Wetlands and Sewage Problem of Kandi Town in Murshidabad District

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Abstract

Development means the growth of well being and sustainability of resources. Sewage problem is an increasing and contemporary problem in tropical regions. It has been recognised as a major environmental problem for some time (e.g. Banner 1974). Not only on aquatic life, has it had a great impact on terrestrial life and urban development especially of slum areas. In the period of Globalisation and in spite of being implemented "Swachh Bharat Abhiyan" we are habituated to live with our so called life style. Historically Kandi is an old and aristocrat town of Murshidabad. Near about 60 surrounding villages are depended on this town. The civilisation of this town was started based on Mayurakshi river (so called Kana Mayurakshi).With the increasing population the wastages are increasing gradually which creates threatening towards this civilisation. Few Measures have taken to get rid of this problem but it is not sufficient by the municipality. This paper is trying to present the of Garbage and sewage problem as the barrier of development for this municipality.

Key words: 1.Garbage, 2.Sewage, 3.Slum, 4.Flood, 5.Draught.

Introduction

In spite of having 55632 population and 18 municipal wards, there are many slum areas as well as waste wetlands. The basic rock formation is igneous type and the soil type is sandy in the nearby area of Mayurakshi river and clay type in the middle region of Kandi town. With 55615 populations, 18 wards within a short living area of 4.33 sq. km. this town had got the label of municipality in 1869 as the oldest one in the historical Murshidabad. Geographically altitude 20 mt/65 feet. From sea level under Rar belt surrounded with KanaMayurakshi (the distriburay of Mayurakshi River) and Darka River, In West Bengal. Kandi suffers from flood in Rainy season due to lack of making Proper drainage system and Draught in summer season because of lower label of ground water There are shortages of drainages which creates short time flood and sewage as well as garbage problems. It has destroyed the growth of development of Kandi town, also affects the health of people.

Study area

Geographical location

The study area is as a whole Kandi Municipality. At Kandi Municipality the most water logging problem and sewage affected area is ward no. 6.It is situated beside the Kana Mayurakshi River and the drainage system is so poor in this ward so as a sample survey this ward has been taken to complete this project sample and house hold survey has been done on ward no 6 & 14 under Kandi municipality located in Murshidabad district in West Bengal bounded by the latitude 23 56'30''N – 23 58'30''N and longitudes 88 46'30''E – 88 47'30''E.

Surroundings of the area

The ward no. 6 & 14 is situated beside the river of Kana Mayurakshi. Northern side of this area is Balia village, Raybati village, Eastern part is ward no. 4 and Purandarpur village,Western side is surrounded by their river Kana Mayurakshi River.

Reporting area

The report presents the status of whole Kandi Municipality, to present it the survey area has been selected from the North Eastern part of ward no.6 Kandi Municipality i.e. **Adirapara Slum**, North Western and Southern part is covered partly by **Pirtala slum**.

General description of the study area

Climate

The climate of Kandi is seasonal wet and dry type. The annual average rainfall is 140 cm.80% of total rainfall occurs in between July to September. Average temperature 32° c. Maximum 35°c in summer and Minimum 17°c in winter. Due to humid tropical climate this area is suitable for degradation decomposition of matter.

River

The main rivers of this area the Kana Mayurakshi and Darka. These two rivers are flood prone. In every year over flow in rainy season causes flood. These two rivers are flowing from west to south east and all meeting to the Ganga.

Soil

Geographically the municipality is situated adjacent to Rahr area of alluvial soil with tropical climate which is favourable for agriculture and other economic activities. But soil ph is acidic. So vegetables are not grown here hugely. Few areas are under clay type soil which is under swampy type area.

Methodology

The present study which deals with the "Eco tourism and Social Wellbeing" includes both

1. Primary Data Source
2. Secondary Data Source

This work has focused on "Garbage and Sewerage problem as the hindrance of development of Kandi town". The methods of study and data collection have been in proper procedure given below:

Primary data will be collected through field survey from the spot by questionnaire scheduled, personal interviews, and group meetings through discussion with communities who belong to that affected areas.

Secondary data will be collected from local Panchyat office, ancient archives, B.D.O offices, local libraries and D.M offices and other sources.

The collected data and information through primary and secondary sources will be processed, analyzed systematically to provide sustainable strategies for the development and the remedial ways to get rid of the sewerage problem.

