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Effects of Community Sanitation Program on the Awareness of Environmental Sustainability in Assam, India

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Abstract

Community sanitation is now an essential issue of environmental sustainability. In recently, community-led total sanitation program is going in Bangladesh, India, Indonesia, Pakistan, Ethiopia, and Kenya with the help of government and nongovernmental organizations. In this context, a community sanitation program was organized in Silchar, India, in which the students, local community members, and university professors directly and indirectly participated and gave their valuable feedback. The study aimed to evaluate the effects of community sanitation program on the awareness of environmental sustainability. In this empirical research design, 20 university students, 6 university professors, and 14 local people participated in the community sanitation and hands-on activity program organized on the roadside of Silchar Medical College & Hospital and Irongmara Market nearer to the Assam University, Silchar. The participants' responses towards the feedback cum questionnaire was analyzed by Kruskal -Wallis H test resulted significant effects of community sanitation program on the awareness of environmental sustainability.

Keywords

awareness, community, environment, program, sanitation, sustainability

Introduction

Sanitation in the sense of maintaining or living with a healthy environment for the well-being of own family includes taking healthy food, using fine clothing, living in the clean house, using sanitary latrine, and living with medical care. Earlier, Universal Declaration of Human Rights, Article 25(1) motivated the people to maintain standard of living in the adequate healthy environment, and later, International Economic Social and Cultural Right in the Article 11(1) interpreted this objective. Community sanitation is the essential issue for environmental sustainability, as climate and environment are dependent on people. People knowingly or unknowingly are neglecting to keep fit and healthy, and they even do not know the effect of handwashing. Undoubtedly, proper handwashing is necessary after defecation or before and after taking food, lack of which results in the spread of thousands of diseases in the community.[1] Besides these, most of the rural people do not know how to manage wastewater that creates a unhealthy and muddy wetland around the community. Similarly, 50% to 80% people do not know how to maintain the kitchen waste; they not only throw these wastes on the roadside without using dustbin or recycle bin, but they also spit in the public places without applying their civic sense. To cope up these issues, different programs are advancing in India and abroad since last few decades to achieve environmental and ecological sustainability. Out of these, start-up activities, Information Education and Communication activities, and hands-on activities are recently effective. Hence, the Government is allocating funds to maintain old latrines and providing 100% grant to setup new latrines, dustbins, or waste recycle bins in India. Similarly, International Environmental Council is also allocating funds to train the Anganwadi workers, teachers, and students who could aware the common people. Hence, Gram panchayats are receiving different central and state government funds for village sanitation and cleanliness. Recently, on March 13, 2014, the Ministry of Rural Health Development, Government of India, has implemented a new program (i.e., Nirmal Bharat Abhiyan) to make people in rural and urban slums aware about sanitation and cleanliness. However, this was a holistic approach to address the community to use household toilet, community toilets, and toilets in the schools and

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Anganwadi. Similarly, Swachh Bharat Abhiyan is working in the rural and urban slums for developing best practices among the people. Similarly, Nirmal Bharat Rural Sanitation and Hygiene Strategy (2010–2012) was implemented to clean the air, water, and soil for the economic and social well-being. In 2008, Government of India developed the National Urban Sanitation Policy and encouraged the people to keep urban areas clean and green. Furthermore, to encourage the people, the center planned to provide Nirmal Gram Puraskar to facilitate school sanitation and hygiene education in the rural areas. School sanitation and hygiene education program was a comprehensive program to learn theory and to practice different skills related to handwashing, composting, cleaning, and waste recycling, which could promote behavioral change toward hygiene education. Then, total community sanitation program was enforced by United Nations (UNO) to assist different African and Asian countries to keep their locality clean and green by establishing sanitary latrine, using waste recycling bin, and handwashing technique.[2] Community-led total sanitation (CLTS) program is advancing in Bangladesh, India, Indonesia, Pakistan, Ethiopia, and Kenya with the help of government and nongovernmental organizations. Sanitation remains one of the biggest development challenges of our time and a long neglected issue associated with taboos and stigma. However, few potential and challenges of CLTS is under research in Bangladesh, India, and Indonesia, as well as experiences from Africa. Despite growing attention and efforts, many top-down approaches to sanitation have failed, reflecting that simply providing people with a toilet does not necessarily guarantee its use.[3]

