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Proposal for Village Development Plan for Village Kolhewadi, Ahmednagar

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Abstract: ***India is an agricultural nation. According to 2011 Census of India, an estimated 61.5% of the 1300 million Indian population is rural and dependent on agriculture. Contribution of agricultural sector in Indian Economy is much higher than worlds average (6.1%). Agriculture is the most important sector of Indian Economy and all farmers are the part of Villages.***
So it is necessary to develop villages for aiming better Economy as well as Social Environment. The paper presents proposal for village development plan for Kolhewadi village, located in Maharashtra, (Taluka- Sangamner, and District- Ahmednagar). The village is 5.5 km from Sangamner Taluka and 90 km from Ahmednagar District. According to Census 2011 the total population is 5067. The total area of village is, 958.00 hectare. The data required for the study is collected from Gram panchayat, Panchayat Samitee and Zilla parishad bodies. The village is having Natural resources like stone mine, Pravara River and hill, Also it is highest milk producer in Sangamner Taluka. The turnover of Kolhewadi village is much more but, not aimed or well planned for better Employment and other facilities. The village is having major problems of roads, electricity, Energy, Infrastructure, employment telecom and information technology, hence it is necessary to prepare proper development plan and execute it in all parameters view.
Keywords: Infrastructure, Roads, Employment, Health, Electricity, Telcom and Information Technology, Energy.

I. INTRODUCTION

The work in dissertation is mainly focused on the rural development of Kolhewadi village with all sectors like, Agriculture, Health, Education, Social, Infrastructure, Energy, Poverty etc. The main aim of the dissertation work is to propose development of Kolhewadi village. In this chapter the introduction of development of rural area is summarized. Aims and objectives of the dissertation work along with outline of the dissertation report are also presented in this chapter.

Agriculture is the most Important Sector for Indian Economy. According to census 2011, about 61.5% population of India is depends on Agriculture. And all the Farmers are the part of Rural/village area of India. Also census 2011 says, about 70% Indian population of India lives in Villages. So it's clear that, the Impact of Rural Activities on Overall Economy of India is in large manner. But, the village development is not full filled as required in India. So, it is necessary to develop village/rural areas in all parameters like, Agriculture, Health, Education, Social, Infrastructure, Energy, Poverty etc. Also it is important to improve the quality of life in villages and suggest ways and means to improve the same. So this dissertation report is mainly focused on all sectors of village development for kolhewadi village, located in Sangamner taluka and Ahmednagar, District, Maharashtra.

Transport infrastructure is one of the most important infrastructure for progress of any area. For any economic or other development movement of goods, public etc. is necessary. And it will faster when transportation management is well planned with future scope. In short transportation is a lifeline of nation. India is an agricultural nation so products related with an agricultural sector needs to transport in better and convenient way from rural to urban areas or vice versa.

Transportation also allow to access for food, healthcare, employment, educational opportunities. And transportation increases rural resident's ability to access recreational activities, entertainment to promote the other communities. But only transportation infrastructure is not important for any type of transportation. It also need for transportation vehicles which are of personal, lease basis or of government. This is main factor cause if rural economy is not better for residents for owning a personal vehicle so transportation problems also increases which indirectly effects economic factors. So in this dissertation report all parameters of rural transportation infrastructure summarized briefly.

II. BACKGROUND

A. Rural Development Scenario In India (Since Independence)

Rural development is most focusing factor in India from post-independence era. Mahatma Gandhi started rural reconstruction programme from 1938. He introduced 18 point reconstructive programme. The program includes, promotion of village industries, basic & adult education, use of khadi, rural sanitation, untouchability removal, backward classes upliftment, health & hygiene education in public, women welfare, prohibition, propagation of mother tongue and economic equality. Then after independence and

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before commencement of five year plan three programmes were introduced in India regarding rural reconstruction. 1) The Etawah Pillot project 2) The Nilokheri Experiment 3) The Bhoodan Experiment. Also Community development programme is launched in 2 October 1952, focusing on development and upliftment of rural peoples. After that many policies and schemes were implemented by government of India successfully. The ministry of rural development spends near about 1 lakh Crore rupees per annum for rural development programmes.

