

## **PRESERVING WETLANDS: LEARNING THE HARD WAY**

**Tej Razdan**

Secretary Jheel Sanrakshan Society (Lake Protection Society)

Udaipur (Rajasthan)

(E-mail : tej\_razdan@yahoo.co.in)

### **ABSTRACT**

It is said that common sense is the most uncommon commodity these days. Ironically, the wetlands of Udaipur are also a victim of this phenomenon. When the erstwhile rulers of Mewar (i.e. Udaipur region) had developed a chain of interconnected lakes. Their sharp common sense and an acute desire to protect the water bodies, compensated for the lack of advanced technology in those days. The plight today is that despite advanced technology, the vested interests of land-mafia, hoteliers, and corrupt politicians / bureaucrats, are virtually hastening the doom of our water bodies. Today, NGO's, comprising of experts from various fields, learn very soon that their enthusiasm for preservation of wetlands can not cope up with the apathy and indifference of dozens of government departments, that claim ownership of the lakes without being accountable for them. While this paper highlights the steps taken by Jheel Sanrakshan Samiti to preserve the lakes of Udaipur, it also seeks to draw attention to some of the mistakes committed by JSS, and the obstacles faced by JSS through the apathy & indifference of political decision makers, who can be controlled only by the carrot- & - stick treatment by the voter.

### **INTRODUCTION**

The world-famous Udaipur, capital of Mewar, was established in 1559 by Maharana Udai Singh, the erstwhile ruler of Mewar, in the world's oldest hill range of Arawali, (in Rajasthan, India), on the bank of river Amarjonk (fifth tributary of River Ganga). This valley was chosen primarily because of the safety it provided through its girdle of well-forested hills, a few penetrable gaps notwithstanding. The secondary advantage was the possibility of creating interlinked water storage reservoirs for irrigation (in an area where water was scarce and rainwater was the only source), and for festivities. Besides, it provided a wet moat around the city, as a natural fortification for the protection of the capital city.

Thus, the erstwhile Maharanas (rulers of Mewar) developed a chain of interconnected artificial lakes, diverting overflow of one lake into the other, and ensured optimum water utilization together with natural self-cleaning. The strict rules and regulations promulgated by the Maharana, backed by society's cultural & traditional values, kept these lakes very clean & healthy.

Udaipur lakes were not used for drinking water. The sources for drinking water were the wells, & step-wells (known locally as "bavadies"), usually in the down-stream. No construction was permitted in the up-stream area. The catchments for the lakes were fully protected, and densely-wooded. Felling of green trees & lumbering was prohibited. Strict rules, punitive

## Urban Lakes in India: *Conservation, Management and Rejuvenation*

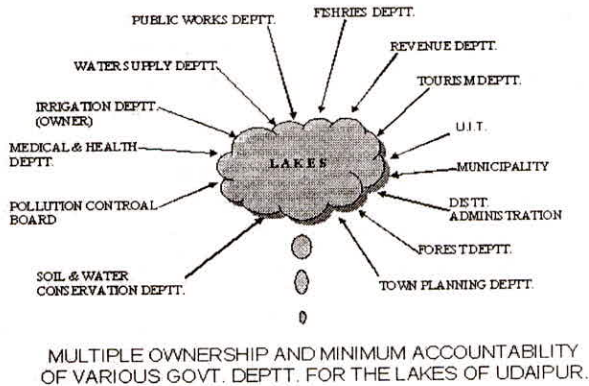
measures, and an innate desire in the populace to safeguard their environment, preserved the lakes and its catchment area.

Average rainfall in Udaipur region was 660mms/year. The monsoon was for four months; it remained cloudy during almost entire rainy season; and wide-spread rains were for at least hundred days. It used to drizzle constantly, and abrupt heavy downpour was a rare phenomenon. Ground water table varied from 10 feet to 45-50 feet, and water-logged areas were common. Winter rains were also common. Even in hot summer, the maximum atmospheric temperature rarely touched 40 degree centigrade, and after 38 degree centigrade atmospheric temperature, local summer rains were a common phenomenon. In spite of lake-water being consumed for agriculture through canals, lakes were brim-full, & used to over flow for two to three months in a year. Even in an extra hot summer season, followed by a low rainfall year, water in the lakes remained 10-12 feet above sill-level. The catchments were fully-wooded, with dense broad-leaved trees. The jungles were full of wildlife, and the great Indian tiger was a very common sight. The lakes were teeming with local and migratory birds. Sweet water sponge and 35 species of fishes were in the lakes. This scenario lasted up to the independence of India.

