

## **Water Stories Srinagar, Kashmir**

**April 2010**

Collected stories from residents and houseboat owners on Lake Dal, Srinagar, Kashmir.  
Translation of conversations: Ayub Pala.

The importance of Lake Dal, which sustains 100,000 families including 12,000 people living on houseboats, cannot be underestimated. It is a source of livelihood for the local inhabitants as well as being a major tourist destination.  
In recent years the level of the lake has decreased due to climate change: shorter rainy season and less snow in the mountains.



Harvesting compost beside floating gardens on Lake Dal

### **Floating Gardens on Lake Dal & Cultivation Systems**

The naturally occurring floating platforms of vegetation are cultivated and utilized by the lake farmers of Lake Dal. Vegetation is harvested from the lake by boat using a long pole, soil is collected from the lake bottom using a paddle and is mixed with the collected pond vegetation. This mixture is piled up to dry before spreading to form a base for planting seeds. The activity of harvesting vegetation from the lake body serves two purposes, composting and maintaining the water quality of the lake by removing excess vegetation from the lake body.

In the flood season when the water level rises, farmers move their produce from the man made lake islands to floating gardens that rise with the level of the water to protect the harvest. Floating

gardens form naturally when vegetation clumps together in sufficient thicknesses to support soil, compost and the growing harvest. Farmers form these floating islands of growth into long narrow platforms that they can tend from a boat.



New season growth on Lake Dal, April 2010.

## **Local economy.**

The vegetables grown on the lake are produced both on the floating gardens and on gardens cultivated on the man made islands in the lake. Vegetable cultivation is an important economy for the people of this area because the food is locally produced, harvested and sold keeping prices down. Imported food from India is expensive because the one mountain road into Kashmir from Jammu is narrow, hazardous and highly militarized making access to the Kashmir valley slow and expensive. The long and treacherous road is subject to accidents and frequent military checkpoints, in the winter it can be closed off by snow for weeks on end. Thus a local supply of fresh vegetables is essential for this part of Kashmir.

Despite rising levels of pollution and eutrophication on Lake Dal, there is still a vibrant wildlife population including Dragonflies, Frogs, Otters, Pomfrets, Kingfishers, Kites, Pigeons, and other birds. Many species of ducks exist on the lake and some provide additional sources of food for the local people. (Roast duck is a specialty in the winter) Lake Dal is a stop-off point for many migratory species of birds.



Compost mound and new season pumpkin growth, April 2010.

## **Seed Savers**

In April, mounds of compost are created into which pumpkin seeds are placed. These seeds are saved from the previous years harvest. Some years ago, a German woman brought GM seeds from Europe that were intended to suppress the naturally occurring unwanted vegetation and aid cultivation. One unforeseen result was the inhibition of the growth of lotus roots that are an important staple to the diet of the lake community and a source of income as lotus roots are harvested and sold at the vegetable markets.

The local farmers were very annoyed and are now rightly suspicious of imported seeds. Thus they continue to use seeds harvested from the previous season.

A wide range of produce is grown on the lake including potatoes, tomatoes, cucumbers, pumpkins, radishes, melons, carrots, mustard, onions, greens and other local vegetables. The produce is sold at the floating water market and in Srinagar.

## Lake Dal Commercial Culture



Lake Dal local shops

All local traffic, including people and animals, is undertaken by boats known as Shakiras that carry goods across the lake. School children paddle themselves to shore to attend school. Parking is free and unrestricted. Some commerce exists upon on the lake in the form of floating platforms of canteens which sell commodities and services, everything from freshly made food, meat, cloth, beauty parlors as well as boats acting as local grocery stores. It is a very self-sufficient and self-contained community.

