

*A bird's-eye view of people, State and
Saints' perspective on the Ganga*

The Ganga

People's Mandate

National River

Rajendra Singh

॥ कहहु सुनहु करहु अब सोई * जइसे गंङ्ग पुनि सुरसरि होई ॥

Dedicated to

*Swami Shri Swaroopanand Sarsawati Maharaj
Jagatguru Shankaracharya
Sri Sharadapitham , Gujarat and Jyotirmath Badrinath, Uttarakhand*



जगद्गुरु शङ्कराचार्य, ज्योतिष्पीठाधीश्वर एवं द्वाकाशाखादापीठाधीश्वर
स्वामी श्री स्वरूपानन्द सरस्वतीजी महाराज

The Ganga People's Mandate

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Publisher

Tarun Bharat Sangh
Bhikampura Kishori via Thanagaji
Alwar-301022(Raj.)

Distributor

Ganga Seva Abhiyan
34/46 Kiranpath, Mansarover
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0141-2393178, 01465-225043

Contribution

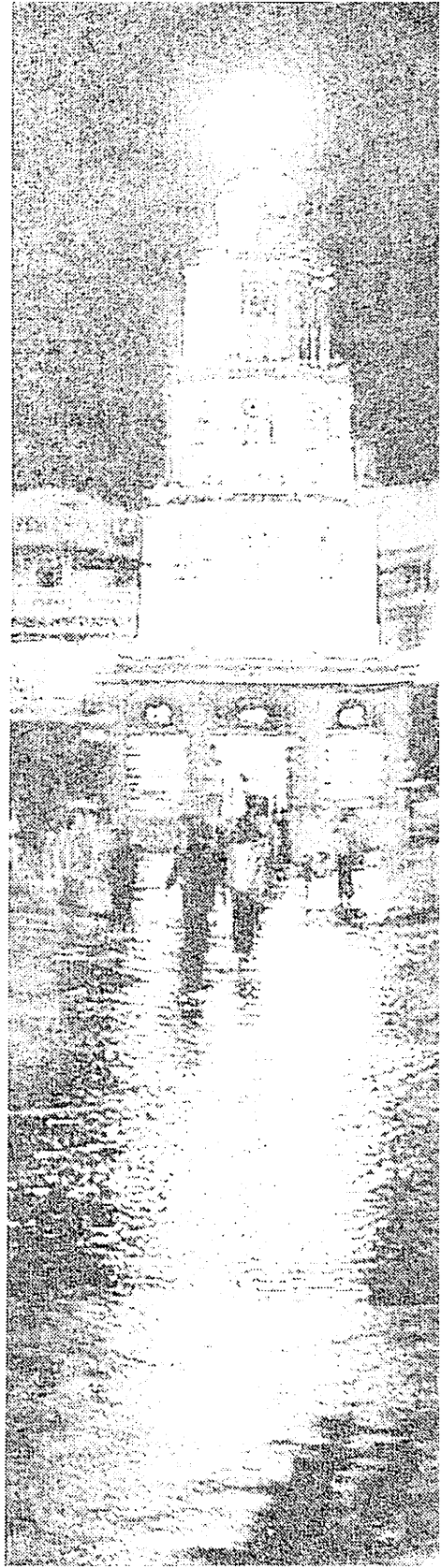
Rs. 60/-

First Edition

Ganga Deshehra, 2009

Designed & Printed

Kumar and Company, Jaipur





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Introduction

I remember when, on October 16, 2008, the committee of the Ganga Seva Abhiyan met the Prime Minister of India, Dr. Manmohan Singh, where the respected Jagatguru Shankaracharya Swami Swarupanandji had stipulated that Ganga be declared a National River saying, “take this step for the nation's welfare, Gangaji will take care of your welfare in return.” On November 4, 2008, after a high level meeting, the Prime Minister declared the Ganga as a National River as the first step towards its restoration. And the people responded positively by voting the United Progressive Alliance (UPA) Government back to power with an improved majority.

In 1984, the late Rajiv Gandhi introduced a resolution in Parliament called “Ganga Action Plan Phase I”. He was the first to bring about this issue to the Government for which society and various organisations fondly remember him even now. Then too, the people of India had re-elected him with a resounding majority. In Uttarakhand, the ruling party of the State that propagated energy resources and power – due to which the Ganga was converted into tunnels and pipes – did not gain a single seat in the 2009 Lok Sabha elections.

