

DIFFERENTIAL EFFECT OF GOVERNMENT OF INDIA INITIATIVE IN SANITATION AWARENESS: A STUDY OF RURAL INDIA

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Abstract: Sanitation is a fundamental piece of human ecology and it is defined as safe handling of excreta in the human environment. Getting better admittance to sanitation and hygiene is directly linked to the use of improved sanitation infrastructure. The Millennium Development Goals (MDGs) Target 7.C: states “to halve by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation” yet through 2016 the figures are disheartening and 2.5 billion people globally do not have access to improved sanitation. Sanitation is gigantic concern for India, lack of sanitation amenities; unfavourably impinge on the nation, society, community and individual. Country like India where open defecation is widespread practiced predominantly in rural India. This research article aimed to analyse the impact of different Government Initiatives on sanitation awareness amongst rural India. Sample size of 1320 collected from various of districts of Uttar Pradesh on the convenience basis. Data is analyzed with the help of factor analysis and Service Quality Performance Matrix. This study finds that government initiative like Development and maintenance of public sanitation complex and Using different media channels to create awareness and education about sanitation fall in improve zone. Whereas, Subsidy for families to make toilets at home and use them, Encouraging participation of local communities, Swachha Bharat Abhiyan, Encouraging participation of Schools to create awareness about sanitation, Appointment of ASHA for health and hygiene and Individual Recognition in the area of sanitation, fall into the maintain zone indicating maintaining these aspects.

Keyword: Sanitation, India, awareness, Government incentives.

INTRODUCTION

Sanitation envisages promotion of health in any community by providing clean environment and breaking the cycle of diseases. The World Health Organization defines environmental sanitation as “the control of those factors in man’s physical environment, which exercise or may exercise a deleterious effect on his physical development, health and survival” (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2796770/>)

United Nations found that 2.5 billion people without access to sanitation and 1 billion going for open defecation (Progress on Drinking Water and Sanitation, UNICEF, WHO, 2013). Predefined objective of Millennium Development Goal 7 and Target 10 was to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 but at present the world remains off

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track to meet this target of 75% and with current trend the target is likely to miss by more than half billion people, unless the pace of developing sanitation programs is enhanced or the MDG target may not be reached until 2026 (PEP Poverty-Environment Partnership, 2005). In rural India despite the dedicated effort by Government of India, the sanitation is merely 53.76% and the percentage of open defecation is 46.24% (Ministry of Drinking Water and Sanitation, Government of India).

REVIEW OF LITERATURE

India on one side has emerged as an economic power while at the same time it has slow growth in sanitation coverage in rural areas even after implementing dedicated programs for improved sanitation for more than a decade (Progress on Drinking Water and Sanitation, World Health Organization and UNICEF 2014). In India 629 million people are engaged in open defecation (WHO, n.d.) and the scale of problem relating to sanitation is very high (Bonu, Sekhar and Hun Kim, 2009). It costs about 6.4 % of GDP in India (Fast Facts Sanitation Drive, 2015), as well Indian economy loses 73 million working days a year due to waterborne diseases, caused by a combination of lack of clean water and inadequate sanitation (Department for International Development, 2010). Low Sanitation coverage in rural India is attributing to several economic and socio-cultural conditions like, lack of fund, space in pre- constructed homes and cultural beliefs. these can be attributed to its complex nature of social, institutional, cultural factors (Vedachalam, 2011) and also lack of right action taken by government at different fronts. It is normally found that rural people up to some extent depend upon the financial support from the government (Gersovitz and Hammer, 2003; Curtis et. al., 2003). Inner motivational factors (Kar, 2003), community mobilization (Dunston et. al., 2001), individual (Gupta, 2012) recognition play an integral role in changing the behaviour of people towards sanitation. For the purpose of creating awareness and influencing sanitation behaviour the government of India launched various programmes. Radio, interpersonal communication, Accredited Social Health Activist (ASHA), village chief and education in school can be milestone for creating awareness about importance of constructing toilet at home and using them. Central Rural Sanitation Program (CRSP) was launched in 1986 for promotion of sanitation in rural areas using the subsidy but ultimately it was unable to achieve its target. After investing 6 billion only 9 million toilets were constructed in rural areas and recorded marginal growth of 1 percent throughout 1990s. According to Census 2001 only 22 percent had potential access to improved toilet facilities (Ministry of Drinking Water and Sanitation, Government of India). In 1999 Total Sanitation Campaign was launched for the sanitation promotion using subsidy it also had not achieved its predefined objectives and in 2012 it was rechristened as Nirmal Bharat Abhiyan (2012-2017). NBA focuses on acceleration of sanitation coverage in rural area to achieve the vision of attaining Nirmal status to all Gram Panchayats by 2022 by