Community refers to the unit of living with various types of people starting from literate to illiterate, child to adult and old, but nowadays, most of them have no perfect knowledge or idea to maintain or manage the environmental sustainability.[4] Most of the literate and illiterate people are doing the same activities in their common day-to-day practices, keeping the community unhealthy.[5] They use polythene bags, plastic straw, plastic tea cups, and plastic bottles and throw here and there without thinking its side effects.[6] Every year, UNO and other related international green missions are working in the underdeveloped and developing countries to keep the locality clean and green. Therefore, total community sanitation program under the United Nations Environment Programme (UNEP) scheme was sponsored to create awareness and educate the people toward total sanitation for healthy and wealthy living.[7] As a whole, we could conclude that controlling open defecation, using dustbins without throwing domestic wastes on the road, using sanitary latrines, setting up of individual latrines and community latrines, setting up of dustbins, and recycle bins in community places are the efforts made toward environmental sustainability.[8]

National and International Status

Community sanitation is an international issue that comes under the United Nations International Children's Emergency Fund (UNICEF) declaration, advising people across the globe to keep the community clean and green to maintain environmental sustainability. Thus, CLTS program was sponsored by UNO. Recently, in Nairobi, UNO declared the CLTS program by eliminating open defecation and wastewater management.[9] Therefore, more than 40 countries of the world especially in Asia, Africa, Latin America, and Mid East utilized these funds to achieve CLTS. World Bank also provides funds for organizing programs in rural areas to create awareness among the people on how to use healthy water and well sanitation. Global Sanitation Fund Program and UNEP water sanitation and hygiene programs are recently advancing in different nations. Therefore, community sanitation is an international issue for realizing the value of sustainability. The Joint Monitoring Program of UNICEF and World Health Organization highlighted that 96% of people in urban areas and 89% people in rural areas have been accessing safe water, but accessing well sanitation rate among these people was much lower.[10] Only 60% people in urban areas and 24% of rural dwellers accessed improved sanitation facilities. These numbers, however, do not provide an accurate and complete picture of water and sanitation access in India. Across the country, there is a wide disparity among districts, and access rate was significantly lower in the rural areas. ''Water for People-India'' works, since 1996, with a small pilot project in West Bengal to help eliminate naturally occurring arsenic in water supplies. In 2012, Water For People expanded work to Sheohar, Bihar, and this year plans to start work in Rajasthan.

CLTS program is recently working in East Asia, and the Pacific worked in Cambodia, China, Korea, Indonesia, Kiribati, Mongolia, Myanmar, Philippines, Papua New Guinea, Solomon Islands, Timor-Leste, Vanuatu, and Viet Nam. In addition, Water Aid Australia and the World Bank's Water and Sanitation Program are now implemented by the government of the developing countries, but still people are habituating with open defecation and living in unhygienic conditions. Andy Robinson, a water and sanitation consultant, is working and observing the effectiveness among 14 countries with multiple partners who found that community sanitation is the ultimate and nothing is beyond it to raise awareness among the people toward sanitation. Chander Badloe, the Regional Adviser in WASH, UNICEF East Asia and Pacific, opined that community sanitation is an individual practice that could change the health of the community.[11]