If may also be worth recalling, the ambitious and controversial inter-linking of river plan also did not meet with appreciation of our public as the people ensured that the same alliance did not come to power. It is therefore a clear indication that the people of India have faith in the Ganga and have political confidence in those who respect and seek to protect River Ganga. “I am a citizen of that country through which the Ganga flows...” (*Jis Desh meh Ganga Behti hai*) After all, which person does not want to sing this song with the pride that it ought to hold?

Even Smt. Sonia Gandhi, president of the Congress Party, would not have thought that her Government's faith in the Ganga could have resulted in such a positive outcome. The UPA Government had welcomed our suggestions, and declared the Ganga as the National River. Thereafter the National Ganga River Basin Authority (hereafter referred to as 'The Authority') was constituted and the various dams and projects which were being constructed on the Bhagirathi (upper most reach of Gangaji) have been stalled by the Central Government. Moreover, their agenda for protecting the Ganga also featured in their Election Manifesto. The public had observed this all along and therefore its decision and re-instatement of this alliance became the end result.

This new Government has a heightened responsibility towards their voters. The late Rajiv Gandhi's dream of the Ganga remained an unfinished agenda. The present resolution of restoring the Ganga's pride as the National River should not meet with the same fate. This is a promise that is certainly difficult to fulfil, but is not impossible. There are several other examples in our own country as well as in other countries which have illustrated that rivers can be revived. In fact, when the Government works with its people and for its people, nothing is impossible to achieve. Our ancient principles and traditional knowledge systems have been a time-tested method to show this potential.

Valuable lessons can be learnt from the failure of the Ganga Action Plan, and simultaneously of the success stories of revival of rivers and water harvesting techniques (e.g. Arvari River in Rajasthan) for which our rich traditional knowledge served as a basis.

The Kumbh Mela is the culmination of obeisance that millions of Indians have for the Ganga. In the past, while planning for the Kumbh, there were several rules, regulations and codes of conduct to be followed. These rules included a ban on all encroachments onto the river bank, to the effect that cultivation was allowed only 300 *gaj* (yards) beyond the outer limit of the flood plain. Any obstruction and diversion of her natural flow was prohibited.

When I was asked Does *Ganga Snan* (the age-old practice taking a holy dip) also pollute the river? My reply was 'No'; however, the way one looks at her is no longer that of reverence but rather as a medium for cleansing one's transgressions. Bathing in the Ganga was a pious act for devotees who venerated her, rather than a mere ritual to wash away one's sins. Our scriptures never permitted this ritual of soul-cleansing. There was also an unbroken custom followed by all castes and ages – never defecate in the river and enter the water only after wiping out the grime, dust and sweat from one's body.

We have forgotten that rivers are the repositories of our common future. We take it for granted that our rivers are bound to die and nothing can be done in this regard. But, the small steps taken sometime in the past have now emerged into a national campaign for the restoration of the Ganga. The efforts of Jagatguru Shankaracharya Swami Sri Swarupanandji Saraswati Maharaj, the fast-unto-death protest of Prof. G. D. Agarwal, the networking of organisations like Jal Biradari, ICELA, Matra Sadan and the active involvement of the Rishikesh-Haridwar-based Saints, sent out a clear message that many were willing to die for the protection of the Ganga.

The Government has now grown sensitive to the need for conservation of the Ganga and other water-related issues. Bearing this in mind, the Supreme Court clearly stated in a judgement on April 28, 2009 that a Government that is not able provide water to all, cannot be called a Government at all. Only that government which addresses water issues is entitled to govern. The Court has interpreted the Right to Water as a fundamental right enshrined in Article 21 (Right to Life and Liberty). To secure this right, it is the duty of the Government to take measures to ensure a basic minimum quantity and standard of water to all.

In addition to this, the Uttarakhand High Court has also dismissed the petition that was filed by those in favour of the Loharinag Pala Project and called for its complete withdrawal. The Court has also

revoked its previous judgement where the petitioners had been granted a time-period to strengthen their case, thereby ensuring that there are no more excuses to proceed with the project to be unimplemented hereafter. These judgments patently indicate that both the judiciary and civil society have paved the way for the Government to take a proactive stance on our river and water issues. For the judiciary to raise its concerns, it is indicative that despite there being no action on the society's part it certainly does care. However, we all know that mere sympathy towards a cause does not lead to action. Each individual must play his or her role towards restoring Ganga's pride, by doing their part at the grass root levels for protecting the river. Declaring the Ganga as the National River is a solemn commitment to ensure its perennial flow in all its natural quantity, quality and piety. Otherwise, it is an insult to our national honour.