III.STUDY AREA AND DATA SET

A. Study Area

Kolhewadi village is located 90 km from Ahmednagar District, 70 km from Nasik district, 150 km from Pune district and 220 km from Mumbai district. According to Census 2011 the total population is 5067, in which male population is, 2659 and female population is 2408. The population between ages 0-6 is 595. Scheduled caste population is 247 and Scheduled tribes is 132. Total number of literate peoples are 3641. The total number of houses in village are 963. The girl child population between 0-6 is 276 number. The boy child population between 0-6 is 319 number. It means that percentage of female population is 47.55 %, Total percentage of literacy is 71.89 %, and Female literacy percentage is 31.43 %. The total area of village is 958 hectare. Village has one Zilla Parishad School for 1st standard to 4th standard, as well as one high school for 5th to 10th standard. There is also Junior College for 11th and 12th standard. There are 05 number of Anganwadies in kolhewadi village. Available infrastructure facilities are, one Grampanchayat office, One Samaj mandir, one play Ground, Two funeral places, four drinking water tanks, and two well's. All farmers having cattle's in village and, kolhewadi village is highest milk producer in sangamner taluka. It has natural resources like Stone mine, Pravara River, and Hill at gaothan. Pravara River passes through village about 02 to 2.5 km of distance. Sugarcane is main crop cultivation in village, also wheat, onion, maze etc. are regular cultivating crops.

Table no 1- Study area profile of kolhweadi village

Name of Village	Kolhewadi
Taluka	Sangamner
District	Ahmednagar
Area of village	958.00 ha
Distance from Taluka	5.5 km
Distance from district	90 km
Zilla Parishad school	1(1st to 4th)
Anganwadi	5

Table no 2. Population detail (source census 2011)

Census parameter	Census data
Total population	5067
Total no of houses	963
Total Literacy %	71.89%(3639)
Scheduled Tribes Population %	00.51%(260)
Child(0-6) population by 2011	595

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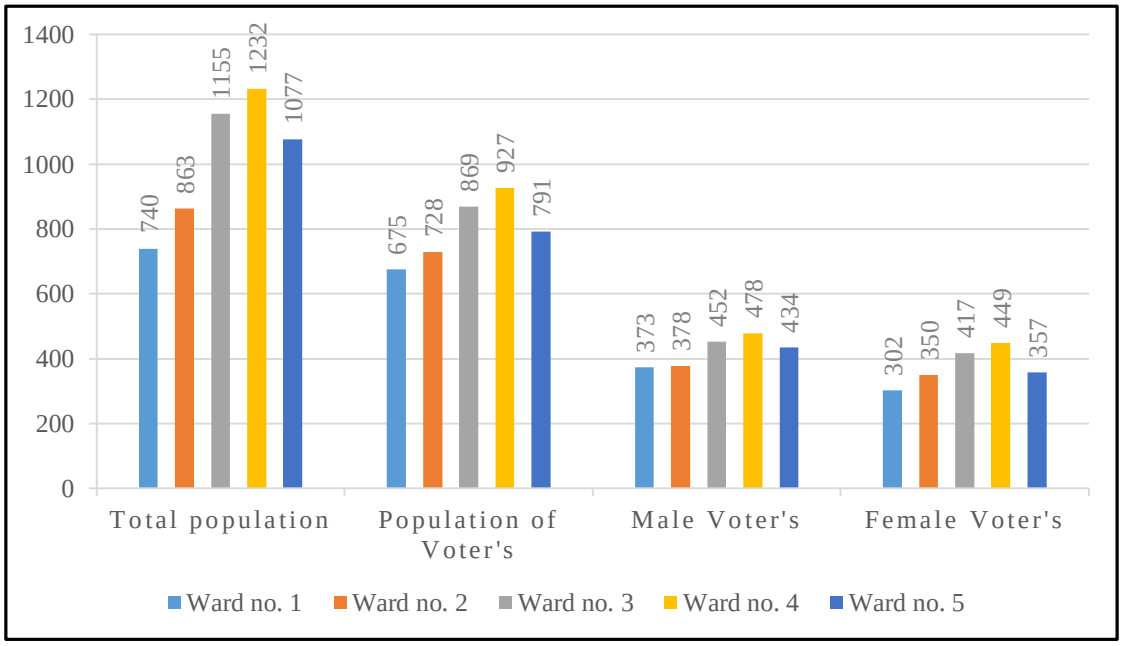


Fig. no. 1 Population detail's by ward

Total voters population is 3,990, in that total male voters are 2,115 and total female voters are 1,875.