Even now, managing and practicing environmental sustainability policy is only framed with the file or in ornamental speech, but in practical situations, nothing happens.[12] Who will implement it and where it could be implemented are the recent questions? How do the students and teachers, community members, and industrialists realize the practical

importance of ecology and environment? Moreover, who will shape the future of the green earth? So many ecological and environmental issues-related projects, workshops, conference, symposium, and protocols were adopted and developed to solve these issues. In fact, researchers are trying to apply these findings at the grass root level, but still environmental education and sustainability is in air.[13] However, few people of the world are realizing its significance and trying to apply these. The resource persons are using floristic language to address the participants on how to be eco-friendly or how to practice environmental sustainability in daily life, but they do not apply these in practice.[14] Sustainability and education are interrelated; thus, world of education needs new methodology to be introduced in education. It means innovative instruction is necessary to achieve environmental sustainability. Similarly, organizing sanitation programs in local community is an effort to raise awareness among people toward environmental sustainability. In fact, hands-on activity programs should be organized with the help of local people to give a message to the world of community that hands-on activity is an effort made toward environmental sustainability and it has a high relationship with the environment.[15] UNO and other national and international organizations are emphasizing on community sanitation. The literature found that environmental education is an effective effort that could aware students, teachers, and community members toward environmental sustainability,[16,17] but still it is in pen and papers but not in practice. Environmental education needs to be practiced in schools, colleges, and universities for long-term benefits.[18,19]

Questions rose whether the existing environmental education materials are sufficient for the students, teachers, or community members or not; if so, then why, there is no such improvement in practice and their understanding and realization about environment and ecology. Is this the only theory, which is sufficient to understand environment; if not, then how much the community sanitation and hands-on activity programs be effective among the community members and university students?

Objectives

1. To study the feedbacks of the participants cooperated in the community sanitation program on environmental sustainability.
2. To study the differences in the awareness of participants cooperated in the community sanitation program on environmental sustainability.

Hypotheses

Hypothesis 1 (H1): There are positive feedbacks from the participants toward community sanitation program on environmental sustainability.

Hypothesis 2 (H2): There is a significant difference in the awareness of participants who participated in the community sanitation program on environmental sustainability.

Methodology

Participants

A community sanitation program was organized on the roadside of Silchar Medical College & Hospital and followed by the another program organized in Irongmara Market nearer to the Assam University, Silchar, India. No sampling techniques were used; rather, participants joined in this sanitation program that was notified and circulated earlier in the local print media and university website specified with the aims and objectives, date, time, and location of the sanitation program. University students ($n = 20$, age range = 21–24, mean = 23, and $SD = 0.23$), university professors ($n = 6$, age range = 35–55, mean = 45, and $SD = 0.29$), and the local people ($n = 14$, age range = 25–55, mean = 44, and $SD = 0.29$) participated in this community sanitation program.

Design of the Study

In this empirical study, a community sanitation program was organized to create awareness among the people to change the practices and knowledge about the environmental and sustainability. The effectiveness of the program was evaluated, and the participants' feedback toward the community sanitation program on the awareness of environmental sustainability was assessed. After all, nonparametric Kruskal–Wallis H test was used to analyze the feedbacks and questionnaire responses of the participants to draw the inferences for generalization.

Tool

Community Sanitation and Environmental Sustainability Feedback-cum Questionnaire[20] was used to assess the effects of community sanitation program on the awareness of environmental sustainability. The whole Community Sanitation and Environmental Sustainability Questionnaire followed the 5-point Likert-type scale with categories *strongly agree*, *agree*, *undecided*, *disagree*, and *strongly disagree*. Normative sample was the sample of this study; the university students, common people, and university professors around India randomized from the cross-cultural group accurately reflect the diversity of that group of test takers. The content validity ratio was 0.75, while the reliability of the scale was established using Kuder–Richardson (KR) method ($KR_{20} = 0.87$) and test–retest method = 0.89.

Procedure of Organizing the Community Sanitation Program

The community sanitation *program* was organized on the roadside of Silchar Medical College & Hospital, Silchar, Assam, on January 19, 2014 (Sunday), at 9 a.m. to 11:30 a.m. This program was organized with the concern of the Deputy Collector of Cachar District, Assam; Principal and Superintendent of Silchar Medical College, Silchar, Assam; and Vice Chancellor, Assam University, Silchar. The Chief Executive Engineer, PWD (Rural) Road Division, Silchar, Assam, and Chairman, Silchar Development Authority, Silchar, Assam, were invited to attend the program. Two eminent professors of Assam University participated in this program and advised the local people on "how to keep environment and Silchar clean and green." More than 100 students of different departments and local people participated in the sanitation program. Hence, 100 pieces of brooms, 50 packets of bleaching powder, and 2 bottles of phenyl were

Figure 1. Sanitation campaigning on the roadside.

