

## Willingness to Pay for Satopan Skirting and Associated Factors among Households in North Mecha Woreda, Amhara Region, Ethiopia

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### Abstract

Improved sanitation facilities are defined as those that hygienically separate human waste from human contact. Improved sanitation includes flush or pour-flush to piped sewer system, septic tank pit latrines, ventilated-improved pit latrines, or pit latrines with slab or composting toilets. Evidence on willingness to pay for improved sanitation facilities can be useful to planners at all levels for assessing the economic viability of projects. However, studies in the field of sanitation marketing and community's willingness to pay for sanitation marketing products are not sufficient in the study area specifically and Ethiopia at large.

### Introduction

Improved sanitation facilities are defined as those that hygienically separate human waste from human contact. Improved sanitation includes flush or pour-flush to piped sewer system, septic tank pit latrines, ventilated-improved pit latrines, or pit latrines with slab or composting toilets. Shared or public-use sanitation facilities are not considered to be improved. Also, flush or pour-flush to elsewhere, pit latrines without slabs or open pits, bucket latrines, hanging latrines or open defecation are not considered to be improved sanitation [1]. Achieving universal access to safely managed services by 2030 will require a 4times increase in current rates of progress (15 times in least developed countries and 9times in fragile contexts). At current rates of progress, the world will only reach 67% coverage by 2030, leaving 2.8 billion people without safely managed services [2]. Improving sanitation is essential for decreasing illness and death caused by diarrheal diseases, which account for more child deaths than HIV/AIDS, tuberculosis and malaria combined [3,4].

Sanitation marketing is the application of best social marketing practices to scale up the demand and supply for improved sanitation among the poor [5]. Sanitation marketing seeks to stimulate both the demand for and the supply of sanitation products through market forces, and by using techniques that focus on the four Ps of marketing: Product, Price, Placement and Promotion [6,7].

Sanitation Marketing is neither advertising nor a communications program; it is a systematic and dynamic process to make strategic decisions about four components, or the four P's of the marketing mix: Product, Place, Promotion, and Price and of late two more Ps have been added: Policy and Partnership.

### Methodology

Literatures argued that sanitation marketing address the two broad categories of the approaches taken for achieving sanitation-related targets by most WASH programs and projects that includes the software approach and the hardware approach [8].

Sanitation marketing firstly motivates people through various awareness-building and promotion activities to increase demand for sanitation marketing products. The program can result in positive changes in rural people's attitudes toward sanitation practices with proper designing and monitoring, according to the underlying hypothesis, which is that there is generally a lack of awareness for using sanitation technologies and options offered by the sanitation market. Where demand for sanitation products can effectively be generated

once people are convinced of the need for sanitation improvements and they will then invest their own resources into improvement programs.

The second approach, the hardware approach, which makes sure that the increased demand for sanitation marketing products as a result of the behavioural changing approach is met through sufficient supply can also be addressed by sanitation marketing.

The sanitation marketing strategy used to meet sanitation-related goals can be divided into two main groups. First off, the WASH projects and programs will generate demand for better sanitation products in the target locations by engaging the public in a variety of awareness-raising activities. The program can result in beneficial improvements in rural people's attitudes toward sanitation practices with adequate designing and monitoring, according to the underlying concept that there is a general lack of awareness for adopting improved sanitation products. This theory is supported by the National Sanitation Strategy which claims that if individuals are convinced that sanitation improvements are necessary, they will invest their own money in programs to make improvements. This strategy is frequently referred to as a software strategy by WASH Program [9,10].

The WASH programs' second strategy, the hardware strategy, will make sure that there is an adequate supply of improved sanitation goods to meet the increasing demand brought on by the software strategy. One significant part of the hardware strategy used by the programs in this respect is the sanitation marketing centre.

The need for segmenting techniques to address the diverse demands, motivations, and barriers of distinct population segments was examined in the context of sanitation marketing in a systematic literature review. Furthermore, promoting sanitation can be a catch-

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all term that encompasses all forms of assistance, including financial, technical, and social support, to help all facets of the community progress up the ladder.

