribute a little in providing the urban amenities and facilities in rural area by keeping the originality of the village. It will reduce migration of villagers towards cities which ultimately result in development of village. The following are the future requirement of the village.

1. Usages of technology like CCTV cameras for smart surveillance system stop inspect the roads and also act as speed monitors.

2. Smart sewage treatments facilities
   Untreated sewage is the leading polluter of water sources in India, causing a host ... village is
   effectively addressing issues concerning sewage treatment

3. Renewable energy/ solar energy system should be installed.
   Solar energy has the potential to power the education system in rural areas by providing adequate electricity as well as access to education. It helps in improving the living standards of rural households through solar energy

4. Smart garbage collection. Different color coded dustbin should be promoted there.
5. Adequate leisure activities should be develo

Chapter 10 Conclusion (Entire Village Project):

Smart villages are need of the hour as development is needed for both rural and urban areas for betterment livelihood and information technology will offer effective solution. There is successful technology available, which have been implemented in urban areas. There is tremendous pressure on urban landscape due to migration of rural people for livelihood. Smart villages will not only reduce this migration but also irrigate the population flow from urban to rural area. Villages do not have any garbage collector or any dustbin for waste proposal. So, by analyzing this basic amenity they are offering from diseases because of drainage stagnant poor lithe water drainage systemic installed it will improve the quality of village and as well as it will maintain cleanliness for better life of villagers. Even they have not provided any water drinking facilities and they use to drink water from Narmada illegally so basically they drink tap water and it is not good for their livelihood so if RO water will be provided villagers would lead healthy lifestyle and also provide a garbage collector or dustbin to keep their village clean and would avoid diseases. So, to make a village to smart village is the main conclusion or aim of our project.

Chapter 11 : References of report following are the list of references :

- https:/ www.censusindia.gov.in
- https:// www.google.com
- Building and Town Planning by Dr. R P Rethaliya
- Professional Practice and Valuation by Dr. R P Rethaliya
- http://censusindia.gov.in - Census department website
- UDPFI Guideline 2014
- Schedule of rate 2014
- http://vy.gtu.ac.in - vishwakarma literatures
- Google maps
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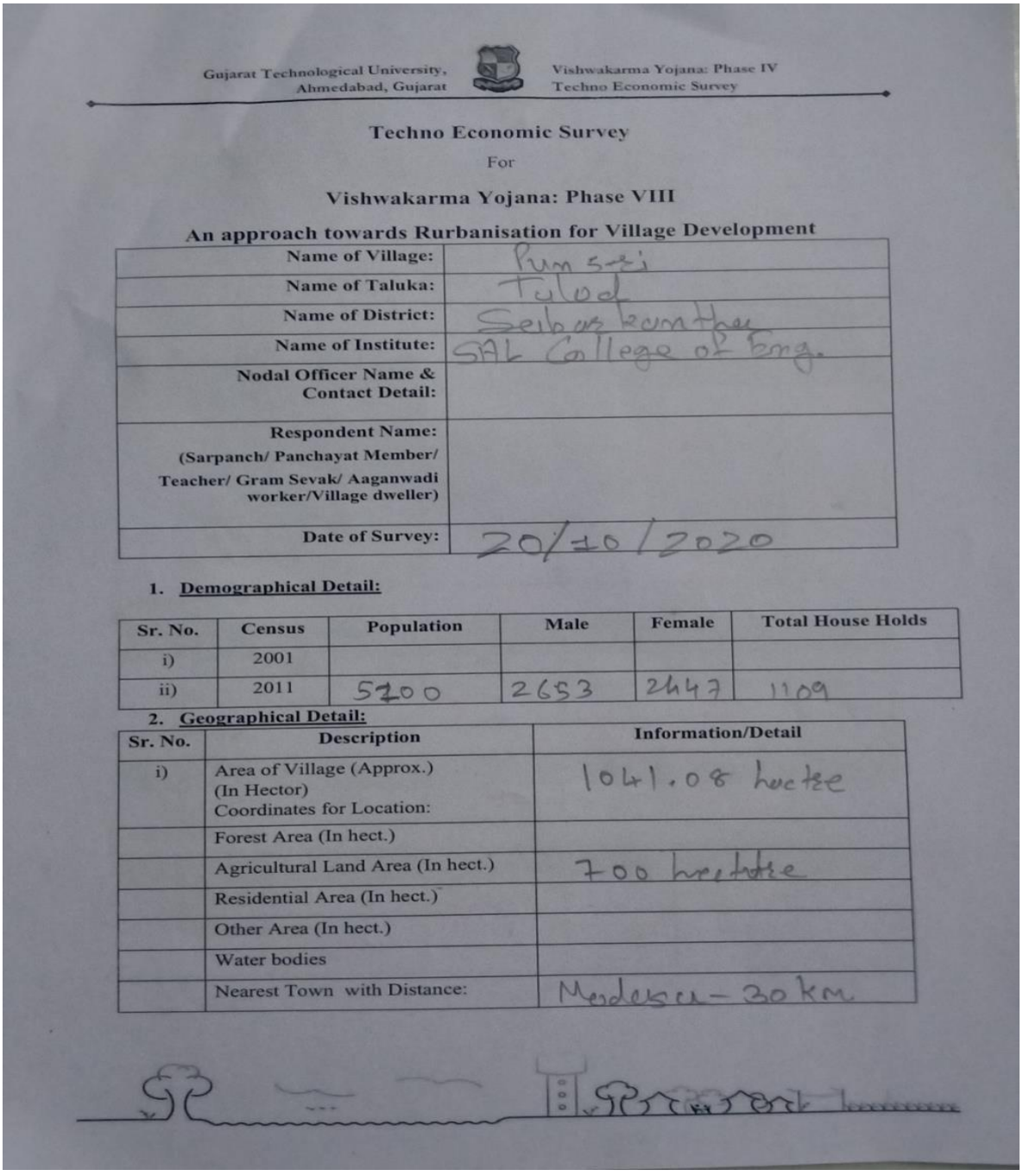
CHAPTER 12: ANNEXURE ATTACHMENT

SMART VILLAGE (PUNSARY) Survey Form:



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Vishwakarma Yojana: Phase IV
Techno Economic Survey

Techno Economic Survey

For

Vishwakarma Yojana: Phase VIII

An approach towards Rurbanisation for Village Development

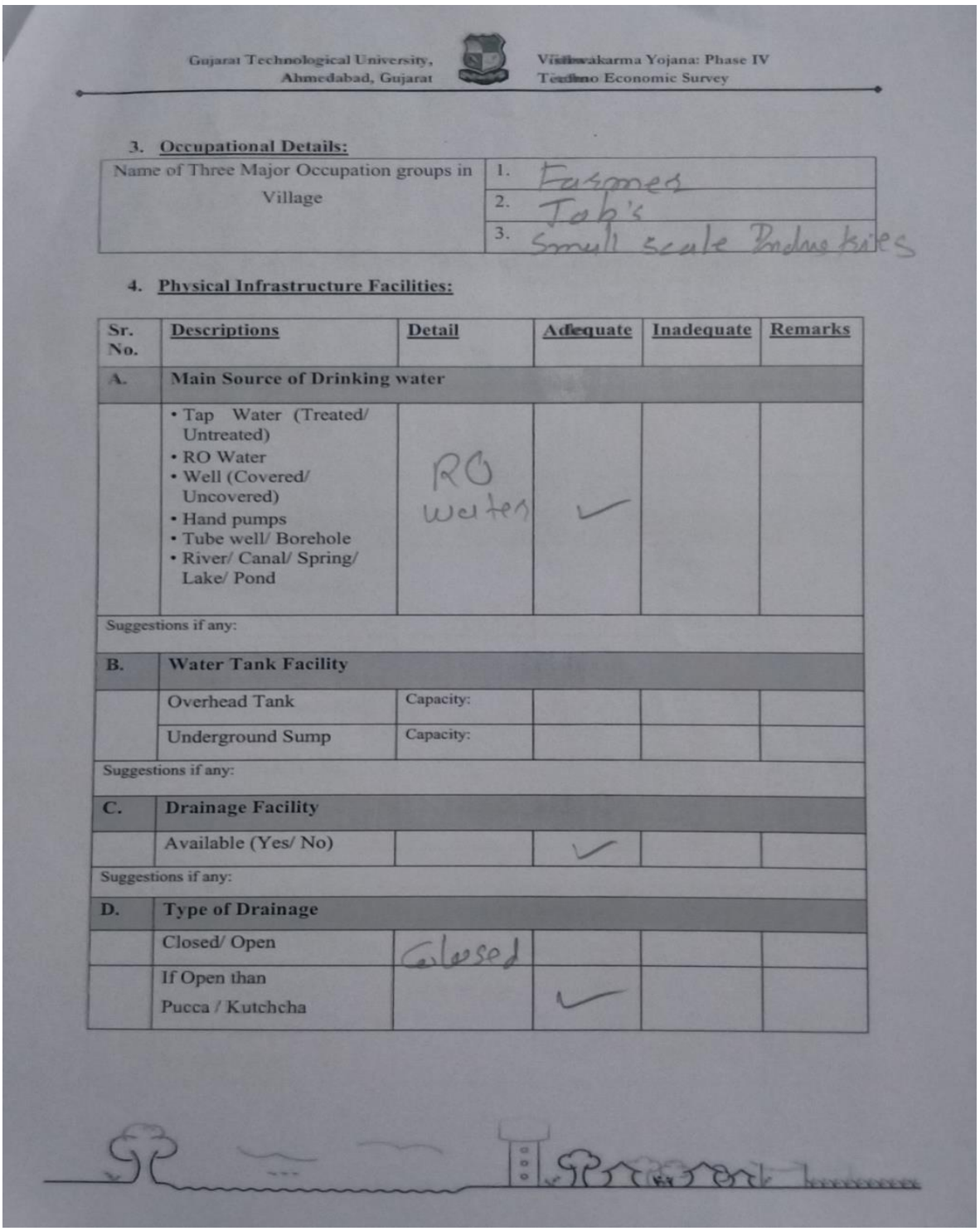
Name of Village:	Punsari
Name of Taluka:	Talod
Name of District:	Sabarkantha
Name of Institute:	SAL College of Eng.
Nodal Officer Name & Contact Detail:	
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	
Date of Survey:	20/10/2020