A positive step taken already in this direction is that the Central Government has ordered for the minimum flow of 16 cumecs from Loharinag Pala Project to be released. Further, there will be no more hydro-electric power projects built on the Bhagirathi. It has paved channel for Ganga's freedom – a worthy example for other states to follow and free their rivers from unwarranted human intervention. All encroachments on rivers should be prohibited, and methods for purification should be taken up instead.

After all, is it worth keeping our rivers captive for the sake of generating a few megawatts of power and catering to the greed of real estate developers?

The Authority should now be wholeheartedly committed to the Ganga's 'true development' involving all the stakeholders towards her complete resurrection.

Now that the Ganga Authority has been formed, it is expected that the area is demarcated and provided the same sort of protection that the various Tiger reserves across India have been given under the Wildlife Protection Act, 1972. A clear, unambiguous policy should be developed forming a set of rules for development, industry and agriculture within such an area.

There must also be clear-cut policy to stop all forms of pollution on the Ganga and her tributaries. The people of India want a Government that is responsive to its needs and the need of the hour is knowing that in Ganga's resurrection lies India's resurrection. All economic policies henceforth implemented must be formulated keeping in mind the possible impact it might have on the Ganga. We can no longer afford to be blind towards her diseased condition.

The Authority must work towards implementing the 18+7 point programme laid out by the expert committee of the *Ganga Gyan Ayog*, headed by Jagatguru Shankaracharya Swarupanandji Saraswati Maharaj. This Authority must not be in name only. Two meetings annually shall not serve the purpose of the conservation of the Ganga. The Authority should work towards being an agent of change.

In a follow-up action in the post election result scenario, the *Ganga Sewa Abhiyan* conferred one Ganga *kalash* to each of the Honourable Members of Parliament (Lok Sabha) to motivate them to take up the cause of the mighty Ganga; its free flow, conservation and protection.

All those arguments for building dams in the first place—irrigation, power and flood control—have proven flawed. A corrective policy is needed in the future. In the long run, conservation of our rivers shall also be a means towards facing the threats posed by Global Warming and Climate Change for India.

The book includes the essays of Sri Bharat Jhunjunwala and a transcript of the discussions with Prof. G.D. Agarwal and contributions of Sri Paritosh Tyagi. Dr. Vijay Verma and Smt. Radha Bhatt, who wanted a book that enjoins the consciousness of our society with the Ganga provided the motivation for this book. The Hindi version of this book was edited by Sri Arun Tiwari and Ms. Chiteisri Devi scripted the English version.

This book belongs to our society. It includes blessings from the Shankaracharyas – Jagatguru Shankaracharya Sri Swarupanand Saraswatiiji Maharaj, Shankaracharya Sri Nischalanand Swami



Nirviklapanand and Shankaracharya Bharthi Teertham Mahaswami ji.

We also acknowledge the contribution of Swami Sri Avimukteshwaranadji , Swami Sri Sivanand Saraswati and Swami Sri Anandgiriji. The status given to *Ganga Mayya* as a National River and the work that has been carried out so far would not have materialised, but for their efforts.

We remain profoundly grateful to the Prime Minister, the Prime Minister's Office and the Power Minister for their receptiveness. We are most grateful to Prof. G.D. Agarwal who took the stand that his own life is of much less importance than that of the Ganga's and was willing to sacrifice it. His guidance and courage provided us the motivation to fulfil our goal.

In the last two years an innumerable number of persons have worked with us with dedication and commitment and listing all their names will be a small book in itself! It is not plausible to do so but I remember each of them and thank them with hearty gratitude. It is their faith in us that continues to let me believe that all good work brings about fulfilment. Due to the efforts of Ms. Chiteisri Devi and Ms. Renu Sisodia, the English and Hindi versions of the book could be simultaneously released. They were guided by Sri Paritosh Tyagi and Mr. Sunny Sebastian. I appreciate their work at translating and editing the English book, and am specially grateful to them for completing their work in such a short duration.

I am very satisfied about what could be accomplished through this book. All the experience and knowledge I gained in the past two years have been compiled here and am able to share it with you through this book. I nurture this hope that Ganga Mayya will get justice soon and the credit can be taken by each and every one of us.

Rajendra Singh,
Convenor
(Ganga Seva Abhiyan)



A Historic Day

Steps Towards Declaration of National River

December 23, 2002. Under the leadership and guidance of Sri Rajendra Singh, Jal Biradari begins its yatra from Rajghat, New Delhi towards 144 rivers.

