

Innovation in Sanitation sector: e-Catalogue for Individual Household Toilet (IHL)

Abstract

As of 2014, 626 million people, or 50% of India's total population, defecate in the open. To address the issue of open defecation and other environmental sanitation issues in the rural areas, the Government of India (GoI) launched a flagship program of Swachh Bharat Mission (Gramin) with the goal of achieving 100% sanitation coverage by 2019. The flagship program includes financial support, technical skills, capacity building, and Information Education and Communication (IEC) support to achieve the mission. While a detailed guideline on various types of household toilet designs, both front and backend, was developed and disseminated by the Ministry of Drinking Water and Sanitation (MDWS), its impact has varied since water and sanitation are a 'State' subject and its implementation intensity varies from state to state. To bridge this gap, Water For People has developed an innovative application: the e-Catalogue.

The e-Catalogue is a tool through which the family or customer can design their own toilet, based on their individual budget. The e-Catalogue is a flash-based software application for desktop and laptops, and an Android application for tablets and smartphones. This software application presents different toilet models to customers in a way that gives them the freedom to design their own toilet model from different materials within their budget. It also helps to generate demand among households to choose and construct their desirable toilet models.

Using this tool, customers can completely customize their toilets using various construction materials such as brick, fly ash, stones, a variety of septic tanks, different doors, and an assortment of pits. From there, the tool generates an animated pictorial display of the structure, and includes the cost of each associated material. Once the customer has designed their dream toilet they can email or download the design, and take it to their local point of purchase to order the supplies they'll need.

Household use of the e-Catalogue to design a desirable toilet results in the following benefits:

- Provides an opportunity for families to choose their desirable household toilet options
- Provides a clear understanding on the various designs, technologies and costs for families
- Provides an opportunity for the families to make their own decisions on toilet design as opposed to the typical mason-driven decision making

- It allows families to get an instant idea about the cost and allows them to quickly compare the price of the different options.
- Bridges the gap between national policy/technical guidelines and choices available on ground
- Provides an opportunity for the families to monitor the construction and have greater quality control as the family gets the photo (3-dimension) of the selected toilet with materials before the construction.

The e-Catalogue is not only useful for families to choose their desirable toilet options, it is also beneficial for the stakeholders involved in the promotion of household toilets such as Swachhta Doots, SHGs, Gram Panchayats, Auxillary Nurse Midwife (ANM) & Accredited Social Health Activist (ASHA) workers, Rural Sanitary Marts, Village Water & Sanitation Committee, NGOs etc. to showcase various toilet options to the families to select the one they like.

Introduction

A few weeks ago, a national daily¹ citing a survey stated that despite the government's aggressively promoted 'Swachh Bharat Mission', the actual toilet sales were decreasing day by day. This is despite the fact that there is a growing awareness on the importance of cleanliness, good sanitation, availability of government subsidy, and recognition of the need for safety for women and children.

A study by a non-profit research institution² deduced that most people who openly defecate find it enjoyable, convenient and comfortable. This means that if these people are able to build an aspirational toilet, that is convenient and comfortable, they will be more inclined to use it every day. However, they currently do not have a choice and cannot express an opinion, in choosing the type of toilet they want, within their budget. People shy away from expressing their preferences, simply because they believe that they do not have a choice, instead accepting the one option offered by their mason or nearest sanitation entrepreneur.

Water For People is trying to change this.

Water For People, Sanitation & the evolution of the e-Catalogue

Imagine a land where people have reliable and ongoing access to clean water and hygienic sanitation facilities, giving way to good health, livelihood opportunities and citizens with a true sense of well-being?

¹ <http://www.independent.co.uk/news/world/asia/india-rejects-the-toilet-how-government-sanitation-drives-have-failed-to-sway-those-who-believe-10466041.html>

² http://riceinstitute.org/wordpress/wp-content/uploads/2014/09/Open_Defecation.pdf

'Everyone Forever' is an initiative by Water For People to fulfill this vision of providing lifelong access to drinking water and toilets to every school and every household in the districts where Water For People works.