In the post-independence era, however, the ownership of these interlinked lakes, was transferred to the state irrigation department. At that time, the government departments started using these lakes for irrigation as well as for drinking-water. The inter-departmental "passing-the-buck" syndrome, an unplanned development of the city around the lakes, and finally, the apathy and detachment of the society towards these government-owned lakes, proved to be the death-knell for these lakes. Lack of adherence to rules for lakes, resulted in the latter's unfortunate degeneration. The present-day planners, leaders, government-technocrats, bureaucrats have no qualms about turning these lakes into cesspools & disposal units.

More than one lakh people were settled in different colonies developed by the government in up-stream areas adjacent to the wetlands-----and shockingly, in the lakebed itself. All open-drains & sewers were directed into the wetlands by govt. agencies & planners. Vehicles and dirty clothes (including the linen of hospitals) etc. are being washed in the wetlands. Irrigation department, the present owner of these wetlands, lost interest in them in 1985, when these lakes were banned for agriculture purpose & were earmarked only for use as drinking water source for Udaipur. Thirteen Govt. departments (irrigation Department, public health & engineering department, forest department, tourism department, the municipality, urban improvement trust, revenue department, public works department, soil & water conservation department, pollution control board, fisheries department, Medical & health department & the town planning department) (Fig.-1) are now using these wetlands for their purposes. No department, including the Irrigation department, takes interest & responsibility of preserving & maintaining these wetlands. In the absence of any accountability of any government department, these wetlands have started stinking. Studies show that the levels of BOD, COD, and total faecal coli forms are all shockingly above the permissible levels. Nutrient-loading (eutrophic state) & boosting of Nitrogen & Phosphorus in lakes are due to sewage, solid waste & siltation.

## Urban Lakes in India: Conservation, Management and Rejuvenation



(Fig.1)

Carp fishes like Rouhu (*labeo rohita*), Katla (*catla catla*) and Mrigal (*cirrhina mrigala*) have disappeared, and only hardy and air-breather fishes like Sanwal (*opheocephalus*), Singhada (*mystus seenghala*) and Singi (*heteropneutes fossilis*) are surviving. Fauna & flora of the wetlands have diminished.

Alarming growth of water hyacinth, algae & submerged weeds have also taken their toll on the wetlands. At times 100% water spread area was covered by six feet tall water-hyacinth. Hundred of thousands of rupees were spent on removal of this weed by manual & mechanical means for years in the past, in vain. However, water-hyacinth also cleans the lake by absorbing the heavy metals & nutrients from highly polluted lake water.

Deforestation in catchment area is another major factor responsible for the deterioration of the wetlands. Systemic deforestation & agriculture practices had caused heavy siltation, and the lake storage capacity had tremendously reduced.

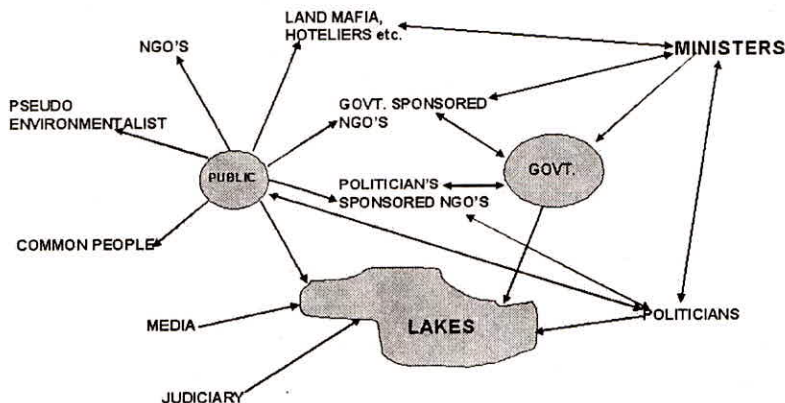
So far, thirty-two Ph.D. theses and hundreds of scientific papers have been published on these lakes, in local, national & international journals. Yet, the governmental apathy is such that about 60, 00,000 liters (6mld) of raw sewerage, 25 tons of solid waste material and faecal matter from 100 hanging-latrines, also find their way into these wetlands. Besides, a thousand odd persons defecate daily in these wetlands. The fact that just one gram of human excreta contains one million bacteria, makes one shudder to think of these wetlands as sources of drinking water. Udaipur has become the endemic area for water-borne diseases.