adopting 'community led' and 'people centered' approach. It was demand driven approach which emphasised on creating awareness, to influence demand for toilet at home, anganwadis and school. This campaign resulted into achieving 69 percent in individual household toilets, 89.02 percent toilets in schools, 76.94 percent toilets and community complex 71.84 percent (Ministry of Drinking Water and Sanitation, Government of India). Nirmal Bharat Abhiyan was later on transformed into Swachh Bharat Mission by Government of India in 2014 with the objective to achieve the full sanitation coverage by 2019.

Historically there was not more concern relating to sanitation when India got the independence in 1947, high population growth had put increased burden on existing sanitary infrastructure leading to leads open defecation without privacy which led great threats to human life. (Shyama V. Ramani a, Shuan Sadre Ghazi a, & Geert Duysters b, 2012). With situation getting worse Government of India initiatives were required for eradication of open defecation to change the behaviour of people towards adoption of good sanitation practices. Innovative financial schemes involving credit-bundles for villagers were considered necessary (Shyama V. Ramani a, Shuan Sadre Ghazi a, & Geert Duysters b, 2011) for encouraging construction of toilets at home. Essentially government should invest money in toilet building in rural areas which would reduce expenditure of medical treatment related to sanitation (Govindasamy Agoramoorthy & Minna J. Hsu, 2009). Many techniques failed because fundamentally people are influenced by their local culture and society while making decisions. (M.B. Bertrand, S. Mullainathan, & E. Shafir, 2006). Participation of community is required for better sanitation facilities in village. Therefore, it is desirous that an effort to sensitize community members towards good sanitation practices and its benefits so that they can influence others and their common demands could be expressed (McGranahan, G., & Mitlin, D., 2016). Development of preference and motivation to adopt sanitation are influenced by a person's dissatisfaction with his current defecation practice and adequate awareness of benefits of other options required (Jenkins and Curtis, 2005; Jenkins and Scot, 2007). Different media channels could be used to influence the behaviour of people towards sanitation adoption by creating awareness. Using TV and Radio are very useful in reaching out to large number of people. However, there is a need to ensure that they are getting right information what initially is intended to be communicated (UNICEF Liberia, 2012). Public sanitation complex can play substantial role in open defecation free environment. Communal or public toilets may be owned and operated by the public sector (a local government or a community) or a private investor. Whichever the case, key requirement for success is achieving an acceptable balance between sustainable maintenance of facilities and affordability of user fees (Jenkins and Sugden, 2006). Sanitation activities laid by school children directly influenced the behaviour of society, which lead adoption of good sanitation practices, Having clean schools, improve the moral of children and become agent of change in their

respective families as well as community (Swachh Bharat Swachh Vidyalaya, A Nation Mission-2014, Ministry of Human Resource Development, Government of India). Government of India appointed their own representatives as ASHA selected from each village. She was made substantially accountable to work as an interface between the community and the public health system and ensuring basic sanitation & hygiene practices in village. Having knowledge of whole village community could be the backbone of success for sanitation (National Health Mission, Ministry of Health & Family Welfare, Government of India, n.d.) adoption. Village Chief is representative of entire population, engaged in village activities, can directly influence the behaviour of villagers, by motivating them and providing them required assistance which could result in better sanitation coverage (Sunrita Sen (n.d.), in village. Individual recognition in the areas of sanitation, through trophy and a cash prize, could result in better sanitation coverage (World Bank, 2010b) in village. Individual acknowledgment can motivate others to participate in sanitation activities (Ministry of Drinking Water and Sanitation, Government of India), thereby whole village could be sanitised and open defecation free. Initially the initiatives of Government of India like Total Sanitation Program, Nirmal Bharat, Swachha Bharat Abhiyan focussed on capital incentive initiatives but the role has to shift from being mere service provider to that of a facilitator for providing policy support in the area of encouraging participation of community and community leaders, awareness creation with the help of targeted communication and individual recognition.

