

Effects on population health environmental sciences essay



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Abstract

The main aim of this paper is to display the sanitation in Indonesia and its effects on population health. Indonesia is in south – east Asia lying between the Indian Ocean and the Pacific Ocean. For centuries, poor urban sanitation has been a major problem faced by the people in Indonesia. The Government of Indonesia has taken various national sanitation goals. Population of Indonesia has been facing many problems due to poor sanitation. Majority of the people face diseases due to contamination of water and poor sanitation. The major reason for this is growing urbanization. The lack of sanitation and safe water has significant negative health impact including diarrhea and typhoid. Providing good sanitation facilities for the people in Indonesia is one of the major challenges for Indonesia’s government. Good sanitation refers to proper behavior and practices of the people in that area. Due to good sanitation, life expectancy in Indonesia will increase with reduced mortality which includes under five, neonatal and infant mortality. Also, there will be, reduction in sick leave and hence higher worker productivity, increase in school attendance, reduction in treatment costs, all these factors are linked to the economic development of a country. This paper includes the various investments and the strategically undertaken interventions by the Asian

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development bank, the World bank and the Australian government to improve the sanitation and water supply conditions in Indonesia. These interventions also address some of the social determinants of health which apply to the sanitation and water supply conditions of Indonesia. Also a short graphical analysis is portrayed in the paper relating to the progress of Indonesia for the Millennium development goals 2015. By considering all the above factors, we come to know the importance of sanitation for the well being of the population in Indonesia. Poor sanitation can even cause death in a matter of days. On the other hand, good sanitation will prevent diseases leading a healthy life in Indonesia, which in turn will develop the nation as a whole.

Introduction

Sanitation is the process of promoting healthful living conditions by preventing human touch from the hazards of the wastes. These hazardous wastes include waste water, household refuse, solid waste, human and animal excrement, industrial waste and agricultural waste. Sanitation focuses to manage these wastes and create a safe and protective environment for human health. It ensures that people have safe drinking water and concentrates on understanding and solving the health problems by providing other facilities like toilets, disposal of other wastes and hand washing facilities thus making a healthy environment to live in. Water Sanitation facilities is the most important factor for the children to grow and develop in a healthy environment. Good sanitation and proper water facilities helps to reduce diseases and creates a healthy life, because good health is the most important ingredient for making a life productive. We all know the

importance of a clean environment from the general one liner saying, Cleanliness is next to Godliness, therefore, in a nutshell, good sanitation plays a vital role for everyone to have a healthy and productive life which in turn will make the country economically and socially stronger leading to the development of a nation. (Mara, Lane, Scott, Trouba), (2010).

Background

Indonesia, a developing country in southeast Asia and Oceania has been facing the problem of water and poor sanitation across the country for decades. According to the statistics, half of the 230 million Indonesia population dwells in the urban areas, but only 1 % of this population have access to sewerage and most importantly, less than ten cities have considerable sewerage network. The services and the infrastructure in place have been administered by different households and other small operators in the non existence of public investments. Drainage and solid waste management are majorly insufficient because large quantities of uncollected waste find its way towards the watercourses and drains which basically leads to blockage and serious problems of local flooding. Also, barely three quarters of urban residential households have a toilet, many toilets are attached to a soak pit called as the " cubluk" or to septic tanks which are poorly constructed, emptied rarely and which allow partially or untreated wastewater to flow in to ground water or into open drains and watercourses. many households are in areas where there is no proper drainage system, in some towns like Banjarmasin, there is regular flooding, so the presence of large amount of sewage and uncollected garbage accelerates the problem of already insufficient drainage network. Importantly, even though waste is

collected, large amount of it randomly dumped, burnt and disposed at unofficial sites which are moreover not even serviced by the municipality. Interestingly, Indonesia could also get into the Guinness book of records as the country having the largest number of septic tanks because 65% of the urban households use septic tanks (Colin, Keetelaar), (2009).

Following are some features of poor sanitation and water supply in Indonesia:

Defunct Latrines: Some latrines have no water supply and are usually out of order, many latrines have never been used because of improper construction. Leaking Septic Tanks: 70% of groundwater is polluted heavily because of sewage bacteria. Still, though, many city dwellers, almost half of them use groundwater for their daily needs, thus inviting lots of infectious diseases. Washing and bathing in polluted water: There is a limited access to water supply and latrines because of which many people in the urban areas use water from the river for bathing and washing purposes even though most of the rivers are highly polluted. Makeshift latrines: 35% of the latrines are connected to a septic system, have no shelter or roof and possess no water supply. Open Defecation: 12% of people of city residents in Indonesia do not have access to latrines. Illegal dumping of sewage sludge: Most of the sewage trucks dump the loads directly into the rivers leading to heavy pollution of the rivers and on top of that all types of excuses are made for doing this (Utomo, Kuncoroyekti, Yuliarsa, Siregar, Tirta, Balifokus), (2007). The WATSAN program, which basically means water supply and sanitation implementations had strategies and projects to improve the sanitary conditions in Indonesia, but under Suharto's regime between 1967-1998, the