Figure 2. Signature collection toward environmental sustainability.

Figure 3. View before land filling the solid waste.

Figure 4. View after land filling the solid waste.

Figure 5. Sanitation campaign showing the use of bleach and phenyl for cleaning.

used. A vehicle was used for land filling the solid waste. The students from the Departments of Education, Ecology and Environment, English, Bengali, and Life Sciences actively participated in this program (see Figures 1 to 6).

A 10-m-long cloth was used to collect the signature, and awareness was raised among the people toward environment and sustainability. A big rally was marched with more than 100 students and teachers with effective environmental slogans to sensitize the people toward environmental sustainability. Officials of different prints and TV channels participated and encouraged the program director and later it was published in the local newspapers for encouraging the people of Silchar to organize such programs in their localities. In addition, big plastic dustbins (USE ME) established permanently on the roadside of Silchar Medical College & Hospital and people were requested to use this dustbin. In addition, a similar program was organized in the Irongmara Market near to Assam University, Silchar, at 12 noon on the same day (January 19, 2014, Sunday). Here, more than 500 students from different hostels of Assam University participated in the program. Again, 100 pieces of brooms, 50 packets of bleaching powder, and 2 bottles of phenyl were used. The students of Departments of Education, Ecology and Environment, English, Bengali, Life Sciences, Biotechnology, and Social Works actively participated in this program. A big rally was marched with more than 500 students with slogans of environmental sustainability. The media personnel of different prints and TV channels participated and appreciated the organizer. During and after the community sanitation program, a Community Sanitation and Environmental Sustainability Feedback-cum Questionnaire was administered to assess the effectiveness of the program.

Figure 6. Solid waste management.

Analysis and Results

H1: There are positive feedbacks from the participants toward community sanitation program on environmental sustainability.

Table 1 presents the percentage of response toward the feedback of the community sanitation and hands-on activity program on environmental sustainability. At the end of the community sanitation and environmental sustainability program, a dichotomous-type (i.e., yes or no) feedback form was provided to the participants to rate the effort of environmental sustainability. All the participants felt better after attending the sanitation camp and they wanted to keep their home and community clean and suggested that sanitation activities both inside and outside the house is necessary to maintain the sustainable environment (see Items 1, 2, 3, and 7). Nevertheless, 92.5% of participants planned to clean their

Table 1. Percentage of Responses Toward the Feedback of the Community Sanitation Program on Environmental Sustainability.

S. no.	Statements	Response	
		Yes	No
1	Are you feeling better after attending the sanitation camp?	40 (100%)	0 (0%)
2	Do you want to keep your home and community clean?	40 (100%)	0 (0%)
3	Does the sanitation activities facilitate environmental sustainability?	40 (100%)	0 (0%)
4	Do you plan to clean your locality at least once a week?	37 (92.5%)	3 (7.5%)
5	Do you feel, your locality needs free sanitation?	35 (87.5%)	5 (2.5%)
6	Is this community sanitation sufficient?	26 (65%)	4 (35%)
7	Do you think, sanitation needs both inside and outside the house?	40 (100%)	0 (0%)
8	Do you think, this sanitation work encouraged local people?	38 (95%)	2 (5%)
9	Do you use dustbin and recycle bins available earlier?	22 (55%)	18 (45%)
10	After this program, do you think people will practice eco-friendly habits to protect the nature?	38 (95%)	2 (5%)
11	Do you think, this community sanitation program is helpful for environmental sustainability?	39 (97.5%)	1 (2.5%)

locality at least once a week and 87.5% opined that our locality needs free sanitation. However, 65% participants felt that this much community sanitation is not sufficient (see Items 4, 5, and 6). In addition, 95% of participants argued that this sanitation work encouraged local people, and people will use to practice these eco-friendly habits everyday to protect the nature (see Items 8 and 10). Nevertheless, 97.5% participants concluded that community sanitation program is helpful for environmental sustainability (see Item 11). As a whole, the results showed that 97% to 100% participants enjoyed the program and they have a positive feedback toward the community sanitation and hands-on activity program on environmental sustainability.