Data source

To make this project I have collected data, maps and diagrams from Kandi Municipality. The public works department (PWD) also helped me by giving the information about the roads and drainage lines of

this area. I have also collected data from the local people with my questionnaires. From the internet source I have collected the satellite imagery and data for my report.

Map of mostly affected slum area and wetlands of Kandi municipality due to sewage problem

Table: 2 Showing the list of polluted ponds affected by slums and surroundings uses

Pond no undr municipality	Pond name	Pond Area/SQ.MT.	Pollution percentage
90	Nol pond	202.91	60
95	Kali sagar pond	490.35	80
98	Talar par pond	204.69	60
99	Dighi pond	296.07	90
101	Jay deb doba	307.1	95
269	Boral pond	203.8	80
281	Bagdi para pond	279.03	40
409	Adirapara baro pond	20	65
410	Nemai pul pond	65.33	62
411	Potal namdol doba	106.32	60
413	School garia pond	236.2	70
425	Singh pond	121.01	97
426	Gram debi pond	989.4	85
435	Dighirpar bagdi para pond	55	75
436	DEGAERPAR SCHOOL POND	60	55

Data source: Kandi municipality and pwd

Pond pollution of Kandi municipality

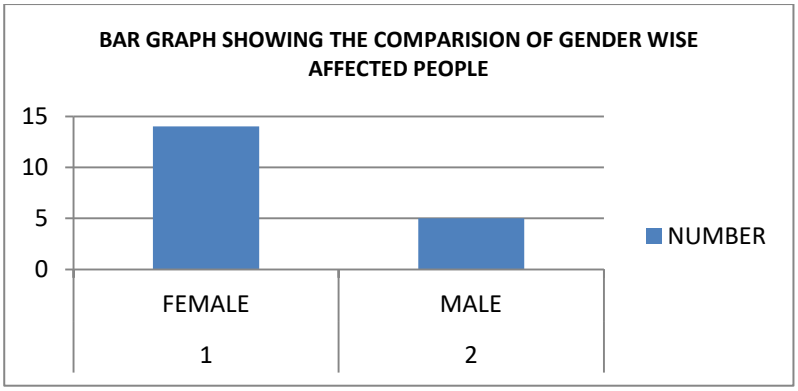
This has been represented by composite bargraph. From table no. 1 & 2 it is noticed that there are near about 150 ponds. Which is 33% of total ponds of Kandi municipality are polluted due to sewage problem As well as there are 15 existing ponds which has been polluted by slum pollution, which is near about 10% of total polluted pond of Kandi. As Kandi Municipality is a congested area there pollution control is a very hard matter. Most of the people especially those who belong to BPL category.50% of them has no tap system at their home so they are totally depended on pond and local water bodies.

Table: 3 showing the percentage of male and female affected people by contagious disease related to sewage pollution

Ward no.6

Sl.No	Affected gender	Number	Percentage
1	FEMALE	14	73.68%
2	MALE	5	26.32%

Data source: Kandi municipality



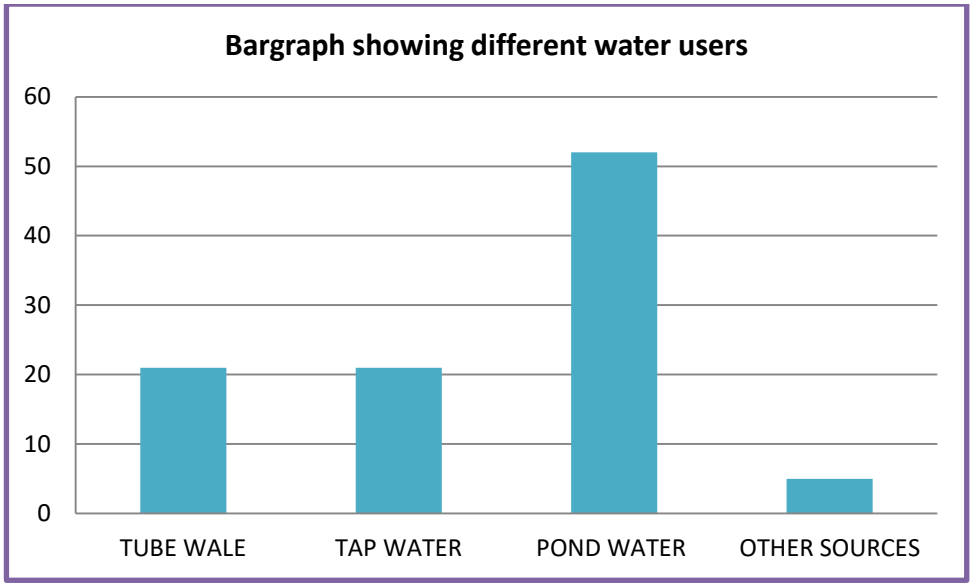
Effect of water pollution on male and female population:

