

GANGA

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Drinking water source in a slum of a West Bengal Town

National water policy 2012 is a very important document to the people of India. It was adopted in Dec 2012 by National Water Resources Council meeting under the Chairmanship of Hon'ble Prime Minister of India in the presence of Ministers from different states.

This policy will have impact not only for availability of water but also on the food and health of millions of Indian. The policy document elaborately

covered 17 important water resources management related concerns and 10 basic

principles on which public policy on water resources should be governed in India. But at policy level the 14 oversimplified policy issues failed to address the larger complex water problems in a diverse country like India.

As per the 2011 census, per capita availability of water in the country is 1545 cubic meters which has reduced from 1816 cubic meters of 2001 census. This reduction has been primarily attributed to the increase in population during the decade.

It is a well known fact that the agricultural practices in India are extremely water



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expensive. The World Bank data shows that annual fresh water withdrawals for agriculture in India is 90% of total withdrawals (in 2002). In China it was 65% and in Bangladesh it was 88%. The same figure for other large grain producing countries like USA and Brazil were 40% and 55% respectively. In 2012 the situation remains the same.

With increasing population in India the demand for more food production is putting more pressure on agriculture. As a result, there will be more pressure on availability of renewable water resources.

On the other side, it is a well known fact that high level of child mortality in India is due to water borne diseases. UNICEF child mortality data show that about half of under-five deaths occur in only five countries: India, Nigeria, Democratic Republic of the Congo (DRC), Pakistan and China. India alone (24%) accounts for around one fourth of all under-five deaths. Of the 783 million people worldwide without improved drinking water, 97 million people are in India. In this context McKenzie-Ray Report on 'Urban Water Supply In India' very clearly states that "Looking across India, we note substantial heterogeneity in water delivery. Piped water supplies 69% of households in large cities, 45% in smaller

cities and towns and only 9% of rural households".

The water policy needs to address the complex water related issues mainly food and health. Unfortunately the National Water Policy 2012 failed to show any direction to this very complex problem.

NEWS

National Congress On River Basin Management :

1. The third Mexican National Congress on river basin management was held in Morelia, Mexico in August, 2013 at the initiative of Mexican River Basin Network. The main objective was to advance river basin management to meet the urgent problems, related to water resources.
2. The Ministry of Public Works, Chile, and its general directorate of Water are working to develop on Action Plan for improving water resources management. (Source *International News March, 2014*)

The dangers of Sinking and Shrinking Deltas.

Parineeta Dandekar of SANDRP, shows in her recent report how the delta areas across



the globe are sinking and shrinking across the globe. Deltas are the most populous place across the globe due to their vast plain fertile land. The river sediment plays an important role in the formation of fertile and densely populated deltas. Nearly half a billion people in the world live on or near deltas.

Different studies and ground reports shows that most of the deltas around the world are shrinking sea level rise and delta subsidence. This will have severely affect the lives of millions of people, as well as valuable ecosystems.

One of the major reason behind sinking and shrinking deltas is sediment trapping by the dams built on the upstream rivers, which has resulted in oceans eroding our deltas. Studies indicate that the reduced sediment load due to sediment retention by dams world wise represents a volume equivalent to an area of about 7300 km² assuming a 10 m thick bed of sediments. In South Asia, during the past century, there has been over 94% reduction in Indus delta sediment, over 30% reduction in Ganga-Brahmaputra delta sediment, 94% reduction in Krishna's sediment, 95% reduction in Narmada, 80% reduction in Cauvery, 96% reduction in Sabarmati, 74% reduction in Mahanadi, 74% reduction in Godavari, etc.

(Source: "Shrinking and Sinking Deltas

Major role of Dams in delta subsidence and effective sea level rise " by Parineeta Dandekar SANDRP,)

RIVERS OF INDIA

Rivers Of Bihar & Jharkhand

Konar

The Konar River originates near Sultana village in Hazaribagh district. Thereafter the river with its tributary Siwani drains a greater portion of the Hazaribagh plateau, and then descending through the barren wastes of scrub and jungle passes Gomia. Bakaro is an important tributary of Konar after joining with it, it joins with the Damodar river near Jaridihbajar in Bokaro district.

Konar dam, the second of the four multipurpose dams, built over Konar River in the first phase of DVC in 1955. This earth and concrete dam is 4535m. long, and 48.77 m. high. The reservoir covers an area of 27.92 sq.km. There is a barrage (Bokaro barrage) across the Konar river at the point of its confluence with the Bokaro river to serve Bokaro Thermal Power Station.

