CONSERVATION OF WET LAND AREAS WITH SPECIAL REFERENCE TO UPPER LAKE, BHOPAL (INDIA)

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Received May 7, 2006  Accepted September 20, 2006

ABSTRACT

Wet land areas are of great values and importance in the form of natural ecosystem. How are they beneficial for the environment? Due to lack of appropriate knowledge, these wet lands are used as place for tourism. If due attention is not being paid in time, then we should better prepare to pay heavy for it. On the basis of primary data collections we have got very interesting and comprehensive results. Interpretation of these data before the masses is very essential.

Key Words: Wet land, Conservation, Ecosystem, Setting of soil, Silt trap.

INTRODUCTION

Bhopal, the capital of Madhya Pradesh is a city of historical importance and full of natural beauty. It is also called as the ‘City of Lakes’. Out of many lakes in Bhopal, Upper Lake of ‘Bhoj’ is of greater importance. This lake was built up around 1000 years ago by the King Bhoj. Water comprising area of this lake is 361 sq. km. and maximum water level is 1666.80 feet.1,2

Man is exploiting surrounding natural resources for his benefit from time immemorial. Forest, land, air and organic reactions always remained beneficial to man. Wet land has been marked as natural resources for a few days. In day to day language, we mean wet land by a place which is surrounded by water.3,4

We have many wet land areas in India, which are approximately spread in the area of 41 hectares out of it, 15 hectares is natural and rest 26 hectares is man made. Main wet land areas of India are Chilka Lake of Orissa, Sambhar and Pichola Lake of Rajasthan, Dul Lake of Srinagar and bhoj Lake of Madhya Pradesh etc. All these wet lands are popular as a place of tourism, because of their natural beauty.

From the point of view of natural balance role and work of the wet lands are very important. Wet land areas are also of great use for water storage, water purification, spread of sea shore and to keep the river bank as it is.

Importance and utility of these wet land areas should also be observed in the light of physical, chemical and biological reactions. It comprises many biological reactions like storage
water purification, sprouting of seeds, exchange of ions, nutrition, spread of bacteria and fungi and gasonisation etc.

From the point of view of ecology, these wet lands play a greater role. They regulate and control complete area of water and also works as natural filter for water. In the sense of environment, these wet lands are of vital value. They protect water and enhance its quality. With this, they control surrounding climate also. Thus it is necessary to conserve this important factor of ecosystem.5

OBJECTIVES

Upper lake is just like the heart of Bhopal. Heart’s condition make the body to regulate the same way condition of upper lake moves Bhopal. Government of Madhya Pradesh (India) is also trying to use upper lake as a tool to uplift the business of tourism in state without the consideration that increase in tourism will cause pollution in upper lake and also that half of the population of Bhopal is getting drinking water from upper lake.

RESEARCH METHODOLOGY

This research paper is based on the information collected through different sources like preparing questionaires, group discussions, interviews of 200 people for the different age groups. Out of 200 people 100 are men and 100 are women.

From where will we provide water for them? Because, according to survey of UNO more than half of the world’s population will have scarcity of water at large scale by year 2020.

In this situation using upper lake for tourism will be just like hard nut to crack. Tourism, environment and pollution are closely knit. Approach of this research paper is to reveal importance of work and usage of upper lake to the masses. It can contribute valuable support in the conservation of upper lake.

HYPOTHESIS

We fear that upper lake of Bhopal should not be ruined like Dul lake of Srinagar. Area of Dul Lake was 25 sq. km., 60 years ago and now it has remained in the area of 10 sq. km. Water of Dul Lake has become reddish due to impurities spread by house boats and dying of aquatic animals. Now the question is can we sacrifice upper lake at the cost of tourism? We do not learn any lesson from others and without consideration we are tabbing?

Upper Lake, proud of Madhya Pradesh to the place where Dul Lake has reached these days. This research paper is based on the same hypothesis.

RESULTS AND DISCUSSION

I prepared questionaires refering to works protecting upper lake for this research and circulated it among 200 people of Bhopal city, gathered their ideas and analyzed it. This is as follows:

1. What is the name of lake?

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Main cause</th>
<th>Below age group of 25 years</th>
<th>Above age group of 25 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cruise boat</td>
<td>40 Male 35 Female</td>
<td>45 Male 30 Female</td>
<td>150</td>
</tr>
<tr>
<td>2</td>
<td>Encroachment</td>
<td>26 Male 12 Female</td>
<td>20 Male 8 Female</td>
<td>76</td>
</tr>
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<td>3</td>
<td>Impurities</td>
<td>40 Male 40 Female</td>
<td>45 Male 35 Female</td>
<td>160</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>106 Male 87 Female</td>
<td>110 Male 83 Female</td>
<td>386</td>
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</table>
(2) Who built the lake and when?
(3) What is the depth of this lake?
Knowledge of males is found better than the females and working women also has good information in comparison to the housewives. Main objective behind collecting these data is to know how citizens of Bhopal are aware of such vital heritage.

In this survey, I found that major pollution are due to mixing of impurities in upper lake. 160 people accepted this. 150 people said that cruise boat and diesel boats are responsible for this while 76 think that encroachment is the cause of pollution. As per to the orders of the Supreme Court it is compulsory to incorporate environmental studies as a paper from Standard 3rd onwards throughout the nation. In the final year of graduation of all Indian universities, environment paper has been made compulsory for last two years. Thus college students answered very intelligently and bluntly. Housewives were less interested to response this. They worries for not getting water from the tap, but they didn’t want to know the actual reason behind it.

