

Saving of Grey Water as well as Electric Power by Rising Public Awareness in the Purpose of Ablution Ritual (Wudhu)

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Abstract

Ablution (wudhu) is the Islamic terminology which is usually done before performing prayers multiple times in a day. Notably, a large volume of grey water is withdrawn and being used in the ablution ritual. Indeed, majority are not concern about the using of grey water during ablution ritual. The investigation has been taken out in DUET central mosque where approximately 2250 worshippers perform their prayer daily. They consume about 6.4 litter of water at every period of prayer that has been obtained by experimental analysis upon 100 worshippers. The scenery has been drastically changed after arising consciousness among the people. Where, worshippers consumed only 3.6 litter at each time, thus, 2.8 litter of water can be diminished. In a single month, it has been shown that 42 cubic meter (CBM) of water can be saved that may consume about 12 KW-H of electricity which saves almost Taka.95 per 100 individuals. This is the study of 100 worshippers only in a mosque, but there are more than 2.5 lakh mosques in Bangladesh. If the people become mindful and somehow it could be executed this procedure in urban society, the enormous volume of grey water can be saved and just as power utilization likewise could be decreased.

Keywords: Ablution Waste Water, Social Awareness, Power Consumption.

1. Introduction

Water, a natural and precious resources. For a sustainable urban future, society should move forwards the goal of efficient and appropriate use of water[1]. Natural resources are the base for humankind's survival, in which water is the most components with the reason that living organisms can depend upon their life cycle and further contribute to natural cycle [2-5]. Water is one of the most vital resources for this planet[6] as it is an important input for all living beings (animals or plants). Thus, water being such a vital resource, man should carefully and frugally use it, indeed conserve it. It is an indisputable fact that, this is the driving force of all nature, so no water, no life, no blue and no green. In this train of thoughts, human being uses this natural resource without any concern because of overabundance of this natural resource particularly in our country. As a Muslim country, the foremost people are the pious, hence people perform their prayer daily, and they make ablution before the prayer. The ablution ritual usually takes up several minutes at a running water facility, allowing a considerable amount of water to go to waste when only handfuls of water are collected and used at each step of the ritual [7]. A large amount of water is withdrawn daily in the mosque for ablution ritual. More than 2.5 lakh mosque in Bangladesh. Most worshippers perform their ablution in the mosque. It may be incredible that majority of worshippers are not enough aware while they perform there ablution ritual. The study has been observed on DUET* central mosque wherein, approximately 2250 worshippers perform their prayer in a single day. It is clearly seen that, most of them are not conscious about water consumption. Even, some of them spend idle time during their ablution ritual by opening water tape, furthermore, in the period of between cleaning the head (masah) and washing the feet as well as in interval period of different organ of body. Even though, previously, some experimental works has been carried out in the purpose of reusing the ablution waste water in both indoor and outdoor perspective, it didn't analyze the amount of ablution waste water by each person. Nowadays, Power consumption is the growing concern about use of energy [8] where electric power is the crucial for our country since we have agricultural and industrial farm as developing country. The growth in the industrial sector, promising a healthy growth of domestic

product (GDP),[9] severely affected the ability to maintain the fuel supply or reserve. To move forward the country electric power is the most demandable factor where most of the countryside people still deprived from this service.

So, there is a scope to survey the amount of ablution waste water as well as arise the public awareness to reduce the grey water during ablution ritual that may also subside the power consumption. It is customary to somebody that the overabundance of grey water will not be depleted. But they are not concern about the extravagancy and power consumption behind this withdrawn grey water through the pump. Even if they observe this but do not take into account and future crisis. There are different reasons why this is being occurred most likely lack of social awareness about the natural resource besides, lack of Islamic knowledge.

2. Research Question

- How much grey water is being consumed everyday by a worshiper in ablution ritual?
- How can we reduce grey water consumption in ablution purpose?
- How much grey water as well as electric power we can save?
- Is it possible to save/reduce ground water consumption by rising public awareness in ablution purpose?

3. Research Aim

To make aware the people in several points of views, as for example, religious, social and environmental perspectives, to reduce the grey water consumption, reduce the power consumption, as well as save the ground water level for betterment of this planet.

