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Smart toilet: An innovative case from Tamil Nadu

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Abstract

Clean and safe toilets are prerequisites for many points of view *inter alia* of which area health, hygiene, dignity and privacy. Keeping in mind of the issue, the World Toilet Organization was established in 2001 with the aim to break the taboo around toilets and the sanitation crisis. Since 2001, World Toilet Organization lobbied governments, public and private sector stakeholders and the international community to prioritize sanitation in the development agenda. In India, one such organization *Gramalaya* which has been operating in Tamil Nadu based on its office at *Tiruchirappalli* District may be mentioned. *Gramalaya* has been promoting SMART toilets (S - Safe and Sustainable, M – Maintainable, A – Affordable, R - Recyclable (waste), T - Technically perfect) under the leadership of its Founder Chairman Mr. S. Damodaran. Also *Gramalaya* has been producing sustainable sanitary pads for the menstrual girls and women for their better health and hygiene. In this research article, activities of *Gramalaya* were studied by the author in *Tiruchirappalli* and *Puddukottai* districts of Tamil Nadu in February 2019 and the cases are presented here. It is also suggested that such models may be replicated other parts of the country based on local social, cultural and backward and forward linkages.

Keywords: *Gramalaya*, Sustainable sanitary pad, toilet, Tamil Nadu and world toilet organization

Introduction

The World Toilet Organization was established in 2001 with the aim to break the taboo around toilets and the sanitation crisis. Since 2001, World Toilet Organization lobbied governments, public and private sector stakeholders and the international community to prioritize sanitation in the development agenda. According to World Toilet Organization, “Around one billion people in our world today face the indignity of defecating in the open (as per 2015). A lack of clean and safe toilets at schools leads to higher dropout among girls once they reach puberty. Diarrhoeal diseases – a direct consequence of poor sanitation – kill more children every year than AIDS, malaria and measles combined”, (worldtoilet.org/what-we-do/why-toilets/5/3/19). Further, according to the Organization, clean and safe toilets help keep more girls in school and increase attendance rates. Many girls miss out on education just because of the lack of a clean and safe toilet.

To address the issue at grassroots level many organizations have been working at different levels in India like awareness creation, promotion of sanitary toilets, producing of cheap sanitary pads etc. One such organization *Gramalaya* which has been operating in Tamil Nadu based on its office at *Tiruchirappalli* district may be mentioned. *Gramalaya* has been promoting SMART toilets and sustainable sanitary pads for girls and women by producing themselves in Tamil Nadu and popularizing among the people are discussed here. SMART toilets mean (S - Safe and Sustainable, M – Maintainable, A – Affordable, R - Recyclable (waste), T - Technically perfect).

The study was carried by the author in *Tiruchirappalli* and *Puddukottai* districts of Tamil Nadu in February 2019. *Gramalaya* was established in 1987 with a group of committed youths in the field of rural development under the leadership of Sri S. *Damodaran*, Chief Executive Officer (CEO) and Founder Chairman. *Gramalaya* has got its legal entity by registering under the Indian Trust Act of 1882 in the year 1987. The main objective of *Gramalaya* is to work for the amelioration of socially downtrodden people under the integrated rural development approach. Since 1987, *Gramalaya* has been operating in *Thottiyam* and *Thathiengarpet* and *Thuraiyur* Blocks and in the slums of *Tiruchirappalli* city.

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Health and hygiene education, promotion of self-help groups among rural, urban and tribal women, construction of low-cost latrines and safe water supply through micro-credit are the major activities of the organization (gramalaya.in/about_gramalaya).

Gramalaya is one of the approved national Key Resource Centres of the Ministry of Drinking Water and Sanitation, Government of India for water and sanitation for South India. Supporting Government of Tamil Nadu for its PVP - Pudhu Vazhvu Project funded by World Bank as its technical support unit in providing training and capacity building program for sanitation.

Gramalaya envisages a society in which all people will have equal rights and access to protected water, sanitation, health and improved income status without gender discrimination. Further, the Government of India has approved *Gramalaya* as one of the National Key Resource Centres of the Ministry of Drinking Water and Sanitation for providing training to Government officials in Karnataka, Andhra Pradesh and Tamil Nadu. Presently the organization, is working in five Southern States including Puducherry.