WATSAN program was executed by the central government, who were basically responsible for the financial and planning activities. The WATSAN sector was subjected to a majorly centralized approach, a top down approach. this centralized process did not include the poor in the agenda of development and also showed poor accountability towards performance checking. Neither a sense of ownership or training was developed as part of the implementation programmes and strategies. Thus, the results of the very ineffective centralized government WATSAN implementation and strategies are reflected in the sanitary conditions and problem the country now faces. The Millennium development goals thereby has a target of improved access to water supply and sanitation by 68. 8% and 62. 4% respectively, by 2015 (Roma, Elisa, Jeffrey, Paul), (2011).

Some Crucial Health Facts related to Sanitation and Water.

100, 000 children die of diarrhea every year because of poor and inadequate sanitary conditions and lack of clean water in Indonesia. The incidence of typhoid fever is 300 per 100, 000 population. Lack of clean water are deadly factors responsible for child mortality in Indonesia. Between the age of 5-14, only 12% of the children wash their hands with soap after defecating and 14% before eating. The worms in children is a common sight in Indonesia, the hook worms and the roundworms are the most common, its prevalence among the under 5 children is 70% (Utomo, Kuncoroyekti, Yuliarsa, Siregar, Tirta, Balifokus), (2007).

Interventions:

Following are some of the important Determinants for sustaining achievements and progress as far as sanitation and water conditions are concerned in Indonesia:

Determinant Sanitation Drinking water

Policy and institutions 5 Sufficient financing 4

Human resources 4 Regulation 5

Water quality 4 Water resources 4 Aging

infrastructure 4 Environmental quality 3

Internal conflict or fragility 4 Climate change 3

41 means low impact and 5 means high impact (Indonesia country profile),

(2012). Education is another important social determinant of health which

influences the behavior of people as far as sanitation and hygiene practices

are concerned. World Bank Project: The world bank from the duration of ten

years to 2010 helped and assisted the Indonesia communities to execute the

capacity in planning, management and improvement in the water programs,

sanitation and community health services. It also aimed at reduction in the

water borne diseases, hygiene and health behavior. the intervention also had

provisions for safe disposal of the waste and had provisions for clean water

supply. The challenge for the world bank was to develop the infrastructure,

specially the water infrastructure and also substantially improve the

sanitation services in Indonesia because it would contribute to US\$4.5 billion

towards overall economic growth because Indonesia lost US\$6.3 million

because of poor sanitation, premature deaths, water resource and fishery

losses. The key challenge was to improve the health status, quality of life

and productivity of the poor population in the under developed rural villages. Another challenge was to conduct and undertake crucial reforms, improve governance in order to implement and execute the sector programs.

Approach:

The bank project worked in collaboration with schools, various communities and health centers to bring about improvement in the hygiene and health behavior. It also worked with community management of health services to bring about reduction in the water borne diseases. Diarrhea, skin diseases and worms in children was a special focus of the component. It also worked with the non- governmental organizations (NGO'S), the local communities to manage and execute contracts with the local firms, thus the local communities were then able to run their own sanitation and clean water facilities with provisions of block grants and technical assistance to make sure that these facilities were managed in a sustainable manner and were adequately supplied in response to the demands expressed by the communities. Most importantly, hygiene and sanitation programs were promoted through education and various materials of public information.

Benefits achieved:

This project assisted around 2294 villages which counts to 80% of the population and gave them access to water supply and sanitation facilities, it exceeded the appraisal target by 12 %. There were substantial improvements in the hygiene, health behavior and community management of health services related to the water borne diseases. Educational programs related to sanitation and water supply programs was an important aspect of the project to create awareness among the people related to hygiene and

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health, various schools obtained and promoted hand washing and hygiene related promotional activities, also the villagers were trained to plan and implement their own sanitation program in order to end the open defecation and basically having access to safe and sanitized household toilets. By the end of the project 78% of the rural households had access to clean water, 33% to sanitation as compared to 17% and 12% at the start of the project respectively. Importantly substantial reduction in the child diarrhea occurrences was observed (World Bank), (2011).

Water and Sanitation Initiative intervention (WSI): Government of Australia

The main objectives of this intervention were as follows: 1) Supporting and executing sector reform and capacity building, thereby making water and sanitation facilities more sustainable. 2) Secondly, Expanding the access to water supply and sanitation, keeping in mind the poor people as the target population, specially the children in schools. 3) Lastly, improving the quality of life and health of the poor, also their vulnerability, by increasing and promoting good hygiene practices, through various educational programs and providing adequate and sustainable water and sanitation facilities, which is very important for the public.

Benefits:

An additional 550, 000 population of which 70% consisted of poor people had access to safe drinking water and basic sanitation. Around 50% of school children in 250 villages had access to safe water and sanitation facilities in schools. Around 200, 000 people including children displayed good hygiene practices, specially hand washing. Importantly, an addition 15, 000

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households of which 25% are struck by poverty were connected to a proper sewerage system (Australia Indonesia Partnership), (2009).