This apathy of the government departments, bureaucrats, political leaders, & rapid deterioration of the wetlands of Udaipur, was the major cause for the creation of Jheel Sanrakshan Samiti - JSS (Lake Protection Society) in Udaipur by some concerned citizens. Jheel Sanrakshan Samiti (JSS) was constituted in 1992, as a loose partnership of well-qualified, socially active citizens from different professions, as well as the heads of the thirteen government departments, which "owned" the lakes. Today, JSS has multifarious roles. It works as a pressure group on government, it attempts educating the public through rallies, public meetings, pamphlet distribution, and audio-visual lecture-sessions in various colleges & schools. At times, JSS also ends up educating the bureaucrats & politicians. It acts as coordinator for various government departments. On other occasions, it works as an agency for collection of data and its analysis; it assesses levels of pollution; it prepares, submits, and

follows up the action-plans to State & Central governments, for expeditious execution. JSS has in its fold, a number of professors, engineers, doctors, ex-bureaucrats, architects, planners, advocates, hydro-geologists & experts from different fields. In short, JSS acts as an expert body as well.

It was because of JSS that the government was compelled to demarcate the wetlands, ensure a "No/Restricted Construction Zone" around the wetlands, develop a plan for sewage diversion & treatment plant, take up an early execution of Mansi Wakal programme for augmentation of water in Udaipur wetlands through an inter-basin transfer of rain-water, and control the water hyacinth menace with biological methods by the introduction of *Beates Neochetina icornia* & *Neochetina brucci*. However, later, JSS, which developed into a pressure group, soon proved itself to be a pain in the neck for the government agencies.

Therefore, in 1999, instead of accepting JSS's suggestion of creating a 'Lake Development Authority' for properly managing Udaipur lakes, the Government of Rajasthan created and registered a body called "Jheel Samverdhan and Jheel Vikas Society" (JSJVS), under the chairmanship of the Divisional Commissioner, with bureaucrats as office-bearers. Its members were selected from among government officials of concerned departments, public, & from N.G.Os. Intentionally, members of the Jheel Samrakshan Samiti (J.S.S.) were kept out of this body, but The Rajasthan High Court acknowledged the significant role played by JSS of Udaipur, and it ruled that all petitioners from J.S.S. must be invited in the meetings of the JSJVS. The irony is that the Secretary of this society is the Secretary of Urban Improvement Trust, Udaipur-----a body that is one of the main culprits in the deterioration of the wetlands). Realising that the JSJVS had not much effective power, JSS got special powers delivered to JSJVS, through the intervention of the Hon'ble High Court of Rajasthan to enable it to facilitate its work and to deliver goods properly. Very often, JSS has to combat the self-imposed inertia and the corruption in the government, by launching Public Interest Litigations, to defeat the dubious nexus between the government agencies, politicians, hoteliers and the land-mafia etc. (Fig.2)



THE VARIOUS FACETS OF PUBLIC & THEIR CONNECTIONS WITH LAKES

(Fig.2)

Unfortunately, the JSJVS lost its focus and direction because it prioritized shielding its personal, political and departmental interests, through the court of law, instead of protecting the wetlands. This defeated the very cause of the creation of this lake protection society (JSJVS).