1. **Demographical Detail:**

Sr. No.	Census	Population	Male	Female	Total House Holds
i)	2001				
ii)	2011	5200	2653	2547	1109

2. **Geographical Detail:**

Sr. No.	Description	Information/Detail
i)	Area of Village (Approx.) (In Hector) Coordinates for Location:	1041.08 hectee
	Forest Area (In hect.)	
	Agricultural Land Area (In hect.)	700 hectee
	Residential Area (In hect.)	
	Other Area (In hect.)	
	Water bodies	
	Nearest Town with Distance:	Modasa – 30 km



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Techno Economic Survey

3. Occupational Details:

Name of Three Major Occupation groups in Village	1. Farmers 2. Job's 3. Small scale Industries

4. Physical Infrastructure Facilities:

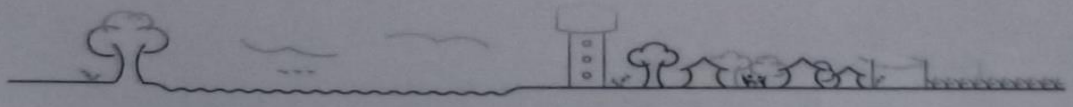
Sr. No.	Descriptions	Detail	Adequate	Inadequate	Remarks
A.	**Main Source of Drinking water**				
	• Tap Water (Treated/ Untreated) • RO Water • Well (Covered/ Uncovered) • Hand pumps • Tube well/ Borehole • River/ Canal/ Spring/ Lake/ Pond	RO water	✓		
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity:			
	Underground Sump	Capacity:			
Suggestions if any:					
C.	**Drainage Facility**				
	Available (Yes/ No)		✓		
Suggestions if any:					
D.	**Type of Drainage**				
	Closed/ Open	Closed			
	If Open than Pucca / Kutchcha		✓		

3. Occupational Details:

Name of Three Major Occupation groups in Village	1. Farmers
	2. Job's
	3. Small scale Industries

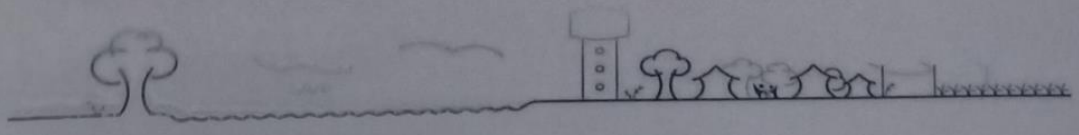
4. Physical Infrastructure Facilities:

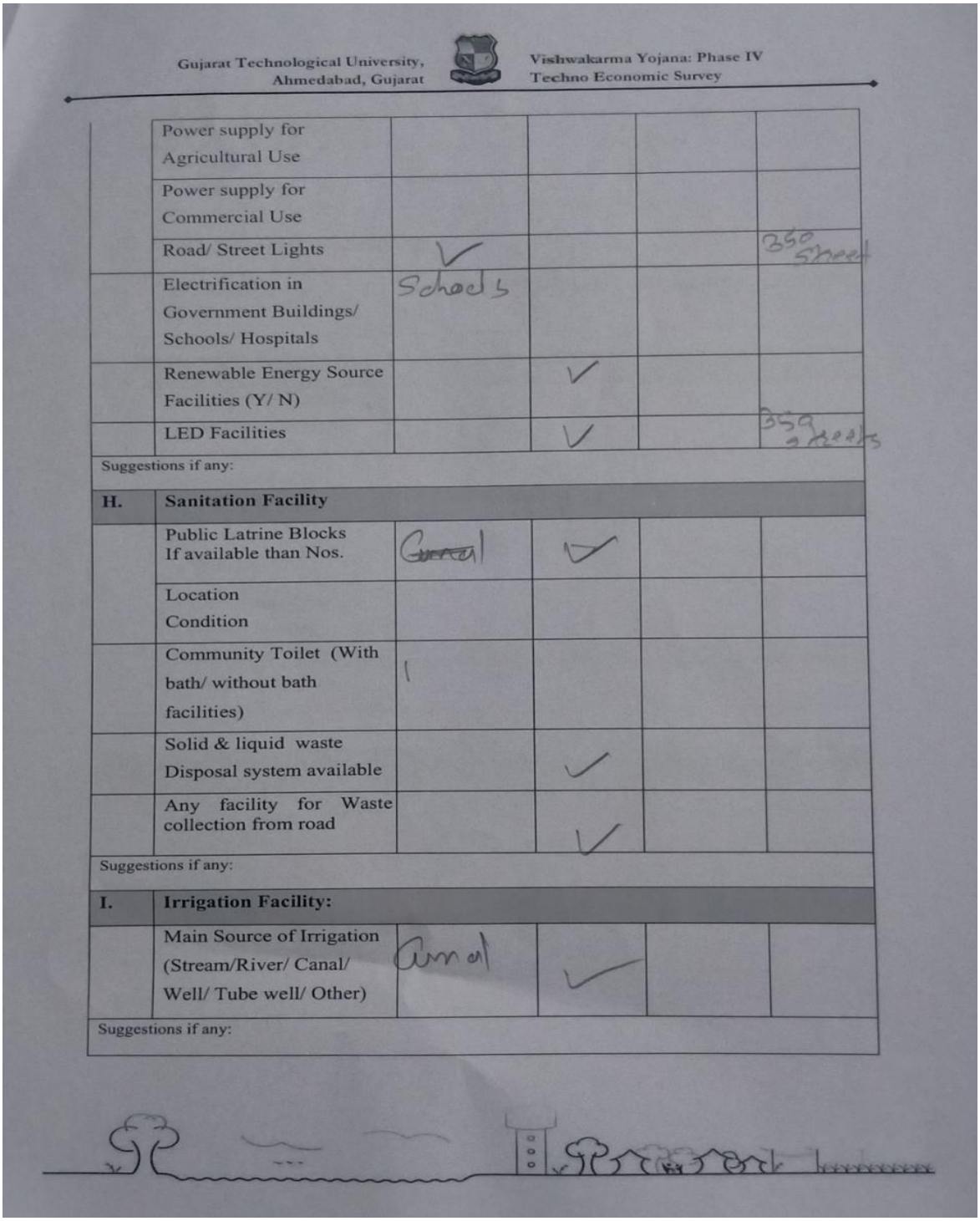
Sr. No.	Descriptions	Detail	Adequate	Inadequate	Remarks
A.	**Main Source of Drinking water**				
	• Tap Water (Treated/ Untreated) • RO Water • Well (Covered/ Uncovered) • Hand pumps • Tube well/ Borehole • River/ Canal/ Spring/ Lake/ Pond	RO Water	✓		
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity:			
	Underground Sump	Capacity:			
Suggestions if any:					
C.	**Drainage Facility**				
	Available (Yes/ No)		✓		
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		✓		
Suggestions if any:					