B. Village Summary

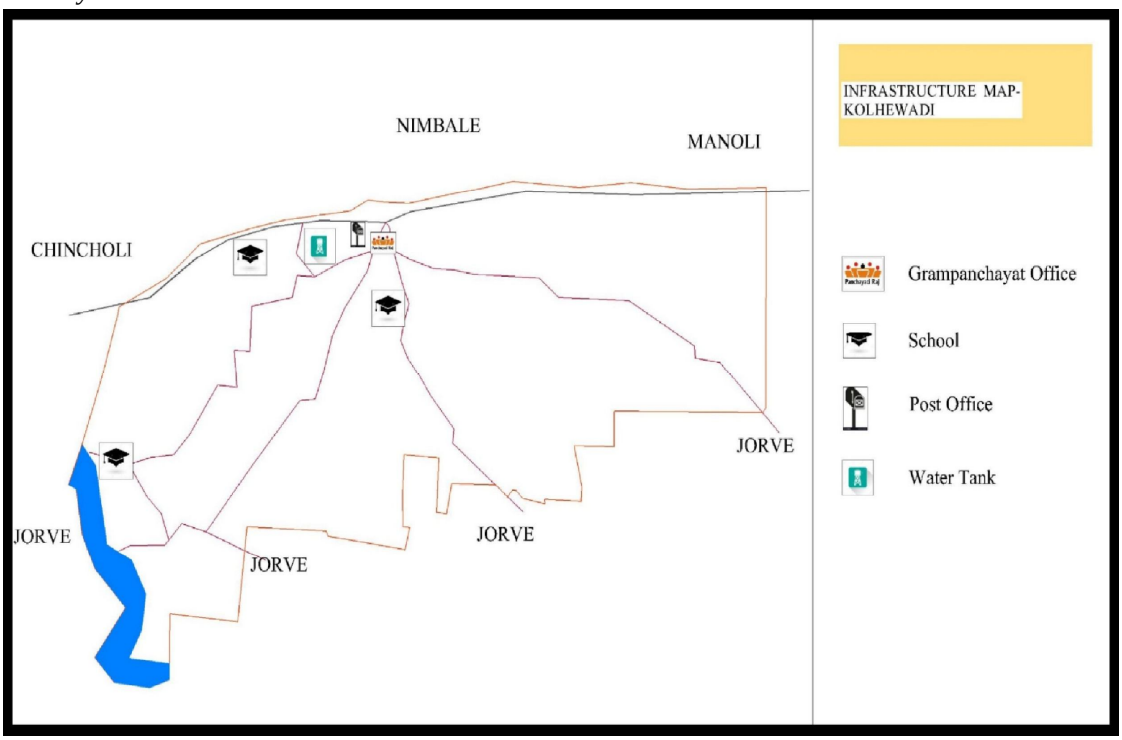


Fig no. 2 Study area profile

Total area of village is 958 ha. In that 628 ha cultivable land. The land for grazing is near about 4.2 ha. Land under forest department is 14 ha.

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IV. METHODS

To evaluate the problems, proper methods are planned. With the help of literature review the study of various rural development procedures is studied. Further data is collected by Zilla parishad, panchayat samitee as well as by grampanchayat. Also by time to time meetings with Talathi (Government elected revenue officer for village), Sarpanch (Elected member by village resident's) and village residents. Data analysis is done by the maps preparations.

The various maps like, base map, infrastructure map, road maps are prepared. The problems are identified and selected on priority bases. Then various proposals are prepared with data analysis. And proposal is finaled with priority basis and funding point of view.