In spite of our objections in the meetings of JSJVS, the whole of the surface water from the lakes of Udaipur, and from the wetlands of rural area around Udaipur, has been sucked to the bottom to quench the thirst of more than five hundred thousand people of Udaipur----which is expanding in an unplanned way today also. When all the lakes were bled dry by the government, it sunk multiple tube-wells----up to the depth of 350-500 feet---- into the lakebed to extract even the last moisture content of the sub surface zone of the lakebed. To my knowledge this kind of sacrilege has been committed nowhere else in the world. Now, the ground-water table in Udaipur has gone very low (from 10-50 feet, to 350-500 feet). Now, almost the whole of Udaipur district has been demoted from water-surplus zone to a water-deficient zone in respect of the under ground water availability. Thorny trees & Cactuses have replaced the broad-leaved trees. Vegetation is changing. Desertification has started. Fine dust particles & emissions from vehicles have increased in the atmosphere. Atmospheric humidity is reduced, and this has changed the rain pattern of Udaipur. Now cloudy days are the same as before, but rainy days have reduced to only 8-10 days in a year. Instead of wide spread constant drizzling, scattered, sectorial, abrupt downpour of rains have started. Clouds do not precipitate in Udaipur, adjoining areas & in its catchment area. To break this vicious circle, of less rains causing arid climate and vice versa, we emphasized not to extract water from these surface water bodies beyond a level, & requested to promulgate a rule and adhere to it and keep the minimum conservation pool level of water to protect the wet land ecosystem (because the lakes of Udaipur were declared as wet lands by Govt. of India long ago). Such a step would have replenished the ground water. This would also have negated the local or regional factors for the change in rain pattern and would help in cloud condensation. Thus, the lakes would have received more rainwater from the catchment area. To decide about the matter of wetland and for the minimum conservation pool level a committee was appointed by JSJVS. However, the short-sighted demands of the water supply department (PHED) were preferred to our repeated requests for the survival of the lakes, and our proposal was rejected with a majority vote. Even the notification for water bodies as wet land by Govt. of India was also not appreciated.

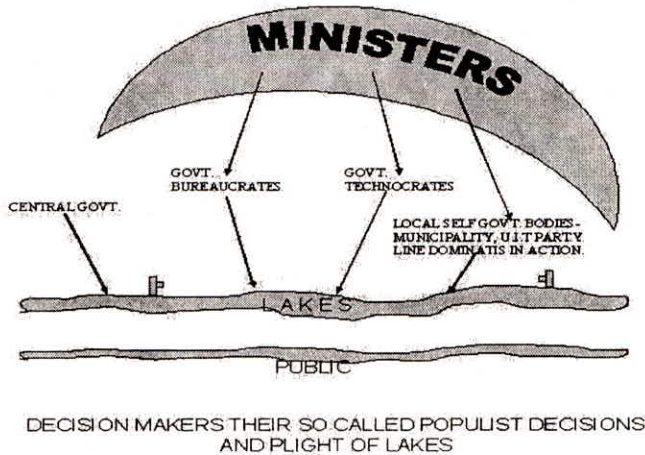
Similarly, regarding our objection to digging of tube-wells in lakebed and extracting moisture content, a committee was appointed by JSJVS to decide the policy for tube wells in the lakebed and the matter of fate of these tube-wells into the lakebed, which were dug without the permission of JSJVS. Majority decision was taken to close the recently dug three tube wells. It was also decided that in future tube wells would be dug, if at all necessary, after obtaining permission from JSJVS. But in actual practice, compliance of the JSJVS instructions to cap the recently-dug three tube wells was executed by capping three old, and already abandoned, defunct tube wells. Today, all the functioning tube wells, including the recently-dug ones are extracting sub soil & deep water from dried lakebed.

Not only this, the illegal encroachment (construction) over lake-bed, in the No Construction Zone (notified in Rajasthan gazette) by Government department itself was done against its own notification, while widening the peripheral road – which was strongly objected by the Irrigation department and JSS. As usual, a committee by JSJVS was constituted and quickly a fresh demarcation of Lake Periphery was done on the new map, and on ground, and the

encroachment was regularised. The ultimate brunt was borne by the lake and its area was reduced, by this blatant flouting of the Government notification and court orders.