A report by UNICEF showed a limited experiences of entrepreneurial sanitation marketing in West Africa where domestic latrine slabs were occasionally be seen for sale on the roadside in urban settings, but there was no evidence of similar spontaneous rural marketing. The two documented experiences of aid project-supported marketing center development were the Sani-centers in Nigeria and Sani Marks in Ghana. According to the report of UNICEF these models which were copied from the successful Indian experience of sanitary markets did not seem to have spread beyond the original outlets, and it was questionable as to whether they could be self-sustaining. In Ghana for example, only 2 of the original 8 Sani Market centers were still functioning and one of these was badly undermined by the later introduction of a subsidized latrine program nearby.

A study done in Kenya to estimate the market opportunities for newly developed sanitation systems among rural populations of Busia reported that sanitation marketing envisaged that households and communities had mobilized financial contribution for improvement of sanitation facilities and this was influenced by the willingness and ability to pay for sanitation systems of choice.

Sanitation Marketing in Ethiopia, like many other places, is still in its infancy and as a sector we have a lot to learn. It is becoming increasingly clear that sanitation marketing can play a role in Ethiopia in supporting the construction of improved latrines. However, the question of how sanitation marketing links with ongoing demand creation and behavior change activities is still to be answered. In addition, while there are some encouraging signs in relation to the enabling environment needed to support sanitation marketing, the conditions that are required to support the engagement of the private sector to effectively be taken sanitation marketing to scale are still unclear. More specifically, the demand (willingness to have the products and ability to pay) of the community to sanitation marketing products is not searched and understood.

## Results

A total of eight hundred six household heads were participated in the study with the response rate of 99.5%. The ages of the respondents were ranged from 21 to 61 years old, with median of 30 years old. From the total study participants, 531 (65.9%) did not attend formal education and majority 766 (95%) of them were married. Additionally, six hundred eighty-two (84.6%) of respondents were farmers and all of them were Amhara in their ethnicity. The majority 614 (76.2%) of the study participants were from the rural residents and the rest 192 (23.8%) resides in urban dwellings.

Regarding awareness on sanitation marketing products, 566(70.2%) of the respondents had heard about the availability of different products to improve sanitation facilities or latrines in their area. Most of these household heads, 464 (82%) knew where the sanitation marketing products found. Furthermore, these household were asked about the accessibility of sanitation products in the market area; and 122 (26.3%) of the respondents reported those markets were not accessible far away from their residences. Additionally, 283 (50%) of the household heads perceived that sanitation marketing products are good in quality in terms of strength, comfort, and durability and 274 (48.4%) had information about the price of the sanitation market products.

The willingness to pay for the North Mecha community at the

actual local price of 1200 ETB, 451 HHs were willing to pay. Two hundred forty-four (244) of household heads were willing to pay 1400 ETB for concrete skirting floor with satopan from the total people who were willing to pay for the local price of 1200 ETB which are 451 of the households. The majority, 213 of them were also WTP 1600 ETB concrete skirting floor with satopan, from the household heads who were willing to pay 1400 ETB. On the other hand, out of the total 244 household heads that were asked for WTP 1600 ETB for concrete skirting floor with satopan, 31 were not WTP for 1600 ETB. From those not willing at 1200 ETB actual local price Three hundred fifty-five 355, one hundred sixty-one 161 were WTP 1000 ETB. In addition to HH heads who were not WTP for 1000ETB, one hundred forty-eight 148 were WTP for 800 ETB and the rest forty-six 46 HH Heads from HH heads who were not WTP for 1000 ETB) were not WTP for sanitation marketing products at all.

## Discussion

This study tried to assess the level of community's willingness to pay for sanitation marketing products and investigated a wide range of possible factors that might be significantly associated with the community's willingness to pay for sanitation marketing products.

