



## PLANNING FOR RURAL DEVELOPMENT

Guruprasad Jadhav<sup>1</sup> Rohit R.Sangle<sup>2</sup>, Sagar H. Salunke<sup>3</sup>,  
Siddhesh R. Dolase<sup>4</sup>

<sup>1</sup> Asst.Prof. Civil Engineering Department PGMCOE ,Wagholi, PUNE (India)

<sup>2,3,4</sup> Civil Engineering Department PGMCOE ,Wagholi , PUNE (India)

### ABSTRACT

*There is gradual flow of rural migration into urban areas due to the availability of better job opportunities. Higher wages, proper facilities and other amusements and the towns have growth up at the expenses of the villages. As a result, there is overcrowding and congestion in town and cities. This project is totally beneficial for Malegaon village in all aspects like solving the problems of water in the development of Malegaon village. By the setup of the design of the water treatment plant which will improve quality of water which will be beneficial to the villagers.*

**Keywords:** Treatment, Wages,

### I. INTRODUCTION

India has predominately an agricultural country with more than 80% of its population living in 5.76 lakhs of villages. The pattern of living and working of village population is profoundly unsatisfactory. The work opportunities of village population are very few and hence it becomes very difficult for them to manage their livelihood. Majority of population are either employed or totally unemployed.

The agricultural land holding, pattern of villages is imbalance 75% of total cultivable land is owned by only 24% large farmers whereas rest is owned by either marginal farmers or small farmers. Most of villagers are landless who work as agricultural labour for only 100 to 110 days in the year to earn for their livelihood.

The state of condition of landless potential remains amused rendering them jobless for nearly 200 days in the year. Their basic needs such as food, shelter and clothing are hardly fulfilled therefore they are trying to drift to big cities in search of better job opportunities. But the fact is they do not get ample job opportunities in big cities and also live in pathetic condition in slums. Thus they become again problem in cities also.

Over the years since independence the rate of development in villages is very slow in comparison with that of town and cities the basic facilities like provision of safe drinking water, health and medicines, sanitation, electricity, education, transportation, communication, recreation are either available in search or available in



negligible amount in villages. This is also one of the major factors resulting in the creation of big gap between city and village life. The advancement in science and technology could not reach the villages as per exception.

## Objectives of project

1. To study the village Malegaon.
2. setup of Biogas plant expenditure on cooking has been decreased which also helped in the cleanliness of Malegaon village
3. design of the water treatment plant which will improve quality of water which will be beneficial to the villagers.

## II. LITERATURE SURVEY

A development plan shall generally indicate the manner in which the use of land in the area of a planning authority shall be regulate and also indicate the manner in which the development of land therein shall be carried out .

[1] Rath 1985; Dreze 1990 study of rural poverty: The incident of rural poverty in the state increased between 1973-1974 and 1977-1978. And he declined thereafter .Reduction in rural poverty in Maharashtra has been removed almost at the same place that of India. Rural poverty which was at a higher level than the urban in the state till 1993-1994 has come down to 23.82 percent as against an urban poverty ratio of 26.91 per cent. The study found that the economic dependence of women on men in rural India plays a major role in the subjugation of women, and in this respect NREGA is an important tool of social change. However, many states are violating the Act by failing to ensure that the share of women in NREGA employment is at least 33%: Jammu and Kashmir (4% only), Himachal Pradesh (12% only) and Uttar Pradesh (17%). The labour component of the NREGA is supposed to account for at least 60% of total expenditure. This requirement is comfortably met in most states, though some of them have marginally lower ratios, and Himachal Pradesh spends only 52% of NREGA funds on the labour component.

[2] Keshab Das Gujarat Institute of Development Research, Ahmedabad, India: Five decades of development planning in India has been unable to ensure a decent living for a large number of people residing in rural areas. Despite many large scale rural development schemes, the absolute number of people in poverty has not declined substantially; abject poverty still remains ubiquitous in rural regions. Lack of or inadequate basic infrastructure, both social and physical, continues to remain a major constraint to progress in numerous villages and their habitations. Even during the last decade of economic reform process, started in 1991, the dismal state of rural infrastructure has hardly improved. The natural reluctance of

private investors in rural infrastructure projects has been based on not only no or low returns to their capital but also uncertainties and delays involved in realising anticipated revenue from the poverty-stricken users. This shying away syndrome of private capital from rural 'unprofitable' projects has been observed, in this paper, for

# International Conference on New Era in Technologies, Science and Role of Management

Parvatibai Genba Moze College of Engineering, Wagholi, Pune

NETSRM-18



9th-10th April 2018

[www.conferenceworld.in](http://www.conferenceworld.in)

ISBN: 978-93-87793-13-2

such critical sectors as sanitation, drinking water, roads and housing. Whereas the role of the state remains crucial in promoting these sectors, an aspect which has been seriously neglected concerns land reforms. The significance of land as a key endowment in rural areas needs to be reconsidered as an important option, which will go a long way in creating effective demand for rural infrastructure and its efficient utilisation can be ensured at the grass root level.