Durgabati



Durgabati river flows through Kaimur district in Bihar. It is a tributary of river Karmanasa. It originates in the rocky uplands of about 12 km. east of that of Karmanasa. In the upper reaches it is only 6 to 10m. wide. It runs 15 km towards north then it plunges down the rocky boundary of the table land into the head of the deep gorge, named Kadharkho. Another three torrents joined there after originating from the table land on the Turkan Kherawars. These three torrents are the Lohara, Hatiyadub, and Kohtas. The Durgabati joins the Karmanasa on its right bank tributary.

The Durgabati waterfall (80m. high) on the Durgabati river is at the edge of the Rohtas plateau. The Durgabati Dam is located near Dujavati town in Kaimur district.

Important cities on the river are Sasaram, Bhabua, Dehri-On- Son etc.

Important project in the area comprises of an earthen dam on river Durgabati, joining Shergarh hills on the right, and Rajdeo hills on the left bank of the river. The 1616 m. long Durgabati dam is an earthen dam. Two canals take off from

the dam. The 25.27 long left bank canal is with head discharge capacity of 6.46 cumec. The 32.07 km. long right bank main canal is with head discharge capacity of 13.88 cumec. The irrigation potential of the project is 36,317 ha. with command area spread over 5 blocks of Kaimur, and Rohtas districts. The command of Kudra river scheme (16,020 ha.) has been incorporated within the command of Durgabati Reservoir Project. In order to make use of storage of Durgabati Reservoir, the Kudra weir and Distribution system was remodeled and completed in the year 2006.

Ganga the Eternal River

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Mythology of River of Ganga and Rivers

Ganga is intricately associated with Indian history, culture and folklore of India. There are numerous stories associated with Ganga in Indian Mythology. Ganga is considered as goddess who purifies human from all its sin. In some story Ganga is the daughter of the Great Himalayas and the Goddess Menaka. According to the Puranas, the Heavenly Ganga flows from the toe's of



Lord Vishnu. In her human form goddess Ganga married king Santanu and became the mother of Bhisma, the Great Grandfather of Kuru clan of Mahabharata.

In Bhagavata Purana, Ganga starts in satay Yuga when Lord Vaman Dev, incarnation of Lord Vishnu appears. At this time ruler of the earth and heavenly planet was king Bali. At this time Lord Vaman dev covers whole Universe in three steps. At the end of the universe he made a hole. From this hole pure water of ocean of milk enters into our universe and washes feet of Vamandev. Later on Lord Bhrama take that water in to his pot. Much later King Bhagirath's rigorous penance brings Ganga to earth.

Another name that Ganga is known by is Jahnvi. Story has it that once Ganga came down to Earth, on her way to Bhagiratha, her rushing waters created turbulence and destroyed the fields and the Ashram of a sage called Jahnu. He was angered by this and drank up all of Ganga's waters. Upon this, the Gods prayed to Jahnu to release Ganga so that she could proceed on her mission. Pleased with their prayers, Jahnu released Ganga (her waters) from his ears. Hence the name "Jahnvi" (daughter of Jahnu) for Ganga.

It purifies Dhruvaloka, and the planets of seven sages, because both Dhruva and the sages had no other desire than to serve the feet of Lord Vishnu.

As per Srimad Bhagbat the river Ganga, emanating from the lotus feet of the Lord, inundates the Heavenly planets, especially the Moon, and then flows through Brahmapuri atop Mount Meru. Here the river is divided into four important branches viz. Sita, Alakananda, Cakshu, and Bhadra., which then flows down to the ocean of Salt water. The branch, known as Sita flows through Sekhara parvata and Gandhamadana parvata and then flows down to Bhadrasva- varsha, where it mixes with the ocean of salt water in the west. The Cakshu branch flows through Malyaban Giri and after reaching Ketumala- Varsha, mixes with the ocean of salt water in the east. The branch Bhadra flows onto Mount Meru , Mount Kumuda, and the Nila, Sveta, and Shringaban mountains, before it reaches Kurudesa, where it flows into the ocean of salt water in the north. The branch Alakananda flows through Brahmalaya, and then crosses over many mountains,



including Hemakuta and Himakuta, and then reaches Bharata- Varsha, where it flows into the southern side of the ocean of salt water. Many other rivers and their branches flow through the nine varshas.

Bhagirathi

The word Bhagirathi refers to a mythological Sagar Dynasty Prince who brought the Goddess Ganga in the form of river Ganga from the Heavens to the Earth, to gain the release of his great 60,000 uncles from the curse of Saint Kapila. Bhagirath was the king of Kosala, a kingdom in ancient India. He was a descendant of the great king Sagar of the Suryavanshi or Surya dynasty. He was one of the forefathers of Lord Rama.