The recent reforms of Government of India have integrated the reforms to include local governments, communities and other stake holders in a central role to achieve synergistic progress in a participatory and decentralized manner while reflecting actual priority of sanitation coverage and open defecation free environment. Table 1 states studies undertaken by various researchers to analyse the impact of different government initiatives sanitation government initiatives.

TABLE 1: GOVERNMENT INITIATIVES

<i>S. No.</i>	<i>Government Initiatives</i>	<i>Authors</i>
1.	Subsidy for families to make toilets at home and use them	Emmanuel Yeboah-Assiamah, (2015) ; Francisco Mendes de Alencar Filho Lucijane Monteiro de Abreu, (2007)
2.	Encouraging participation of local communities	Peter Appiah Obeng Bernard Keraita Sampson Oduro-Kwarteng Henrik Bregnhøj Robert C. Abaidoo Flemming Konradsen, (2015) ; Kapepula, K.M., Colson, G., Sabri, K. and Thonart, P. (2007)
3.	Development and maintenance of public sanitation complex	London School of Hygiene and Tropical Medicine (LSHTM) and Water Aid (2010) ; Evans, B., van der Voorden, C. and Peal, A. (2009) ; Methra, M. and Knapp, A. (2005)

<i>S. No.</i>	<i>Government Initiatives</i>	<i>Authors</i>
4.	Using media channel to create awareness about sanitation	Peter Appiah Obeng Bernard Keraita Sampson Oduro-Kwarteng Henrik Bregnhøj Robert C. Abaidoo Flemming Konradson, (2015); Emmanuel Yeboah-Assiamah, (2015)
5.	Swachha Bharat Abhiyan	Swachh Bharat Mission (Gramin), Programme run by Government of India
6.	Encouraging participation of Schools to create awareness about sanitation	Govindasamy Agoramoorthy & Minna J. Hsu (2009); Spencer, M.C. (2012)
7.	Appointment of ASHA for health and hygiene	Govindasamy Agoramoorthy & Minna J. Hsu (2009); Emmanuel Yeboah-Assiamah, (2015)
8.	Motivating Sarpanch (Village chief) for maintaining sanitation in village	Govindasamy Agoramoorthy & Minna J. Hsu (2009)
9.	Individual Recognition in the area of sanitation	Chronicle magazine (2016); Emmanuel Yeboah-Assiamah, (2015); Buchanan and Tullock (1962)

OBJECTIVES OF THE STUDY

Study aimed to analyse the impact of different Government Initiatives on sanitation awareness amongst rural India.

Research Plan

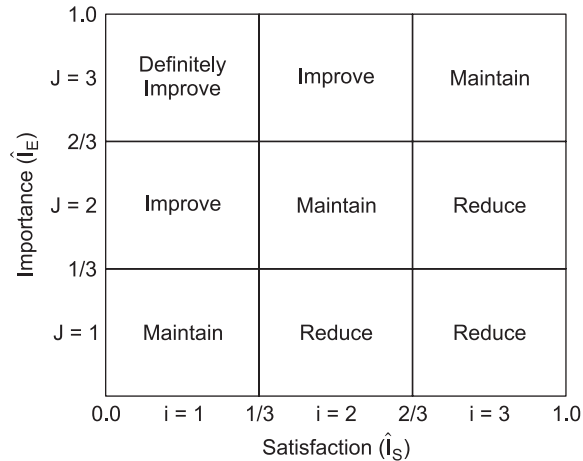
The study is empirical in nature and purely based on the primary data collected using the convenient sampling from the rural areas of several districts of Uttar Pradesh of India. To measure the responses five-point Likert-type scale was used. Out of the total sample of 1550, 1320 questionnaires were found usable and complete. After factor analysis 09 factors were deduced, which were plotted on service quality performance matrix to identify the differential effect of different government initiatives on sanitation awareness.