March 12, 2003. Under the leadership of Sri Shamsheer Singh Bisht, Director of Jal Biradari, Uttarakhand and co-ordinator Sri Hussain Zafari, begin the Ganga Revival Yatra. Main participants: Sri Sunder Lal Bahugunaji, Dr. Vandana Shiva, Smt. Radha Bhatt, Sri Rajendra Singh, Sri Ravi Chopra and Sri Sureshbhai.

August 1, 2007. The Yamuna Satyagraha begins. The Yamuna is the principal tributary of the Ganga, and she is facing massive encroachments in the name of the Commonwealth Games 2010, Delhi Metro construction site etc. This Satyagraha was instituted by Sri Rajendra Singh.

July 8, 2007. Concerned by the declining water levels in the rivers of Kosi, Ramganga, Sarayu and Gomati and construction of dams on the Bhagirathi, Yamuna, Alaknanda, Mandakini and Sarayu, Jal Biradari in Uttarakhand seeks collaboration. In the villages of Chaai and Chirang, along the Alaknanda and the Bhagirathi respectively, launches the collaborative campaign, 'Year of Uttarakhand's Rivers, 2008'. Padyatras (foot marches) across villages of Garhwal and Kumaon to generate awareness, were also launched on this day.

October 2, 2007. Jal Biradari resolves that 2008 shall mark the launch of the River Revival Satyagraha. For the rivers viz. Bani,

Luni, Adiyar, Koovam, Akravathi, Vaidvathi, Garavi and Ganga and her tributaries -Yamuna, Sarayu, Hindan, Sai, Gomati, Badas, Son Bhadra and Damodar etc. A programme for their revival is launched.

Also, a resolution to mark March 20 every year as 'Water Rights Day' and as per the Indian calendar, the occasion of Dussera as 'River Day' was also adopted by Jal Biradari.

January 9, 2008. Jal Biradari dispatches seven of its members on a study tour from Noida to Balia, for reviewing the proposed Ganga Expressway. Led by Sri Ram Dheeraj, they were Sri Arvind Kushwaha, Sri Ishwar Chandra, Sri Satyendra Singh, Sri Arun Tiwari, Sri Vinod Kumar and Sri Rakesh Singh.

January 27 , 2008. Jal Biradari sends a letter of protest against the Ganga Expressway to the Chief Minister of Uttar Pradesh.

February 11, 2008. On the occasion of Basant Panchami, Vice-President of Tarun Bharat Sangh and noted environmental engineer Prof. G.D. Agarwal delivers a warning to the Government - that "if by 13th June, 2008, all construction work on Bhagirathi from Gomukh to Uttarkashi is not stopped , I will begin a fast-unto-death in protest."

April 14, 2008. Prof. Agarwal takes his pledge for his fast-unto-death.

June 11, 2008. Uttarakhand's Chief Minister Sri B.C. Khanduri ignores Prof. Agarwal's warning and launches a hydro-electric power project between Gangotri and Uttarkashi, barely two days before Ganga Dussera.

June 13, 2008. Prof. Agarwal launches his fast under the banner of 'Save Bhagirathi River' at Karnimanika Ghat in Uttarkashi. The members of the 'Save Bhagirathi Committee' were Justice P.N. Bhagwati, noted Enviro-lawyer Sri M.C. Mehta, Sri Rajendra Singh, Dr. Ravi Chopra, Dr. Uttam Swarup and Smt. Priya Patel. Gandhi Peace Foundation President Smt. Radha Bhatt, senior activist Sri Sunderlal Bahugunaji, Vimlabehn, Sureshbhai, along

with politician and thinker, Sri Govindarcharya, members of Tarun Bharat Sangh, Jal Biradari, Ganga Mahasabha, Lok Vigyan Sansthan, Enviro-tech Instruments etc. were the other participating members of this campaign.

Others who fasted were Jal Biradari's senior member Prof. S. Prakash and Sri Arun Kumar.

On the same day, in Varanasi Guru Dandi Swamiji also began a fast-until-death. Several other Jal Biradari members in different states also fasted to mark this day.

Jagatguru Shankaracharya Swami Sri Swarupanand Saraswatiji Maharaj offered a telephonic greeting and a promise to stand by Jal Biradari. Swami Chidanand Saraswati and other noted religious leaders also offered their support. Vishwa Hindu Parishad organised a 'Ganga Raksha Manch' under the chairmanship of Swami Ramdev.

June 19, 2008. In response to Prof. Agarwal's fast-unto-death and due the increasing support he and the other campaigners were getting, the Government of Uttarakhand stalls the 381MW Bhaironghati and the 480 MW Pala Maneri Projects.