[3] SHANTANU PANDA: In India, out of total population of 121 crores, 83.3 crores live in rural areas (Census of India, 2011). Thus, nearly 70 per cent of the India's population lives in rural areas. These rural populations can be characterised by mass poverty, low levels of literacy and income, high level of unemployment, and poor nutrition and health status. In order to tackle these specific problems, a number of rural development programmes are being implemented to create opportunities for improvement of the quality of life of these rural people. The term „rural development“ is the overall development of rural areas to improve the quality of life of rural people. And it is a process leading to sustainable improvement in the quality of life of rural people especially the poor (Ramesh, 2012).

[4] During the Sixth Five Year Plan period (1982-83), development of women and children in rural areas (DWCRA) was launched with the primary objective of focusing attention on women of rural families, living below the poverty line. By the end of VIII Five Year Plan, the scheme had covered about 1.686 million poor women in rural areas. In Gujarat, DWCRA was launched in 1984 in two districts, Ahmedabad and Junagadh, and by VIII Plan period about Rs.74.1 million were spent in the State covering 61,000 poor women organized into 4300 groups. To assess the impact of DWCRA Programme in Gujarat, partially structured questionnaire and open discussions were held. 91.28% DWCRA members ventured out alone while grazing only, 14.33% women visited district head quarters alone; this showed that women derived as much confidence in the company of fellow women, as in the presence of their husbands or other male relatives. Women were most ignorant about legal matters that concerned the economic sphere – the market site. There was a clear distinction between social and economic domains.

[5] Majumdar, Bhaskar et al. (2004): Sampoorna Grameen Rozgar Yojna (SGRY), with an outlay of Rs 10,000 crores, was launched on 25 September 2001. The primary objectives of the programme were to ensure food security cum wage employment in rural areas, to create durable community, social and economic assets, and to develop infrastructure in rural areas. Both secondary and primary data were collected from both, unpublished documents and published data. The sample was drawn from four districts namely Chitrakoot, Pratapgarh, Deoria and Pilibhit. The literacy rate ranged between 31% and 43%, the male literacy rate ranged between 43-60% compared to a very low female literacy rate which ranged between 13% to 24%. During 2002-03, Chitrakoot and Deoria showed high utilization of allocation, lifting and availability of food grains. Pilibhit had the highest utilization of food grains (102% to 104%). Some basic facilities were available in villages of sample districts, in which 52.3% villages had Fair Price Shops (FPS), 56.7% sample villages had pucca (metalled) roads and 5.12% coverage of telecom facility. There was extremely low utilization of funds in Pratapgarh being 32.45% for 1st



stream, and 40.01% for 2<sup>nd</sup> stream in 2002-03, while 100% utilization of funds was found in the other three districts (Chitrakoot, Pilibhit and Deoria). Utilization pattern of funds, food grains and mandays generated in block panchayat level works showed that Chitrakoot utilized the highest allocation of funds (42%), while Pratapgarh utilized only 17.14% of the allocated funds.

### III. WATER SUPPLY SCHEME

The purpose of municipal water delivery systems is to transport potable water from a water treatment facility to residential consumers, for use as drinking water, water for cooking, water for sanitary conditions, and other water use in a domestic environment. Water supply also is essential for business and industry to operate in a municipal environment. Of no less importance is the need to supply water to properly located fire hydrants to provide the public with an effective level of fire protection. Municipal water systems also may need to provide water for special services that include street cleaning, the selling of water to contractors for erecting buildings, parks and recreation, and miscellaneous uses.