The service quality performance matrix (Figure 1) is a combination of 3×3 matrix with 9 performance zones. The real matrix was developed by Lambert and Sharma (1990) and again redeveloped by Hung, Huang, and Chen after (2003) Importance and satisfaction indices were calculated using the following formula by Chen et. al., (2007) (as cited from Geetika et. al., 2016).

$$\text{Index of Importance of Government Initiatives:} = \frac{\mu_I - \min}{R} \quad (1)$$

$$\text{Index of Satisfaction level of people:} = \frac{\mu_S - \min}{R} \quad (2)$$

Where μ_I and μ_S , represent means of importance and satisfaction levels, respectively; min indicates the minimum of the scale used in this study; and R is the full range of the scale, i.e., highest-lowest.



Source: Hung, Huang, and Chen 2003

Figure 1: Service Quality Performance Matrix

The indices used are decimal numbers between 0 and 1, and the matrix is divided into three equal intervals using four scales—0.0, 1/3, 2/3, and 1.0. The three equal intervals of 0.0–1/3, 1/3–2/3, and 2/3–1.0 represent low satisfaction/importance, moderate satisfaction/importance, and high satisfaction/importance zones, respectively. The nine zones formed in the matrix are divided into four regions— Definitely improve, Improve, Maintain, Improve, Maintain, Reduce, Maintain, Reduce and Reduce. However, if some items lie on the borderline between different zones, it becomes difficult to give recommendations for such items. Further, identifying items only that need improvement is not enough; the priority order of items to be improved must be determined (Chen et. al., 2007) (as cited by Geetika et. al., 2016).

TABLE 2: FACTOR LOADINGS AND RELIABILITY TESTING

<i>Items</i>		<i>Factor Loadings</i>	<i>Cronbach's Alpha</i>
Government Initiatives	Subsidy for families to make toilets at home and use them	.811	.841
	Encouraging participation of local communities	.788	
	Development and maintenance of public sanitation complex	.744	
	Using media channel to create awareness about sanitation	.733	

<i>Items</i>	<i>Factor Loadings</i>	<i>Cronbach's Alpha</i>
Swachha Bharat Abhiyan	.731	
Encouraging participation of Schools to create awareness about sanitation	.599	
Appointment of ASHA for health and hygiene	.798	
Motivating Sarpanch (Village chief) for maintaining sanitation in village	.887	
Individual Recognition in the area of sanitation	.781	

Service: Quality Performance Matrix

To construct the service quality performance matrix, first, the importance and satisfaction indices were calculated for the 09 factors from the Government Initiative and sanitation awareness using equations 1 and 2 (Table 2). Coordinates for each item then were mapped in the performance matrix (Figure 2).

TABLE 3: IMPORTANCE AND SATISFACTION INDICES OF GOVERNMENT INITIATIVES

<i>Serial No,</i>	<i>Government Initiatives</i>	<i>Mean (Importance Level)</i>	<i>Mean (Satisfaction Level)</i>	<i>Importance Index (\hat{I}_E)</i>	<i>Satisfaction Index (\hat{I}_S)</i>
	Subsidy for families to make toilets at home and use them	1.6667	2.8301	0.166667	0.457516
	Encouraging participation of local communities	2.8758	3.0850	0.468954	0.521242
	Development and maintenance of public sanitation complex	2.6275	2.7647	0.406863	0.441176
	Using media channel to create awareness and education about sanitation	3.1699	2.3856	0.542484	0.346405
	Swachha Bharat Abhiyan	2.2353	1.9804	0.308824	0.245098
	Encouraging participation of Schools to create awareness about sanitation	3.0850	2.3137	0.521242	0.328431
	Appointment of ASHA for health and hygiene	1.7124	2.1176	0.178105	0.279412
	Motivating Sarpanch (Village chief) for maintaining sanitation in village	2.4902	2.4771	0.372549	0.369281
	Individual Recognition in the area of sanitation	1.8758	2.1830	0.218954	0.295752