As a backlash, thugs hired by the Uttarakhand Jal Vidyut Nigam Ltd. attacked the venue of the protest and threw possessions of the protestors into the river. They also attacked Swami Paripurnanand Saraswatiji who was present there.

June 22, 2008. Jal Biradari protested against this attack in Uttarkashi in a public meeting there, in defiance of the threats issued to leave Uttarakhand. Prof. G.D. Agarwal decides to move his protest to Delhi against the 600MW Loharinag Pala Project.

June 23, 2008. The Uttarakhand Government had only stalled the two projects, not abandoned them completely. Hence, Jagatguru Swami Swarupanand Saraswatiji asked Swami Avimukteshwaranandji to launch the Ganga Seva Abhiyan. Sri Rajendra Singh was given the responsibility to formulate a



committee. On the day it was launched, Swami Paripurnanand Saraswatiji and Sri Premdutt Nautiyal also began a fast-unto death at Har ki Paudi, Haridwar. Their demand was to declare Ganga as the National River.

Also, on the same day Prof. G.D. Agarwal's fast in Delhi began. The Central Government in response, called for a review of all the Bhagirathi Hydrel Power Projects and the impact it shall have on her natural flow. They also formed a high-level expert group with Prof. G. D. Agarwal as its member.

June 29, 2008. Ganga Seva Abhiyan launches the Ganga campaign in the seven pilgrim centres across India.

July 12, 2008. The campaign for the Ganga extended to the various Jyotirlinghs (Pilgrim sites for Lord Shiva) across the country. The movement gathered momentum in the days that followed.

July 28-30, 2008. A Convention was organised in the following two venues for the River Revival Satyagraha—Bal Bhawan Campus and the site for the Yamuna Satyagraha.

The demand to declare the Ganga as a National River was reaffirmed by the Gayatri Parivar. Delhi Sikh Gurudwara Administration Committee, Muslims from Mewat and the Church officials in Delhi also stood by this resolution.

Participants came from far and wide. They included Swami Sri Shivanand Saraswati (Haridwar), Prof. G. D. Agarwal (Chitrakoot), Smt. Savita Singh (Gandhi Smriti and Darshan Samiti, New Delhi), Sri Ramesh Sharma (Gandhi Peace Foundation, New Delhi), Smt. Madhu Bhaduri (I.F.S.), Padamshree Smt. Santosh Yadav, Smt. Shanta Sheila Nair (Secretary, Rural Drinking water, GoI), Prof. S. Prakash (Hindan), Prof. M.S. Rathore (Jaipur), Arun Kumar Panibaba, Madhu Kishwar (Senior journalist), Arvind Kumar Singh, S,Raju and Dinesh Kumar.

August, 2008. Jagatguru Swami Swarupanand Saraswatiji Maharaj sent a letter to the Prime Minister demanding that Ganga

be declared a National River; a 5-point action plan as recommendations was also sent.

September 5 and 6, 2008. Rajiv Gandhi Foundation, Jal Biradari and Tarun Bharat Sangh organised a Jal Kumbh in Khijura (Rajasthan), and re-affirmed the agenda of declaring Ganga as a National River.

September 12, 2008. Jagatguru Swami Sri Swarupanand Saraswatiji Maharaj raised a doubt about the Committee that was instituted by the Central Government to review the Bhagirathi Power Projects. He informed the Prime Minister of the Ganga Gyan Ayog made in response to it, and reiterated his demand for Ganga to be declared as the National River with immediate effect.

The members involved were Dr. M. Anandkrishnan, Dr. R.H. Siddique, Sri P.C. Tyagi, Prof. G.D. Agarwal, Dr. R. C. Trivedi, Dr. Kamaljit Singh Chawla and Dr. Ravi Chopra. They decided to prepare a full report and set up a framework policy for restoring the Ganga.

October 2, 2008. A meeting was organised at Tarun Bharat Sangh's headquarters in Bhikampura where river policies at the Kumbh and the demand for the national river were deliberated. Vireshwar Upadhyay of Shantikunj Haridwar and the Sikh Guru Sri Sukhbir Singh Sinchewal (Punjab) launched the book 'Why should Ganga be declared a National River?' This book was co-authored by Sri Rajendra Singh and Sri Arun Tiwari.