H2: There is a significant difference in the awareness of participants who participated in the community sanitation program on environmental sustainability.

Table 2 presents the responses to Community Sanitation and Environmental Sustainability Questionnaire in percentage; 82.5% of participants strongly agreed that sanitation is a step toward environmental sustainability and sanitation is the action of protecting the natural world and preserving the capability of the environment in support of human life (see Items 1 and 2). Community sanitation is an effort toward environmental sustainability (see Item 3 a to Item g in Table 2). Many of the participants strongly agreed that it encouraged personal hygienic practices (75%), motivated to use hygienic latrines, handwashing after defecation (65%), no spitting in public places (55%), habiting in waste water disposal in a hygienic way (65%), cleaning courtyards and roadsides (70%), and conserving native ecosystems (75%).

Table 3 analyzes the mean and *SD* of the responses to the items of Community Sanitation and Environmental Sustainability Questionnaire. Results show that the mean response ranged from 3.83 to 1.85 and the *SD* ranged from .934 to .385. All the participants ($n = 40$) responded the Community Sanitation and Environmental Sustainability Questionnaire.

Nonparametric Kruskal–Wallis *H* test was used to analyze the items of Community Sanitation and Environmental Sustainability Questionnaire responded by the university students, university professors, and local people.

Item 1. Sanitation, a Step Toward Environmental Sustainability

The Kruskal–Wallis test (2.484; when the level of significance is set at .01 and the small p value = .289) indicated no significant difference in participants rating for responding *strongly agree* in individual assignment (see Table 4). The university professors and university students had the highest mean rank (24.00

Table 3. Mean and *SD* of the *Response to the Items* of Community Sanitation and *Environmental Sustainability Questionnaire*.

	N	Mean	*SD*
Item1	40	3.83	.385
Item 2	40	3.83	.385
Item 3a	40	3.83	.675
Item 3b	40	3.75	.439
Item 3c	40	3.50	.934
Item 3d	40	3.57	.501
Item 3e	40	3.67	.730
Item 3f	40	3.60	.496
Item 3g	40	3.50	.934

Note. However, this summary does not give us mean and *SD*, still it needed to analyze the raw data.

Table 2. Responses to Community Sanitation and Environmental Sustainability Questionnaire in Percentage.

Item no.	Statements	Response				
		strongly agree (4)	*agree* (3)	*undecided* (0)	*decided*(2)	*strongly disagree* (1)
1.	Sanitation, a step toward environmental sustainability.	33 (82.5%)	7 (17.5%)	–	–	–
2.	Sanitation is the action of protecting the natural world and preserving the capability of the environment in support of human life.	33 (82.5%)	7 (17.5%)	–	–	–
3.	Community sanitation is an effort toward environmental sustainability. It encourages . . .					
(a)	Hygienic practices	30 (75%)	9 (22.5%)	1 (2.5%)	–	–
(b)	Using hygienic latrines	30 (75%)	10 (25%)	–		–
(c)	Handwashing after defecation	26 (65%)	12 (30%)	2 (5%)		
(d)	No spitting in public places	25 (55%)	17 (25%)			
(e)	Habiting waste water disposal in a hygienic way	30 (65%)	9 (32.5%)	1 (2.5%)	–	–
(f)	Cleaning courtyards and roadsides	24 (70%)	16 (30%)	–	–	–
(g)	Conserving native ecosystems	26 (75%)	12 (20%)	2(5%)	–	–

Table 4. Kruskal–Wallis *H* Test for Item 1.