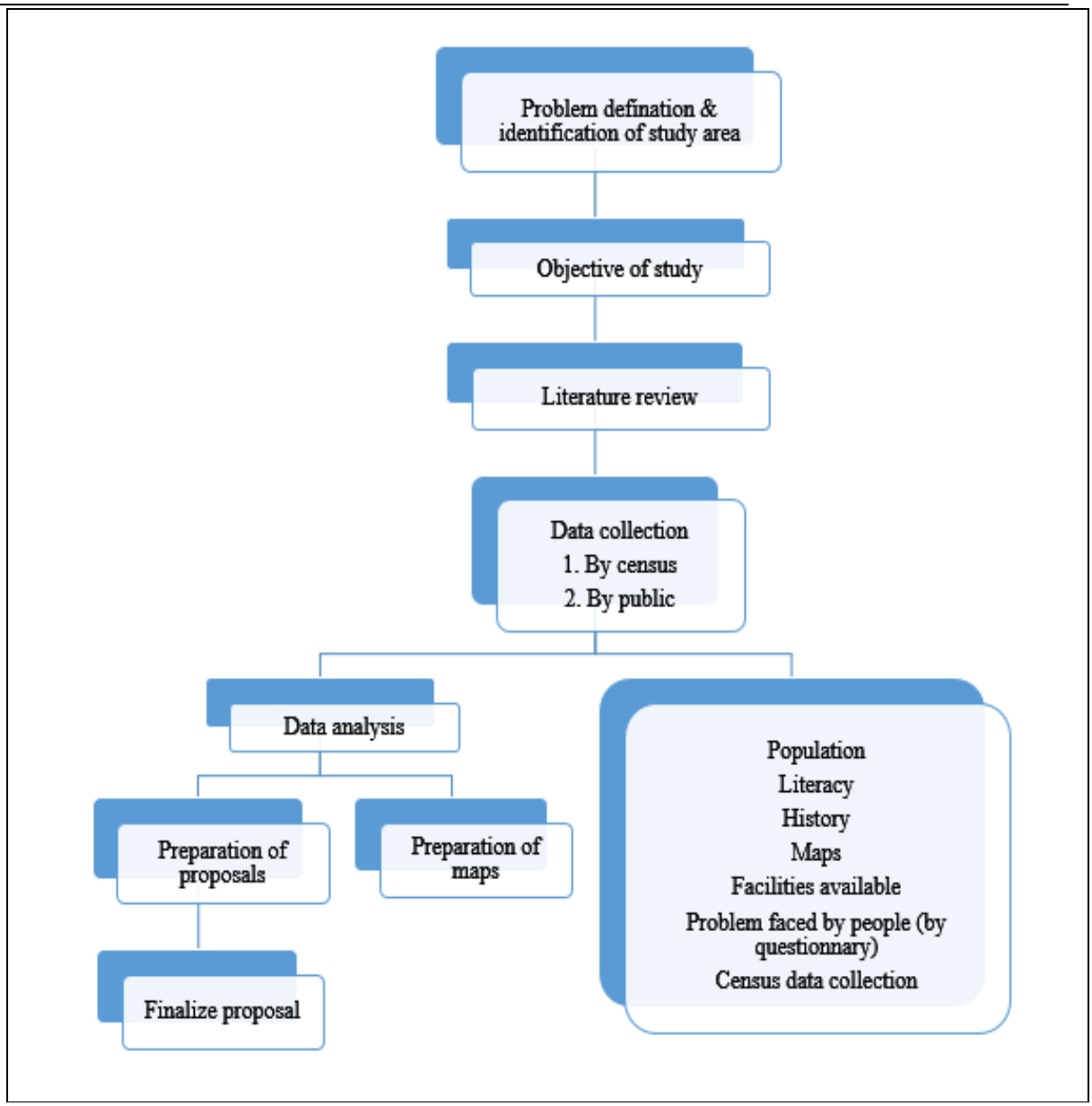


Fig. no 3 Methodology chart

A. Energy(Biogas) Scenario in village

The Kolhewadi village is having large no. (Almost 97%) of cattle's with each family but the source of renewable energy i.e. biogas system is not using by most of families. Only 18% of surveyed families have installed biogas plant. And 82% of families are using Liquefied petroleum gas (LPG). The present condition of houses are mentioned in the form of column chart. And Also the details of biogas in % in the form of pie chart are given below.

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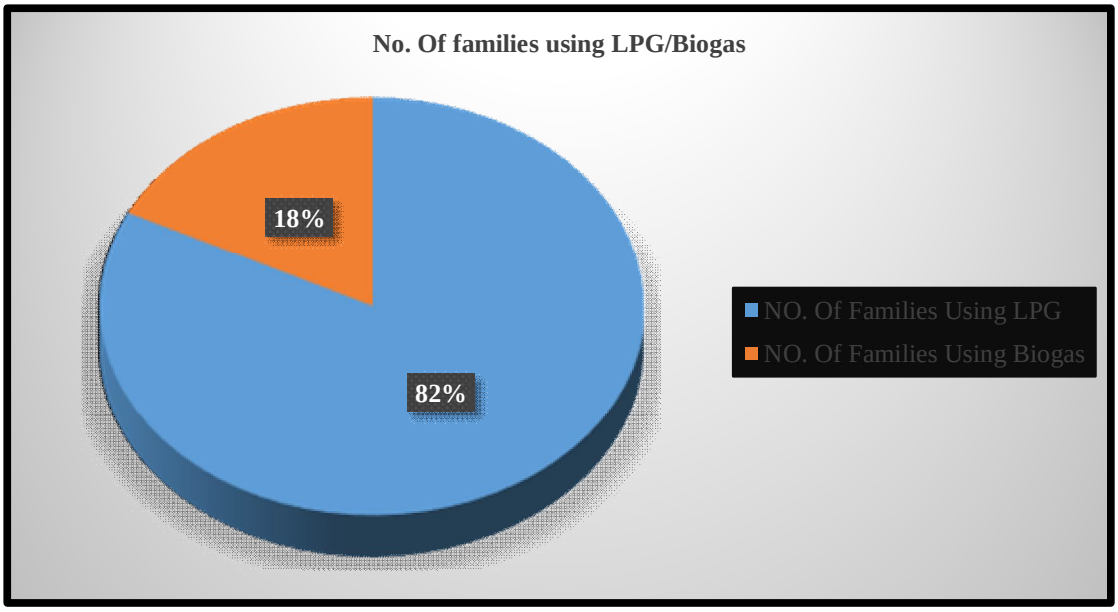


