

CMS VATAVARAN *presents*
WORKSHOP ON
**CONFRONTING CARBON CHANGE:
TOWARDS CARBON NEUTRAL INDIAN
CITIES**

*FOCUS: CLIMATE CHANGE AND MANAGING
WATER IN HYDERABAD CONTENT*

REPORT

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BACKGROUND OF THE WORKSHOP

The natural environment and its composition is of great concern in today's world. The existence of the environment's composition contributes to the existence of life on earth. Its depletion affects our living. These environmental concerns need to be speculated and brought to people's attention.

Our climate undergoes a lot of change in the course of time. A lot of factors contribute to this change. It is because of these factors that the severity of the change is affected, and hence affecting us in the process. Climate change affects WATER through a number of mechanisms. Water, which is particularly focused on, in the city of Hyderabad has to be maintained and preserved for the benefit of our survival.

Cities are the drivers of economies across the world and about 80% of the total GHG emissions globally are attributed to them. This is true, more so, for India, where development is largely concentrated in the cities. The GHG emission in the cities is mainly from energy consumption in commercial, residential and public sectors and from dumping of solid waste. By 2050 it is projected that about 60% of the population in Asia will reside in its cities. With growing population, the emissions are likely to increase manifold unless steps are taken to contain them. Other than the demands on energy and waste management, pressure is growing on water and food security of cities as well, which is likely to become scarcer with climate change.

Cities are the centers of innovation having well laid out governance structure. Hence mitigation measures can be easily implemented here along with a continued sustainable development that takes into account the climate change concerns and growing population

A two day workshop was organized by CMS Environment on October 29 and 30, 2009 in New Delhi to discuss the issues associated with sustainable development of cities in the future with focus on moving towards carbon neutrality. The discussions in the workshop were around the following themes in the context of climate change:

- ⇒ Sustainable Energy Supply and Management in Cities
- ⇒ Sustainable Transport System in Cities
- ⇒ Urban Habitats
- ⇒ Managing Water in Cities vis-a-vis Climate Change
- ⇒ Urban Food Security
- ⇒ Towards Development of Effective Climate Action Plan for Cities

Experts from different institutions working in relevant areas were resource persons in this workshop, who talked about their respective experiences and laid the path for forming a framework for developing measures that lead towards carbon neutrality. It emerged during the discussions that per capita CO₂ emissions in Indian cities are still far below the global average, and they range between 0.3 tons/ capita to 2.25 tons/ capita. However, since development is inevitable, emissions are likely to increase if the business as usual path is traversed. Hence, the experts concluded that the recently launched Climate Change Action Plan of the Indian government may be integrated at city level to achieve the desired carbon neutrality in the future.

The missions in the Action Plan that are relevant to cities are the solar mission, energy efficiency mission, sustainable agriculture, water mission and urban habitats. Such an action plan has already been put in place by the Delhi government for the period up to 2012.

It evolved in the discussions during the workshop that the panacea for gravitating towards Carbon neutral cities obviously lies in a gamut of technologies that include energy efficient lighting systems that constitutes about 40% of the GHG emissions from cities globally; a sustainable transport system, with more focus on public transport and cleaner fuels (fossil fuel plus renewable); urban habitats that use material or are designed in such a way so that they rely on less energy for lighting, cooling, warming, water pumping, and other miscellaneous uses and can be built on our old climate friendly architectural traditions. Similarly, climate change is likely to stress the water resources, so integrated water management to capture and use the available water in an efficient manner is the key towards sustenance especially re-utilization of waste water in cities might be an appropriate approach to sustain in water stressed conditions in the future. The urban food security issue depends on production of food, its transport and storage in urban centers requires technological impetus to overcome climate change impacts and collusion of the market forces is necessary for ensuring security of the same.

All this requires effective governance. The challenge of the hour is not only to put in place effective governance for retrofitting our cities that lie in 20,000 urban centers in India but also to develop self contained 400,000 villages in the next 20-30 years based on low carbon technologies. Though the five year plans as laid out by the Indian government can take care of the short term objectives, however, the climate change actions towards carbon neutrality need to be integrated over a period of time to confront the long term nature of climate change phenomenon with today's emissions impacting even beyond hundred years in the future.

PROGRAMME

The workshop on 'Confronting carbon change: Towards carbon neutral cities, with its focus on climate change and managing water in Hyderabad' was held on August 12, 2010 at the University of Hyderabad, conducted by CMS Vatavaran.