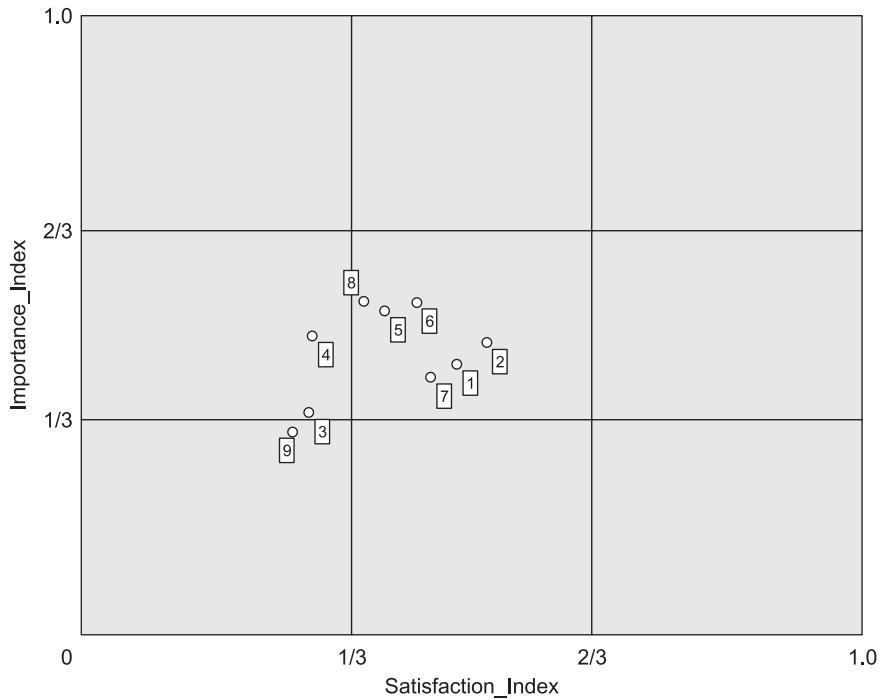


Figure 2: Service Quality Performance Matrix

CONCLUSION

It is found that all the government initiatives fall into two categories of maintain and improve zones. In detail government initiative 3 (Development and maintenance of public sanitation complex) and 4 (Using media channel to create awareness and education about sanitation) fall into improve zone, it means these government initiatives need to improve more. While government initiatives 1 (Subsidy for families to make toilets at home and use them), 2 (Encouraging participation of local communities), 5 (Swachha Bharat Abhiyan), 6 (Encouraging participation of Schools to create awareness about sanitation), 7 (Appointment of ASHA for health and hygiene) and 9 (Individual Recognition in the area of sanitation), fall into the maintain zone indicating the need to maintain the existing initiatives with adequate support.

RECOMMENDATIONS

Government may motivate and incentivise ASHA and Village Chief for creating awareness relating to sanitation with an aim to influence the sanitation behaviour of people in rural area. Advertisement on TV and Radio relating to sanitation awareness have played significant role in creating awareness amongst people about

sanitation and also influencing the sanitation behaviour. It means the government may promote the advertisement of sanitation awareness on TV and Radio and also broadcast the programme relating to sanitation and its benefits National and satellite channels in local languages. The Government may also include the local community participation, Self Help Group (SHG) and local level NGO for the promotion of sanitation. Government may directly transfer subsidy in saving accounts of the beneficiaries. There is a need to also focus on constructing and maintaining public sanitation complexes which are monitored periodically by officials. There is a need for effective implementation of government initiatives and programs relating to sanitation a periodical audit of the programs which may give a direction to the government for further improvements or maintenance.