Irrigation specialist Wilcocks and Prof. M. I. Choudhary of Bangladesh possessed different views in respect of river Bhagirathi of South Bengal. Wilcocks had the opinion that all the rivers of south Bengal ,including Bhagirathi, were dug-out canals at different times by ancient Hindu kings for irrigation purposes. Historian

Nalinikanta Bhattachali explained judiciously in 1941 regarding mythological background of Ganga's descent on the earth. He narrated that during 2000 B.C. , there was tremendous scarcity of water due to heavy drought in the area in the southwest part of Gangetic delta. As a result, nearly 60,000 people who mainly live on agriculture, were in utter distress. At that time, King Bhagirath engaged huge number of labourers, and dug out a long canal southwards from main Ganga canal, and watered the once barren land of South Bengal. The agricultural economy of the land gained a new life after that. This incidence has occupied a symbolic chapter in the great epic – the Mabharata. On the other side, Prof. Choudhury of Bangladesh opined from the study of different maps, published during the times from Tolene (150 A.D.)to Rennel (1761 A.D.)that not Bhagirathi, the river Padma is the original pathway of the river Ganga.

Bhagirathi is also known as Hooghly *Shahjahan* (the Mughal king of Delhi) allowed the Portuguese to do trading in Bengal and they built a church in Bengal in 1590. The grass that grew around the



Church was *Hugla*, and hence the name given to nearby river became *Ogolin*. With the passage of time, it became *Oglee* and eventually *Hooghly*.

Yamuna

In Hindu mythology, Yamuna is the daughter of Sun God Surya, and sister of Yama, the God of Death, hence known as Yami, and according to popular legends, bathing in its sacred waters frees one from the clutch of death. Literally meaning “Twins” in Sanskrit, as it runs parallel to the Ganga, its name is mentioned at many times in the Rig Veda, written during the vedic period between 1700- 1100 B.C. , and also in the later Atharvaveda, and the Brahmanas, including Aitareya Brahmana and Shatapatha Brahmana. In Rig Veda, the story of the Yamuna describes her excessive love for her twin brother, Yama, who in turn, asks her to find a suitable match for herself, which she does in Lord Krishna. The story is nicely retold in the sixteenth Century Sanskrit verse “Yamuneshtakam “, by philosopher Vallabhacharya. The story of descent to meet her beloved Krishna, and to purify the world, has been put in verse. In the hymn he praises her for

being the source of all spiritual activities, while the Ganga s considered an epitome of asceticism and higher knowledge and can grant us Moksha or Liberation. It is Yamuna, who being a holder of infinite love and compassion can grant us freedom from even death, the realm of her elder brother Yama. She rushes down the Kalinda Mountain, and describes her as the daughter of Kalinda, giving her another name, Kalindi, the backdrop of Krishna Leela. The text also talks about her water, being of the colour of Lord Krishna, which is dark (Shyam). In the Mahabharata, Indraprastha, the capital of Pandavas was also situated on the banks of Yamuna.

It is mentioned as Loannes (Loames) in the surveys of Selukus/ Nicator, as officer of Alexander the Great, and one of the Diadochi, who visited India in 305 B.C. Later Megasthenes, a Greek traveler and geographer visited India, sometimes before 288 B.C. the date of Chandragupta Mourya’s death. This has also been mentioned in the text INDICA, where he described the region as the land of Surasena.

KOSHI



The Koshi was also known as Kausika in Rigveda. In the epic “Mahabharata” it is known as Kausiki named after the sage Viswamitra, who is said to have attained the status of “Rishi” on the banks of this river. Viswamitra was a descendant of the sage” Kausika. He is credited with writing many well- known Vedic hymns on the banks of the Kosi, where he had his hermitage. The writings were the Mandala- 3, the Rigveda and the GAYATRI mantra, a highly revered mantra, based on a vedic Sanskrit verse from a hymn of the Rigveda.

Seven Koshis join together to form Saptakoshi River, which is probably known as the Koshi. The Kosi is associate with many ancient spiritual stories, and is mentioned in the Bal Khand section of the Valmiki Ramayana, as the Kausiki who is the form assumed by Satyavati after her death. Satyavati was the elder sister of Viswamitra, descendant of Kaushik dynasty. In the Markandeya Purana, the Koshi is described as the primal force. Due to the violent nature of the river during monsoon season, legend says that Parvati, wife of Lord Siva, after

defeating the demon Durg, became known as the warrior Goddess Durga, who transformed into Kausiki. In Ramayana, the river Ganga is depicted as her elder sister. According to the Mahabharata, the God of Death took the form of a woman, and resides on the bank of the river to limit population growth.

Kosi resonates with the folklore of Mithila. The most important depictions of Koshi folklore are Koshi as a virgin, absolutely carefree and full of energy. Koshi is also described as a frustrated wife of old hermit Richeek, wandering in the Himalayas. Koshi is also invoked as the mother, ” Koshi Ma”.

These images capture the contradiction that is inherent in the Koshi River as a source of life and death, prosperity, and destruction, a mother and an enchanting virgin due to its ever changing nature.

*Editor- Sujit Choudhury, Published by
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