E.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road	Bitumin			
	Main road	Bitumin			
	Internal streets	RCC			
	Nearest NH/SH/MDR/ODR Dist. in kms.				
Suggestions if any:					
F.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)			No - Dhuma (20 KM)	
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)			NO (6.1 km)	
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)		✓		
Suggestions if any:					
G.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	Govt / Private			
	Power supply for Domestic Use		✓		6.6 KV Substation





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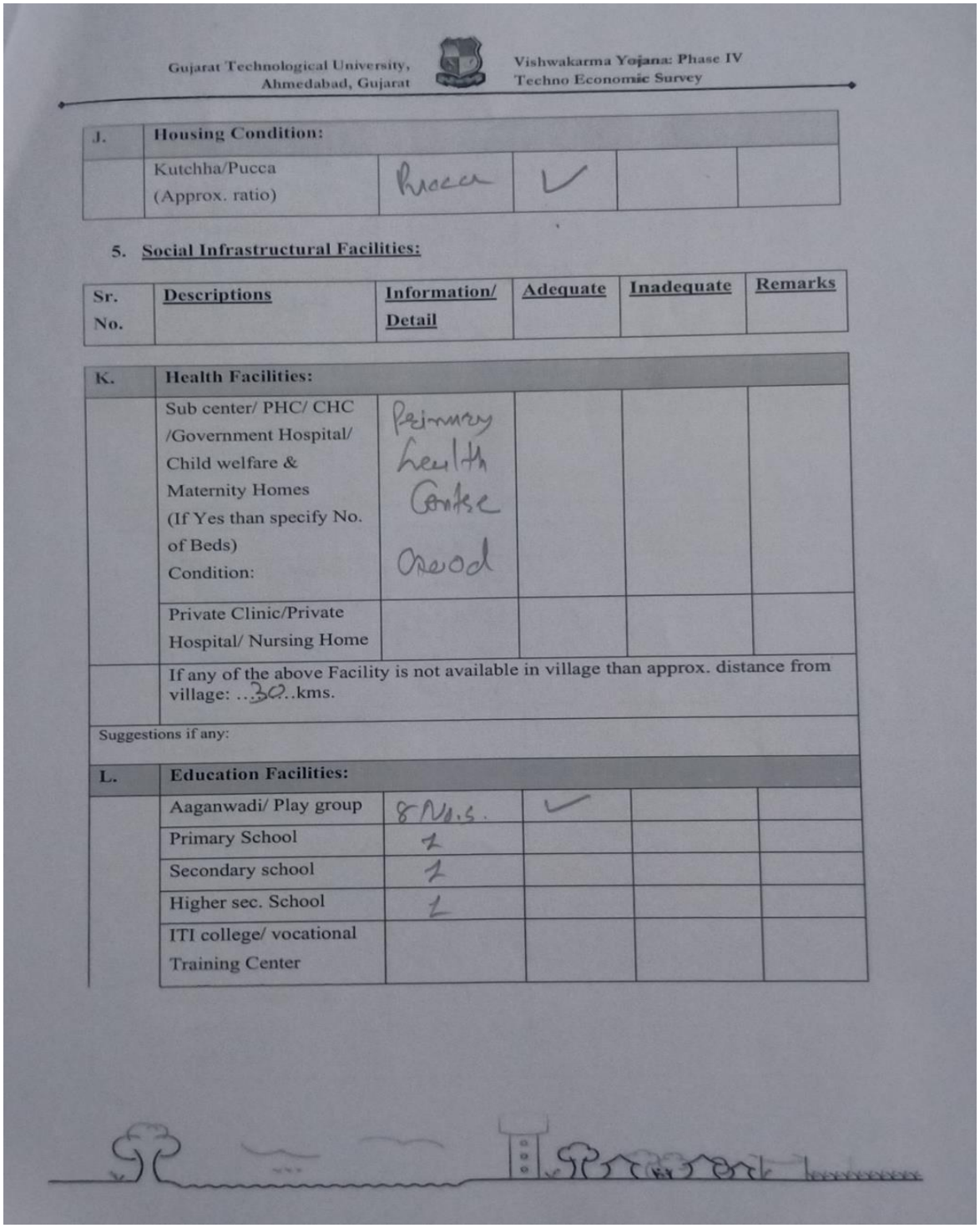
Techno Economic Survey

	Power supply for Agricultural Use				
	Power supply for Commercial Use				
	Road/ Street Lights	✓			350 Street
	Electrification in Government Buildings/ Schools/ Hospitals	Schools			
	Renewable Energy Source Facilities (Y/ N)		✓		
	LED Facilities		✓		359 Roads
Suggestions if any:					
H.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.	Gurral	✓		
	Location Condition				
	Community Toilet (With bath/ without bath facilities)	1			
	Solid & liquid waste Disposal system available		✓		
	Any facility for Waste collection from road		✓		
Suggestions if any:					
I.	**Irrigation Facility:**				
	Main Source of Irrigation (Stream/River/ Canal/ Well/ Tube well/ Other)	Canal	✓		
Suggestions if any:					



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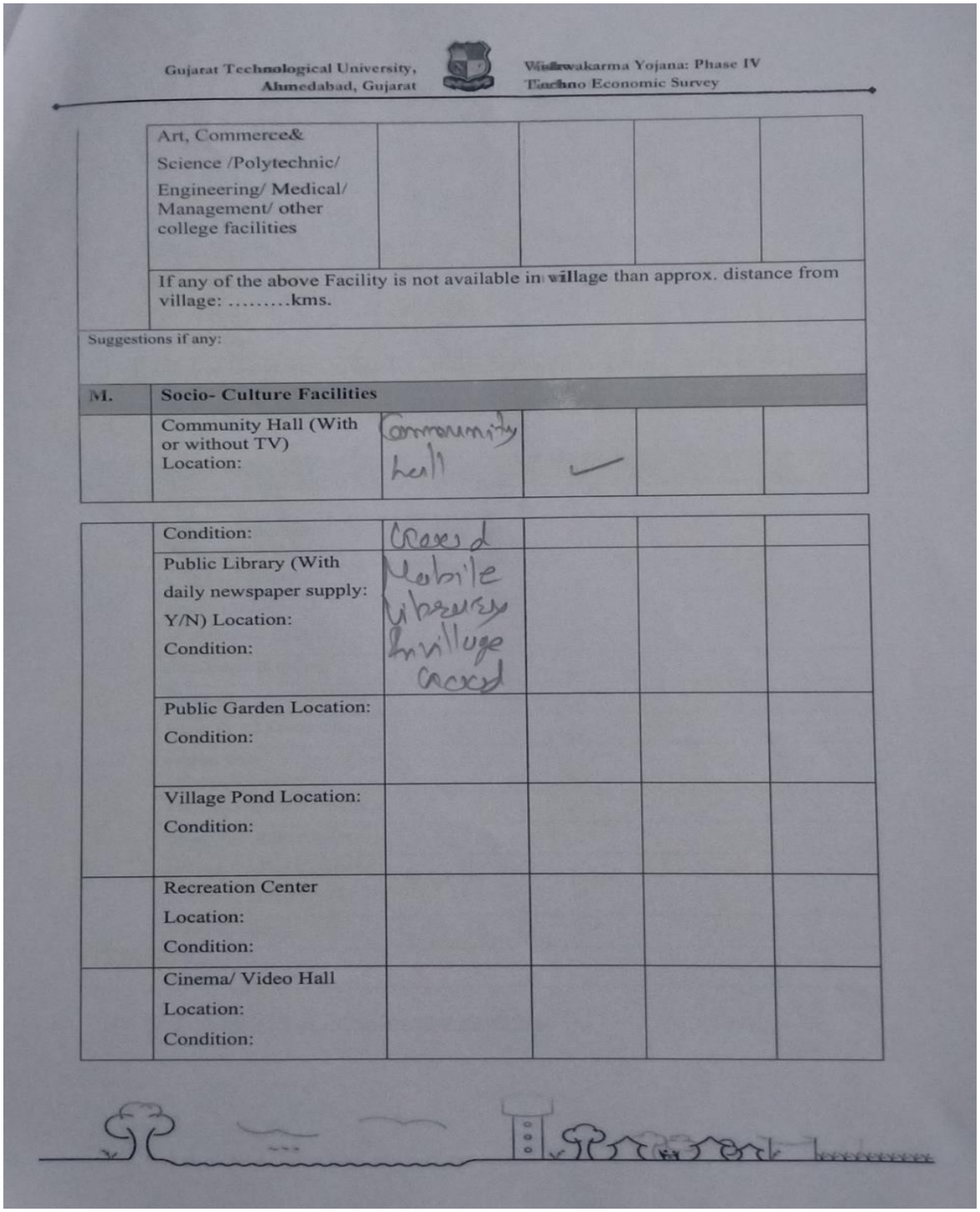
Vishwakarma Yojana: Phase IV
Techno Economic Survey