According to the officials of *Gramalaya*, it has experimented successfully innovative models like Micro-finance for Sanitation, Child Friendly toilets, Community Managed pay and use latrines; school health program with working experience in rural, urban, tribal and coastal regions. Thus, the organization has shown the path for development among the common persons. Further, the school health intervention through child-to-child approach, cost effective toilet models developed at the Centre for Toilet Technology and Training established by *Gramalaya*, microfinance for sanitation models, IEC materials developed by *Gramalaya* with Water Aid, UNICEF and Arghyam fund are other achievements of *Gramalaya*.

Gramalaya field tested several rural and urban sanitation models for individual households and schools. According to data provided by the *Gramalaya* it is observed that, the Organization has constructed more than 1,00,000 toilets with funding support under CRSP, TSC, NBA schemes of Government and with the grant support of Water Aid, Arghyam and UNICEF. The *Gramalaya* models could be replicated in rural India through other likeminded organizations especially with the Microfinance for Sanitation model etc. Its toilets are popularly known as SMART toilet.

SMART toilets mean

S - Safe and Sustainable

M - Maintainable

A - Affordable

R - Recyclable (waste)

T - Technically perfect

Salient features of a SMART Toilets

- It should be used as a toilet cum bathroom and user friendly toilet.
- It is having hand washing facilities.
- All hygiene kits may be kept inside the toilet.
- There are provisions for water storage points for cleaning purpose, as well as proper ventilation facility.
- It is having facility for sanitary napkin disposal.
- Further, there are provisions for lighting, twin pit-toilets for sustainable use and maintenance and waste can be recycled

- Such toilet is having with roof facilities to protect from sun and rain

Sanitary Pad

Another important activity of *Gramalaya* for the welfare of the society is innovation of cheapest reusable cloth pad for menstrual hygiene management which is called as *FeelFree* reusable cloth pads, under the banner of *FeelFree* title as registered trade mark. *Gramalaya* felt the need to produce such clothes because it worked with adolescent girls in the Government schools of Tamil Nadu with the grant-support of Bank of America Merrill Lynch Capital under its corporate social responsibility (CSR) initiatives. It is pertinent to mention that, according to the WHO survey conducted in October 2017 carried out across India including 35 cities viz., Bengaluru, Chennai, Cuttack, Delhi, Indore, Jaipur, Kanpur, Kolkata, Ludhiana, Mumbai, Ranchi, Srinagar, Surat, Thiruvananthapuram etc., women respondents were contacted to get an idea about issues related to women. It has been revealed that about 43 percent of Indian women did not have access to sanitary essentials at the beginning of periods, while 36 percent felt uncomfortable in buying them with other customers around. Further, according to the survey report around 67 percent women have had to borrow a sanitary essential from a friend, colleague or family member. More than 45 percent women opined that menstruation was still considered a taboo in the society and 36 percent felt uncomfortable while buying sanitary essentials from a chemist shop in the presence of other customers.

To address these issues, sanitary pads were launched by the *Gramalaya*. These pads are cloth pads to absorb the menstrual flow during a woman's period, an alternative to disposable sanitary napkins or to reusable menstrual cups. Further, these are less expensive than disposable pads, reduce the amount of waste produced and also have health benefits, (feelfreeclothpads.com).

According to the officials of *Gramalaya*, the disposable pads available in the markets are whitened with chlorine bleach, which produces a toxic byproduct called dioxin. Further, disposables pads also contain plastic chemicals and pesticide residue, but the sustainable pads made by *Gramalaya* are free from all these.

Feel Free Reusable Cloth Pads: For the benefit of readers steps for using the pads as mentioned by the organization are mentioned so that it can be promoted in other parts of the country among adolescent girls.

- First Step: As a first step, used cloth pads have to be soaked in ordinary clean water for about 30 minutes
- Second Step: Washing soap or washing powder should be used to wash the clothes.
- Third Step: Brush etc. should not be used during washing.
- Fourth Step: It should be rinsed with normal water.
- Fifth Step: The pads have to be dried in direct sunlight.
- Sixth Step: Please see the washed cloth pads should be safe from pests and dusts while it is in sunlight
- Lastly: Pouch is available for keeping used cloth pad while in working place/school/colleges and after returning to home it can be washed for re-used.

The officials of *Gramalaya* during filed study informed that along with SMART toilet each family is given one packet of sustainable sanitary pad containing four numbers which can be used by girls/ ladies in menstrual stage up to two years.

Field Study: To get an idea about utility and usefulness of toilet, a study was carried out at *Sengular* village of Kunnandarkovil block, Pudukkottai district, Tamil Nadu in the month of February 2019, by contacting a female educated beneficiary and thus primary data were collected from the beneficiary. Also study was conducted in February 2019 by adopting PRA methodology among the villagers at *Musiri* village, *Musiri* block of *Tiruchirapalli* district as SMART toilets would be provided to 200 households within three months of this study. All of them were living poverty line (BPL).