Group	*n*	Mean rank
University students	20	21.00
University professors	6	24.00
Local people	14	18.29
Total	40	
Kruskal–Wallis test	2.484	
df	2	
p	.289 > .01 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Table 5. Kruskal–Wallis *H* Test for Item 2.

Group	*n*	Mean rank
University students	20	21.00
University professors	6	24.00
Local people	14	18.29
Total	40	
Kruskal–Wallis test	2.484	
df	2	
p	.289 > .01 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

and 21.00, respectively), an indication of better significant response level to community sanitation, and the local people had the lowest mean rank (18.29). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, sanitation was a step toward environmental sustainability.

Item 2. Sanitation Is the Action of Protecting the Natural World and Preserving the Capability of the Environment in Support of Human Life

The university professors and university students group had the highest mean rank (24.00 and 21.00) over the local people who had the lowest mean rank (18.29) toward community sanitation. The Kruskal–Wallis test (2.484; $p > .01$) indicated no significant difference in participants rating for individual assignment (see Table 5). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, sanitation is the action of protecting the natural world and preserving the capability of the environment in support of human life.

Table 6. Kruskal–Wallis *H* Test for Item 3a.

Group	*n*	Mean rank
University students	20	20.55
University professors	6	22.50
Local people	14	19.57
Total	40	
Kruskal–Wallis test	.976	
df	2	
p	.614 > .01 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Table 7. Kruskal–Wallis *H* Test for Item 3b.

Group	*n*	Mean rank
University students	20	21.50
University professors	6	25.50
Local people	14	16.93
Total	40	
Kruskal–Wallis test	4.531	
df	2	
p	.104 > .01 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Item 3a. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages Hygienic Practices

The Kruskal–Wallis test (.976; $p > .01$), where the chi-square approximation corrected for the existence of ties in the ranks of the data, indicated no significant difference in participants rating in individual assignment (see Table 6). The university professors and university students had the highest mean rank (22.50 and 20.55) over the local people who had the lowest mean rank (19.57). The results of the test were in the expected direction and not significant. The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, the community sanitation is an effort toward environmental sustainability. It encouraged hygienic practices.

Item 3b. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages Using the Hygienic Latrines

The university professors and university students had the highest mean rank (22.50 and 21.50), an indication of better significant response level of community sanitation over the local

Table 8. Kruskal–Wallis *H* Test for Item 3c.

Group	*n*	Mean rank
University students	20	20.85
University professors	6	27.50
Local people	14	17.00
Total	40	
Kruskal–Wallis test	4.901	
df	2	
p	.086 > .001 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Table 9. Kruskal–Wallis *H* Test for Item 3d.

Group	*n*	Mean rank
University students	20	20.00
University professors	6	29.00
Local people	14	17.55
Total	40	
Kruskal–Wallis test	5.571	
df	2	
p	.062 > .001 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

people who had the lowest mean rank (18.29). The Kruskal–Wallis test (4.531; when the level of significance is set at .01 and the *small p* value = .104) indicated no significant difference in participants rating for individual assignment (see Table 7). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, the community sanitation is an effort toward environmental sustainability. It encouraged using hygienic latrine.

Item 3c. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages Effective Handwashing After Defecation

The Kruskal–Wallis test (4.901; $p > .01$), where the chi-square approximation corrected for the existence of ties in the ranks of the data, indicated no significant difference in participants rating in individual assignment (see Table 8). The university professors and university students had the highest mean rank (27.50 and 20.85), an indication of better significant response level of community sanitation over the local people who had the lowest mean rank (17.00). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, the community sanitation is an effort toward environmental sustainability. It encouraged effective handwashing after defecation.

Item 3d. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages No Spitting in Public Places

The local people group had the lowest mean rank (18.29) than the university professors and university students who had the highest mean ranks (22.50 and 21.50, respectively), an indication of better significant response level of community sanitation. The Kruskal–Wallis test (5.571; $p > .01$) indicated no significant difference in participants rating for individual assignment (see Table 9). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, community sanitation is an effort toward environmental sustainability. It encouraged no spitting in public places.