Dr. Kaushal K. Garg (Visiting Scientist of GT Agro-ecosystems, ICRISAT), Dr. Ramani (Andhra Pradesh Pollution Control Board), Dr. Jayesh Ranjan (Secretary of Tourism, GOAP), Dr. Anil Epur (President, WWF), Dr. Anjal Prakash (SACI Waters, Hyderabad) and Dr. Jasveen Jairath (Independent researcher/activist, Hyderabad) were the panelists present on the occasion.

INAUGURATION

The proceedings of the workshop started with the introduction to the workshop, given by Dr. Sheela Prasad, Professor and head of Centre for Regional Studies, University of Hyderabad.

She rendered a warm welcome to all the participants from the city, especially the six panelists.

She said, “It is also very appropriate to have a panel discussion on environment concerns and climate change, particularly with the focus on water, in the city of Hyderabad, in this campus. This campus is one of the last remaining huge acres of green, which I think only public institutions have the right of possession. For us at the university, it has been a struggle that we need to recognize that most of the land we have, should not be seen as waste land, but rather as providing the city with lung-space, because, it doesn’t really recognize the eco-worth of the resources that we are providing. That is our USP in our university. The university can earn a lot of carbon credits, for the city of Hyderabad. So in that sense, the university is trying to project itself as a green campus, but still have a long way to go. Our recycling systems are not in place, the per capita energy we use is quite high, we also don’t have proper garbage segregation and such like, but we are moving forward in that direction. The centre for regional studies, part of the school of Social Sciences in the university, is an inter-disciplinary centre, which really tries to study different regions Of India. It is really looking at the space, both physical and social. We have putting environmental issues as one our major thrust areas. We offer courses on environment, across disciplines. And we would like to project our centre as the centre that is seriously concerned about environmental issues. It is towards this endeavor, that we welcome all of you here.”

WELCOME ADDRESS

Smt P. N. Vasanti, Director of CMS delivered the welcome address. Describing the film festival and forum she said, “CMS is a research organization, independent of its own. It is not an academic organization, or an institution. It is a society group, which takes entire action research, be it evaluation, assessment or policy papers and does a lot of capacity development and policy initiative based on that. So we are really action oriented to such organizations. In that endeavor we work with a lot of institutions, like Academia. We are very happy to be working with the University of Hyderabad. One of our endeavors, which is popular and well known is Vatavaran.”

With this note, a mometo was presented to all the panelists, on behalf of CMS Vatavaran.

SESSIONS

SESSION 1: Impact of Watershed Development Program

AN ANALYSIS FROM MICRO-WATERSHED TO RIVER CATCHMENT SCALE

Dr. KAUSHAL K. GARG, VISITING SCIENTIST OF GT AGRO-ECOSYSTEMS, ICRISAT

I would like to share some information on our findings related to water-shed development programmes. The agricultural, industrial and domestic sectors have a fight regarding the water-sheds. The main sources of water supply in Hyderabad include the Osman Sagar, Himayat Sagar, Manjeera Basin and the Godavari River. The water balance components (after the water-sheds started being developed), in various water years has invariably become better. When there is no management of water, the run-off shoots high. When we started managing the flow of water, the run-off became comparatively lesser.

The land-use of Osman Sagar catchment area is as follows:

Rain-fed land – 42%

Waste land – 23%

Non-agricultural use – 23%

Forest – 4%

Irrigated land – 8%

Water-shed development activities started in the 80's. The Osman Sagar water-shed development programme started in the 90's. The inflow at Osman Sagar lake has decreased.

Alternatives of water sources and infrastructure development:

- ⇒ Harvesting of the urban run-off in city:
 - Promoting Roof water harvesting structures
 - Restore and regulate the polluted local water bodies
- ⇒ Waste water recycling for industrial use
- ⇒ Improving conveyance and distribution (Present loss: 40%)

On a conclusive note,

- Different agricultural interventions significantly improve ground-water recharge, reduce run-off and soil loss in watershed.
- Osman Sagar and Himayat Sagar contribute nearly 10% of total domestic water supply to the city.
- Evaporation and other losses are higher than utilization in the Osman Sagar.
- The major challenge of water availability is during the dry years.
- Improving water distribution system, regeneration of urban storm water, roof water harvesting and waste water re-use, could be the alternative options.

