

# CENTRE OF SCIENCE FOR VILLAGES (CSV)

- **Background**

Lack of hygiene, insufficient quantities and poor quality of drinking water and lack of sanitation facilities force millions of the world's poorest people to die from various preventable diseases every year. Centre of Science for Villages (CSV), which started in 1976 by its founder Chairman and Director Late Dr. Devendra Kumar, has done extensive research on many sanitation and other related subjects. CSV operates at grass root level of the villages and they have developed technologies considering local climate and availability of material required. The basic principles behind their every design are low cost, eco-friendliness, using locally available materials and manpower.

The two branches of CSV at Kumarappuram and Dattapur in Wardha organize a good variety of activities exhibiting the application of alternative technologies for rural areas through models and hands on practices in their own facilities. At these locations, CSV also gives training to artisans, self Help Groups, micro-entrepreneurs and development practitioners on alternate technologies.

Village sanitation was always a priority area for Centre of Science for Villages. The concept of sanitation, for CSV, expanded to include personal hygiene, home sanitation, safe water, garbage disposal, faecal disposal and waste water disposal.

- **Location, Date**

Wardha (Maharashtra), 1976

- **Areas**

Kumarappuram and Dattapur, District Wardha, Maharashtra

- **Stage/Scale**

Rural

- **Objective of the assignment**

The primary goal of all the activities undertaken by CSV has always been to "improve life conditions in the rural areas of India". CSV efforts to work towards a holistic and futuristic development of the small community based decentralized village economy. They emphasize on developing appropriate rural technologies which are ecologically sound and socially just.

- **What was done**

Centre of science for villages (CSV), Wardha, a NGO is having countable contribution in Sanitation and water programs. CSV is providing training for adequate sanitation and safe drinking water to maintain hygienic environment. CSV has also designed various types of toilets, urinal, water filter, Shital Pot (cold water storage pot), Spill water recycling, Waste management technique, low cost houses and much more. CSV is devoted to maintain environmental conditions in low cost and with materials available in the village.

Centre of science for villages treat Total sanitation programme as total waste management including night soil and all types of organic wastes and Liquid waste management. Total sanitation programme covers very economical toilets, to stop open defecations and to utilize human waste as highly nutritive manure.

Along with this, CSV has developed technologies such as:

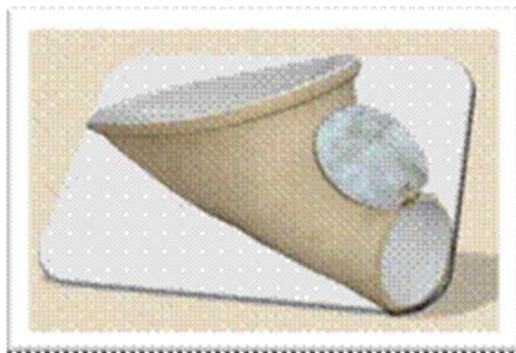
- Collection technique of urine using urine diversion system to utilize human urine as a source of fresh urea as well as great extent of nutrients available in human urine for agricultures
- Collection of water and percolation of rain water technique (rainwater harvesting) helped the villagers preserve water for its use in summer. This was particularly helpful in draught prone areas of Maharashtra. The preserved water needs to be pure for drinking purpose and for this CSV has developed a few technologies.
- Recycling of solid and liquid waste systems (like Compost, Spill Water etc.) helped make the villages clean and keep diseases away.
- **Water filter and Sheetal pot:** The water filter is very economical and easy to operate, thus making an ideal product for rural people. The sheetal pot uses basic thermodynamic applications for cooling the potable water, with no maintenance cost and very low initial investment.
- **Leach Pit Toilet:** An ideal toilet for villages where there is scarcity of water. This toilet was built in private as well as public places.
- Biogas plants were developed by CSV in order to manage the waste that was created in the villages and get methane rich fuel.
- Agro waste Stove
- Vermi Composting
- Spill water Recycling Unit
- Soak Pit
- Kitchen Gardening
- Wardha toilet (simple hand flush latrine)

CSV works to salvage traditional sciences through appropriate technology transfer and introduction of practical and innovative scientific products for rural areas that benefit both the people and the environment.



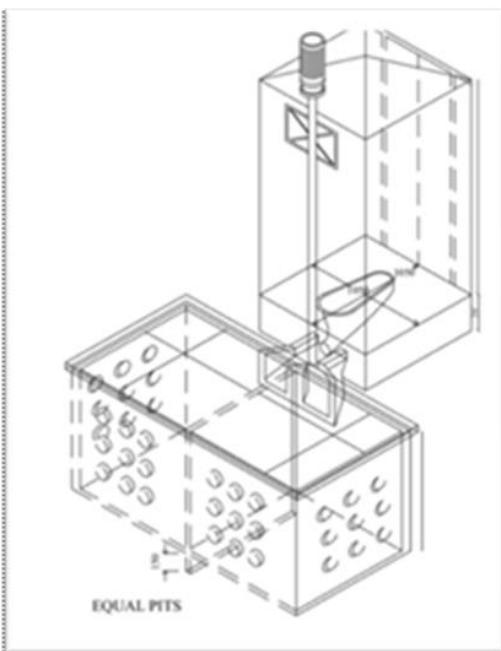
## • Challenges and Issues

The primary hurdle that the model faces is the acceptance of the technology. This is primarily due to the perception that mud construction has in rural psyche. Mud houses are considered kutcha and non-durable and have a backward image attached to them. CSV as a policy undertakes complete house construction and not just roof/wall construction to ensure quality control. CSV has faced immense problems in getting the technology approved for the government projects as the technology has still not been included in the CPWD rates list. In spite of this the Wardha house model has been adopted by various government departments like NIRD, Education Department, Maharashtra, Forest Department, PWD, Police Department, CPWD. They have undertaken training programmes in the past but do not have any on-going programme.



## • Innovation

- CSV developed method of using urine as fertilizer, which is waste and can cause sanitary problems.
- They came up with a very low cost and effective water filter for getting purified water and sheetal pot for cooling the water.
- The team innovated different methods of rainwater harvesting and implemented locally according to the best fit at individual level.
- CSV invented **Wardha toilet**, which is extremely simple to handle and maintain.



## Leach Pit Toilet

## • Lessons learnt

CSV focused on an all-inclusive growth model for the selected areas covering wide range of issues like drinking water, public health, sanitation, sewage treatment etc. All the activities were coordinated and many of them were interlinked, making the pressure on individual activities less severe. CSV focused more on simple and cost effective techniques rather than stressing on latest and expensive technology. This helped CSV to undertake more number of projects in limited financial assets.

## • Financials

Not available

- **Economic sustainability/Revenue Model**

CSV acts as a research and technology promotion centre. They have their own team of highly experienced personnel who execute the Wardha house model and the sanitation model in the project areas. Local labour is employed in every project. The USP of the CSV team is that each member is a specialist in every technology; it promotes decentralization of expertise.

- **Implementer Contact Persons**

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- **Sources and References**

- Company Website
- [http://pibmumbai.gov.in/English/PDF/E2014\\_FR30.PDF](http://pibmumbai.gov.in/English/PDF/E2014_FR30.PDF)