Table 10. Kruskal–Wallis *H* Test for Item 3e.

Group	*n*	Mean rank
University students	20	20.63
University professors	6	25.50
Local people	14	18.18
Total	40	
Kruskal–Wallis test	2.913	
df	2	
p	.233 > .001 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Item 3e. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages Waste Water Disposal in a Hygienic Way

The Kruskal–Wallis test (2.913; $p > .01$), where the chi-square approximation corrected for the existence of ties in the ranks of the data, indicated no significant difference in participants rating in individual assignment (see Table 10). The university professors and university students group had the highest mean rank (25.50 and 20.63), an indication of better significant response level of community sanitation over the local people who had the lowest mean rank (18.18). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, the community sanitation is an effort toward environmental sustainability. It encouraged effective handwashing after defecation.

Table 11. Kruskal–Wallis *H* Test for Item 3f.

Group	*n*	Mean rank
University students	20	20.50
University professors	6	28.50
Local people	14	17.07
Total	40	
Kruskal–Wallis test	5.571	
df	2	
p	.062 > .01 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Table 12. Kruskal–Wallis *H* Test for Item 3g.

Group	*n*	Mean rank
University students	20	21.10
University professors	6	27.50
Local people	14	16.64
Total	40	
Kruskal–Wallis test	5.336	
df	2	
p	.069 > .01 (chi-square approximation corrected for the existence of ties in the ranks of the data)	

Item 3f. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages Cleaning Courtyards and Roadsides

The university professors had the highest mean rank (28.50) than the university students (20.50), but this was an indication of better significant response level of community sanitation over the local people who had the lowest mean rank (17.07). The Kruskal–Wallis test (5.571; $p > .01$), where the chi-square approximation corrected for the existence of ties in the ranks of the data, indicated no significant difference in participants rating for individual assignment (see Table 11). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, community sanitation is an effort toward environmental sustainability. It encouraged cleaning courtyards and roadsides.

Item 3g. Community Sanitation Is an Effort Toward Environmental Sustainability. It Encourages Conserving Native Ecosystems

The Kruskal–Wallis test (5.336; $p > .01$) indicated no significant difference in participants' rating in individual assignment (see Table 12). The university professors and university students had the highest mean rank (27.50 and 21.10), which indicated the better significant level of community sanitation over the local people group who had the lowest mean rank (16.64). The hypothesis was rejected, and there was no significant difference in the awareness of participants participated in the community sanitation program on environmental sustainability. Hence, community sanitation is an effort toward environmental sustainability. It encouraged conserving native ecosystems.

Findings and Discussion

The study claimed that most of the participants strongly agreed that sanitation is a step toward environmental sustainability, is the action of protecting the natural world, and helps in preserving the capability of the environment in support of human life. In fact, India is the second largest populated country in the world having 74% of literacy rate but still trying to literate the people about environment and on how to practice eco-friendly habits. Especially in Assam, one fourth of people belong to schedule tribe, and still they are using traditional customs, traditions, and practices. Hence, the author organized the community sanitation and hands-on activity programs to popularize the idea about the environment and on how to practice eco-friendly habits. Recently, the Government of India is implementing different programs and policies to literate the people about sanitation and health. Swachh Bharat Abhiyan is working for the rural people and urban slums for developing best practices on rural sanitation under. Nirmal Bharat Rural Sanitation and Hygiene Strategy (2010–2012) has been implemented to clean the air, water, and soil for the economic and social well-being. In 2008, Government of India developed the National Urban Sanitation Policy and encouraged the people to keep urban areas clean and green. To encourage the people, the center planned to provide Nirmal Gram Puraskar for rural sanitation program to facilitate school sanitation and hygiene education in the rural areas. This study was an empirical study and the researchers enjoyed to work with the university professors, university students, and local people to keep environment healthy. After this program, the participants submitted their feedback and most of them responded that community sanitation programs are the efforts toward environmental sustainability. The findings showed that university professors, university students, and local people have no significant difference in their views and ideology in support to the community sanitation and environmental sustainability. This result was corroborated with Checkley et al.[21] and Owusu.[22] School and community sanitation and hygiene education program was a comprehensive program to learn theory and to practice different skills related to handwashing, composting, cleaning, and waste recycling, which could promote behavioral changes toward hygiene education. They argued that rapid urbanization is the cause of deposition of waste and inadequate supply of