SESSION 2: Water Quality of Water Bodies

STATISTICS AND MEASURES FOR IMPROVEMENT

DR. RAMANI, POLLUTION CONTROL BOARD

Let us first see the statistics, as it is what which hits you, instead of the theoretical knowledge. Formidable challenges have been faced by all countries of the world so far. India has been most vulnerable to this, as we depend mainly on rainfall. 60% of our agriculture depends on rainfall. The sectors which are affected by climate change are agriculture, forestry, water resources, social impacts etc. All this have got a synergistic effect on each other. We are going to have a discussion on Andhra Pradesh's state action plan for climate change, on the 19 August. So any information from here, I would surely like to carry it on for the discussion. The main concern is about the availability of water. We are trying to improve the means of distribution for its useful consumption. From the regulatory agencies, I have been monitoring around 100 stations in the whole of Andhra, say Krishna, Godavari, Musi, Hussain Sagar etc. From 1999, till date, the water quality has been progressing by its standards. So, as a nutshell, I can tell you that:

1. We have water but we are misusing it
2. A figure has shown that 140 liters per capita is being distributed. But on the World Water Day, through a discussion, we found out that only 40% of the people get more than 200 liters of water per day. Whereas the other percentage of people, do not get even 50 liters of water per day. So there has been a misbalance.

You have to address a lot of things when talking about water balance, that is:

- ⇒ Management of water
- ⇒ Water quality, and
- ⇒ Water barriers

The area I cover is water quality. So I would like to focus on that today: How the water is managed, what we are doing from the pollution control board and other state holder departments and also the characteristics of water. Let me give you another small statistics. Climate change is expected to increase water stress, due to decline in rainfall, with impact on water availability. At present, they have studied in 2001, the water availability per capita 1.820 meter cube per year. And it is going to fall down by 1,140 meter cube per year by 2050.

So we must hurry, because at present itself we do not feel we have enough water. We are trying to minimize the water use. This drastic downfall could be because of the increase in population and the decrease in water availability. So with this in mind, we have to think about what we are going to give to our next generation. So as a pollution control board employee, I can only give you the statistics. But as an individual, we all have to act together. It is not one person, or one agency or one government who can bring about a change. From this discussion, we can see that already so many people are involved in conserving the water resources, so we have to act upon it together.

Another problem which India is facing is that 65% of India is drought prone, 12% is flood prone and 8% is susceptible to cyclones. With these figures in mind, let us now talk about the water problem.

Let me first talk about the Hussain Sagar Lake. We have monitoring the water quality for the last 20 years. Hussain Sagar lake, which was a drinking source, has not come down to sewage levels. And not with the intervention of the government, the NGO's and the awareness being spread, it is slowly picking up. The problem about this lake, is that, it is being used for everything, right from Ganesh immersion (which we are going to have an awareness programme of). Due to the immersion, the dissolved oxygen of the Hussain Sagar Lake depletes down to 2 milligrams per liter, which is very bad for the life of water. On a usual day itself, it is around 4-5. During the rainy

seasons, it is around 5.5-6. So besides the natural activities, the human activities itself depletes it down. We made an analysis of the water quality before, during and after the Ganesh immersion. We found out that it takes 3 months for the dissolved oxygen in water to get back to its original level. The lake is being taken up for remediation. But we have to understand that the whole process the polluting the lake should be avoided.

So we are now trying to inform the public that eco-tourism can continue but when it comes to municipal dumps, it is a court case again. The public needs to understand that the waste needs management.

We had a meeting with the Chief Minister, day before and we decided to stop the usage of plastics around the Hussain Sagar Lake, at least. This sounds very vague, but our natural tendency after drinking water from a plastic bottle is to throw it into the lake. So we have to take the initiative. From the government's side, they are trying to protect the surroundings of the lake so that there is no direct entry on sewage into the lake. In this way, the water with natural assimilation, with the stoppage of the sewage into the lake, the quality will improve.

The lakes being silted is also another major problem. There are programmes to de-silt the lakes. But through certain studies of this lake, we have found out that there are certain portions of the lake which are toxic, which cannot be taken and dumped elsewhere. It has to undergo a proper treatment. So once it is removed, that area can hold more water. A quality of the Hussain Sagar lake is that during the season changes, the water actually churns. Hence, the water quality also changes from season to season.

The Mussi water again has a direct entry of sewage into its water body. So the government again is taking measures to treat it properly, by building Sewage Treatment Plants (STP) around the river. The next step, would be using the water for either building a lake or maintaining the balance of the lake, or to re-use the water. The STP has decided to re-use the water. These lakes actually needed a Supreme court case to tell us not to have any polluting industries in and around the lakes. But now, we have implemented this and we are officially not allowing any polluting industries. We have submitted the results of the water quality of these lakes, and they're so far so good. But we need to maintain the standards.