In most cases, the judiciary has upheld the righteous viewpoints of JSS, but the aforesaid dubious nexus under the garb of democracy and majority vote decisions continues to circumvent the judiciary's decisions through equally dubious means. Judiciary is well acquainted with all these affairs and antics of bureaucrats, but we feel that the state level judiciary preferred to ignore these issues, and the reason is best known to them. We were trying to develop a proper management system for conservation of wetlands & fix accountability over concerned departments and officials through judiciary. Unfortunately, we could not achieve it till today. Since 1982, we are untiringly knocking the doors of High Court Rajasthan for preserving Udaipur wetlands. We are satisfied that at least we could create an interest of the honbl' High Court in wetland preservation. The hon'ble High court pressurized the state Govt. to start long awaited projects, and persuaded the local administration and different govt. departments concerned and tried to galvanize them to work and take care of the wet lands. Although projects are going on at a snail's pace, the court is monitoring them regularly. For us hurdles are many but we are creeping in the right direction.

This emphasizes the importance of involving the civil society in carrying forward the role that is now being played by the judiciary. In democracy, where there are elections every five years, majority of political leaders have myopic vision that refuses to discern beyond five years. (Fig.3)

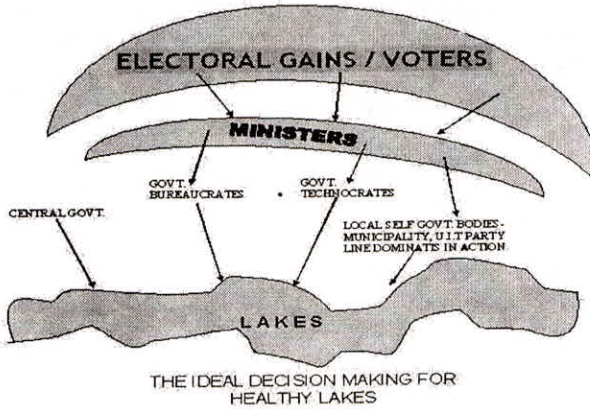


(Fig.-3)

The public has to create a fear in the politicians that they will loose seats if they support corrupt practices, if they don't have vision for long term as well as for short term, & if they don't act quickly for immediate problems. Once a minister understands this, corrupt bureaucrats take no time to change their colour. With it, a public-government partnership is a must to manage the wetlands better. (Fig.4)

However, here we should be cautious in involving the people from public, as our experience shows that ministers, corrupt bureaucrats, in liaison with land mafia groups, pseudo

environmentalists and polluters implant their stooges & their sponsored NGOs, for their vested interests at every level of the lake protection society, as it happened in the "Udaipur Case"



(Fig.4)

*Some of the mistakes, pit-falls, and the obstacles faced by us, at JSS, are as under:*

#### **MISTAKES**

1. We took Govt. officials on their face value, we believed in junior & senior bureaucrats, and politicians.
2. We did not visualize the gradual development of apathy in the citizens towards government owned lakes.

#### **PITFALLS**

1. Ignorance of the citizens, judges, politicians, bureaucrats, and different government officials about the importance of wetlands and water management as a whole.
2. Short sightedness (five years) of politicians & policy makers.

#### **OBSTACLES**

1. Nexus between land mafia, politicians and bureaucrats.
2. The present difficulties in restoration of ownership of wetlands from the government to the society, as it was in the past.
3. Shortage of funds.

*Some of the suggested measures, to improve our wetland preservation system, are as under:*

1. Gradual transfer of Government owned - Government managed tanks to Government supported - Community owned - Community managed self-sustaining wet lands.
2. Creation of Lake or wet land Authority.
3. Educate Judges, politicians, policy makers, bureaucrats, govt. officials, public, women-folk, & especially younger generation for water management & wet land conservation.

4. Mass movement for wet land and its catchment area preservation.
5. Expose nexus between land mafia, politician and bureaucrats.
6. Develop simultaneously “help group” among public, for helping and pressurizing the government and the politicians, for wet land preservation.
7. Mass movement to develop realization in public for supremacy of their vote power, and create fear in ministers and politicians of losing their seat in next election if short and long term measures are not applied simultaneously for wet land conservation.