The lake community is predominately Muslim with 10% Shia Muslims. Despite the military conflict in Kashmir, day-to-day life seems to go survive on the lake free from harassment by the military yet the young men of the community stay on the lake at night. Because it's a tourist destination, the inhabitants of Lake Dal are relatively safe from the military while on the lake or in the "Tourist Zone" on the lakeshore. Many of the young men from Lake Dal take seasonal work in other parts of India such as Goa, Delhi and Southern India as the tourist economy is in decline due to the ongoing conflict.

The Jammu – Kashmir valley has the largest concentration of Indian soldiers in all of India. (700,000 soldiers in April 2010)

## Floating market



Fruit and veg market, Lake Dal. April 2010.

Each morning a floating market takes place from 5-7 am. Local farmers, wholesalers and buyers and some tourists jostle in Shakiras for bargains before making for the lake shops and street markets in Srinagar. All trade is conducted from boats, it is a brisk event with large bundles of produce exchanged quickly so the traders can move onto the land markets. The farmers stay on to drink coffee and gossip this is achieved by positioning the boats in a star formation.



Social aspect of Lake Dal floating market. April 2010

## Lotus plant *Nelumbo Nucifera*: cultural uses.



Lotus plant sun hat. Ayub Pala demonstrates sun hat making.

Lotus plants, *Nelumbo Nucifera*, not only help to balance the wetland ecosystems, it is a multi functional plant form yielding both edible roots, nuts and flowers. Necklaces and sun shades can be fashioned from the large leaves and fibrous stems.

## Government Bureaucracy & initiatives for Lake Dal



Closed lock on Lake Dal

Ayub's father Nabi says the Indian bureaucrats have little understanding of the needs and wishes of the population of Lake Dal. He says the bureaucrats have a Delhi-London-Delhi mentality and in many cases have never spent time studying conditions in the valley. For instance, in former times there were a number of gates or exits from the lakes which meant that when the snowmelt comes down from the mountains to the lake the fresh water would flush out the collected dirt and sediment and pollution through these exits. Many of these waterways have now been built over through insensitive development on the lakeshore. The few sluice gates that remain are rarely opened and are insufficient in number to allow for the annual natural cleansing process to occur.

### **Tree felling to stop declining water levels.**

About three years ago, an advisor to the local government suggested that the root cause of the decline in water table was due to the trees on the lakes, growing on surrounding banks and islands on the lake. Despite local protests from the Houseboat Association and local inhabitants, the government sent in tree fellers supported by soldiers and cut down every tree on the lake. It made no difference to the water levels but deprived the populations who are reliant on boats mooring places for their boats as well as shade during the hot season. In addition the initiative most probably contributed to soil erosion.

The new growth can be seen all over the islands on the lake but the juvenile trees are still unable to provide shade in the summer months. It is now accepted that climate change, not trees, is the cause of the drop in water levels.

### **Removing Lotus plants from Lake Dal**



Removing vegetation from the Lake in tourist zones.

Some years ago, an official from central government came to assess the conditions on Lake Dal. She observed the generations-old tradition of harvesting the pond plants and using them as compost on the floating gardens. She decided that this practice was damaging to the

environment and insisted that the local population on the lake cease harvesting the pond plants. This, she hoped, would help improve the quality of the water. In fact, the farmers on the lake suffered a deficit of material to compost having only the canals between their houses as a safe place to harvest.

Culprits who were caught harvesting on the lake body were imprisoned for short periods of time. After two years, the official moved on to fresh fields and life on the lake returned to normal.

The next official to arrive and assess the conditions on Lake Dal decided that the water quality was being effected by the profusion of water lilies on the lake despite local wisdom as to the positive qualities of water lilies and the delicate ecosystem that exists between the various species of plant life that live on the lake.

The Lotus plants are a source of food both the root and the nut from the flower are relished as delicacies. The leaves provide shade for the fish and support an entire ecosystem of insects and small amphibians. A special machine, something like a combine harvester, was imported by the local government to pull up all the patches of Lotus plant found on the lake surface.