References

- Bonu, Sekhar and Hun Kim (2009). Sanitation in India: Progress, Differentials, Correlates, and Challenges. ADB. Based on author's analysis of the 2005 National Family Health Survey.
- Buchanan, J.M. and Tullock, G. (1962). *The Calculus of Consent – Logical Foundations of Constitutional Democracy*, University of Michigan Press, Ann Arbor, MI.
- Bertrand, M., Mullainathan, S., & Shafir, E. (2006). Behavioral economics and marketing in aid of decision making among the poor. *Journal of Public Policy & Marketing*, 25(1), 8-23.
- Chen, S.H., C.C. Yang, W.T. Lin, and T. M. Yeh. (2007). "Service Quality Attributes Determine Improvement Priority." *The TQM Magazine*, 19(2): 162-175.
- Chronicle magazine, October issue, 2016.
- Curtis C, Maxwell C, Lemnge M, Kilama WL, Steketee RW, Hawley WA, (2003). Scaling up coverage with insecticide-treated nets against malaria in Africa: who should pay? *Lancet Infect Dis.* 2003;3:304-7.
- Department for International Development (2010). *Access to Safe Water for the Bottom of the Pyramid: Strategies for Disseminating Technology Research Benefits*, UK:DFID.
- Dunston C, McAfee D, Kaiser R, Rakotoarison D, Rambeloson L, Hoang AT, Quick RE(2001). Collaboration, cholera, and cyclones: a project to improve point-of-use water quality in Madagascar. *Am J Public Health.* 2001; Oct 91(10):1574-6).
- Emmanuel Yeboah-Assiamah, (2015). "Involvement of private actors in the provision of urban sanitation services; potential challenges and precautions", *Management of Environmental Quality: An International Journal*, Vol. 26, Iss 2, pp. 270-287.
- Evans, B., van der Voorden, C. and Peal, A. (2009). *Public Funding for Sanitation: the Many Faces of Sanitation Subsidies*, Water and Sanitation Collaborative Council, Geneva. Hesselbarth.
- Fast Facts Sanitation Drive (2015), <http://sanitationdrive2015.org/resources-2/fast-facts>, assessed on January 14, 2017.
- Francisco Mendes de Alencar Filho Lucijane Monteiro de Abreu, (2007). "An alternate methodology for the evaluation of the performance of basic sanitation", *Management of Environmental Quality: An International Journal*, Vol. 18, Iss 1, pp. 22-35.
- Geetika et. al., (2016). Journey towards World Class Stations: An Assessment of Platform Amenities at Allahabad Junction. *Journal of Public Transportation*, Vol. 19, No. 1, 2016.