October 16, 2008. Jagatguru Swami Swarupanand Saraswatiji Maharaj, Swami Avimukteshwaranandji, Sri Rajendra Singh, Dr. R.S. Dubey, Sri V.D. Tripathi and other members of *Ganga Seva Abhiyan* met Minister of State for Home, Sri Sriprakash Jaiswal, former Chief Minister of Madhya Pradesh, Sri Digvijay Singh, former Member of Parliament, Sri Suresh Pachauri and Prime Minister Dr. Manmohan Singh for a session on explaining the benefits of declaring Ganga as the National River. The Prime Minister then had verbally assured them of doing so.

October 18, 2008. Kumbh on River Policies held at Karanjlad, Nagpur.

October 20, 2008. Discussions held at the Indian Chamber of Merchants, Mumbai. They were asked to join hands in the movement to save Ganga and the role of businessmen in this campaign was also specified.

October 22, 2008. Dr. Deenanath Shukla (Dean of Allahabad University), Dr. Chandrashekhar Pran (Nehru Yuva Kendra Sangathan, New Delhi) and Sri Giridhar Malviya met at Bharat Scout Guide Inter-College, Allahabad with members of Uttar Pradesh's Jal Biradari to discuss the Ganga's cause.

October 26 and 27, 2008. Meeting of the Ganga Gyan Ayog held in New Delhi in which recommendations were formulated for the protection and conservation of the Ganga.

October 29, 2008. Sri Rajendra Singh and Prof. M.S. Rathore set up a committee called Kosi Jan Ayog to examine the various problems of river Kosi, a tributary of river Ganga—that is referred to as Bihar's Sorrow due to its tendency for massive flooding. There was also a decision made to hold a Yatra of the Kosi river.

Members: Sri Paritosh Tyagi (Chairman), Smt. Madhu Kishwar, Sri Duru Rai, Sri Vijay Pratap, Dr. Bhartendu Prakash, Sri K.G. Vyas, Prof. M.S. Rathore and Sri Pankaj.

October 31, 2008. Deliberations held in Mumbai for safeguarding its own river, River Modi.

November 4, 2008. The Big Day! The Prime Minister, along with Ministers of Environment and Forests, Urban Development and Forest Departments of States had a high-level meeting which decided to make Ganga the National River. Under the Chairmanship of the Prime Minister, there will be a Ganga River Basin Authority that includes the Chief Ministers of all the five states through which the Ganga flows, and other relevant authorities would be members.

'Save the Ganga' Campaign Involving stakeholders

It was after our constant and untiring demand that Ganga was declared the National River and we are immensely pleased. We must respect all those who fought for her long-awaited status and converse with them regularly to understand what ideas and notions they have towards safeguarding our National River. Without this, it shall not be possible for us to protect her.

All those who work for the Ganga Seva Abhiyan and Jal Biradari have understood their respective roles towards safeguarding the National River. We felt that we can understand her plight only if we approach her ourselves. In other words, we thought of directly conversing and interacting with all those communities who live by the Ganga. If their suggestions towards river rehabilitation are not taken into account, then it isn't worth a national level programme. It is also our duty to make all the respective riparian communities aware of their rights and duties. Keeping this in mind, we headed for a yatra to understand and become aware of the situation.

The objective behind this yatra was to thank all those who were responsible for assisting our endeavour. I could personally thank all those involved, in their homes, and this filled me with an enormous sense of satisfaction. This yatra helped us to understand our river better, without which we will not be able to assist the Authority. Aside from getting a first hand knowledge of the situation and seeing Ganga Mayya, our interaction with several people helped us to collect the relevant data for the Authority. The people with whom I interacted include Jagatguru Swami Sri Swarupanand Saraswatiji Maharaj and Swami Sri Avimukteshwaranandji, Matra Sadan Haridwar's Chief Swamiji, Sri Shivanand Saraswatiji, Dr. Deenanth Shukla (Dean, Allahabad University), Prof. U.K.

Chaudhary, Ganga Research Centre, Banaras Hindu University, Vimalbhai (Matu Sangathan, Uttarakhand) and Ganga Gyan Ayog.

This knowledge and interaction taught us why Ganga Jal has remained immortal for all these centuries and why and how she has lost these qualities in the last 30 years.

It is important to realise that each river has its own unique properties which are attributable to the geological formation through which the river passes -- the wind, sun's rays, trees and vegetation that surrounds it and especially the source from where it emanates makes its water unique. Whenever there is such activity that involves an artificial construction, it alters the natural quality and piety of the water. This also explains why the Ganga has lost its highly oxidising properties in the recent years.

The sequence of events made in progress of our work towards restoring our National River's pride is listed as under:

November 5, 2008. The Ganga Yatra from Gomukh to Gangasagar and back was launched.