Focusing on sustainable solutions, Water For People has been implementing a 'Sanitation as a Business' (SaaB) model, collaborating with local governments and other stakeholders to create and improve supply chains and generate demand for sanitation infrastructure and services, developing various latrine products & options and engaging local entrepreneurs in sanitation businesses.

As Water For People has built its' understanding of the supply chain and demand for sanitation services, the lack of options, has been identified as a major constraint to enable demand to be increased. People want choice, and an ability to imagine a future toilet structure, with a 'price' has been an important to facilitating that demand, and engagement between households and entrepreneurs.

So, the idea of developing software that would showcase different type of toilets, their various components, price of each of the components and the finished toilet, was born.

e-Catalogue for Individual Household Sanitation

e-Catalogue is a tool in which the family / customer can design their own toilet as per their economic status. This 'Flash' based software that can be used on desktops laptops and on Android based mobile devices to showcase different toilet model options and the cost.

A mock-up version of different types of toilets can be virtually constructed using various materials for example brick, fly-ash, or stone. There are also a variety of septic tanks, doors, and pit options from which to choose, all in an animated pictorial display with individual material costs indicated. Customers can print out the final design and corresponding cost.

The need for e-Catalogue

There was a lack of choice for the families to choose their desirable sanitation option. Householders have always been dependent on masons or sanitation entrepreneurs to select the toilet for them, which may or may not fulfill their requirements.

Sometimes, there was a massive difference between the promised and delivered toilet. The e-Catalogue aims to help people visualize the toilet with various combinations of materials along with the government-approved market price.

One of the most important things that e-Catalogue hopes to achieve is bridging the gap between national sanitation related policy/technical guidelines and the choices actually available on the ground. After all, if the toilet is not to the taste of the householder, no policy or law will be able to ensure the actual usage of the toilet. Swachh Bharat Mission aims to eradicate open defecation by 2019 and provides subsidy of Rs. 12,000 to families to encourage them to build toilets. If the family knows that it can customize the toilet within (or beyond, if the family's budget allows) Rs. 12,000, without any extra or hidden costs, it will also help to minimize and eventually prevent any misuse of the subsidy.

Functionality of e-Catalogue

The e-Catalogue is primarily a 'Flash' based software, which will soon be available for Android platforms too. That is, the file can be used in laptops, desktops, and eventually smartphones and tablets.

The e-Catalogue combines pictorial representation in the form of 3-D graphics and software programs to give a real-life effect to the proposed toilet. Since it shows various available material of all components of a toilet such as platforms, doors, pans, walls, and several waste disposal options such as leach pits, septic tanks, biodigester, biogas etc., along with the individual and total price of the component and the toilet respectively, it assists the users to choose whatever they deem fit for their household.

After the family selects the toilet, the e-Catalogue generates a 2D plan, estimate and 3-D View of the selected toilet, which is then printed and given to the customer as their reference copy along with the agreement to build the toilet by the sanitation entrepreneur.

The e-Catalogue is expected to be used by Swachhta Doots, Sanitation Production Centers, Rural Sanitary Marts, Sanitation Entrepreneurs, Self Help Groups, Gram Panchayat, Panchayati Raj Institution members, Auxiliary Nurse Midwifery (ANM), Accredited Social Health Activist (ASHA) & Anganwadi workers, Village Water & Satiation Committees, District Water & Satiation Committees, State Water & Satiation Committees, Block / District / State Coordinators of Swachh Bharat Mission and NGOs / INGOs / MFIs involved in sanitation promotion.

Summation

The e-Catalogue is a part of Water For People's mission, and specifically its SaaB program, to increase the demand for household toilets, which ultimately improves health and reduces open defecation - a major issue in rural and impoverished regions around the world. Launched on 21 April 2015, Water For People and MDWS sees the e-Catalogue as a great tool to help them reach full sanitation coverage across rural India by October 2, 2019, under the Swachh Bharat Mission. In addition, we are confident that this 'informative, engaging, and innovative' app will be an integral part of Swachh Bharat Mission's success.

Moving forward it will be a priority to teach the sanitation entrepreneurs how to use the app and ensure that every household knows it exists. Because when it comes down to it, awareness is key to ensuring continual progress toward achieving full water and sanitation coverage for 'Everyone Forever'.