India's Water Crises: Developments, Debates and Discourses

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A capacity building workshop

Sambhaavnaa Institute of Public Policy and Politics
Gaon Kandbari, Palampur, Himachal 176061
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In the decade of the second wave of economic reforms in India, the conflicts over natural resources continue to get exacerbated with increasing privatisation and corporatisation of these resources on one hand and exclusion and marginalisation of the larger public and their access to them. While the 'land' question has remained central to the debate over the scramble over resources for growth centric development, much of the media debates over the past year fail to include 'water' as an intrinsically linked resource facing serious crises of diverse kinds.

In the era of economic growth water is seen as a scarce resource required not as much for human need of drinking and day to day use, but more for sectors like energy, commercial agriculture, industrial development – these are the water guzzlers of today. Additionally these, apart from affecting the distribution of water resources and affecting its availability (quantity), have impacted the quality of water. Pollution and contamination of water resources have created newer crises – in industrial areas, in the metropolitan cities of the country and in the hinterlands where pesticides and chemical fertilisers are used abundantly. The need of the hour is to look at Water a fundamental human right and on the ecological side look at the preservation of water resources and environment flows.

The Sambhaavnaa Institute of Public Policy and Politics is organising a 3 day capacity building programme with grassroots activists and researchers working on issues of water to aim to understand the key emerging issues and the current debates and discourses on the issue of 'Water' in India from February 26 to March 01, 2013. The sessions at the workshop will be led by Shripad Dharmadhikary (*Manthan Adhyayan Kendra*), Ravi Chopra (*People's Science Institute*) and Himanshu Thakkar (*South Asia Network on Dams, Rivers & People*) along with others.

Session Proceedings

India's Water Crises: Overview of water availability demands estimates; macro water budget; food security needs; introduction to major crises: Ravi Chopra

- Dr. Ravi Chopra placed a few statistics in front of the group about the availability and use of water in India
- There are very few original works and studies estimating the total availability of water in the country but some of the official estimates can be used to study the situation
- The total surface water availability has been calculated to be 1160 BCM of which surface water is 690BCM and ground water is 470 BCM

1 BCM = 1 km3
10000m3 = 1 hectare-metre
1000 litres = 1 cubic m

- The current domestic demand has been placed at 307 BCM and following is the break-up:

  Rural area = 24 BCM
  Urban area = 28 BCM
  Industry = 85 BCM
  Power = 170 BCM
- The above figures have been used by the National Commission on Integrated Water Resources Development
- The current population of the country is 1.2 Billion and is likely to go up to (climax) 1.7 billion. If the current estimates of use are used then 600 BCM is going to be required for non-agricultural purposes. Which means that only 50% of the available water will be available for agricultural purpose.
- So, the water crisis debate has to be framed in this light. That there will be and already is a conflict for the available water between different user groups.
- Secondly, as more and more ground water is polluted and surface water is disturbed this availability is likely to get affected
- Thirdly, recycling of water has a huge cost attached to it. So the looming shortages of water, the intense competition amongst users and the increasing pollution are the key issues that need to be examined
- The above usages do not include the water that is required for the environment also referred to as environmental flows which are necessary for continued ecological services
- Back of the envelope calculation is understood to be 25%. Which means that this much needs to be reserved for environmental purposes. This is a figure proposed by Srinivas & Gaud
- However, in the Indian mainstream policy making, the common understanding is that "Any water flowing to the sea is water wasted". This is essentially an 'Engineer's perspective
- Apart from this, the non availability of water for agriculture is going to pose a greater crisis for food security and soverreignity.
- As per the ICMR's calculations the current requirement of food we need …. amount of food to feed our entire population. The current production stands at 256 MT…
- While there was an increase in food production during the green revolution, the food productivity was highest in in1964 after which there was a plateau. In recent times there is a fall in agricultural yields. Further the Green Revolution was focussing on a particular region of the country and therefore there is a push for a second green revolution to cover the Eastern states and also bring in newer technologies.
- The point that needs to be understood is that it is not just land that is a limiting factor but also water. In rainfed lands the yield per hectare is less than a tonne where as it is close to 3 tonnes in irrigated areas
- What is the way forward?