The current study found that the magnitude of the community's willingness to pay for the current local price for the offered sanitation marketing products was 56%. Two hundred forty-four (54.1%) of household heads were WTP 1400 ETB for concrete skirting floor with Satopan from the total people who were willing to pay for the local price of 1200 ETB which are 451(56.0%) of the households. The majority, 213 (87.3%) of them were also WTP 1600 ETB concrete skirting floor with satopan, from the household heads who were willing to pay 1400 ETB. On the other hand, out of the total 244 household heads that were asked for WTP 1600 ETB for concrete skirting floor with satopan, 31 (12.7%) were not WTP for 1600 ETB. From those not willing at 1200 ETB actual local price Three hundred fifty-five 355 (44%), one hundred sixty-one 161(45.4%) were WTP 1000 ETB. In addition to HH heads who were not WTP for 1000ETB, one hundred forty-eight 148(76.3%) were WTP for 800 ETB and the rest forty-six 46 HH Heads (23.7% from HH heads who were not WTP for 1000 ETB) were not WTP for sanitation marketing products at all.

The level of the community's willingness to pay determined by the current study was similar with a study done in region of Ghana (57.3%) and lower compared with the study finding reported in rural Vietnam (62.1 %), Kabarole Uganda (66%), up east, Mopti, Mali (64.2%) and from the study done in Bangladesh (80%). But the current study is higher in terms of community willingness to pay when compared to research done in rural areas of Kenya (3%).

The possible reason for the variation observed between the current and previous study finding might be explained by the differences in the study populations where the current study participants were those households who had latrine without the offered sanitation marketing products as well as those households who had no latrine at all; while the study population of the comparative studies were households that did not have any latrine. It can also be explained by different types of variables used by the principal investigator in the current study and some other studies select as variables. Furthermore, it could also be explained since the current study includes one type of sanitation marketing products and the other studies included different types of construction and different types of latrine improvement services of newly improved sanitary latrine might increase the proportion of HHs being willing to pay for the offered sanitation marketing product.

The finding of the current study identified family size (OR=2.357; 95% CI: 1.371-4.050) to be the significant determinant factors of the community's willingness to pay for sanitation marketing products (Satopan skirting). Household with family size than 3 are 2.357 times more likely willing to pay for presented sanitation product during the interview. Possible explanation for that might be household heads with less than don't have economic constraints/ financial problem and assume what they have as toilet might be enough for the family than those who have 3 or higher family members in their households. Another explanation might be households with lower family size might not have constraint in land use since they are few in number. This was also found as a factor and reported by studies conducted in Uganda (OR=0.27; 95% CI: 0.14-0.54)(32) reported family size as determinants of community's willingness to pay for sanitation marketing products, in line with the current finding a study done in Kassana-Nankana Ghana , reported that family size was a significant factor for WTP for sanitation marketing products.

The finding of the current study also identified family with profession (occupation) be the significant factors of the community's willingness to pay for sanitation marketing products. In the study area, Farmers tend to be more willing to pay (OR=2.456; 95% CI: 1.352-4.050) more than others (Merchants, Daily laborer's). Possible explanation for this could be income stability, property ownership, health education and Health extension program in the rural areas. This was also found to be significant in a study conducted rural areas of Mali, Bangladesh, China (AOR= 3.46; 95% CI 1.25 – 9.13) and Nigeria.

## Conclusion

To summarize, the current study determined that the overall community's WTP for sanitation marketing products was great and could open box to different studies and intervention strategies to tackle morbidity and mortality that are direct consequences of unimproved latrine in the community.

Households who were willing to pay were 451 to pay at least the current local price for the offered sanitation marketing products (56%)

in the study area which was higher when compared to research done in Kenya (3%) lower than the studies done in Vietnam (62.1%), Kabarole Uganda (66%), Mopti, Mali (64.2%). 26% of the Households can go to the maximum price offered considering inflation and other actors where are 5.8 % of the households were not willing to pay any amount for the product offered in the community.

The community's WTP for sanitation marketing product was significantly associated with the household family size and Occupation of the household head.

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