

Impact of Animal Waste on Waterfront Area of Phuleli Canal, Hyderabad Sindh

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Abstract - Hyderabad is the second largest city of Sindh province by virtue of population and area; it is a historical city and lying on the Left Bank of River Indus. River Indus is main source of fresh/ surface water that supply water throughout the country for agriculture purposes. Hyderabad city, including its canals is heavily polluted due to deposition of untreated solid waste. Phuleli canal is one of the most serious affected areas because of lack in maintaining the surroundings of canal. There is no any dumpsite for animal waste or animal dung at nearby areas. However, increasing of animals is also increasing the waste and its disposal is the main challenge for the safety of environment. Therefore, the waste from canal surroundings should use as a fertilizers that helps in agriculture land, and convert it into green space that makes the canal and its surroundings clean and healthy. It will be beneficial for both canal and the environment.

Keywords: Phuleli canal, Animal waste, Livestock, Environment pollution, Canal water, Cattle farms.

I. INTRODUCTION

In present time, livestock units have settled in urban areas and that causes serious health and environment issues in many ways if they are not treated properly. On the other hand, where all other waste problems are considered seriously, animal waste gets very less attention. Government has officially proposed a site for cattle farms on Tando Muhammad Khan road named as “Cattle Colony”[1] but because it is too far, most of the people made their farms within the areas where they live and that makes the environment hazardous.

Animal waste is very precious fertilizer and it is not managed in a proper way at the banks of Phuleli Canal[2]. Secondly, waterfront area increases beauty to the nature but the residents has ruined it. River Indus is main source of fresh/ surface water that supply water throughout the country for agriculture purposes including Kotri Barrage[3]. Phuleli canal is runs off from Left bank of Kotri Barrage and it was constructed for drinking and irrigation purpose. This canal is beneficial for agriculture land and helps in fertilization of land

to grow crops near its surroundings but this canal is neglected by government administration due to lack of funds, residents constructed their houses and farms at canal banks and disposes their animal waste directly in the canal water and on its banks[4].

Animal waste is beneficial and valuable source, which is use to maintain the fertilization of soil and production of crops [5]. Traditionally in some countries i.e. India, Indonesia and Vietnam, biogas is produced by animals [6]. Animal waste is used as a fertilizer is the oldest remedy used from centuries because it is organic and full of nutritions [7]. The settlement of livestock units in urban areas causes serious health and environment issues for animals and humans by not being treated properly [8]. In last few years, due to high demand of dairy products, the production of Livestock is increased rapidly in developing countries [9].

The frequent disposal of animal waste has become a serious problem. The proper collection and disposal of animal waste is missing, this results in heaps of garbage at different locations at canal banks and flowing in the canal [10]. The residents dispose the waste on the banks of canal and the same waste is mixing up with flowing water. This organic waste can be recycled and reused as a fertilizer that will be beneficial for agriculture land [11]. In today’s world, life is moving so fast, people do not have time to focus on nature, which is very important for health [12].



Figure 1.1: Location of Kotri Barrage diverging water into Phuleli Canal

II. METHODOLOGY

a) Study area

Phuleli canal is used for irrigation in Hyderabad city and the focus of this research will be on Ghumanabad and Aado Khan JatoiGoth, which are situated on the left bank of the Phuleli canal [13]. Both banks of canal are encroached with slums since decades. The waste that is disposed at the canal banks are ruining the beauty of site and making the environment and canal water polluted as shown in fig 1.2 and 1.3 that how animal waste is dumped at canal banks.

CATTLE FARMS NEAR PHULELI CANAL



Figure 1.2: Farm Near Canal



Figure 1.3: Waste being disposed near canal

b) Canal surroundings

Officially, the area for canal surroundings is 135 feet from right bank and 131 feet from the left bank. Now a days laws on encroachment are implemented and they wanted to remover encroachment from both sides of the canal but local residents are not permitting them. Therefore, the encroachment is removed about 70 feet from both the sides for urban areas. (Ashraf Memon, 2020). According to Sindh Irrigation and Drainage Authority, construction is not permitted within 100 feet of any canal’s surroundings [14].

The nearby areas along the Phuleli canals are Islamia Colony, Araingoth, Bachal Solangigoth, Kolhigoth, Ghumanabad, Jatoi Goth (Aado Khan Jatoi Goth and Imam BuxJatoi Goth) and LaluLashari Goth. This research is only focusing on Ghumanabad and Aado Khan Jatoi Goth. Population of Ghumanabad and Aado Khan Jatoi Goth is shown in Pie chart.