#### Various water demands:

1. Domestic demand – 135 lit/capita/day
2. Public demand – 25 lit/capita/day
3. Industrial, commercial and institutional – 40 lit/capita/day
4. Fire demand – 15 lit/capita/day
5. Loss and wastage – 55 lit/capita/day

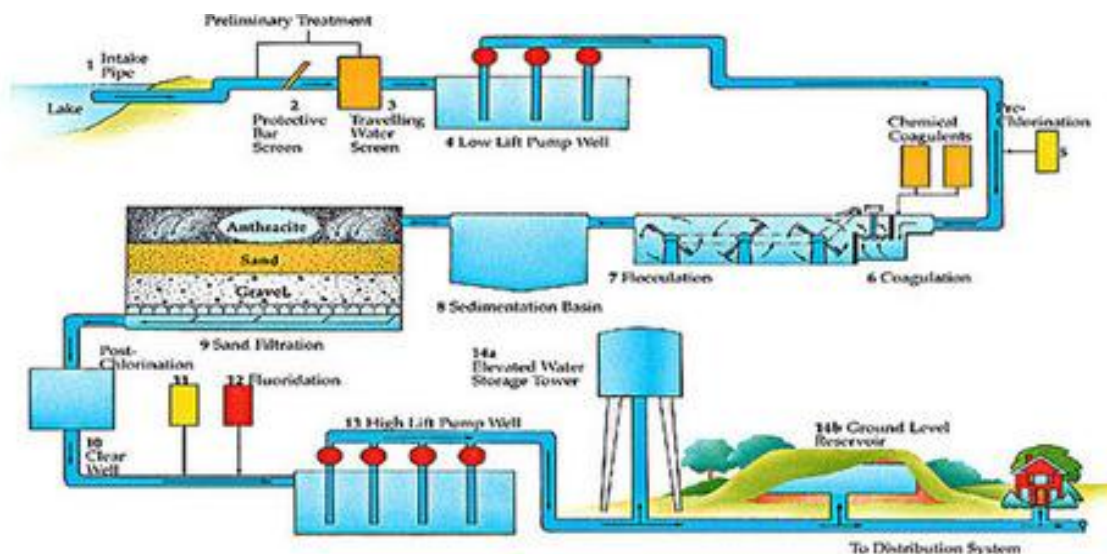


Fig. Layout of water treatment plant for village





**Intake Well:** In Malegaon village already there is a intake well having a diameter of size 4m hence no need to separately design.

**Sedimentation Tank:** Sedimentation is a physical water treatment process using gravity to remove suspended solids from water. Solid particles entrained by the turbulence of moving water may be removed naturally by sedimentation in the still water of lakes and oceans. Settling basins are ponds constructed for the purpose of removing entrained solids by sedimentation. Clarifiers are tanks built with mechanical means for continuous removal of solids being deposited by sedimentation.

Gravitational theory is employed, alongside the derivation from Newton's second law and the Navier–Stokes equations.

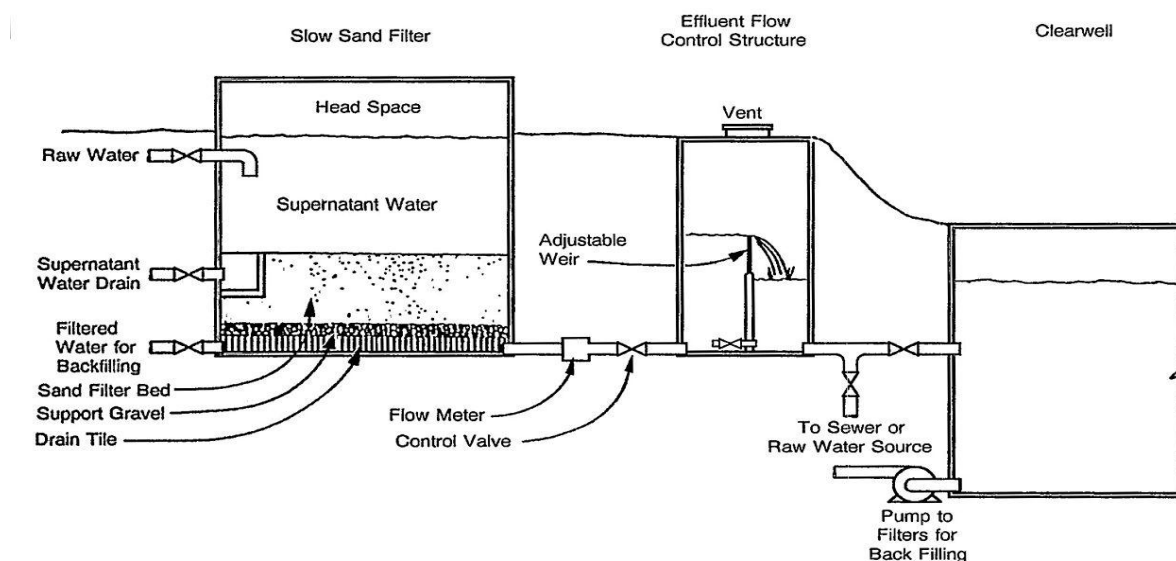
$$V_s = \sqrt{\frac{4}{3} \left( \frac{\rho_p - \rho_p}{\rho_p} \right) (gd_p) / C_d} \quad (1)$$

