

Abstract: Third International Conference on Ecological Sanitation

Title	Social acceptance of EcoSan (DVUD)
Keywords	Acceptance, performance, comparison, sustainability
Author(s)	Ganesh Bahadur Thapa
Address	Monorama rice mill, Gyaneshwor, Kathmandu, Nepal
Telephone	0977 01 4444665
Fax	-
Mobile	-
E-mail	ganeshth@hotmail.com , ganeshsth@yahoo.com
Abstract ID no	G/3

Social acceptance of EcoSan (DVUD)

Introduction: The sector of sanitation has been considering in less priority in all level. The coverage of sanitation in global level is only 62%(EcoSanres, 2004). Taking toilet facilities as an indicator only 32 % of people have the sanitation facilities in Nepal (DWSS, 2004). In one hand we have to do a lot of work in the sector to increase coverage and in other hand only the broad coverage without sustainability is meaningless. The question of sustainable development has been pronouncing strongly in latter days. The mode of development we need further is economically feasible and environmentally sustainable modifying the solution as we understood earlier. Reduce water demand, can use in water logged area, preserve soil fertility, assure food security, minimize pollution, and recover bio-diversity, and others are benefits of EcoSan over conventional system of sanitation. Realising the facts a pilot project on the financial assistance of WHO, DFID & Water Aid through four different NGOs have been launching for two years in different communities on the peripheral settlements of capital city. These NGOs are promoting double vault urine diverting type of EcoSan toilets. Since EcoSan program is in the primary stage, an investigation of public acceptance seems necessary for the sustainability. In this study an attempt has been made to investigate whether beauty of EcoSan is accepted or not.

Methodology: The universe of study defined as command and control area considering Sexes, income, occupation, scholastic situation, land-holding capacity, were major independent variables and performance, readiness to handle human excreta, willing to use the crop product from using excreta as a manure, level of satisfaction, nuisance of smell and insect were dependent variables which directly and indirectly related to sustainability. The communities or settlement and household with EcoSan program were taken from lead agency Department of Water Supply & Sewerage (DWSS) whereas the settlement of control area fixed with help of the information at local level adopting stratified sampling technique based on specific socio-economic indicators. The households in the control area and respondents in the study areas were selected adopting random sampling techniques. Ninety-one households for EcoSan toilets (Census) and same number of HH in control area were taken for study. Field staffs involved in program, representative of local institutions, information from focus group discussion (FGD), discussion at household (HH) level, information collected using questionnaire and direct observational data are main source of primary information. Chick list, questionnaire, interview schedule, interviews, direct observation, scaling from the professional were the main instruments used in the data collection and analysis. On the data analysis the SPSS program was used.

Result and discussion

On status review of ninety-one EcoSan units, four were found non-functional and four were found incomplete. Altogether 37 HH has been practicing EcoSan toilets for about two years, 29 for seven months and 15 for three months. Some of the users in study area were modified available design of EcoSan toilet to make it compatible with their existing practice of "Naugal" and constructed without any subsidy. This self initiated modification improved in-premise

sanitary condition considerably. Moreover, EcoSan toilet replaced traditional practice of unhygienic "Naugal" and minimized use of "Khikhamoga". It indicates that there is a possibility of massive reapplication of EcoSan toilet and replacement of existing unhygienic pit latrines and other traditional practices.

Further, the study assessed actual level of knowledge, attitude and practice of users about EcoSan toilets. Suitable parameters were identified for the assessment of all above indicators. Result shows that users knowledge and attitude are promising and practice seems lagging behind. The gaps between knowledge and practice regarding different key parameter and the causes of lagging was tried to explore. EcoSan toilet is found comparable with septic tank and superior than sulabha and pit latrine in light of O/M. However, few of the respondents have reservation towards acceptance of EcoSan toilet. Investigation also revealed reasons behind their reservation and continuation of open defecation and use of traditional practice. Study further investigated the reasons behind each cause of lag on the basis of user responses and direct observation. Some technical aspects need improvement to make acceptable in Nepalese context. Results shows that majority of users are using ash as an additives and using faeces as manure without hesitation. Present tendency of using urine is increasing, but needs some additional efforts to achieve expected result. Results also indicated that acceptability is higher in agro-based settlements due to its manure value and also suitable in low land settlements, because of its water tightness of collection tank and constructed above the ground. The data between stated variables are generated in matrix form. This analysis shows slightly dependences between acceptance and income level, occupation, landholding capacity, household size and ethnicity, but poor dependence to sex and literacy. Further the overall acceptances were assessed using the technique of scaling. With the result of scaling the level of acceptance can spell out in one word. The opinion of eleven professionals converse by iteration at 1 % level of significance (F-test). The level of acceptance, output of scaling, are summarize separately in heading of technical, social and overall. On the basis of this scaling, acceptance of EcoSan is found 30%, excellent, 57% good, 12% normal, 5% poor and 3 % worst. The nonparametric test (at 95 % level of confidence) was performed considering different key parameters to test effectiveness of the EcoSan toilet (DVUD) on the basis toilet options available in the control area.

Conclusion: With better awareness creation and careful implementation, EcoSan toilet can stand as a successful alternative over other established options of sanitation not only in the excreta management aspect but also as resources among the agro-based communities of Nepal. The DVUD toilets were found accepted as compatible approach over their traditional unhygienic practice of Naugal and Khikhamoga in the study area. Self-modification in design to make compatible with traditional Naugal system is an evidence of need of modification of toilet to make culturally acceptable. For massive replication still additional efforts towards social marketing and advocacy of ecosan is necessary. Strict monitoring of technical aspects during design and construction is seems necessary for good performance of ecosan units. Leak test of the structure, tightness and gradient test of floor, pipe/fitting need to be assured before commissioning the units. There is a growing sense of communities that the EcoSan systems pollute groundwater less than othor. For the rapid social marketing community workshops, training, rewarding, exchange visit ect are seems necessary unless one complete cycle. After one cycle they may feel and realize the actual reduction of chemical fertilizer by human manure. Reduction of chemical fertilizer and good quality crop will be the driving forces for sustainability. The user knowledge with regard to key factors associated with sustainable options of EcoSan are found promising and attitude towards its use is positive but certain demonstrative efforts for practice are required.

(Abstract is prepared based on the MSE thesis in Environmental Engineering)