Industrial sectors: There are basically two Common Effluent Treatment Plants (CETP). They were going to the sewer lines and giving sewer water lines. With the help of the supreme court, it has been enabled such that even the CETPs have got a river standard. After meeting the standards, the water is being re-used. So this will meet the standards of the quality of water. When the question of quantity comes up, we all must work together. The industries are now given directions that they have to have a zero discharge. A zero discharge is whatever waste water they generate, they have to treat it and re-use it back into their industries. Because, we were not able to balance the water generated by them. So they can run an industry only if they have a zero discharge, especially all the paper and pulp industries. We have also made it such that their discharge will be the upstream of their intake. In this way, they will be forced to treat it.

So these are basically all that the Pollution Control Board has taken up.

SESSION 3: Meeting the Requirements of the Migrating Population

STATISTICS AND ANALYSIS

DR. JAYESH RANJAN, SECRETARY OF TOURISM, GOAP

I am presently participating in a study, which has originated in Sydney, about cities preparing for climate change. I am also studying the specific details of Hyderabad, because for six years now, the social sectors are the most vulnerable part of Andhra Pradesh. If we assume the worst case scenario, if there is no unanimity on mitigation or adaptation on climate change, then it will continue to remain the same. Then what will be the consequences. People who are living in the vulnerable areas will start migrating to the cities. In Andhra Pradesh, the hard estate areas will move towards the drought prone areas because of erratic monsoons. So there we will have a very serious impact.

Secondly, the coastal areas: Since climatic changes affect the sea-level rise, coastal agriculture and fishing will become difficult. So when a large number of people migrate, Hyderabad will be there immediate destination. So the question put forth in our research is how we are going to meet the requirements of large number of population, the town-planning requirement, livelihood protection and the basic amenities. So we are looking forward to government policies which offer solutions to these problems.

In addition to this, we are also trying to see if the livelihood protection can be improved in the coastal and drought prone areas, leading to the reduction in migration, such that their standards of living are the same or improves.

We are also developing the conceptual framework of the district areas.

We have two parts

1. What will the city do when a large number of people migrate to Hyderabad?
2. What can be done to protect the livelihoods of the people in villages?

When a person is asked to move from his residing place, he will look for essentials influencing his choice. He will next look for a house, a surrounding social infrastructure, active recreation centers and transportation. So by these facilities, we are making it a point to suit the needs of population increase.

Hyderabad or any other city is governed by town-planning laws and rules, which is linked to the use of land. In Hyderabad, 28% is reserved for housing, 8% for the commercial sector, 3-4% for industries, 6% for buffer zone and the rest is still under development. The metropolitan area of Hyderabad spreads for almost 3,500 square kilometers.

When we visualize a large number of migrants, we have realized the failures of town-planning in the early 70's. In our graph of population increase from 1901, there has been a sudden increase (almost one and half times) in 1973. From 18lakhs, the population shot up to 27lakhs.

If we have to live a decent living, we need some kind of capital support, though every person cannot be accommodated in an organized sector. A significant percentage of the population, who will not be able to get a job in the organized sector, will have to rely on a self-driven activity. But at the same time, adequate skills are required. However there is a large mismatch between the number who require this support and the numbers that the government is able to offer. So our recommendation is to bring in players who can build capacities of people, who look for livelihood support, and also find more options for self-employment opportunities.

Regarding housing, social amenities and recreation sectors, it has been observed that in many cities: a novel concept of self-contained mini town-ships have been introduced. So that they can also live in the periphery and the core of the city remains insulated. A new project called the Outer In Road is introduced for accommodating people in the peripheral area. Hyderabad has also adopted this concept. It also has facilities to cater to the

different economic sections of the society. But we have calculated, in the worse case, perhaps this also will not be adequate for the migrants.

The government is now looking forward in implementing a small town itself into a satellite town. They have started rolling this concept out in pilot towns. For Hyderabad, Vikarabad has been chosen as the pilot town. They have chosen 50 such towns. As Hyderabad is a radial city, it can expand in all the four directions.

So to sum up, three things has been done, namely:

1. Community organizations have been set up
2. Credibility of the community organizations is high
3. Facilities have been provided

A very good base is available and hence it can be improvised.