ADB - Asian Development Bank

Apart from the WSI and the world bank interventions, the Asian development bank (ADB) too has been one of the major donors and had huge investments on the improvement of sanitation and water facilities in Indonesia since the year 2007. The ADB invested on improvement on poor rural connectivity and rural infrastructure which included construction of public bath, toilets and washing facilities. It also aimed at decreasing and reducing the occurrence of diseases like typhoid and diarrhea which were directly linked to untreated water and poor sanitation. This project aimed to serve 1.3 million people across Indonesia in 9 provinces including both the rural as well as the urban communities. (Asian Development Bank), (2011).

Total investments

Following are the major investments or donations undertaken by the World bank, Australian Government and ADB for the improvement of sanitation and water programs in Indonesia. Major Donors Average annual commitment sanitation and water 2007-09 US\$ million/year World Bank 26.27 ADB 26.27 Statistics Source: (Indonesia country profile), (2012). Australian Government invested A\$300 million for the Water and Sanitation Initiative intervention for Indonesia in December 2008 (Australia Indonesia Partnership), (2009).

Outcomes

Following below are some important improvising statistics for Indonesia over the years. Infant Mortality:

Indonesia 1960 1970 1980 1990 2000 2005 2010 2011 128100765438312625 Under five mortality:

Indonesia 1960 1970 1980 1990 2000 2005 2010 2011 2161641208253423332 Neonatal mortality:

Indonesia 1990 1995 2000 2005 2010 2011 292522191615 Statistics Source:

(Trends in mortality rates), (2012). Life Expectancy: Indonesia -

Male 2006 2007 2008 2009 2010 2011 666667676767 Statistics Source: (The World Bank), (2013) Life Expectancy: Indonesia -

Female 2006 2007 2008 2009 2010 2011 696970707171 Statistics Source: (The

World Bank), (2013). Overall, through the interventions, there was not much of a significant impact on the infant, under five and neonatal mortality, it has also not really had a convincing impact on the life expectancy which has an important link with the sanitation and water facilities of the country. Even after the intervention, the situation in Indonesia is such that, still many people lack basic access to sanitation and water facilities, providing and serving water and sanitation facilities to the people who lack access to these services is the fundamental aim of the UN millennium development goals (MDG). However, as per the statistics and data piled up by the WHO and Unicef, the rate of progress of achieving this target suggests that target for the rural sanitation will not be achieved by 2015 (Sanitation and water for all), (2012). Figure source: (Sanitation and water for all), (2012). Untitled (1).

jpg Though, the progress for rural water has been good and sufficient to meet

targets for MDG 2010, Indonesia still needs to increase the sanitation
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facilities from 73% to 78% and 39% to 61% in urban and rural areas respectively in order to meet and achieve the millennium development targets 2015. Even after achieving the targets of MDG 2015, 40% of rural and 22% of the urban area population would still lack the access to improved sanitation facilities. Similarly 17% and 5% of the rural and the urban population respectively would still be using unimproved sources of drinking water. Thus, it is crucial to achieve equity and far as the MDG 2015 are concerned not just because the poor population cannot invest for their own facilities but surely have the most to gain because of their intense vulnerability to severe health outcomes, therefore, extra and additional facilities, investments, resources and efforts are a must to make sure that the poverty struck and the most vulnerable people are served and reached (Sanitation and water for all), (2012). Importantly, the population growth in Indonesia also has hampered the progress, as far as the water and sanitation facilities are concerned, even though so many interventions have been undertaken. Indonesia has to make provisions of water supply to 60 million people and 35 million for sanitation to reach the MDG 2015, which basically suggests that provisions and access to sanitation must increase 3 to 5 times, similarly for water supply it should increase 5 to 6 times (Indonesia country profile), (2012).

Conclusion

As far as Indonesia is concerned, the country has been facing sanitation and water supply problems since years, the interventions undertaken by ADB, Australian government and the World bank did not have a significant impact on the life expectancy, under five, infant and neonatal mortality, which is

linked to the sanitation and water conditions of Indonesia. Importantly, Indonesia is also not on the path of achieving the millennium development goals 2015, in order to achieve these goals sanitation and water supply facilities should increase by 3-5 and 5-6 times respectively. Therefore, extra and additional facilities, investments and interventions, resources and efforts and more collaborations with other countries is crucial to serve the population, including the poor and the vulnerable people, with appropriate sanitation and water facilities. Taking the sanitation and water supply situation in Indonesia, one of the most striking feature that can learnt is the importance of these facilities for a country because those facilities are then directly linked to adverse health outcomes, child mortality, low life expectancy for a particular country. Thus, provision of appropriate and adequate, sanitation and water facilities to the people should be one of the top most priority because a healthy population is a also very important asset for the economic development of a country.