4. Literature Review

The ritual prayer (Salah), which is performed five times in a day, is the second pillar of islam. Prior to prayer a Muslim must have ablution as Prophet Muhammad (peace be upon him) said, “Neither prayer without purification nor *sadaqa* out of purloined wealth will be accepted” [10]. Ablution ritual (Wudu) is the Islamic procedure for washing parts of body, a type of ritual purification, or ablution. Wudu involves washing the hands, mouth, nostrils, arms, head and feet with water and is an important part of ritual purity in Islam. Based on the Usul Fiqh analysis conducted, avoiding wastage in all manners effectively contributes to the good public interest, especially in creating a cleaner, healthier and sustainable living environment [7] Extravagance and waste means going past the proper boundaries and is the opposite of moderation. The limits of such are set by the precepts of religion, the intellect, and society. Here, waste takes on the meaning of waste and excess in the usage water, as well as in general matters of life. The Quran has labeled the people who waste and are extravagant as the 'Brothers of Satan'[11]. If people were to be wasteful and extravagant, they would be harming that society and shirking their human responsibilities; in addition, they would develop and cultivate negative personal characteristics which would be destructive to them on an individual level

5. Materials and Methods

Initially, ten estimating buckets has been obtained at which bathing waste water is gathered. Secondly, these buckets are circulated to the admirers to take up the water after their bathing custom and likewise taken information of waste water without showing them that they ought to know amid bathing which has been completed before mindfulness. These data has been calculated and compare these before and after awareness.

6. Extravagances of Water from the Point of Islamic Perspective

As narrated in the Quran, “He sends down saving rain for them when they have lost all hope and spreads abroad His mercy” (Quran 42:48). Water’s role in farming and producing the sustenance of life of human beings and animals are described in the following verse. From the religious point of view, Almighty Allah declare(s) that, “O children of Adam, take your adornment (by wearing your clean cloths), while praying and going round (Tawaf of) the Ka’bah, and eat and drink, but waste not by extravagance, certainly he (Allah) likes not those who waste by extravagance” (The Noble Qur’an, Al-A’raf, 7:31). What is more important that Prophet Muhammad (may the peace and blessing of Allah be upon him) reminds the Muslim to always practice moderation and conservation, as reported by Ibn Majah, the prophet, on seeing a man performing the ablution ritual by a river in a wasted manner, has declared in answer to the man’s question of israaf (wastefulness of wastage) in wudhu; “Yes indeed, (do not waste) even if you perform them on the bank of river” (Ibn Majah-Book 2,Hadith 425). This record illustrates the significance of frugality of grey water in ablution ritual especially in the aspect of water conservation. During the era of Noble Prophet (may the peace and blessing of Allah be upon him), modern

measurement were not used. In that time measurement, such as mudd and sa' were used, these are mentioned of these (measurement) in the narrations. According to those narrations which the scholars have authenticated, the messenger of Allah (may the peace and blessing of Allah be upon him) used to perform wudu' with one mudd of water. If this were to be evaluated according to modern measures, the messenger (May the peace and blessing of Allah be upon him) would perform wudu with approximately 1.25 liter of water and sometimes with more or less than this[12] Just as it mentioned in the Blessed Hadith of Sahih al- Bukhari “ The Prophet (may the peace and blessing of Allah be upon him) would perform gusul (bath) with one sa' to five mudd of water, and wudu with one mudd of water” (Sahih-al-Bukhari-Hadith no.198). Likewise, Allah subhanahu owatala said in others verses “God does not love those who do israaf (Surah An'aam,06: 14.) Verily God does not guide the doers of israaf and the liars (Surah Ghaafir, 40:28). Then We fulfilled Our promise to them, and We delivered them and whomever We wished, and We destroyed the profligates. (Surah Anbiya, 21: 9).

7. Environmental and Social Perspective

The decline of societal morals and ethics, the improper use and waste of resources pulls humanity towards corruption and societal destruction. This can even reach the point where an individual stops caring about the needs of others and only cares about himself. The decline of governments, another one of the social consequences of israaf. Ibn Khaldun, one of the Muslim sociologists, has mentioned that whenever a government would become afflicted with israaf and extravagance, it would soon fall into decline. Social and environmental perspective may arise the awareness among the people by discussing among them in group wise. Publishing the pros and cones of fresh water in this planet that may increase the social liability.

8. Sustainability

There are more than 2.5 lakh mosques in Bangladesh, and Dhaka city is known as the city of mosques. Mosque is the fixed and permanent sacred place for Muslim community. It is established both in urban and rural society in our country without any harming the climate. As the people of Bangladesh are pious, they say their prayer and perform ablution ritual regularly. Therefore, since, Bangladesh is the Muslim majority country these mosques will be remained for long while. Social awareness is the one of the best way to make the people conscious.

9. Social Benefit

Water is one the most important elements of environment which can be used once more times by treating in many processes. Day after day the ground layer of water is going down which is very concerning matter for the near future. From the religious point of view if the people become aware in using water in ablution as well as their daily life then water consumption will be minimized and energy will be saved. So, it is apparently seen that, awareness conveys both economic and social benefits.

10. Management and Logistics Support

Since this is the one kind of social enterprising that we have established an organization named ‘social awareness improvement and environmental development’ (SAIED) which may create social awareness among the people and arrange different types of campaign. We are very pleased to the DUET authority for cooperating us during experimental analysis.

11. Implementation Summaries

It will not be difficult to establish this study in our society. Since, Bangladesh is a Muslim country, where, most of the people are pious and they have soft corner for such type of (religious) activities, and hence they will become conscious after motivating and campaigning as we found in our experiment.