J.	Housing Condition:				
	Kutchha/Pucca (Approx. ratio)	Pucca	✓		

5. **Social Infrastructural Facilities:**

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks
K.	Health Facilities:				
	Sub center/ PHC/ CHC /Government Hospital/ Child welfare & Maternity Homes (If Yes than specify No. of Beds) Condition:	Primary Health Centre Good			
	Private Clinic/Private Hospital/ Nursing Home				
	If any of the above Facility is not available in village than approx. distance from village: ...30..kms.				
Suggestions if any:					
L.	Education Facilities:				
	Aaganwadi/ Play group	8 Nos.	✓		
	Primary School	1			
	Secondary school	1			
	Higher sec. School	1			
	ITI college/ vocational Training Center				



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Techno Economic Survey

	Art, Commerce& Science /Polytechnic/ Engineering/ Medical/ Management/ other college facilities				
	If any of the above Facility is not available in village than approx. distance from village: .....kms.				
Suggestions if any:					
M.	**Socio- Culture Facilities**				
	Community Hall (With or without TV) Location:	Community Hall	✓		
	Condition:	Closed			
	Public Library (With daily newspaper supply: Y/N) Location: Condition:	Mobile Library in village closed			
	Public Garden Location: Condition:				
	Village Pond Location: Condition:				
	Recreation Center Location: Condition:				
	Cinema/ Video Hall Location: Condition:				

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Vishwakarma Yojana: Phase IV
Techno Economic Survey

	Assembly Polling Station Location: Condition:	School Good	✓		
	Birth & Death Registration Office Location: Condition:	Panchayat Panchayat Good			

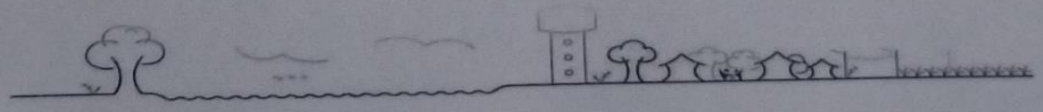
If any of the above Facility is not available in village than approx. distance from village: .....kms.

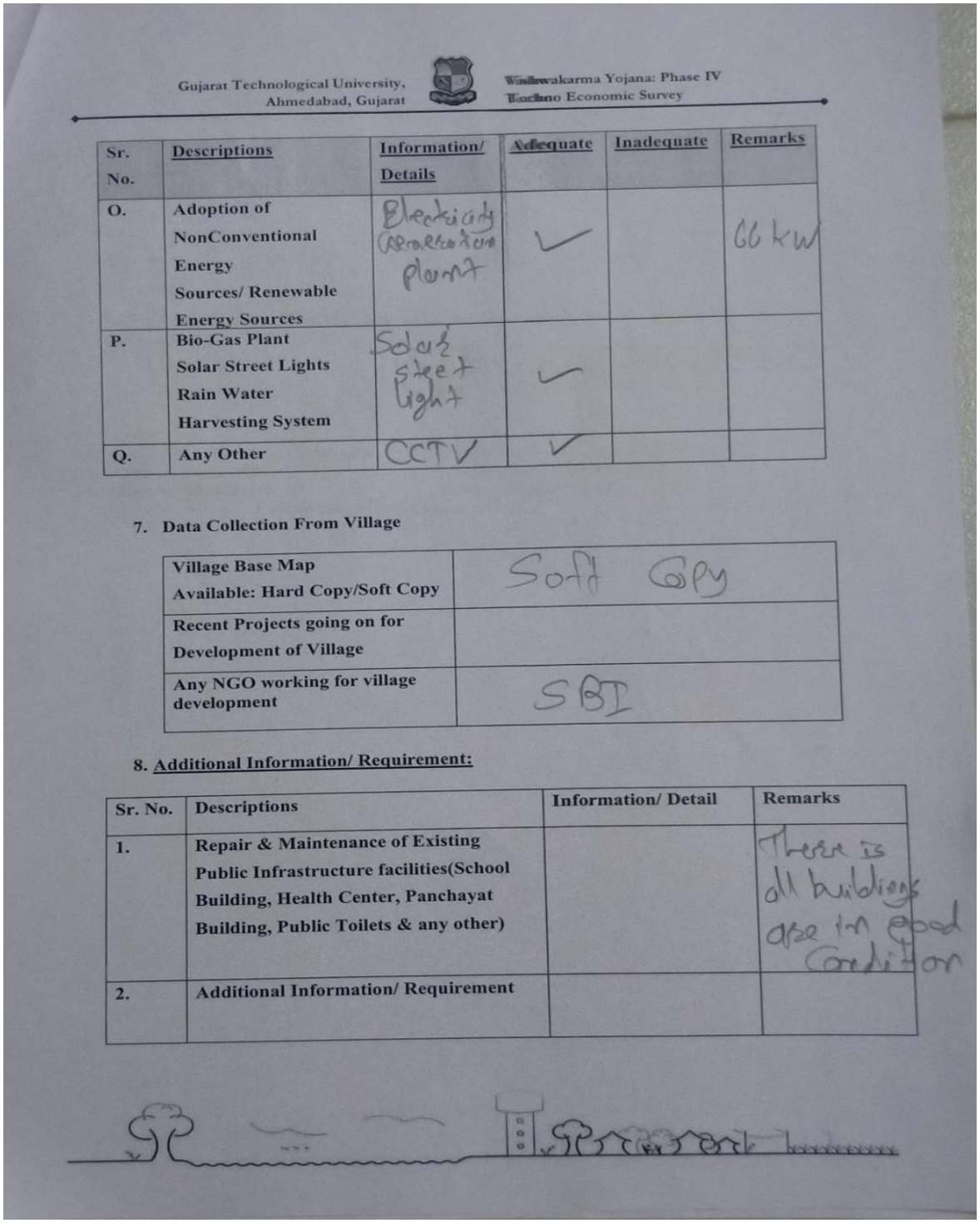
Suggestions if any:

N.	Other Facilities				
	Post-office		✓		
	Telecommunication Network/ STD booth		✓		
	General Market		✓		
	Shops (Public Distribution System)		✓		
	Panchayat Building		✓		
	Pharmacy/Medical Shop		✓		
	Bank & ATM Facility		✓		
	Agriculture Co-operative Society		✓		
	Milk Co-operative Soc.		✓		
	Small Scale Industries		✓		
	Internet Cafes/ Common Service Center/Wi Fi	Wifi	✓		
	Other Facility	RO plant	✓		

Suggestions if any:

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





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Vishwakarma Yojana: Phase IV
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Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
O.	Adoption of NonConventional Energy Sources/ Renewable Energy Sources	Electricity generation plant	✓		66 kW
P.	Bio-Gas Plant Solar Street Lights Rain Water Harvesting System	Solar street light	✓		
Q.	Any Other	CCTV	✓		

7. Data Collection From Village

Village Base Map Available: Hard Copy/Soft Copy	Soft Copy
Recent Projects going on for Development of Village	
Any NGO working for village development	SBI

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)		There is all buildings are in good condition
2.	Additional Information/ Requirement		

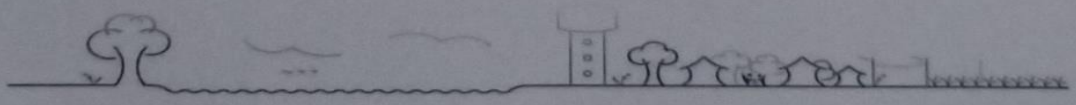
Note: Photographs/ Video/ Drawings of all existing Infrastructure facilities & conditions

should be taken by students of respective villages for their record and information.