January 13, 2009. A Convention was organised to thank the various people involved in this movement.

January 14, 2009. Prof. G.D. Agarwal re-launches his fast-unto-death to protest against the construction of Loharinag Pala Project on River Bhagirathi.

January 28-30, 2009. Ganga Convention in New Delhi.

February 5, 2009. The Central Government resolves to avoid any future constructions on the River Bhagirathi and directs that at least 16 cumecs of ecological flow must be maintained from that area.

February 19, 2009. The Ministry of Environment and Forests directed for a stoppage on the construction of the Loharinag Pala Project and directed that the flow must be restored to its original state. Prof. G. D. Agarwal calls off his fast unto-to-death accordingly.

February 20, 2009. The Government of India brought forth the Notification of the Ganga River Basin Authority in the Gazette Extraordinary of India.

February 26, 2009. The High Court of Uttarakhand allowed a writ petition instituted by Rural Litigation and Entitlement Kendra, against the stalling of Loharinag Pala Project and direct for the stay order to be revoked.

May 18, 2009. The High Court of Uttarakhand revoked its February 26, 2009 judgement and upheld the decision to suspend the Loharinag Pala Project as per the Government of India's directive.

May 25 to June 1, 2009. Ganga Yatra from Gomukh to Gehmar and another yatra from Gangasagar to Gehmar.

June 2 and June 3, 2009. Ganga Convention at Gehmar to frame rules and policies for our National River; Gehmar Convention, commemorative volume on the campaign released.

The new Government now has a five-year tenure ahead, in which it can utilise this time to provide a complete structure to the skeletal Authority that was constituted. It has tried to involve people's participation, implementation of the Authority's directives at the State level, water-harvesting techniques and ways and means to minimise pollution in its initial phase. In addition to this, it is the duty of social workers and environmentalists now to lay down the problems faced in this area, and suggest solutions that can be brought about by the Authority. They must work in unison with the Authority. In the pages that follow we have tried to bring forth the understanding that we have of the river, data produced by experts and research scientists on the Ganga and a compilation of the expectations that society has upon this Authority in its future policy making and implementation.

The Meaning of A National River

Our national symbols have a proud new member. In addition to our National Song (Vande Mataram), National Flag, National Bird (Peacock), Animal (Tiger) and Flower (Lotus) we now have a national river declared as a national symbol too.

The Ganga is indeed a river that is unique for its sacred significance and special properties that have been scientifically proved and this declaration only seems natural and long overdue.

The Notification and the press release of the Government of India indicate the seriousness and sensitivity of the resolution passed for the Ganga. This declaration may have arrived 62 years after Independence; nevertheless it is a welcome and praise-worthy stride.

Now, it is time to execute this resolution. The first step that must be taken is refurbishing the public's confidence in the Government which has understandably been lost in the past few decades. When this resolution had its first press release, a newspaper article observed that "Ganga is now Government Property..."; some called this a publicity stunt for the elections, others a declaration on paper alone.

Several Authorities for various problems have been instituted in the past many have disappeared for want of commitment by the very same who started it in the first place. Different views were put forth from the four corners of our country. Some welcomed it, while others tended to make fun of it. Another question that was asked after this declaration was, " Why Now?" That river which has

always been an emblem of faith for millions; that river which has always been called Ganga Mayya, or is a mother figure; that river which has welcomed Hindus, Muslims, Sikhs, Parsis, Christians, rich, poor, those from North and South without any discrimination; that river of which whom not just India but the world recognises- What is the point of being called a National river now?

This is a valid question. It is true that Indians have always looked upon the Ganga as a mother. However in the last 30- 40 years our lifestyles, culture and social values have undergone changes. The Ganga has turned into a heavily polluted channel.

In the era of Globalisation, Privatization and Liberalisation, India also opened its gates to foreign investment in 1991- after which, there was a scramble for control over various natural resources in our country. This posed a new challenge for India. Our society which looked at water as Lord Varun (the God of Water), and our rivers and Earth as Mothers now has made them saleable commodities for profit-making. This has led to over-exploitation, encroachments and pollution of our rivers. It is shameful that these companies are willing to stoop so low for profits.

Our Government, industrialists and businessmen seem willing to put the lives of innocent people at stake for their selfish ends. Governments are indifferent to incidents like Nandigram (W. Bengal), Dumka (Jharkhand) and Gharsana(Rajasthan) happening again. For e.g. in Pratapgarh, Uttar Pradesh, when the Ganga-Express Highway was being constructed along the river bank and the locals of Madhukarpur, Kunda Tehsil refused to be evicted from their lands, the police did not hesitate to use force. In Rae Bareilly, a farmer was killed when he protested that he was not even aware of the fact that his land was encroached upon by the Highway developers. The Government has stood by the Jaypee Group (Highway Developers) all along.