This has been represented by comparative bargraph. After house held survey the table ni.3 & table no.4 has been mode. So it is reported that are female users. As a result various kinds of diseases attack the female more than male. Among 19 households in 14 family female are affected which is near about 73% and in 5 family male are affected which is near about 27%. It is very surprising that though they have got new pacca houses by IHSDP and other projects but still they are under poor health condition and suffering from contagious diseases due to Garbage and sewage problem.

Table: - 4 showing the percentage of daily users of different water sources in slum area

Water sources	**Number of users**	**Percentage of users**	**Objectives of their uses**
Tube well	4	21.05%	FAMILY USING
Tap water	4	21.05%	FAMILY & DRINKING
Pond water	10	52.63%	FAMILY USE, DRINKING & BUSINESS
OTher sources	1	5.27%	DIFFERENT
Total	**19**	**100%**	

Data source: Household survey



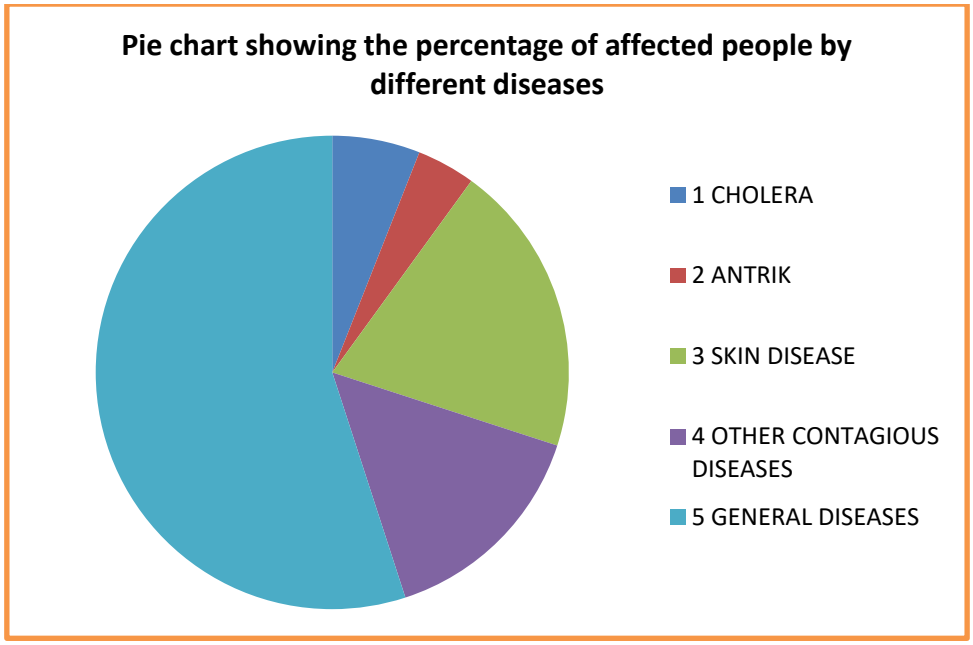
Water users of different water sources:

This is analysing the household data and the simple bar graph has been drawn. Based on the table no.4 it is noticed that maximum households use the pond water. Minimum numbers of users are shallow and machine users. This is because maximum numbers of family belongs to the poor family, so they are compelled to use the pond water. Due to using the tap water this has been a regular issue in this area. Most of the households use the pond water mostly for every work of daily uses. This is not a feature of urban area but still it is going on in this area.

Table:-5 Showing the percentage of people affected by differnet diseases in the slum area of the ward no.6 of Kandi municipalty.

Disease name	**% of affected people/year**
Cholera	6%
Antrik	4%
Skin diseases	15%
Other contagious diseases	20%
General diseases	55%

Data source: Household survey



Diseases occurred due to sewage problem and garbage pollution

From the table no.5 it is noticed that the lack of sewerages and polluted pond have made the place very unhygienic. Except the other diseased maximum people are affected by skin diseases and other water sourcing diseases. There is also the appearance of Cholera, Antrik affected. There is also the appearance of Cholera, Antrik affected. In the flood of 2000 maximum people of this area was affected by these diseases. Due to flood affection and swampy condition the people of this area suffers from some skin problem and contagious diseases.