Fig no.4 No. Of families using LPG/Biogas

V. PLANNING PROPOSALS

A. Biogas Plant For Individual Residents Of Village

Biogas is efficient & clean fuel source of energy. It is a mixture of methane (CH4), carbon dioxide (CO2), hydrogen (H2) and hydrogen sulphide (H2S).biogas is nothing but the result of anaerobic fermentation of biomass in the presence of water. In biogas the major part of methane (65%) is occurs.

The preferred biogas model type is, "RCC fixed dome structure" as shown in figure below,

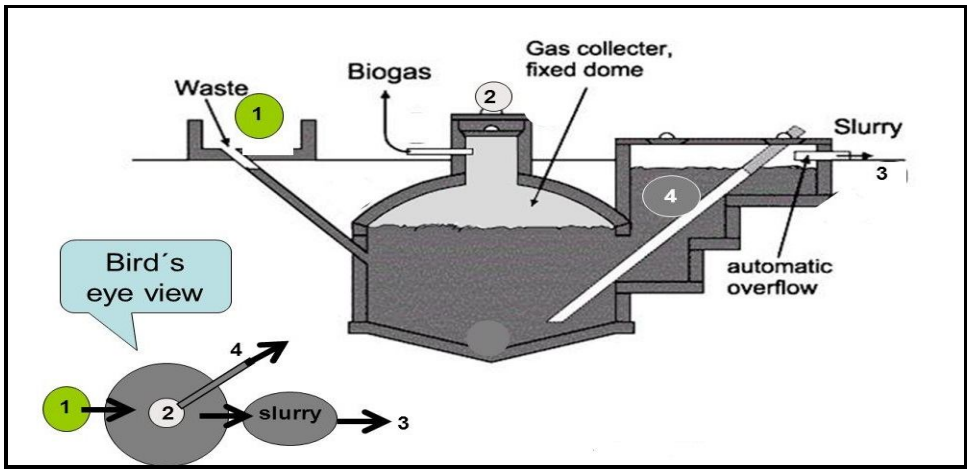


Fig. no. 5 RCC fixed dome structure for Biogas

B. Raw Materials Required For Biogas Production –

Following biomasses used along with water,

1) Animal dung
2) Poultry wastes
3) Plant wastes (Husk, grass, weeds etc.)
4) Human excreta
5) Industrial wastes (Saw dust, wastes from food processing industries)
6) Domestic wastes (Vegetable peels, waste food materials)