This initiative did not improve the quality of the water on Lake Dal and soon after the policy was reversed in recognition that the Lotus Plant is indeed a vital element of the ecosystem of the lake.

Today the dredger operates along the lakeshore in the tourist zones to keep the Lake 'tidy'.

## **Water Stories Jaipur, Rajasthan**

**April, 2010**

Collected in Jaipur by Anna Macleod and Carol Hummel. Translator Lala.



Municipal water purification centre, Jaipur April 2010.

The water situation in Jaipur, the capital of Rajasthan, is becoming critical. Shortages are imminent with households receiving water from the municipality for only 1-1 1/2 hours each day depending on which area (and economic level) you live in. In the Old Walled City, families have had to move out of their flats because access to water became too problematic that they were unable to continue to live within the walls of the city. Flat-dwellers that could afford to moved to the suburbs where access is to water is possible albeit at high cost.

Raj Kumar Jain is very concerned about the water situation in Jaipur. He says if you want to see the real Jaipur you have to rise early to see the crowds of people trying to access water at the city pumps with buckets during the time when pumps are on. The problem is that the pressure at the pumps is very poor and it takes up to 10 minutes to fill a bucket. Considering the fact that the water is only on for 1 1/2 hours this poor water pressure creates further tension between the people queuing for water.

In the richer areas, some people use pumps (or boosters) to increase the water pressure to their tanks. In some cases this can lead to a decrease in pressure to the households in surrounding areas.

This year speculation is that water pumps will only be able to be accessed every other day. Households will need to consider water usage much more carefully if this happens. However, there does not seem to be a culture of recycling or harvesting of water during the monsoon. Raj Jain thinks this cutback in supply of water might well be the impetus to cause people to realize the value of and necessity to conserve water. The government has changed planning laws to require new builds to include rainwater harvesting systems and storage tanks if they are to get building permits. This policy will help people who can afford to build and maintain a localized water source but will not be widespread enough to relieve pressure on the existing infrastructure.



Engineer at a water distribution centre in Jaipur.

In the 20 or so distribution stations in Jaipur, we are told, some have no access at all to ground water reservoirs and rely entirely on water pumped from 100km away. One station manager

informed us that when he commenced work at the pumping station in 1995 the ground water depth was 800 feet. Now in 2010 the level is 250 feet. Jaipur relies entirely upon rainfall to replenish the falling stocks of water. During the past 15 years there have only been 3-4 years during which the monsoon rains were plentiful and adequate to meet the annual needs of the inhabitants of Jaipur.

Wherever we go the answer to the question: What can be done? is invariably "God will provide." Everybody agrees that it's not just a governmental problem and citizens have a role to play in the conservation of water. But this remains a somewhat abstract notion amongst the middle classes. It is really the poor colony dwellers that understand the necessity of water conservation as they practice it as a necessity on a daily basis.

Water can be bought from tankards that roam the streets but we could not find out how this economy works and what the charges are. In a country rife with bribery one can only imagine the costs of water run on a Black Market economy.

Grass covered water supply huts are run exclusively through NGO organizations and private sponsorship. At these you can see people coming up for a drink of water; but supply is limited to a handful of drinking water per person per stop. A bottle of water costs between 20 and 40 rupees and Raj Jain predicts that in one year this will rise to 50 rupees a liter, more expensive than petrol.

The final question is: What will happen if the monsoon fails this year and in subsequent years?

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At the hotel reception, we met Pratap Sigh from a village, Barmer in Rajasthan. He tells us that rainwater harvesting is practiced in his village filling a large pond (Naadi) that lasts throughout most of the year. They have to place an armed guard at the pond 24 hours per day to protect this precious water supply from people from other villages.

In order to maximize on their rainwater harvest, the villagers practice recycling of water. Shower water is used to wash clothes and has a third use to water the gardens. This ensures that the water harvested during the monsoon lasts as long as possible.

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**Anna Macleod and Carol Hummel**  
**April 2010.**