In *Sengular* village altogether 155 households were provided with SMART toilet by *Gramalaya* till the day of study *i.e.* up to 18 February 2019. The village had around 300 households and 155 households did not have the facility, so they were provided with SMART toilets by 2018.

During the course of study, Mrs. *Ambika* (29 years/ M. Sc and B. Ed) was interviewed as the household was provided with SMART toilet few months before the study with the cost of Rs 18,000 from *Gramalaya*. The officials accompanied the researcher informed that one SMART toilet in 2018-19 costs a sum Rs.18,000 including materials and skilled manpower. As beneficiary's contribution, the household has to bear Rs.3,000 as labour cost mainly unskilled labour; generally the unskilled work, such as land labeling *etc.*, is done by the family members of beneficiaries. Length and width of each toilet are 8 feet and 4 feet respectively with latrine (outside two pits) and bath room and provision was made for keeping hand wash soap *etc.* in one corner of the SMART toilet in about five feet height and small permanent stand was made while constructing the toilet.

Mrs. *Ambika* highly educated woman as mentioned already M. Sc and B.Ed, informed that she was happy to get the toilet as in the toilet she could complete both bath and latrine. She after completion her master degree in Physics joined in a school as teacher and husband works as bank employee so they do not like and support open defecation. With eight members family (one son and in laws) she informed that all use the SMART toilet. Already it has been mentioned that along with SMART toilet each family is given one packet of sustainable sanitary pad for using girls/ ladies during menstrual stage. Each packet contains four numbers which can be used by girls/ ladies in menstrual stage up to two years. So Mrs. *Ambika* also received the same and using the same. As mentioned already, *Gramalaya* in their factory makes the sanitary pad under the umbrella of *Feelfree* reusable cloth pads.

While visited *Musiri* village, *Musiri* block of *Tiruchirapalli* district, Tamil Nadu in February 2019, PRA methodology was used. In this village, out of 385 households more than 50 percent were below poverty line (BPL) and SMART toilet would be constructed for 200 households. It may be mentioned that almost all were eking out their livelihood by weaving clothes through their looms as most of the villagers belong to weaver community. Also each would be provided with one packet of sustainable sanitary pad. While carrying out Group Discussion among the villagers adopting PRA methodology, all in unison expressed their bliss as they would be provided with the SMART toilets within three months also sustainable sanitary pad. The women members who *inter alia* were contacted to get their opinion are:

- Mrs. *Hasina Begum* (40 years/ 10th pass) with two girls, husband bicycle mechanic cannot afford a toilet as husband income was around Rs.3000 per month. Of course, Tamil Nadu's Government food subsidy programme helped them to survive.
- Mrs. *Nagaratnam* (28 years/ 7th pass) with husband two children and in laws (total six members) managing the family by selling cloths made from their own loom earning around Rs.7000 per month.
- Ms. *Gomathi* (18 years/ 6th pass) is one of the four children of their parents learnt masonry work as father's income through weaving was meager to sustain. The officials of *Gramalaya* informed that she would be working as mason during construction of 200 toilets. As mason she used to work in the village or its vicinity and thus could earn almost throughout the year.

The other members who were contacted during Group Discussion were (d) Mrs. *Mohana* (128 years/ 8th pass/ husband weaver and had 3 children), (e) Mrs. *Velleammai* (Widow/ 80 years earning through spinning/ daughter stay with her as husband left and daughter works as housemaid), (f) Mrs. *Karpaiye* (50 years/ illiterate/ husband weaver and one daughter) (g) Mrs. *Sivagami* (60 years/illiterate/husband weaver/two children and one daughter in law).

It is pertinent to mention that income of all were Rs 7000 or below per month as revealed during Group Discussion, but all were provided with Tamil Nadu's Government food subsidy programme and thus helped them to survive with meager income.

Conclusion

It is evident from the study that that SMART toilets and sanitary pads have high liking and demand for the local people as use of toilet is essential for the survival and development of all children and for women and girls. On the other hand, sanitary pad is important for their health, hygiene, safety and dignity points of view. It is therefore suggested that such models may be replicated other parts of the country based on local social, cultural and backward and forward linkages.

References

- <http://worldtoilet.org/what-we-do/why-toilets/>
- http://www.gramalaya.in/about_gramalaya.php