Total cost of sedimentation tank = cost of brickwork + Cost of plastering + cost of P.C.C. + cost of grouting

$$= 41470.8 + 13094.4 + 8725.08 + 3840$$

$$= \text{Rs.1,04,564}$$

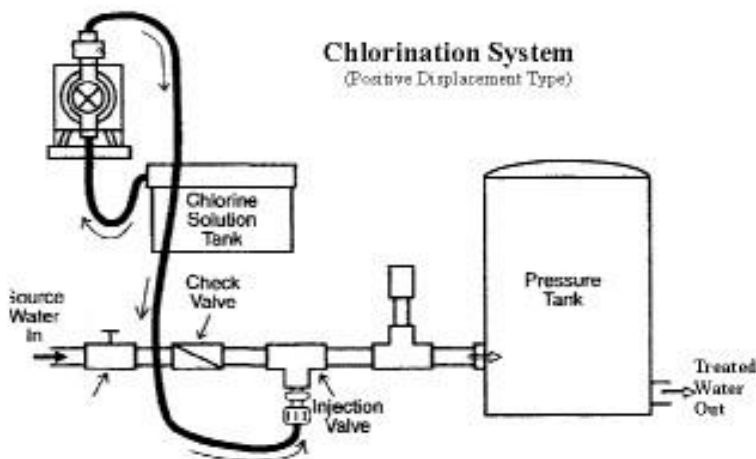
**Slow sand filter:** Slow sand filters are used in water purification for treating raw water to produce a potable product. They are typically 1 to 2 meters deep, can be rectangular or cylindrical in cross section and are used primarily to treat surface water. The length and breadth of the tanks are determined by the flow rate desired by the filters, which typically have a loading rate of 0.1 to 0.2 meters per hour (or cubic meters per square meter per hour).





Total cost of slow sand filtration = cost of P.C.C. + cost of brick work + cost of plastering (Inside and outside) + cost of sand + cost of gravel =Rs.1,42,858 /-

**Chlorination:** Chlorine solutions lose strength while standing or when exposed to air or sunlight. Make fresh solutions frequently to maintain the necessary residual. Maintain a free chlorine residual of 0.3-0.5 mg/l after a 10-minute contact time. Measure the residual frequently.



bleaching powder required for 0.3 p.p. m. of chlorine dose

Average daily water demand = population X Per capita demand

Total chlorine dosage required =**26.58 kg.**

**G.S.R. and Distribution System:** There was already 2 storage tank constructed having capacity of 25000 lit each consisting of 2 pumps having power of 12.5 HP and 7.5HP. Distribution system is widely spread across village which is self beneficiary to the villagers, hence no need to redesign G.S.R, Distribution system and pump.

#### IV. RESULTS

As per our project objectives we are interested to give suggestions to solve the current technical problems in Malegaon village. The results and suggestions for those problems are given below,

Total cost of estimated water supply scheme = Total cost of sedimentation tank + Total cost of slow sand filtration

**Rs.1,04,564+ Rs.1,42,858**

Total cost of estimated water supply scheme =**RS.247422** /-

# International Conference on New Era in Technologies, Science and Role of Management

Parvatibai Genba Moze College of Engineering, Wagholi, Pune

NETSRM-18



9th-10th April 2018

[www.conferenceworld.in](http://www.conferenceworld.in)

ISBN: 978-93-87793-13-2

## V. CONCLUSIONS

This project is totally beneficial for Malegaon village in all aspects like solving the problems of water in the development of Malegaon village. By setting the water treatment plant purification will take place which will be supplied to the people of Malegaon village.

There is source of water is available near to the Malegaon village but quality of water is not as good due to which many health related problems were arising in village. We have design the water treatment plant which will improve quality of water which will be beneficial to the villagers.

## REFERENCES

- [1.] Manual on water supply and treatment by central public health and environmental engineering organization,1999
- [2.] Water supply Engineering by S.K.Garg
- [3.] Water Supply Systems and Evaluation Methods ,Volume I: Water Supply System Concepts, October 2008
- [4.] Greening Rural Development in India Volume-1 UNDP India 2012. Published in India
- [5.] The Monthly Journal Kurukshetra MINISTRY OF RURAL DEVELOPMENT Vol. 58 No. 3 January 2010
- [6.] Rainwater Harvesting: Grab hold of Water Where it falls! By Mrs. S.D. Khandagale