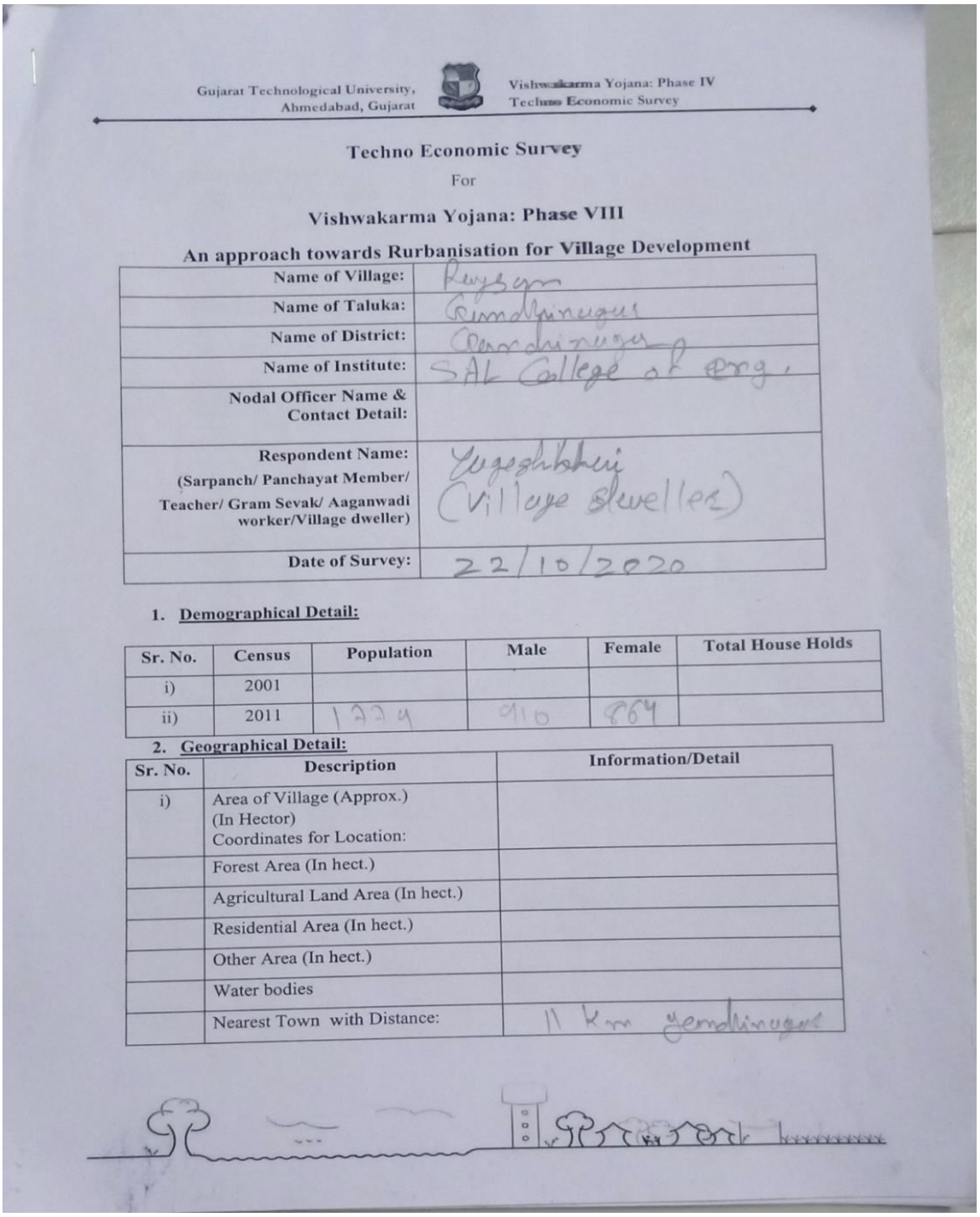
For Any Technical queries/ Difficulties:
Ms Jagruti Shah, OSD
Contact no. 9978980170

For Any Administration queries/ Difficulties:
Ms. Darshana Chauhan, OSD
Contact No. 9909944891

Email ID: rurban@gtu.edu.in



12.2 IDEAL VILLAGE (RAYSAN)



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Vishwakarma Yojana: Phase IV
Techno Economic Survey

Techno Economic Survey

For

Vishwakarma Yojana: Phase VIII

An approach towards Rurbanisation for Village Development

Name of Village:	Raysan
Name of Taluka:	Gandhinagar
Name of District:	Gandhinagar
Name of Institute:	SAL College of Eng.
Nodal Officer Name & Contact Detail:	
Respondent Name: (Sarpanch/ Panchayat Member/ Teacher/ Gram Sevak/ Aaganwadi worker/Village dweller)	Yogeshbhai (Village Dweller)
Date of Survey:	22/10/2020

1. **Demographical Detail:**

Sr. No.	Census	Population	Male	Female	Total House Holds
i)	2001				
ii)	2011	1774	910	864	

2. **Geographical Detail:**

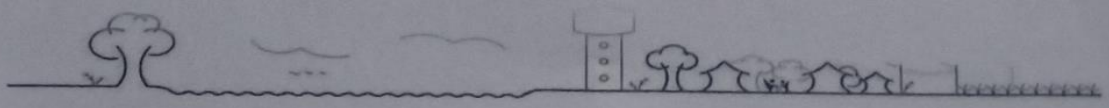
Sr. No.	Description	Information/Detail
i)	Area of Village (Approx.) (In Hector) Coordinates for Location:	
	Forest Area (In hect.)	
	Agricultural Land Area (In hect.)	
	Residential Area (In hect.)	
	Other Area (In hect.)	
	Water bodies	
	Nearest Town with Distance:	11 Km Gandhinagar

3. Occupational Details:

Name of Three Major Occupation groups in Village	1. Farmer 2. Small Scale bussiness 3. Dairy

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	Yes Borehole	Yes Yes Yes Yes		
Suggestions if any:					
B.	**Water Tank Facility**				
	Overhead Tank	Capacity: 1.5 LAC	Yes		
	Underground Sump	Capacity:			
Suggestions if any:					
C.	**Drainage Facility**				
	Available (Yes/ No)	Yes			
Suggestions if any:					
D.	**Type of Drainage**				
	Closed/ Open	Closed	Yes		
	If Open than Pucca / Kutchcha				



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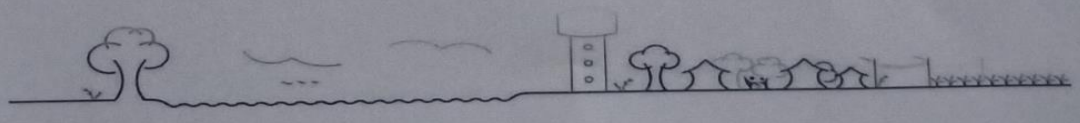
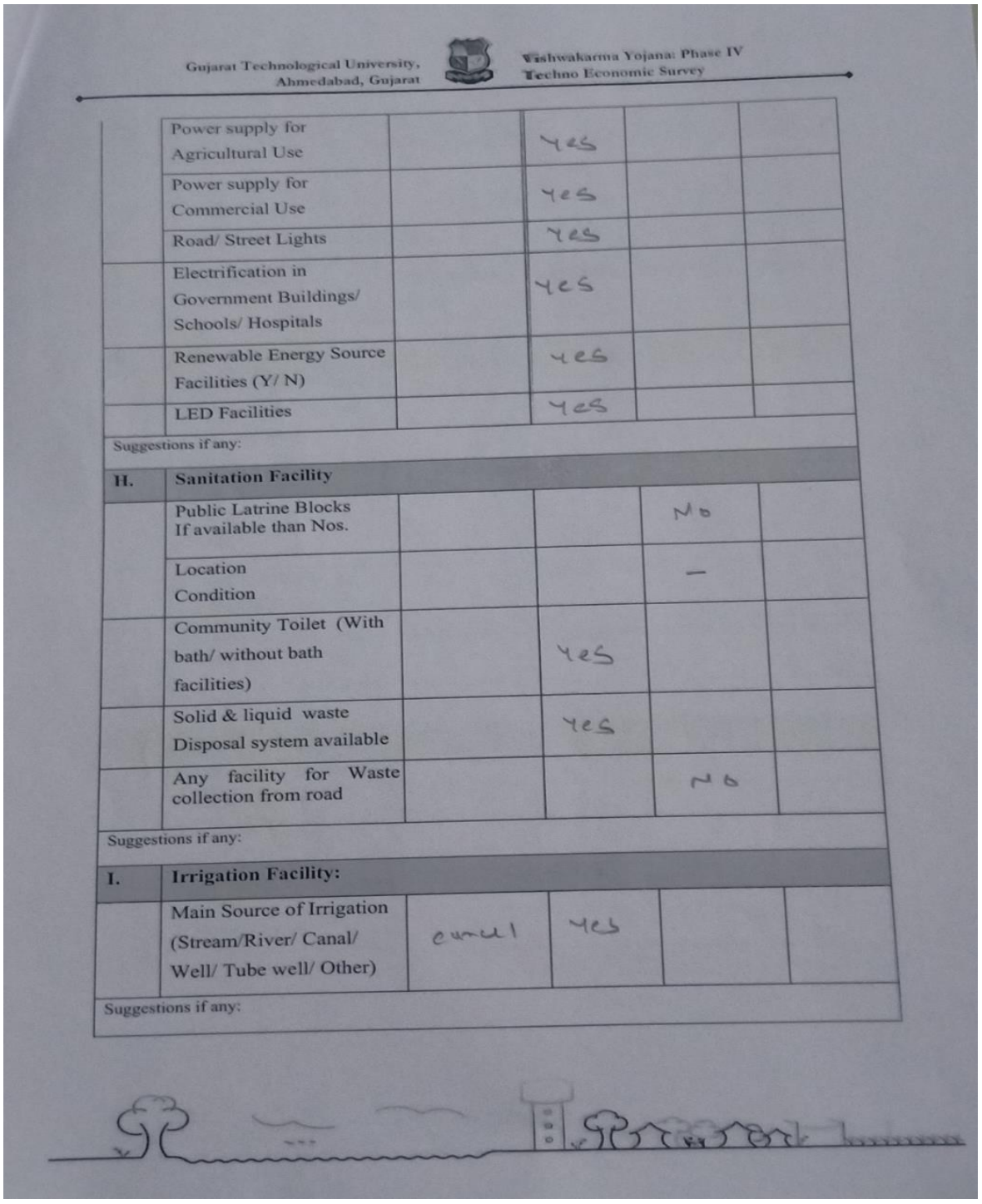
Vishwakarma Yojana: Phase IV
Techno Economic Survey