The Irrigation Mess: Major issues of surface and groundwater irrigation; the politics of irrigation: Himanshu Thakkar

- The Irrigation in our country is mostly dependent on two sources: ground and surface water

- The Irrigation schemes can be mostly divided into three types: Major (> 10000has), Medium (2000 has) and Minor (< 2000 has)
- The total water available source wise is rains (1200mm avg annula rainfall), 45041 kms of perrenial rives and ground water
- In India the ground water is used the most for irrigation
- Many systems of traditional water usage and management have been widely documented in the country. Most of these have fallen to disuse or mismanagement because of several reasons
- One of the main reasons is that the mindset of policy makers since Independence has been that the government should be the 'provider' of basic facilities including water supply. The earlier systems where water supply was a community issue changed radically because of this shift. However, the government take over of water supply for irrigation has been a major failure in our country
- According to the Ministry of Water Resources, 100 MH of Irrigation Potential has been created through its various schemes till date and 80 MH is the Irrigation Potential Utilised.
- As per the Agriculture Ministry the net irrigated area in the country is 65 MH and the gross irrigated area is 85-88 MH. Therefore there is a major difference in the irrigation potential created and the actual area irrigated in the country
- India is no. 3 in the world for the number of dams built. Dams have been the major project for irrigation in the country. We have 5800 dams built in India till date.
- In last 20 years the net irrigated area by dams has been reducing. The highest Net Irrigated area by dams was achieved in 1991-92 (17 MH) And yet in the last 20 years the government has spect 4 lakh crores of rupees on building more dams.
- And it needs to be seen that despite the Net Irrigated areas by dams decreasing, the food production is increasing, which means that there is another source of irrigation that is being used and that is ground water. 20 million irrigators in India rely on GW irrigation
- 85% of the rural water supply is from groundwater
- It has also been found that the area under GWI is 70% more productive than the area under surface water irrigation
- This is at the core of the irrigation mess and the failure of the promise of big dams
- There was a detailed discussion of role of an authority like the Central Groundwater Authority and how it has become a mere liscensing authority
- There was a discussion on the Inter-linking of Rivers project which again is being done in the name of transferring water from a surplus water basin to a deficit for irrigation and other needs. There is no logic behind how a river is defined as 'surplus'.
- There is a need to question surface water projects when existing dams are not working to their full capacity
- These are 'intentional scams manipulated by the political systems of the country'
- There was a discussion on water rights and who water actually belongs to?

Hydro-power Generation:: Focus on Himalayan dams; displacement, resettlement & rehabilitation: Himanshu Thakkar

- In 1947 installed capcity was 1362 MW and it grew slowly till the year 1992. After that in the last twenty years there has been a 3 times increase in the installed capacity of hydropower

- Still today 53% of the electricity in India is generated from coal and 25% from hydropower which stands at about 42000 MW
- On the supply side – 38% is supplied for Domestic, 21% for agriculture and 28% for commercial and industrial purposes
- 33% of households in India or nearly .5 billion people do not have access to electricity
- 70% of the total hydropower potential is in the Himalayas with Arunachal being the largest and then followed by Himachal Pradesh and Uttarakhand
- Himanshu gave a detailed presentation on the following aspects: The design, structure and growth of run-of the-river projects in the Himalayasn region; the environmental and social impacts; the failure of regulatory and governance structures; the people's movements and protests against dams in the North East and other states and the performance of the hydropower projects till now.
- Click here to see Presentation on Water Issues by Himanshu Thakkar

System of Rice Intensification: Ashok Kumar, Pradan

- Ashok Kumar shared the experience of Bihar in the use of SRI as a method to increase productivity of rice with less inputs
- 45000 families have practiced SRI in 6500 hectares this year through support from PRADAN and its partners. This figure was 4 families in less than 1 hectare in 2003

Dying Rivers I: Himanshu Thakkar

- Environmental Flows: What are e-flows? E-flow is not the minimum flow of water but rather the natural flow of water is. Indus Water Treaty between India and Pakistan has a detailed mention of E-flows\
- Currently in all hydropower project, the Ministry of Environment's experts have placed the minimum e-flows as 20% of the average lean season flow. What is the basis of this figure? Where did it come from?
- There is a need to assess how much water a river needs and then work with that figure.
- The main issue is of movement of fish apart from social issues of downstream communities who are dependent on the river
- Apart from this there are cultural values that people attach to the river and there fore e-flows are necessary
- There was a detailed discussion on the status of the Ganga and Yamuna rivers. In 1994 the Supreme Court had taken Suo Moto action on the pollution in the Ganga river and the case is still going on. A high powere committee was formed and chaired by the Central Water Commission but it had only Engineers on it
- In the case of the Yamuna it was decided that 100 cumecs water will always be allowed to flow between Hathnikund and Chambal – but this has still not been implemented