- Gersovitz M, Hammer JS (2003). Infectious diseases, public policy, and the marriage of economics and epidemiology. *World Bank Res Obs.* 2003; 18:129-57.
- Govindasamy Agoramoorthy & Minna J. Hsu (2009). India needs sanitation policy reform to enhance public health, *Journal of Economic Policy Reform*, 12:4, 333-342.
- Gupta, S. (2012). Woman who risked marriage for sanitation awarded, *The Times of India*, February 24, available at http://articles.timesofindia.indiatimes.com/2012-02-24/bhopal/31094479_1_toilet-tribal-woman-sulabh-international.
- <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2796770/> assessed on 08-06-2016.
- http://www.who.int/water_sanitation_health/monitoring/jmp2012/fast_facts/en/, assessed on 08-06-2016.
- Hung, Y.H., M.L. Huang, and K.S. Chen. (2003). "Service Quality Evaluation by Service Quality Performance Matrix." *Total Quality Management and Business Excellence*, 14(1): 79-89.
- Jenkins, M.W. and Curtis, V. (2005), "Achieving the 'good life': why some people want latrines in rural benin", *Social Science and Medicine*, Vol. 61, pp. 2446-2459.
- Jenkins, M.W. and Scot, B. (2007), "Behavioural indicators of household decision-making and demand for sanitation and potential gains from sanitation marketing in Ghana", *Social Science and Medicine*, Vol. 64, pp. 2427-2442.
- Jenkins, M.W. and Sugden, S. (2006), "Rethinking sanitation: lessons and innovation for sustainability and success in the new millennium", *Human Development Report 2006*.
- Kapepula, K.M., Colson, G., Sabri, K. and Thonart, P. (2007), "A multiple criteria analysis for household solid waste management in the urban community of Dakar", *Journal of Waste Management*, Vol. 27 No. 11, pp. 1690-1705.
- Kar K. (2003). *Subsidy or self-respect? Participatory total community sanitation in Bangladesh (IDS working papers series)*. Brighton: Institute of Development Studies; 2003.
- Lambert, D. M., and A. Sharma(1990). "A Customer-Based Competitive Analysis for Logistics Decisions." *International Journal of Physical Distribution & Logistics Management*, 20(1): 17-24.
- London School of Hygiene and Tropical Medicine (LSHTM) and Water Aid (2010), "Communal toilets in urban poverty pockets: use and user satisfaction associated with seven communal toilet facilities in Bhopal, India", a briefing note, LSHTM and Water Aid, London.
- Methra, M. and Knapp, A. (2005), "The challenge of financing sanitation for meeting the millennium development goals", commissioned by the Norwegian Ministry of the Environment for the Commission on Sustainable Development, Water and Sanitation Program-Africa, The World Bank, Nairobi.
- Ministry of Drinking water and Sanitation of Government of India, www.mdws.gov.in
- McGranahan, G., & Mitlin, D. (2016). Learning from sustained Success: How community-driven initiatives to improve urban sanitation can meet the challenges. *World Development*, 87, 307-317.
- National Health Mission, Ministry of Health & Family Welfare, Government of India, (n.d.). Retrieved 09 January, 2017 from <http://nrhm.gov.in/communitisation/asha/about-asha.html>.
- PEP Poverty-Environment Partnership, (2005). *Linking poverty reduction and water management*. PEP www.unep.org/civil_society/GCSF8/pdfs/pep_linking_pov_red.pdf.

- Peter Appiah Obeng Bernard Keraita Sampson Oduro-Kwarteng Henrik Bregnhøj Robert C. Abaidoo Flemming Konradsen, (2015). "The latrine ownership ladder", *Management of Environmental Quality: An International Journal*, Vol. 26, Iss 5, pp. 752 - 763 Permanent.
- Progress on Drinking Water and Sanitation (2014). Update, World Health Organization and UNICEF 2014, http://www.wssinfo.org/fileadmin/user_upload/resources/JMP_report_2014_webEng.pdf.
- Progress on Drinking Water and Sanitation. (2013) update. UNICEF, WHO, March 2013.
- Ramani, S. V., SadreGhazi, S., & Duysters, G. (2012). On the diffusion of toilets as bottom of the pyramid innovation: Lessons from sanitation entrepreneurs. *Technological Forecasting and Social Change*, 79(4), 676-687.
- Swachh Bharat Swachh Vidyalaya, A Nation Mission-2014, Ministry of Human Resource Development, Government of India.
- Sunrita Sen (n.d.), Inspired Leadership Transforms a Village Environment, Unicef India, Retrieved January 19, 2017 from <http://unicef.in/Story/626/Inspired-Leadership-Transforms-a-Village-Environment>.
- Spencer, M.C. (2012). "Sanitation practices and preferences in peri-urban Accra, Ghana", A thesis, Faculty of the Rollins School of Public Health of Emory University, Atlanta.
- Swachh Bharat Mission (Gramin), Programme run by Government of India, Ministry of Drinking Water and Sanitation.
- UNICEF, Liberia, (2012). Communication Strategy on Water, Sanitation & Hygiene for Diarrhoea & Cholera Prevention.
- Vedachalam, S. (2011). Wash and Human Development, Aguanomics, blog post dated May18, available at <http://www.aguanomics.com/2011/05/wash-and-human-development.html>.
- World Bank, 2010b. Monitoring Systems for Incentive Programs: Learning from Large-Scale Rural Sanitation Initiatives in India. Water and Sanitation Programme, Delhi.