Following the tradition of Husain Sagar of Hyderabad, Madhya Pradesh Government has spent lakhs of money and brought Cruise boats to Bhopal for boating at upper lake. It weighs around 6 tonnes. Without keeping in mind the noise produced by this cruise boat will distort the aquatic life and discs of impurities will pollute lobe water.

We wanted to know from people that what is more important for them their evening recreation or future of upper lake. But youth disappointed us. They want sailing in beautiful boats and they are not matured though they are supporting cruise in upper lake whereas adults strongly opposes the cruise boat in upper lake.

Tourism is a good source of income. Where we have to select between water and money then I say water is valuable because

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</tr>
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<td>Male</td>
<td>Female</td>
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<tr>
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<tr>
<td>2.</td>
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<td>Total</td>
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after some days, we can’t even buy water. Reports of UNO says that water will be more costly as compared to petrol in coming days. Keeping things in view adult males and females gave more importance to environment. Adult believes in enjoying life and they believes in present, so they gave more importance to tourism.

PROBLEMS

1. Reduction in the number of migratory birds is taking place there. In winter, many types of birds like shackler, commented, yellow vegetal etc. around 180 types of migratory birds come for 2-3 months by covering distance of thousands of miles. Because they feel here friendly, safe and peaceful and also get good in required amount. But due to noise of cruise boat and diesel boat, number of birds is decreasing day-by-day and in future we shall see numbered birds here.

2. Bad effects on aquatic animals, as they are badly affected due to the noise and disturbance.

3. Collection of Soil is the biggest harmful factor for wet land areas. This collection is due to cutting of trees and destruction of shears around wet land. In India collection of soil is at the rate of 0.1 to 0.2 hectare meter per year, per square kilometer. In this sense, every year 26000-52000 cubic meter soil is collected in upper lake. As a result, water storage area of lake is getting shorter day by day. And due to construction of resorts, hotels and colonies, this problem has increased more.

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<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
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<td>1.</td>
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<td>16</td>
</tr>
<tr>
<td>2.</td>
<td>Environment</td>
<td>14</td>
<td>08</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
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<td>50</td>
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4. Due to encroachment around upper lake is getting smaller day-by-day and is happening for fishery and for production of aquatic animals. Due to human encroachment only Dul lake of Srinagar has become smaller.

5. Pollution of environment is caused by noise garbage thrown carelessly, empty bottles, throwing of food stuffs remained carelessly and diesel released by boats. Impurities are drawn in the lake coming out from the colonies, hotels and resorts and causes water pollution.

Bhopal produces 131 tonnes solid waste mixed in to lake in direct or indirect form. This water will not be useful for drinking in future. Temples surrounding upper lakes are adorned with flowers and are thrown in lake. It increases amount of phosphate in water and number of aquatic plants too. Hydrilla and Ipomia are spread over the area of 60 sq. km. and increases the pollution consequently.

Sewage water of whole Bhopal and surrounding villages is drawn in upper lake. Many harmful chemical wastes are also drawn in lake. And destroys pioneer of animals and these lives are also of extinct.

Urea, Nitrogen and Sulphur used in the field are also comes down in upper lake in every rainy season which affects adversely to aquatic animals. Hydrilla grows rapidly, raring of lotus and water nut in the lake also affects badly.
RESULTS

Government is taking serious steps to prevent upper lake but it is not sufficient. Awareness and co-operation of a common man is very necessary. If we didn’t understand importance and value of water at the time being, this we have to face water scarcity at a large scale. Upper lake is life line of Bhopal. We have to save it against coming problems.

Suggestions

(1) There should be sudden restrictions over the use of cruise and diesel boats. Restriction over the traffic around upper lake, which causes smoke, make shift sharps should be replaced from these. Drowning of Durga and Ganesh idols and Tazia should be controlled. These idols are made of plaster of paris and colours. It pollutes water and give harms to aquatic animals too. Ahmedabad and Mumbai are its examples, where many fishes died due to water pollution.

(2) Sewage water extraction policy should be mended in Bhopal. In this process, there should be water purification plant at Gandhinager, Moholi-dham kheda and Bhadbhada where only purified water should be drawn in lake. According to policy of Madhya Pradesh Pollution control board, Industrialists should have their own water purification system. Sample of lake water should be checked regularly. There should be solid wastes purification process too in the city, so the soil wastes can be used as manure. By creating awareness among villagers, we should guide them to use natural manure instead of chemical and pesticides to prevent hydrilla. We have to develop specific species of bush, which eats only hydrilla. We can also improve number of Grass corps and Benthos (turtle). Illegal production of lotus and water nuts should be banned.

(3) Under the scheme of Bhoj wet land project of 250 crores run by support of Japan Government, 15 lakh plants are rooted in the area of 872 hectare in the buffer zone to
prevent soil erosion. But presently we need conservation of these plants and also we should plant more in this area. All the drainage should be packed with silt trap. Collection of soil should be removed by modern machines.

(4) We can spread awareness among masses for conservation of lake. NCC and NSS student can take a lead by organizing rallies, posters, slogans, seminars, plays and discussions. Time to time, it should be cleaned by taking help of students. We can take help of NGO’S also. We can see many examples of people who clean rivers and ponds with the help of people living their, that can be river of Sehore or Betwa of Vidhishha.

REFERENCE

INSTRUCTIONS TO AUTHORS

It is a condition for publication that the authors must give an undertaking in the writing at the time of submission of papers that the manuscripts (research papers) submitted to JERAD (Journal of Environmental Research And Development) have not been published and have not been submitted for publishing elsewhere, manuscripts are their original work.