SESSION 4: CLIMATE CHANGE

WATER USE STRATEGY

DR. ANIL EPUR, PRESEIDENT, WWF

The impacts of climate change include:

- Agriculture (decrease in productivity)
- Freshwater resources (depleting)
- Cryosphere and glacier melt resulting in floods
- Ecosystems and biodiversity (Extinctions and variations)
- Coastal systems (Rise in sea level, farmlands becoming saline & acidification)
- Industry and society (Loss of livelihood and property due to sudden floods, drought)
- Human health (Increased incidence of diseases & deaths)

The impacts of urban water resources are as follows:

Climate change will worsen the following situations:

- Existing water stresses due to competing demands (of urban/industrial, agricultural, recreational purposes).
- Pollution of surface water sources, and over-exploitation of groundwater sources.
- Strain on urban infrastructure related to the impact of hydrological changes on the capacity of drainage infrastructure, sewage systems and water treatment.
- Cities already concentrate human activity and exert a growing pull on surrounding ecosystems – drawing on natural resources and exporting the waste by-products. Thus leaving a large ecological footprint.
- Competition between rural, urban and industrial demands for scarce water resources exacerbates the water shortage.

The impacts on urban life include:

- Increasing greenhouse gas emission levels in cities together with a decrease in absorption capacity => higher temperatures and pollution.
- Increase of vector borne diseases.
- Negatively affect the infrastructure, worsen the access to basic urban services and unfavourably affect the quality of life in cities.
- Transportation networks are vulnerable to flooding and are not built to withstand a wide range of extreme weather events.

Being located in an undulating topography of the Deccan Plateau, Hyderabad city and its environs were blessed with over 500 natural and man-made water bodies such as Musi river, Osmansagar, Himayatsagar, Mir Alam tank, etc. A number of historic water bodies built by the Qutub Shahi and Asaf Jahi rulers (1724-1948 AD) in and around Hyderabad city have disappeared, mostly in the last 40 years. Recent initiatives like Lake conservation programme and 'Save the lake campaign' have brought about some positive changes such as cleaning up of the lake, improved green belt around, sewerage treatment plants (STPs). These water bodies besides supporting a wide variety of unique life forms played an important role in the life of the local residents. Manjira water for Hyderabad has done great injustice to Medak & Nizamabad farmers.

Major threats and causes for shrinking water bodies:

- No enforcement of environmental rules and regulations.
- Deforestation in the catchment areas.

- Construction of check dams in their catchment areas.
- Continuous discharge of untreated industrial effluents into the water bodies- lack of care and concern by citizens, corporate and municipality.
- Encroached and replaced by concrete buildings.
- Changes in the drainage pattern.
- Disruption of the inter-linkages of the numerous water tanks in the region (numbering more than 1000).
- Indiscriminate plotting of the catchment area by the real estate players and government bodies.
- Changing land use. Agricultural lands and water bodies converted to residential areas.
- Quarrying in the catchment area.

The effects of climate change will vary locally, but the causes are global and local. Adaptation to climate change and mitigation of climate change are complementary strategies: the investment now of relatively small amounts will avoid larger costs later.

The policy parameters are:

- Increasing green cover to be on priority lists
- Implementing a block rate structure for water usage
- Education and awareness programmes
- Wastewater mitigation for large development projects
- Incentives for water recycling plants and water efficient fixtures
- Improved rainwater harvesting schemes
- Introducing water conservation targets with waivers and incentives

Water management for development sites should seek to minimise the effects of development on the hydrology of the site and the surrounding. More land (at least 10%) should be allocated by the government and utilised for green spaces and development of parks. The existing wetlands should be restored and enhanced for surface water and flood management. This would minimise the damage and encourage rehabilitation of the natural water resource, including ground water.

Grey water has to be treated and utilised for flushing toilets, gardening, etc. All large buildings should have recycling plants. The existing sewage system needs remodelling. Landscape irrigation must be reduced. High efficiency fixtures hardy local flora should be used.

A case study of Bajaj Auto Limited Aurangabad:

This work won the CII-GBC National Award (Within the Fence Category) for Excellence in Water Management in 2008 for conserving water in its industrial processes, through the three principles of reduce, reuse and recycle. It has successfully implementing zero discharge through waste water treatment by installation of a tertiary treatment plant.

Singapore - supplying treated waste water to consumers.

Israel - Only treated waste water for non edible cultivation.