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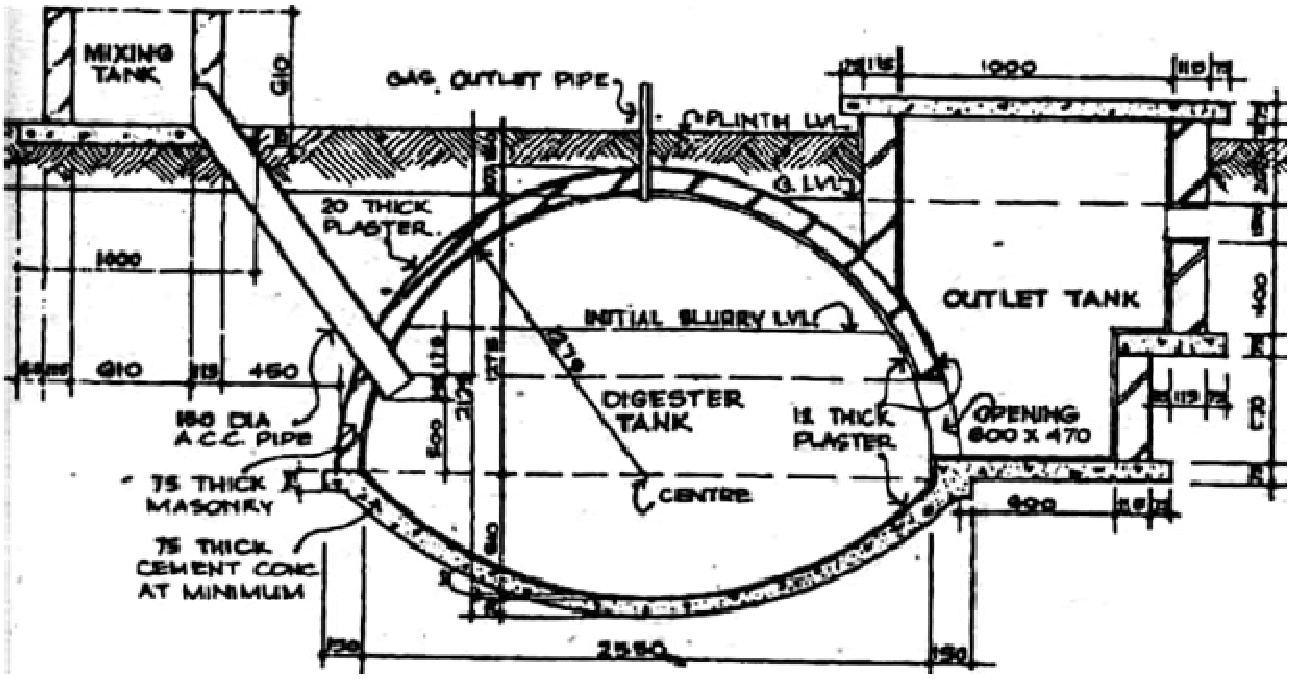


Fig.no 6. Biogas plant section (RCC Domed structure)

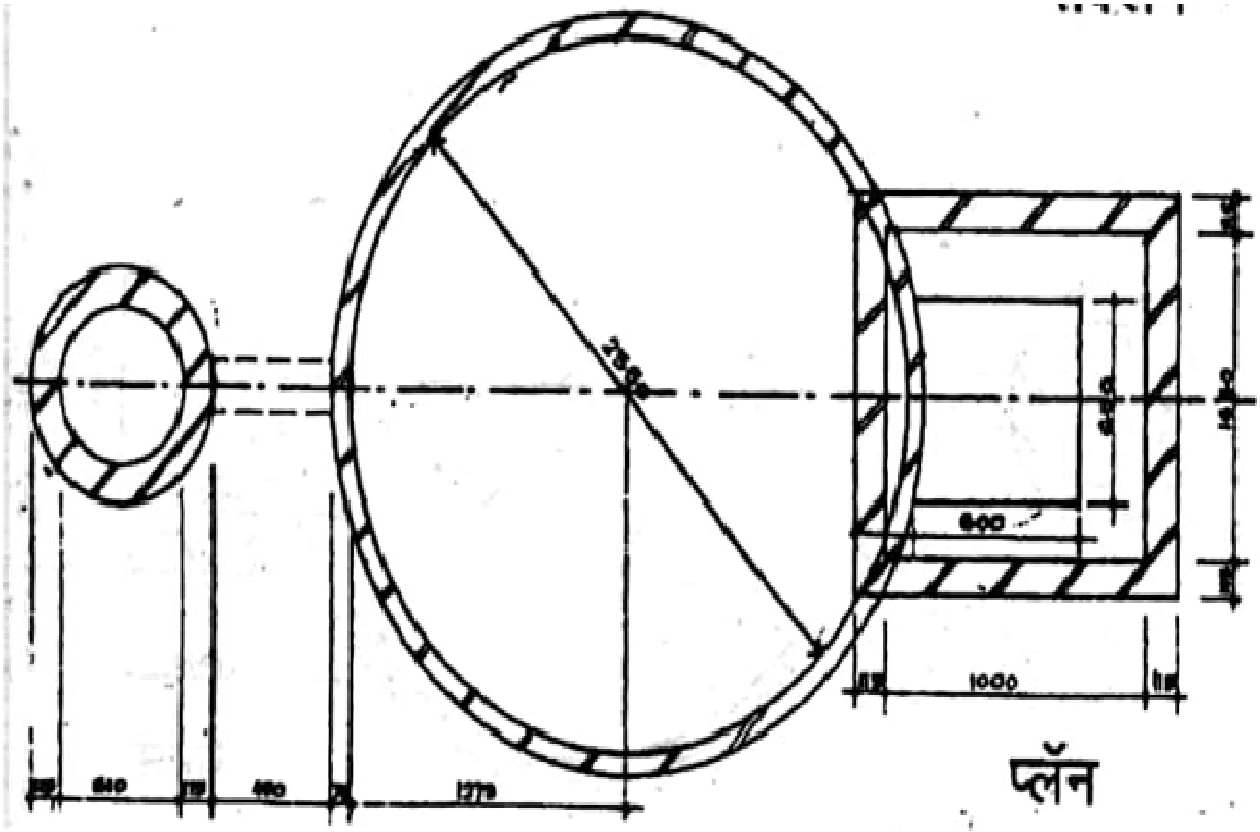


Fig.no 7. Plan for Biogas plant (RCC Domed structure)