	Whether drain water is discharged directly in to Water bodies/ Sewer plants		Yes		
Suggestions if any:					
E.	**Road Network :All Weather/ Kutchha (Gravel)/ Black Topped pucca/ WBM**				
	Village approach road		Yes		
	Main road		Yes		
	Internal streets		Yes		
	Nearest NH/SH/MDR/ODR Dist. in kms.		Yes		
Suggestions if any:					
F.	**Transport Facility**				
	Railway Station (Y/N) (If No than Nearest Rly Station---Kms)	Sabarmati		No	13.3 km
	Bus station (Y/N) Condition: (If No than Nearest Bus Station---Kms)	gandhinagar		No	500 mt
	Local Transportation (Auto/ Jeep/Chhakda/ Private Vehicles/ Other)	All	Yes		
Suggestions if any:					
G.	**Electricity Distribution**				
	(Y/N) Govt./ Private (Less than 6 hrs./ More Than 6 hrs)	Govt more than 6 hrs	Yes		
	Power supply for Domestic Use		Yes		





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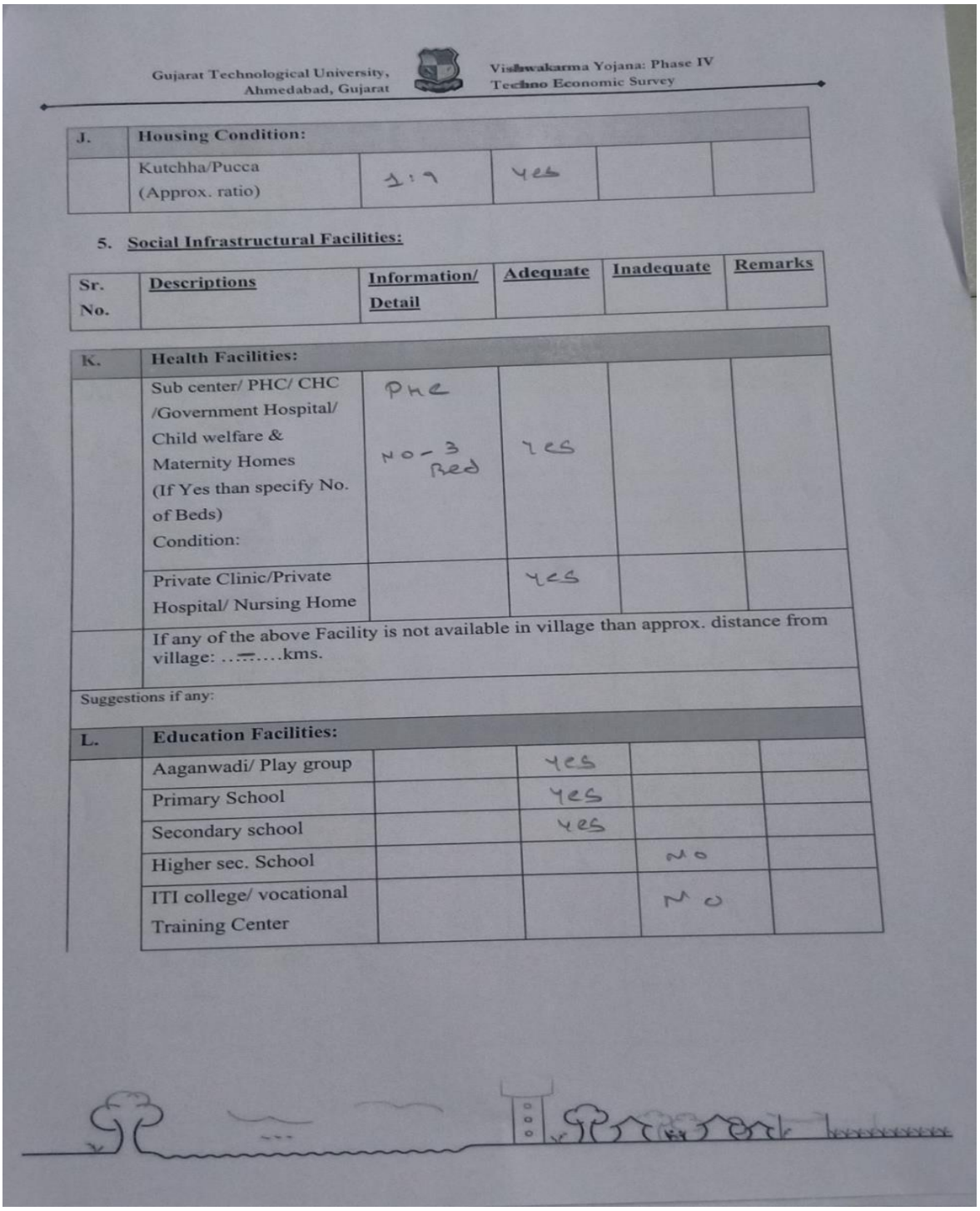
Vishwakarma Yojana: Phase IV
Techno Economic Survey

	Power supply for Agricultural Use		Yes		
	Power supply for Commercial Use		Yes		
	Road/ Street Lights		Yes		
	Electrification in Government Buildings/ Schools/ Hospitals		Yes		
	Renewable Energy Source Facilities (Y/ N)		Yes		
	LED Facilities		Yes		
Suggestions if any:					
H.	**Sanitation Facility**				
	Public Latrine Blocks If available than Nos.			No	
	Location Condition			–	
	Community Toilet (With bath/ without bath facilities)		Yes		
	Solid & liquid waste Disposal system available		Yes		
	Any facility for Waste collection from road			No	
Suggestions if any:					
I.	**Irrigation Facility:**				
	Main Source of Irrigation (Stream/River/ Canal/ Well/ Tube well/ Other)	Canal	Yes		
Suggestions if any:					