Proactive roles and partnerships:

- Institutional aptitude and co-operation are necessary to anticipate and respond to environmentally driven challenges, given cities' spatial, functional and economic interconnectedness.
- Promoting public-private partnership – individuals, industry, civil society, government.
- People need to be proactive and encourage agencies working on climate change and water conservation.
- Government to put more climate change mitigation and water management policies in place and implement them.

SESSION 5: Security in Peri-Urban Hyderabad

AN ANALYSIS ON WATER SECURITY

DR. ANJAL PRAKASH, SACI WATERS, HYDERABAD

The major problems are:

- ⇒ Uncertainty in water supply
- ⇒ Diminishing access
- ⇒ Growing water conflicts

The urbanisation process is sustained through acquisition of lands from the peripheral areas. It aggravates acquisition of diverse water sources and iniquitous water uses by different users. The repercussions of the changing peri-urban landscape for land and water use, is further accentuated by climate change and is expected to alter water availability patterns.

Urbanization, water scarcity and climate change: By 2025, 61 percent of the 5 billion world population will reside in the urban areas with about 85 percent of the development process taking place in the peri-urban areas (UNH 2005). South Asia will have over two billion residents by about late 2050s, with just over a billion people in urban areas. Increased urbanization will focus on ever increasing demand for water among an ever more concentrated population. Water scarcity would therefore likely be the order of the day and climate change is expected to accentuate this further.

Peri-urban is a transition zone and is conceptualized as a space in 'continuum' with the urban area, characterized by mixed land use with agricultural lands predominating the landscape. Urbanisation is sustained by a process of land acquisition - Access to land remains fundamental to most family asset bases and to social sustainability, and provides food security as capital and buffer against external shock. Urban expansion engulfs the water bodies and changes the water use practices. Since water rights are tied with land rights, land use changes have implications on water access and use. Our present project is to understand the implications of urbanization processes for water access and use in peri-urban locations in 4 selected research sites in South Asia (Gurgaon, Hyderabad, Kathmandu and Khulna) and to examine water related vulnerability, adaptation and resilience of different social groups in the context of climate change.

The present urban landscape in Hyderabad is dominated by:

- New residential colonies due to newly developing industrial, educational and research centres, in high value lands along the lines of highest accessibility.
- Some of the areas which have experienced massive real estate development are Madhapur (an erstwhile peri urban village), is now merged with the city in continuation with Jubilee Hills.
- Shamshabad, also a peri urban village, has now seen massive growth of newly developing residential colonies and financial and business enclaves.

As a result, water sources are shrinking and water supply is unreliable in most of the locations.

The variability of rainfall during monsoons leads to increased stress on groundwater levels, resulting in competitive deepening. Ground water has become the only source of drinking water due to the issues of water quality. Further, no attempts have been made to find out sustainable sources of drinking water. Accessing groundwater for irrigation comes with a price. Villages are indebted to local moneylenders and middlemen who provide loans at a very high rate of interest (10% per month). The agricultural product can be sold to the middlemen, only after deducting the interest. Land is being grabbed by land mafia. People are losing access to land without any other skill to survive.

Industries polluting water have become a serious threat of livelihood along with water stress for the future. In the Shamshabad Mandal, four to five villages are affected by polluted waters of a pharmaceutical factory in the vicinity, which releases effluents into the groundwater, unsuitable for agricultural purposes. Sri Krishna Drug limited located near Shamshabad airport, is reported to be polluting and contaminating groundwater in that area. The changing access to water for peri-urban residents due to development activities is going to be accentuated by CC. An understanding of how people respond or adapt to these changes will contribute to the larger discourse on climate change, vulnerability and adaptation.

SESSION 6: Urban Lakes and Water Bodies

AN ANALYSIS ON URBAN LAKES AND WATER BODIES

JASVEEN JAIRATH, INDEPENDENT RESEARCHER/ACTIVIST, HYDERABAD

I come here as a part of citizen's network, working for the protection and rehabilitation for the water bodies, in the city of Hyderabad. There is one thing that I am getting increasingly convinced, confined to the water issue, is that water is primarily a political issue that must be brought to the fore-front of plans, projects, policies, programmes, what is happening on the ground and what is not happening on the ground. But, if any citizen walks on the reality of the ground situation, he will get thoroughly confused.

Let us see a reality check here:

- ⇒ 932 lakes in 1973
- ⇒ 834 in 1996!!
- ⇒ 450-500 (Approx) in 2010!!!