Mismanaging floods: The case of Bihar: Dinesh Mishra

- The talk was mainly focussed on the issue of floods and embankments in the state of Bihar
- Bihar is a state with 206 rivers running over 432 kms and every other kilometre there is a river. These rivers are also constantly shifting course constantly

- Because floods were common on these rivers the response of the government was to do something urgently to stop the flooding and the costant shifting of course and therefore Embankments were thought of as a solution.
- In 1953 the Government of India gave formal approval to the Kosi project, which led to the construction of 125 km long embankment on the eastern bank of the Kosi, from Birpur to Kopadia and 126 km long embankment from Bhardah in Nepal to Ghonghepur in Saharsa, on the western bank. The work was almost completed by 1963.
- The embankments were supposed to protect 214,000 ha of land from the recurring floods of the Kosi.
- A population of nearly 192,000 were trapped in 304 villages between the two embankments of the Kosi. This number had swollen to 9,88,000 (2001 census) and the number of villages gone to 380 because of the extension of embankments.
- Rehabilitation of these people was not incorporated in the original plan of the project when the approval of the project was given in 1953. Passage of the river waters of the Kosi over these villages is an annual feature. Rainwater from outside the embankments is not allowed to go into the river and water logging in the villages outside is an annual feature.
- The CWC has admitted that the Kosi river bed is rising at the rate of 5" every year. So the embankments are also being raised every year. This is an Engineering disaster
- 12 to 15 lakh people today affected by these embankments are not even acknowledged to be existing by the system
- Mishra ji provided an account of why no embankments can be guaranteed against breaching, especially in the case of silt laden rivers in the area. He spoke of deliberate breaking of embankments by villages on either side especially due to conflicts
- There is no public debate bon the fact that the Kosi has its own special characteristics and that people had been living with floods for ages. They the social or political pressure brought on the system because of the potrayal of floods as a disaster by the media, has also played a role. Further, there are interest of AID agencies which have added to the corruption.
- The Kosi project was a technological quick-fix to a government's political compulsion. Hundreds of thousands of unsuspecting villagers, desiring a way out of the annual trauma of floods, saw their lives become an endless nightmare. Instead of putting up a fight, they prefer to migrate to Delhi, Punjab, Haryana, Gujarat or Maharashtra.
- Successive governments have never considered rehabilitation seriously. Today they have closed the files. Almost all the nations' political parties have now ruled the State and the country and no party can point an accusing finger at the others. Non-government organizations distribute relief and advocate that flood disasters be managed. Correcting the wrongs done to the people is not on their agenda either.

Water Reforms: Whose water is it anyway? Privatization & pricing: Shripad Dharmadhikary

- Presentation went over the description and the history of privatisation of water
- The forms of privatisation were put forth: examples of bottled water; PPPs in urban water supply systems and Dams/ projects for captive energy generation or providing water for private industrial use
- The phases of water privatisation were discussed. The first phase was more direct – the example of the sale of a stretch of the Sheonath river in Chhattisgarh to a company called Radius was discussed in detail.

- The second phase of privatisation comprised of commercialisation of water and water reforms and was not as direct.
- We are now enetering the third phase where PPPs have been seen as the solution _ Public Risks and Private profits. These are also being pushed as part of the JNNURM mostly in domestic water supply
- Water as a tradable COMMODITY is also being pushed by the World Bank
- The language has changed but the move is towards privatisation.

Participants List to be added

Feedback:

Most participants found the workshop meaningful and informative

The participation was diverse and from various parts of the country

The participants were satisfied with the programme structure and content

Many felt that apart from the Film Screening we should have also had group reading sessions and had some reading material that was discussed and reviewed by participants

There should be a more concrete and proper session for discussion on alternatives and strategies which always get left for the end and justice is not done to it

There should be space for opposing point of views and perhaps people of the opposing view point could be invited as resource persons

In the initial literature the organisers should make clear what the participants will gain out of the workshop or this can be discussed in detail before session start