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C. Construction of Biogas Plant

The biogas plant is a RCC structure having the following five sections:

1) Mixing tank present above the ground level.
2) Inlet chamber: The mixing tank opens underground into a sloping inlet chamber.
3) Digester: The inlet chamber opens from below into the digester which is a huge tank with a dome like ceiling. The ceiling of the digester has an outlet with a valve for the supply of biogas.
4) Outlet chamber: The digester opens from below into an outlet chamber.
5) Overflow tank: The outlet chamber opens from the top into a small over flow tank.

VI. DIMENSIONS OF BIOGAS PLANT

The dimensions of this biogas plant with respect to detailed plan drawn by government is as follows,

A. Inlet Mixing Chamber

1) Diameter = 0.61m = 2 Feet
2) Height = 0.61m = 2 Feet
3) Thickness Inlet Chamber Wall = 0.115 M

B. Digester Tank / Fixed Dome

1) Diameter of Digester at Centre = 2.55 M = 8.36 Feet
2) Thickness of Digester Wall = 75 mm
3) Thickness of Inner Plaster = 12 mm
4) Thickness of Outer Plaster = 20 mm

C. Outlet Tank / Chamber

1) Outlet Chamber = 0.6 M x 0.6 M
2) Overflow Tank = 1 M x 1.65 M
3) Thickness Outlet Chamber Wall = 0.115 M

VII. GAS GENERATION CAPACITY OF BIOGAS PLANT

A. Volume required to produce 1 kg biogas = 0.86 m3.
B. Volume of biogas = 2 m3.
C. Density of Biogas = 1.15 kg / m3.
D. Therefore gas produced from 2 m3 volume of biogas = 2.4 kg / day

Approximate Construction cost for RCC fixed dome structure Biogas plant is 21000/- Rs.

VIII. FUNDING / EXPENSE

A. The government of India gives,

1) Central subsidy.
2) Five year free maintenance.
3) Financial support up to 50% of the cost for repair of old non-functional plants of more than 5 years.

B. And the subsidy is given by government of Maharashtra/India is as follows,

1) General category farmers = 11000 Rs.
2) Backward/Categories farmers =13000 Rs.

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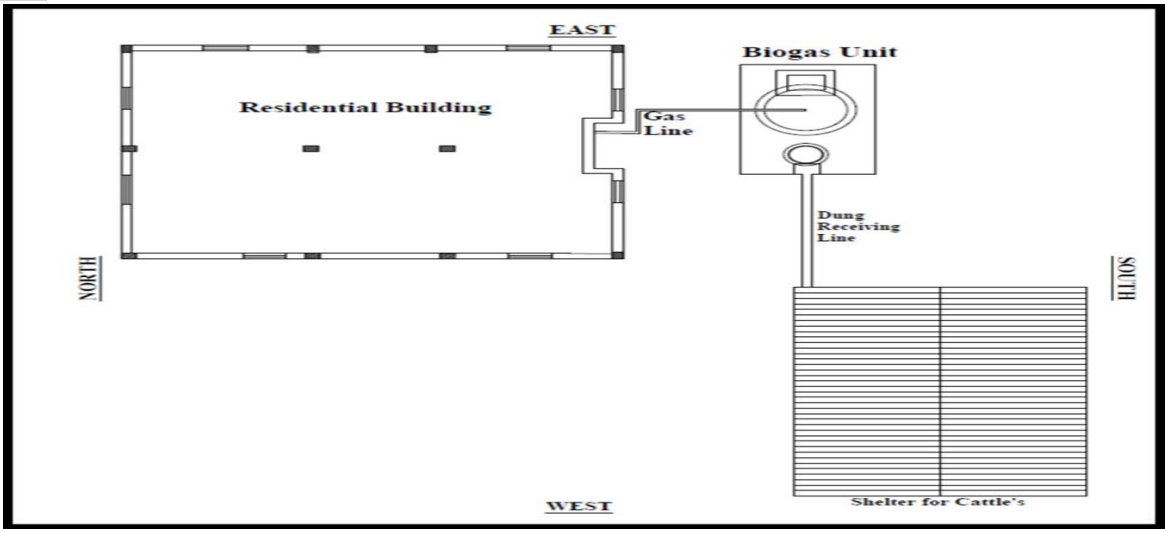


Fig. No.6 Plan for Biogas Unit near residential building

IX.CONCLUSIONS

With biogas systems, the dung is used in right purpose in all village. Also renewable source of energy can use in large manner in village which will cause to save the non-renewable sources of energy (LPG, Coal etc.) and the cost for LPG gas is minimize to each and every family of village.