Literacy is not required to understand the state of this. Even if you are given a very reasonable, understandable version of how the government is trying to prevent pollution, the reality still stands put, that there is a total disjuncture. And that should be the starting point of any attempts to try and understand what the situation really is, who is responsible for creating the situation and what the strategies are that we need to adopt, to counter, to deal and to engage with the problem. If you do not look at the politics, you will be trapped in a flood of information. It is very confusing as to what really is going on.

What is politics about? It is a clash of interests. It is purely all about power play. They work hand in glove with the administrative structure and do not focus on the poorest of the poor. When we focus on the water issue, it is all related to the land issue. There is that nexus between the political structure and the administrative structure and the so-called land mafia that has created a situation, whereby the water bodies are decreasing in number. There have been 900 water bodies created artificially for water security. An old couple had lived the summer season without a single fan. That was the level of temperatures and greenery, thanks to the water bodies.

What is the matter with today's government that they are talking only about 160 water bodies? What has happened to the 900 water bodies, big or small? These are the questions need to be put forth. Why has not this been a priority?

The reasons for decay include:

1. Encroachment
2. Pollution – Domestic and Industrial
3. Catchment damage
4. Neglect in Maintenance
5. Social and Economic shifts –
6. Alienation from communities
7. Bureaucratic apathy

Vanishing lakes in the city is because of encroachment. Land has been created out of water. Even though we have laws against that, this still continues to happen. For example, Mythrivanam in Hyderabad is in a water body and so is the Andhra Pradesh police academy. The MAUD department has been sanctioning land use change G.Os in Hyderabad – 36 were issued between 2003 and 2007. This is an indiscriminate use of discretionary powers. How can water bodies be conserved with this attitude?

A politician has a property on the banks of the Hussain Sagar Lake which is in the buffer zone.

The impact of building something in a water body:

- ⇒ Loss of rain water storage capacity
- ⇒ Frequent flooding
- ⇒ Pollution of lake waters
- ⇒ Ground water contamination
- ⇒ Loss of aquatic species
- ⇒ Loss of traditional livelihood – fishing & washing
- ⇒ Loss of recreational opportunities
- ⇒ Release of volatile gases and foul smell – air pollution
- ⇒ Increasing local temperature
- ⇒ Loss of aesthetics
- ⇒ Recurring economic loss due to flooding

Failure to control corporate and private vested interests:

- IMAX theatre, Miyapur Lake – Cinema Hall
- Durgam Cheruvu
- Lanco township in Manikonda
- Maisamma Kunta – Borabanda (Rajeev Nagar Colony)

All the buildings, which are built in the water body, have actually been officially sanctioned. There has been given a provision to notify water bodies and conservation areas to prevent conversion of their intended use. The designated authority can remove encroachments and decide on permissible pollution levels.

The few demands of civil society include:

- ⇒ Declaration of FTL levels of water bodies as public knowledge.
- ⇒ Demarcation of FTL boundaries & no construction zones around water bodies – as revenue records and on site.
- ⇒ No regularization of habitations with FTL.
- ⇒ No issuance of municipal members, electricity connections and water supply connections within FTL.
- ⇒ Publicity of memoirs of all water bodies.

Apart from this, even a cremation ground has been built – The Vengal Rao Park. Where is the urban planning here? The previous collector of Hyderabad evicted a ‘basti’, which was established in 1937. Three water bodies are being planned to convert it into a golf course in Jamali Kunta. One water body has already been removed. The Krishnakanth Park has also been built in a water body. These issues urgently need priority.

DISCUSSIONS

Umesh

1. Why do you put an 18 kilometre pipeline and shift it to Ameerpet and allow it to go into Mussi? If it is meeting its standards, why doesn't it leave it in the natural channel, which is right next to it? Because the people at Mussi are saying that they don't want this to turn out into another Balanagar!
2. If the industry is talking about recycling, why is it not picking up pace? What prevents the department to start imposing re-use standards or maybe increase the water tax so high that their only option would be re-using? What are the plans in PCB to encourage re-use and discourage discriminate use of water by the industries?