POPULATION OF AREAS NEAR PHULELI CANAL

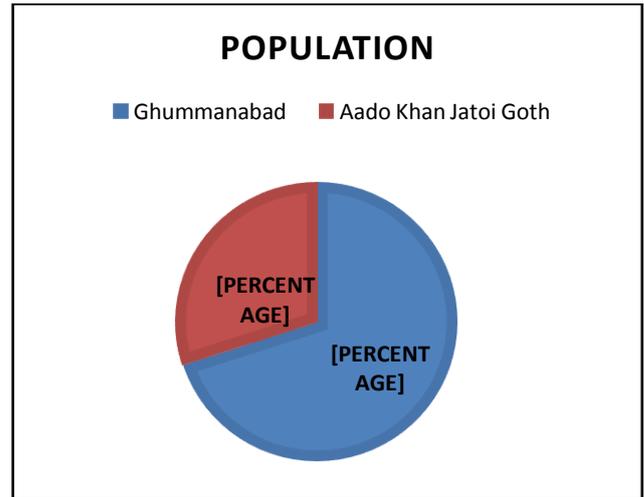


Figure 1.4: Showing population near Phuleli canal areas

C) How canal should treated

As per report of Hyderabad Authorities that determined to Clear Phuleli Canal is; in the starting phase of Phuleli canal these four rules should be implemented.

1. No more waste should dump near the canal banks
2. Clear the existing waste
3. Shift the factories away from the canal
4. Remove all the cattle farms from the banks

Furthermore, it was mentioned that these neglections happens because there is shortage of resources and overabundance of problems [15].





Figure 1.5: Animal waste at canal banks

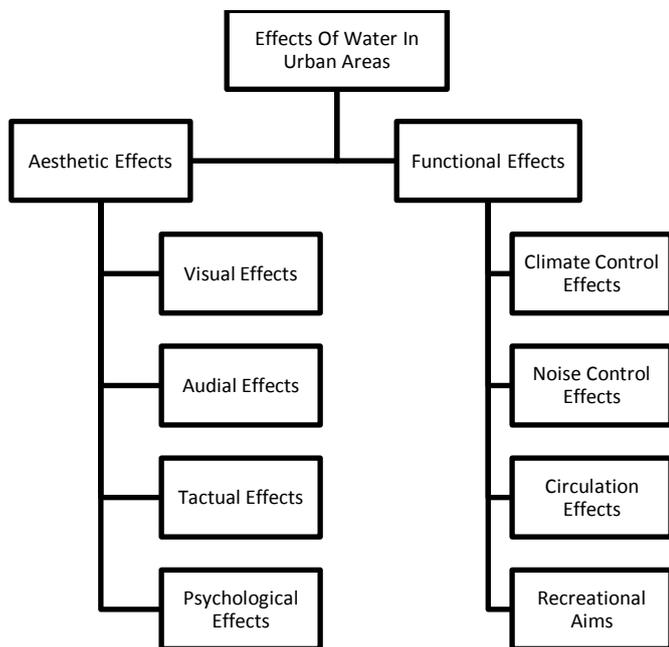
survey, there are numerous houses near Phuleli canal and many houses have small farms constructed within boundaries. Moreover, all the farm waste plays vital role in damaging the canal, environment and people health. More than 4 trailers of animal waste is tossed in the canal. There are almost 350 animals in farms near canal boundaries at Aado Khan Jatoigoth and Ghumanabad. The waste of animals are collected by farm workers and disposed near canal. Maximum quantity of animals in one farm is 50 to 60. Few years back, the canal was surrounded by agriculture lands and animal waste was used as a fertilizer for those lands but due to increase in urbanization, the lands were replaced by housing schemes. Thus, the animal waste is now disposed in canal.

It is observed that the animal waste that is collected at the banks of canal from near farms are enough that it can be easily utilize in fertilizer for agriculture land, landscaping and dead parks around the Hyderabad city.

a) Animal waste used for green areas

There should be green walkway that surrounds the canal to look better and avoid waste near its banks. It will also help to improve water quality by capturing runoff and pollutants that can enter the canal. It enhances the beautification of canal by providing the green space.

WATER EFFECTS IN URBAN AREAS



Source: Adapted from Önen (2007), UmutPekinTimur (2013)[16]

III. RESULT AND DISCUSSION

Result of this research is that there are no proper dumpsites for animal waste in Hyderabad city. That is the main reason, farmers dispose their daily animal waste near their farms, which causes the environmental pollution and make the environment hazardous. The direct disposals of animal waste near Phuleli canal are creating numerous problems including air pollution and water pollution. As per

IV. CONCLUSION

Hyderabad is the major city of Pakistan and it still has the waste management issues. The main focus was on banks of Phuleli canal at Ghumanabad and Aado Khan Jatoi Goth that are neglected and not treated properly, even knowing the fact that this canal water is used for drinking purpose. There is excessive animal waste, which is generated per day that directly, dispose into the Phuleli Canal, as it is polluting the environment and that become the source of creating infections and diseases. By analyzing the population of Ghumanabad and Aado Khan Jatoigothit is concluded that the quantity of animal waste generation is 1.75 tons per day and if this will use as a fertilizer then our environment will be healthy and clean. This innovative idea of utilizing the HHHHHHHH into fertilization will help in bringing the city to the green space and healthy agriculture land. This implementation will help to clean the bank canals and water quality of the city and help to decrease in health issues.

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