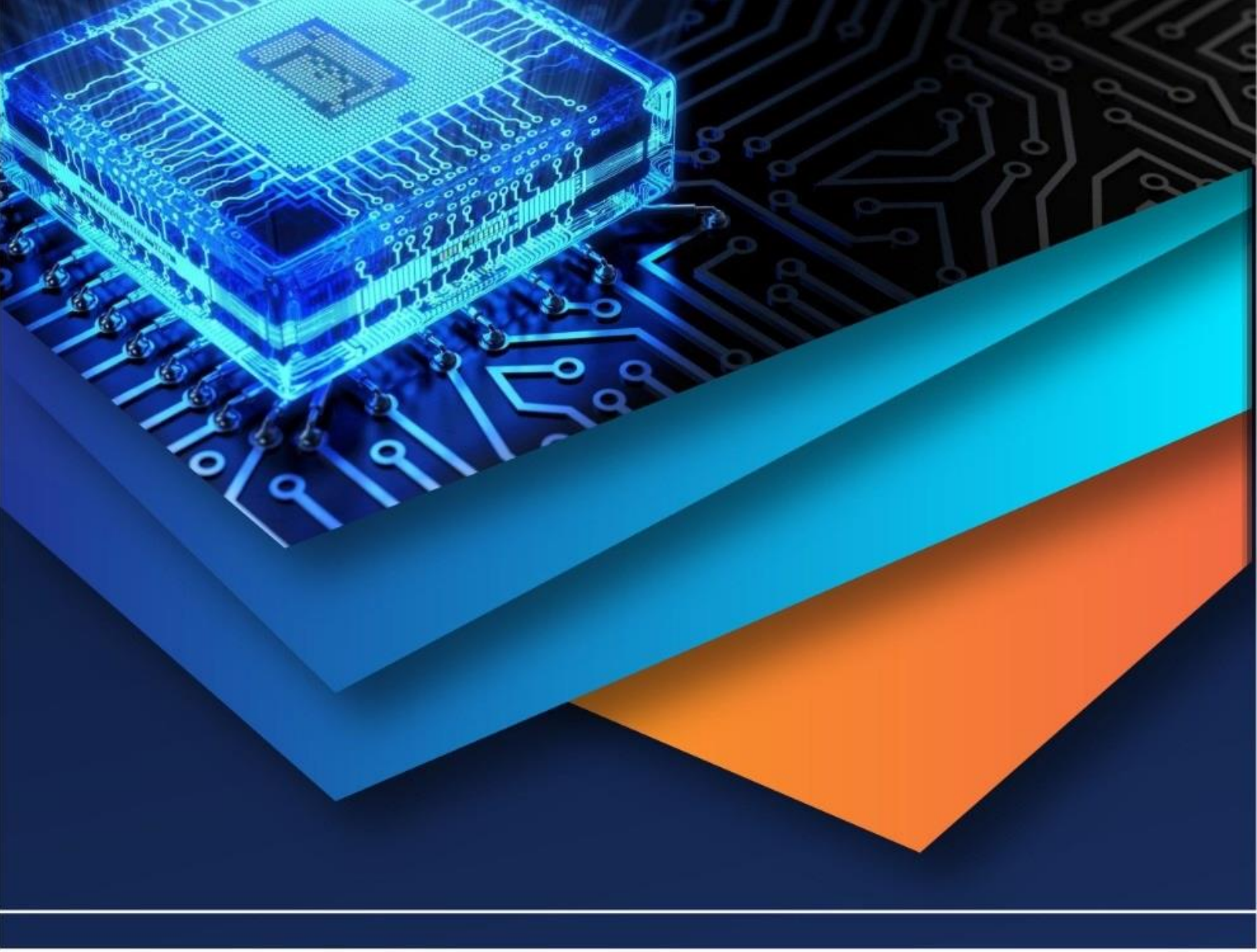
X. ACKNOWLEDGMENT

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