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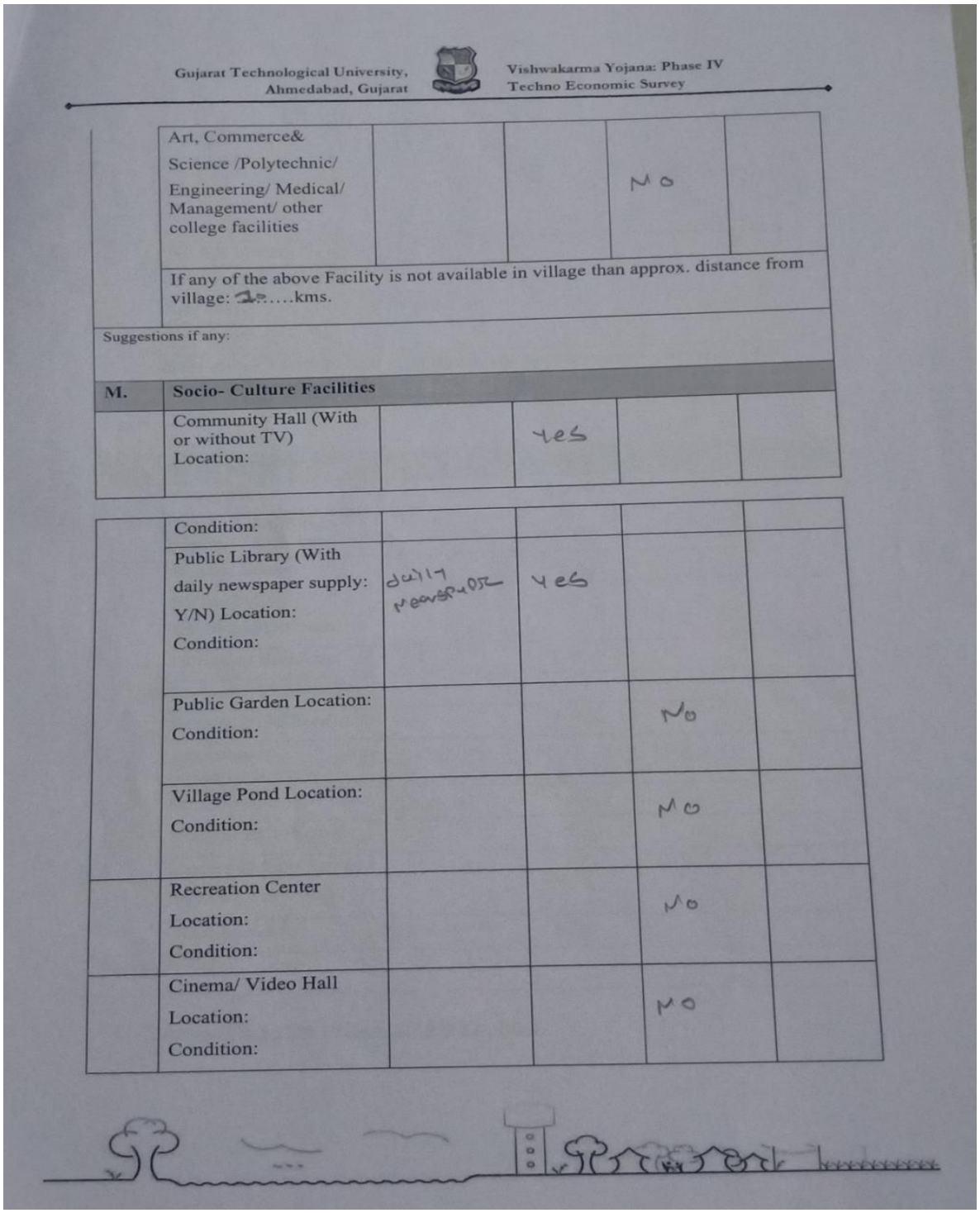
Vishwakarma Yojana: Phase IV
Techno Economic Survey

J.	Housing Condition:				
	Kutchha/Pucca (Approx. ratio)	1:9	Yes		

5. **Social Infrastructural Facilities:**

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate	Remarks
K.	**Health Facilities:**				
	Sub center/ PHC/ CHC /Government Hospital/ Child welfare & Maternity Homes (If Yes than specify No. of Beds) Condition:	PHC NO-3 Bed	Yes		
	Private Clinic/Private Hospital/ Nursing Home		Yes		
	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		Yes		
	Primary School		Yes		
	Secondary school		Yes		
	Higher sec. School			No	
	ITI college/ vocational Training Center			No	



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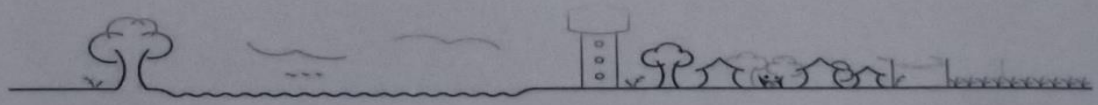
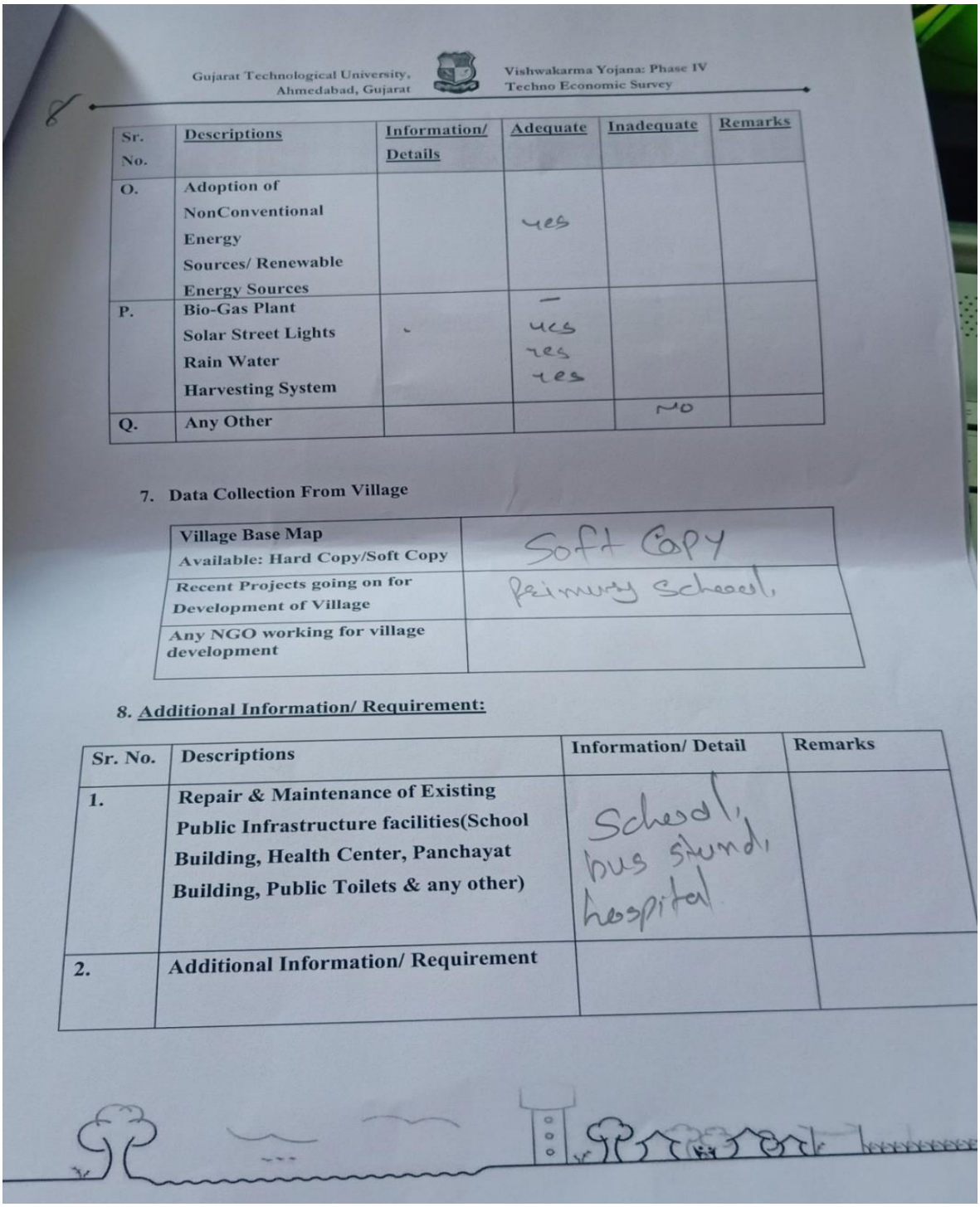
Vishwakarma Yojana: Phase IV
Techno Economic Survey

	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: 1....kms.				
Suggestions if any:					
M.	**Socio- Culture Facilities**				
	Community Hall (With or without TV) Location:		Yes		
	Condition:				
	Public Library (With daily newspaper supply: Y/N) Location: Condition:	daily newspaper	Yes		
	Public Garden Location: Condition:			No	
	Village Pond Location: Condition:			No	
	Recreation Center Location: Condition:			No	
	Cinema/ Video Hall Location: Condition:			No	

	Assembly Polling Station Location: Condition:			NO	
	Birth & Death Registration Office Location: Condition:			NO	
If any of the above Facility is not available in village than approx. distance from village: ...2.5...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	No	
	Milk Co-operative Soc.	Amul	Yes		
	Small Scale Industries		Yes		
	Internet Cafes/ Common Service Center/Wi Fi		Yes		
	Other Facility	Convent	Yes		
Suggestions if any: No					

6. Sustainable /Green Infrastructure Facilities:





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Vishwakarma Yojana: Phase IV
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Sr. No.	Descriptions	Information/ Details	Adequate	Inadequate	Remarks
O.	Adoption of NonConventional Energy Sources/ Renewable Energy Sources		yes		
P.	Bio-Gas Plant Solar Street Lights Rain Water Harvesting System	-	- yes yes yes		
Q.	Any Other			NO	

7. Data Collection From Village

Village Base Map Available: Hard Copy/Soft Copy	Soft Copy
Recent Projects going on for Development of Village	Primary School,
Any NGO working for village development	

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, bus stand, hospital	
2.	Additional Information/ Requirement		

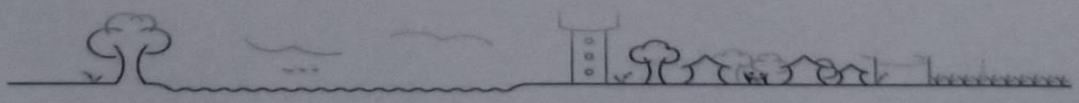
Note: Photographs/ Video/ Drawings of all existing Infrastructure facilities & conditions

should be taken by students of respective villages for their record and information.