Problems of the study area

Natural Problem:

- This area is located at the northern and north western part. It is a sub urban area just beside the village type's area. So many Kachha roads are existing there. The garbage is thrown on the road. So dirty water infiltrates and connected with ground water. It pollutes soil and ground water. It affects the pond ecosystem.
- There are many water logged places, which are full of small plants and dirty garbage. The local people uses the pure water pond for their daily home works, so day by day the fresh water ponds are also being polluted gradually. The pond ecosystem is being destructed.
- The area is a down sloping area and few areas under loamy clay type, so in rainy season due to heavy rainfall water logging problem arises there, especially in the north eastern part and the western part of this ward. There is no way out of extra water storage. So water logging problem is a massive problem of this ward.
- From sources it has been reported that in the flood of 2001 80% kachha house of the slum area of this ward was demolished due to water logging problem. Due to the existences of kachha roads transport problems occurs in rainy season.

Anthropogenic Problem:

- **Diseases Problem-**

Daily using of the dirty water of the water logged ponds and wet lands water, the people are affected with skin diseases and other contagious diseases. The tap line of water is not secured from the contagiousness of dirty water. It is open on the road beside the drains and wastage ponds. So sometimes the local people are affected for drinking this water. Cholera, Antrik type's dangerous diseases and which are spreading day by day. Now a days dengue has also been a common disease here.

- **Sanitation Problem-**

Surveying the 19 households of the slum area it has been reported that 12 households have no permanent latrine. This is a natural scenario of most of the wards of Kandi Municipality. Due to sanitation problem the surroundings are being polluted day by day. Only 30% of the sewage generated is treated. Only 72% of the solid waste generated is collected, against a norm of 100%.

- **Administrative Problem-**

Administrative clash between two groups is also a big issue of this area. Local people of few areas reported that the drains and garbage are cleared once in a year, which is very insufficient for this area. But this problem is being solved day by day.

Measures taken by the municipality

- The local municipality has taken many steps to protect this problem. In the last five year as per the India government scheme like **"Nirmal Bangla Programme" & "slum development programme"** etc. has been taken by Kandi municipality.
- Concrete latrines have been made; pacca roads in the maximum area have been made. To protect flood beside the Kana Mayurakshi Rive, dam has been building and it is a big budget programme. As well as adequate arrangement plans are being made for the flood affected people of the slum area.
- For making pacca houses in slum area **H.F.A** (Housing for All) – earlier known as I.H.S.D.P project has been taken. This project has become a short remedy in sewage and sanitation problem of Kandi town.
- By the entrepreneurship of West Bengal Govt. a new project has been launched at Kandi twon, i.e **"Green City Project"**. The aim of this project is to make the city green, but this type of projects will not be helpful to get rid of the sewage and garbage problem of Kandi municipality.

Suggestions for better treatment of it

Though different developmental projects and activities have been taken to overcome this problem of Kandi Municipality, but these are not sufficient to eradicate this problem. Surveying and studying the area I have made out some ways of development for this area. The ways are given below:-

1. **Making pacca of drains** in the slum areas. Through drains the logged water can be passed by and get into the Mayurakshi river basin.
2. The authority should **point out the sources area of pollution** and taking steps against it by making drains, garbage tankers along all over the area.
3. A well infrastructure plan should be made on the area to make the proper and planned **sewerage system which can be connected with the Mayurakshi river** basin

through high drains after purifying the solid waste As a result the water logging problem after heavy rainfall and flood can be overcome.

4. **Refreshment of the ponds** by bleaching and others chemical after a few periods continuously. It will help to preserve the pond ecosystem as well as the aquatic life.
5. **Making consciousness** among the people not to use the dirty water of waste ponds like Babur dighi, Rajardighi etc.
6. **Waste landfill programme** can be taken. It helps to utilise the solid waste by fulfilling the downgraded or down slope areas.

Conclusion

To get rid of these problems of this area I have recommended some suggestions. As far as I have got information by surveying this area I can only say that this area has a great hidden prosperity which is hidden just for the lack of consciousness.

Kandi is a historical place of Murshidabad district. Now days the population of this town is gradually increasing. So the type of slum and pollution is a massive obstruction for the development of the town.

If the righteous steps can be taken then well shall overcome the pollution problems as well as the socio economic problems of this area which affected the environmental balance. I hope in future the garbage, sewerage and sanitation problem of Kandi municipality will be demolished.

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