water. After all, total community sanitation program was enforced by UNO and assisted different African and Asian countries to keep their locality clean and green by establishing sanitary latrine, using waste recycling bin, and handwashing technique. Haggerty et al.[23] and Patil et al.[24] found that the community-based hygiene education is needed for the developing countries, and Carter et al.[25] found that safe drinking water, sanitation, and healthy hygiene practice are needed for developing countries.

Conclusion

Community sanitation was an effort toward environmental sustainability that the participants perceived in the sanitation program. Their valuable feedbacks claimed that sanitation program encourages hygienic practice and motivates to use latrine against open defecation, effective handwashing, no spiting in public places, and cleaning courtyards and roadsides, which result in conserving the native ecosystem. Not only the common people of the community but also the university professors should adopt the community sanitation work. In addition, the students of school and colleges will learn how to keep the community clean healthy and sustainable. India's first nationwide program for rural sanitation, the central rural sanitation program was launched in 1986. The basic objective of this program was to improve the quality of life of rural people by providing privacy and dignity to the women. The objective also emphasized on the construction of toilet in rural India. The program which was reconstructed again in April 1999 focused on demand-driven approach in a phased manner with a view to cover the wider range of rural population by the end of ninth 5-year plan. The Department of Water Supply and Sanitation is responsible for the sanitation in rural areas. Total sanitation campaign in 1999 ensured the sanitation facilities in rural areas to eradicate open defecation. Total sanitation scheme in 2010 worked to bring about improvement in general quality of life, to provide access to toilets to all by 2012, and to motivate communities and panchayat raj institutions (local or government) for promoting sustainable sanitation facilities through awareness creation and health education. The main objective was to cover school and Anganwadis with sanitation facilities and to promote hygiene. Nirmal Gram Puraskar 2010 started for those gram panchayat, blocks, and districts which have attained 100% sanitation coverage in their respective geographical areas; 100% sanitation includes eradicating the menace of open defecation, provision of sanitation facilities in household, and educational institutions and general cleanliness in village. Nirmal Bharat Abhiyan (Swachh Bharat Abhiyan) was launched by the Government of India to accelerate sanitation in rural areas to achieve the vision of Nirmal Bharat by 2022, with all village panchayats in the country attaining nirmal status. Incentive as provided under the scheme for the construction of individual household latrines has been extended to all below poverty line households and above poverty line households restricted to SCs or STs, small and marginal farmers, landless laborers with homestead, differently abled, and women-headed households. The incentive amount for construction of one unit of individual household latrines has been increased from Rs 3,200 to Rs 4,600 (Rs 5,100 for difficult and hilly areas). The schools that are not yet covered under Sarva Shiksha Abhiyan and Anganwadi centers in the rural areas will be provided with proper sanitation facilities, and proactive promotion of hygiene education and sanitary habits among students will be undertaken. Swachh Bharat, by October 2, 2019, motivated communities and panchayat raj institutions to adopt sustainable sanitation practices and facilities through creating awareness, and health education encourage cost-effective and appropriate technologies for ecologically safe and sustainable sanitation. Government should develop community-managed sanitation systems focusing on scientific solid and liquid waste management systems for overall cleanliness in the rural areas. The focus of the strategy is to move toward a Swachh Bharat by providing flexibility to state governments, as sanitation is a state subject, to decide on their implementation policy and mechanisms.

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