For Any Technical queries/ Difficulties:
Ms Jagruti Shah, OSD
Contact no. 9978980170

For Any Administration queries/ Difficulties:
Ms. Darshana Chauhan, OSD
Contact No. 9909944891

Email ID: rurban@gtu.edu.in



12.3 Gap Analysis

VILLAGE GAP Analysis					
Village Facilities		Planning Commission/UDPFI Norms	Village Name	Lilapur (dist. Ahmedabad)	
		Population: 1914			
		Existing	Required as per Norms	Future Projection Design	**Gap**
Social Infrastructure re Facilities					
Education					
Anganwadi	Each or Per 2500 population	1	2	-	**-1**
Primary School	Each Per 2500 population	1(under construction)	1	-	**0**
Secondary School	Per 7,500 population	0	0	-	**0**
Higher Secondary School	Per 15,000 Population	0	0	-	**0**
College	Per 125,000 Population	0	0	-	**0**
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/Panchayat Dispensary or Sub PHC or Health Centre	Each Village	0	1	-	**-1**
Primary Health & Child Health Center	Per 20,000 population	0	0	1	**0**
Child Welfare and Maternity Home	Per 10,000 population	0	0	-	**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)	0	1	1	**-1**
Physical Infrastructure Facilities					
Transportation			Adequate		
Pucca Village Approach Road		Each village	Adequate	**10 km approach road**	
Bus/Auto Stand provision		All Villages connected by PT (ST Bus or Auto)	Inadequate	**No pick up stand available (connected by ST bus, auto, AMTS)**	
Drinking Water (Mini. 70 lpcd)			Adequate		
Over Head Tank		1	50000 lit.		
U/G Sump		0	0		
Drainage Network - Open			Inadequate		
Drainage Network - Cover			Inadequate		
Waste Management System			Inadequate		
Socio- Cultural Infrastructure Facilities					
Community Hall	Per 10000 Population	0	1	1	**-1**
community hall and Public	Per 15000 Population	0	1	1	**-1**
Library					
Cremation Ground	Per 20,000 population	0	1	-	**-1**
Post Office	Per 10,000 population	1	0	-	**+1**
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	**-1**
Police post	Per 40,000Population	0	1	-	**-1**

GAP ANALYSIS

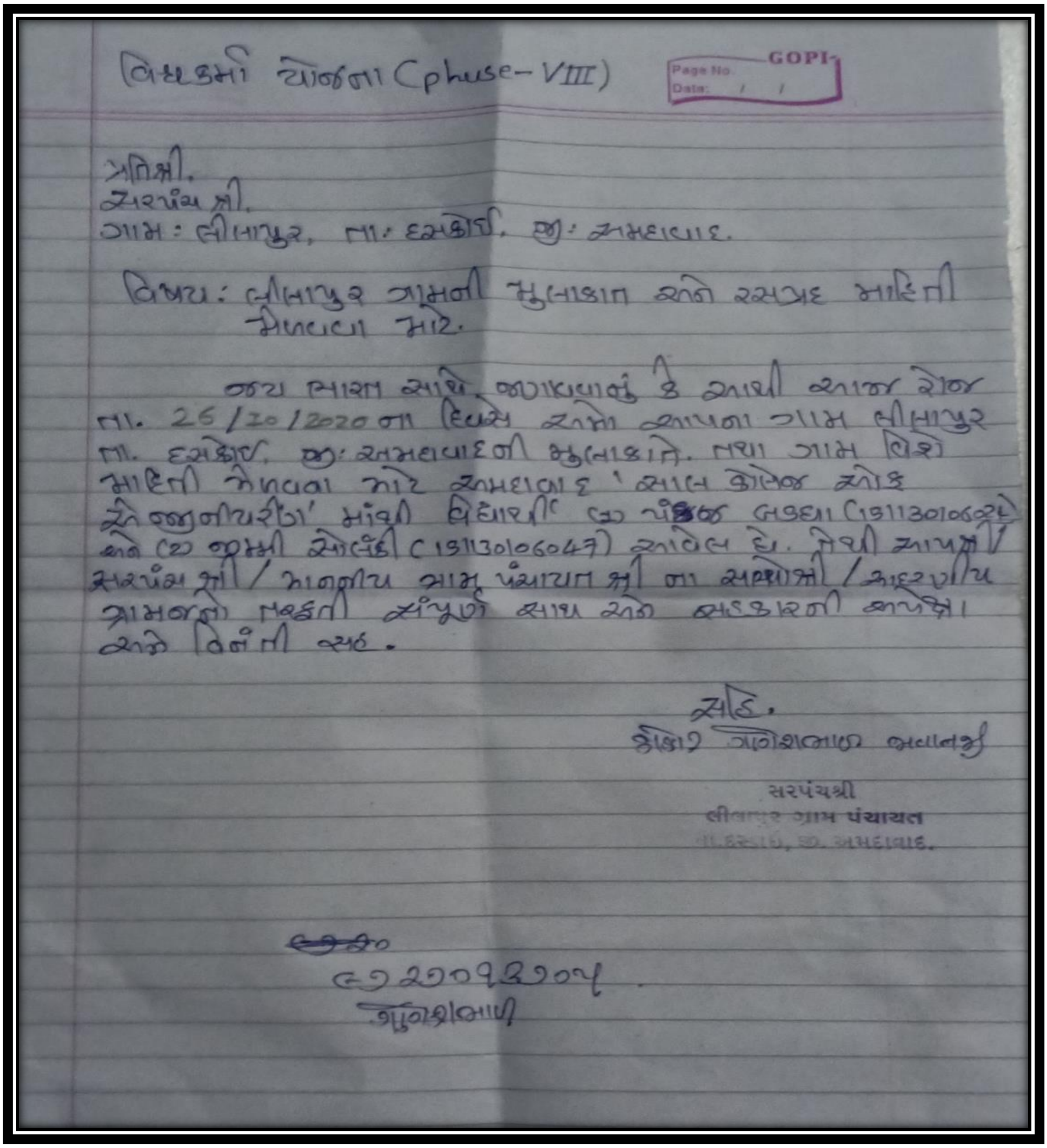
12.8 Summary of All Infrastructure designs in Table Format:

Sr NO.	Designs
1.	COMMUNITY HALL
2.	HOSPITAL
3.	PUBLIC TOILET
4.	BUS STAND

summary of all Infrastructure designs

SUMMERY OF PHOTOGRAPHS

12.4 Village Interaction with Sarpanch/Talati Report with the photograph:



વિશ્વકર્મા યોજના (phase-VIII)

પ્રતિશ્રી,
સરપંચ શ્રી,
ગામ: લીલાપુર, તા: દસક્રોઈ, જી: અમદાવાદ.

વિષય: લીલાપુર ગામની મુલાકાત અને સંલગ્ન માહિતી મેળવવા માટે.

જય ભારત સાથે જણાવવાનું કે અમો આજ રોજ તા. 26/10/2020 ના દિવસે અમો આપના ગામ લીલાપુર તા. દસક્રોઈ, જી: અમદાવાદની મુલાકાતે તથા ગામ વિશે માહિતી મેળવવા માટે અમદાવાદ 'એલ.ડી. કોલેજ ઓફ એન્જીનીયરીંગ' માંથી વિદ્યાર્થી (1) [illegible] (131130106[illegible]) અને (2) [illegible] સોલંકી (131130106047) આવેલ છે. તેથી આપશ્રી / સરપંચ શ્રી / માનનીય ગ્રામ પંચાયત શ્રી ના સભ્યો / આદરણીય ગ્રામજનો તરફથી સંપૂર્ણ સાથ અને સહકારની અપેક્ષા અને વિનંતી સહ.

સહિ.
ઠાકોર ગણેશભાઈ ભવાનજી

સરપંચશ્રી
લીલાપુર ગ્રામ પંચાયત
તા.દસક્રોઈ, જી. અમદાવાદ.

[illegible]