Dr. Ramani

1. This 18 kilometre pipeline was a direction from the Supreme Court before these water standards were applied. We, from PCB had taken this up that, though they are going into the sewage, they should meet the river water standards, because finally the Ambarpet STP does not have the facilities to treat the toxic wastes that are coming from Patanjali. So that is why we imposed this. But this got implemented only in May, 2009, which we allowed in phases, of first allowing 25%, then 50%, then 75%, and just this April we allowed 100%.
2. Why they are not re-using: In the beginning, they thought that the 18 kilometre pipeline would take away everything. But now that we have put up online monitors, they are thinking it would easier to pay for it, than pay for both, the treatment and the pipeline. Now, for re-using, they need to have an infrastructure and they need to invest. This is an industry's collaboration, so we are giving directions to re-use. Bigger industries have being told to go for a zero discharge. This process will take time. So by next year, this time, all the bigger industries will have their own zero industry discharge system. Since the smaller industries are not economically viable, we have the CETPs. Now the CETPs are going to upgrade their infrastructure.

Saswata G. J.

Last year I had visited Patancheru and my question is regarding that place:

1. What are the steps taken by the PCB to take care of the small ponds that the people from Patancheru lost (due to the entry of sewage), which was their only source of income?
2. When I was interacting with the people there, they asked me as to why students, who come to interview them every year, have not taken any action till now.

Dr. Ramani

Since 1990, this has been going on. By the time the compensation had been decided, the ponds were lost. By 2000, all the villages were given pipe supply of water. The Manjeera water is being given to them. We have been following the ground water analysis also. Now the quality of ground water is much better than what it was previously. We, from the PCB, took three lakes upon ourselves and cleaned it up as it was industrially polluted. Within one year, the farmers broke the bunds, saying that they wanted the water. The High Court had also appointed us to see how the compensation was working. And we found out that the Manjeera water which we are supplying to them is not being used for cultivation at all. We then assigned the Institute of Genetics to do the epidemiological studies. The bigger industries spent 130 crores on the systems, just last year, which were not there earlier. So it is very much a slow process.

Manas R. Bhowmik

This is regarding the Medak district of Hyderabad:

1. I would like to know the compensation package of the PCB?
2. Why is there no cultivation of plants now?

Dr. Ramani

Please come to the Pollution Control Board, because I do not have all the data as of now. So please visit our PCB and we can discuss this further.

Ravi Teja

One of our panelists said that the climatic change in the other areas will push people to Hyderabad. I do not know how sustainable the climate of Hyderabad is, to hold the increasing amount of population.

Dr. Anjal Prakash

If you look at the people who serve like the maids, drivers etc and trace their history, you will find that they have some ecological connection. Most of the rickshaw pullers from Kolkata come from Bihar due to floods or who have been denied their basic access to life by their caste system. So there are these kinds of people who still migrate.

Jayati Chourey

My concern is about the food security. The solution that Dr. Jayesh Ranjan has given is to expand the city to accommodate the migrants. When we start constructing satellite towns in peripheral areas, it will lead to the destruction of agricultural lands. So then, where will we get our food from? There should be better or proper planning on long term basis.

Dr. Anil Epur

The solution is not restricting the growth of urban areas. It should be the other way around, of how production can be done in smaller areas, for which we need technology. The reality lies in the fact that we need to be highly productive.

Jayati Chourey

Why has the water-shed impact not been seen?

Dr. Kaushal K. Garg

Water-shed should go on to improve the agricultural water productivity. In the 1970's, when the water-shed development had started, it was very much a compartmental approach. But today, the guidelines are such that we have an integrated approach and the farmers should contribute in order to improve the productivity.

RECOMMENDATIONS AND OUTCOME

Dr. Anjal Prakash

If any of you would like to share any information with us, please do so. Even if a small project has been done, which requires some action, pass it on to us, so that we can do our bit accordingly. And the size does not matter. It requires only a few people to trigger such a movement. So we just have to take it up in our hands and do our job sincerely.

Dr. Anil Epur

I would request that you all keep your minds open. Don't go by beliefs and facts. Look out for the reality and science and find your own solutions. We, in the society, seem to get carried away by certain things which may not really be true. As a student, please keep your minds open. Don't get influenced.

CONCLUDING REMARKS

It was concluded in the workshop that for moving toward a Carbon neutral city the following needs to be undertaken:

1. Develop a base line of GHG emissions from cities and scenarios that project the developmental path of the city in short, medium and long term time lines.
2. Identify the high and fast growing GHG emitting categories.
3. Identify opportunities whereby the relevant missions of the national action plan on climate change can be integrated such as increasing energy efficiency, water management etc.
4. Trace the current institutional arrangement for implementing the measures.
5. Identify the barriers for implementation under the current scenario and lay out actions for overcoming the same.
6. Develop plans to mitigate greenhouse gas emission in the long term that include technology, institutional arrangements, policy directives and clear indications for enhancing action.