12. Future Prospects

Grey water is the most usable and life retaining resource over the world which should be effectively used. The future prospects could be the reuse and recycle the ablution waste water along with sensor tape and some other effective methods should be implemented for saving grey water and reuse ablution waste water.

Table 1: Assessment on 100 Worshipers in 10 Day

(W= Worshipper)

Number of worshipper's group	Average (five times in a day) used water before awareness (litter)					Avg	Average(five times in a day) used water after awareness (litter)					Avg
	W1	W2	W3	W4	W5		W1	W2	W3	W4	W5	
1	5	5	5.5	5	5	5.1	2.6	4	3.5	4	3	3.42
2	6.5	5.5	5.5	6	6.5	6	3.9	3.5	3	4	3	3.48
3	8	7	7.5	7	7.5	7.4	4.4	4	3.5	3.5	3	3.68
4	6.5	7	7	7	6.5	6.8	3.4	3	3.5	3	4	3.38
5	5	7	6	6.5	6.5	6.2	3.5	3.5	4	3	4	3.6
6	6	7	7	7	6	6.6	3.5	3.5	4	3.5	3.5	3.6
7	7.5	7	6.5	7	7	7	4	4	3.5	3.5	4	3.8
8	6.5	5	5.5	5	6	5.6	4	3.5	4	3.5	3.5	3.7
9	6.5	5	7.2	5	5.5	5.8	3.5	4	3	3.5	4	3.6
10	9	9	9	6	6.5	7.9	3.5	4	3.5	4	3.5	3.7
11	5.3	5	4.5	5.5	6.7	5.4	4	3.5	3	3.5	4	3.6
12	7.3	7.2	6.8	6	5.5	6.7	3.5	4	3.5	3	3.5	3.5
13	8.2	7.2	6.5	6	5	6.6	3.5	4	3.5	3	3.5	3.5
14	7.4	5	4.6	5.5	6.7	5.8	4	3.5	3.7	3.5	4	3.7
15	8.2	5	5	6	6	6.0	3.8	4	3	3.5	3	3.46
16	6.6	7	5	5.5	6.5	6.1	3.5	3.7	4	3.5	4	3.74
17	6	6.5	6	7	6	6.3	3.5	3.7	4	3	3.5	3.54
18	7	7	6.5	7.5	7	7	4	3.5	4	3.5	4	3.8
19	6.5	7	5.5	5.5	6.5	6.2	3.5	4	3.5	4	3.5	3.7
20	7.5	7	6.5	7.5	7	7.1	3.7	4	3.5	3	3.5	3.54
Total	136.5	128.4	123.6	123.5	125.9	127.6	73.3	74.9	71.2	69	72	72.1
Average	6.8	6.4	6.2	6.2	6.3	6.4	3.7	3.7	3.6	3.5	3.6	3.6



Fig.1. During the Ablution Ritual in DUET Mosque

13. Result and Discussion

In this study, we found each worshipper consumes about 6.4 liter of water at each period of prayer that has been obtained by experimental analysis on 100 worshippers. After consciousness, the scenery has been dramatically changed. Where, worshippers used only 3.6 liters at each time that may reduce 2.8 liters at each time, and finally it can be saved 42 cubic meters (CBM) liter of water in a month for 100 worshippers. This 42 CBM water may consume about 12 KW-H of electricity. If we able to aware the people by campaigning and publishing leaflet on mosque then we can save about Tk.95 in a month (Taka.5.73 per unit with taka.25 as a demand charge according to the DPDC). This is the analysis of only one mosque but, we have more than 2.5 lakh mosques in Bangladesh. If we will able to implement this process especially in urban society (mosque), a huge volume of grey water can be saved as well as electricity consumption also be reduced. In the ablution ritual water that is relatively clean because it contains no soap or solid impurities while it contains small amount of microorganisms which origin is gargling. These used water can be reused in indoor for flushing toilet bowls, irrigation (outdoor), and general washing by screening and sedimentation simply. Otherwise, it can be reused in ablution by filtering (sand and gravel).

14. Conclusion

There is no reason why people should not be aware about the extravagances while it is the name of the life. Although grey water reusing may not be a remarkable thought, water conservation is becoming a crucial issue that may maintain the evergreen criteria of nature. Besides, public awareness and electricity consumption is the most important for better future. Here, we demonstrated an effective way of saving water and power consumption as well as rising the public awareness by social campaigning through an organization. While Islam always encourages not to waste water, people should obey the religious rules and regulations. With the rising public mindfulness it could be conceivable that we contemplated in this case study. Although, the current study is based on data collected a single source, it is intuitive and logical to extrapolate the result to other similar mosque. Here, flow rate of water tape was not constant in each tape and the accompanying study experimented in a single area. The geographical and sessional change may influence the study.

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16. References

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