The conduct of the Governments and the rich is such that the public's reverence for these rivers has been replaced by apathy and exploitation. Our society and clergy are equally responsible for the

condition of our rivers. We affirm that this is the result of a fall in our social, cultural and patriotic beliefs and values. The problem is of national dimension, and hence its effective solution lies in a national outlook.

For the above reasons, we had made a demand that the Ganga be the National River.

Every country has introduced a code of conduct and discipline for its citizens towards its national symbols. Similarly, the Ganga ought to get the same status legally and nationally as other symbols. Disrespect to the National flag is a punishable offence but moreover, it is the civic consciousness generated that follows which is more important. Several rules and laws may be broken, but we are still to hear of anyone spitting at our National Flag as a matter of routine. Similarly, the same civic values must be present in all those who routinely defecate, pollute and wield a destructive influence on River Ganga.

A force from deep within stops one from insulting our national symbols in addition to the punitive action that one fears. This must be imbibed and understood as the true meaning of River Ganga being a National River.

From now onwards, no one should pollute and destroy the sacred piety of the Ganga and even the thought of doing so must be a punishable offence. The day that every Indian truly believes that the Ganga is our national heritage - that day is when the spirit behind the true meaning of a National River shall be fulfilled. If, in the future, our Governments, society and religious leaders fail to do so, then this declaration shall be reduced to mere bits of paper.

To make this dream into a reality, we have to decide the path ahead. Our behaviour and discipline towards our patriotic beliefs should be reinforced through the manner in which we care for our National River. Are we ready for it?

Challenges Ahead

There are seven identified areas which the Authority must focus upon:

- 1. Dams being built for Hydro-Energy:** It has been scientifically accepted that dams do not always have a favourable cost-benefit ratio. However, our Government in the past has chosen to ignore the reality of threats that may be posed by them for generating power in the required quantity. In the present day, not just big dams are regarded as controversial but also many countries have accepted that the 'run-of-the-river' type of dams are also fraught with problems. At the policy-level, this is the biggest challenge for the Authority to discover alternative sources of energy to hydro-electric power.
- 2. Global Warming and Climate Change:** The Ganga is also affected by Global Warming and Climate Change as it has been that the glaciers are receding at an alarming pace in the recent years. It is a new challenge in comprehending as to whether energy efficiency is the solution for Global Warming alone, or is it a lifestyle change that adopts less materialism and optimum use of available resources. The Authority should realise that the importance of reducing consumption and increasing the natural vegetation of the surrounding areas is a better solution to this problem than improving energy efficiency.

3. **Barrages for Flood Control:** Till date, the ideal solution for a flood ravaging river was understood to be building barrages for its control. However, the Kosi River is a classic example to show how barrages are ineffective in this regard, and proves that artificial structures cannot be built to control a river. Similar to this is Inter-linking of Rivers plan that is thought to be the ultimate solution for flood and drought control, without understanding the bio-geo-cultural diversity dimensions involved. The Authority must take policy level decisions to stop the hasty constructions in the name of 'flood control'.

4. **Encroachments of Greed:** Rivers must flow in their natural state for which it is essential that its banks remain free from any encroachments. However, the Government and society continue to build structures on the river bed that have led to perennial healthy rivers being reduced to lifeless streams. Several Government buildings and housing colonies are built on the Ganga's banks so one wonders how the Authority shall be successful in keeping our river free from encroachments given the fact that several of its own offices and houses may be evicted.

5. **Pollution being the end result profit-making:** Despite there being strict environment laws to prevent pollution and set parameters for the release of effluents and sewage into a river, it is seen that sewage being released into the Ganga exceeds the standard parameters. This speaks of the quality of pollutants- however the quantity of waste alone itself is so much that the Ganga is not able to self-purify like she used to a few decades ago. There is little hesitation to allot a budget of a few hundred crores for sewage treatment and sanitation of this river, but there is a lot of hesitation when it

comes to putting a stop to all those industries and bringing them to book. It is indeed a challenge to the new Authority if it can implement the already existing laws to prevent pollution of the Ganga.

6. **Over-exploitation of the river for selfish ends:** Growing demands of agriculture and industry have led to over-exploitation of the ground water aquifers along Ganga's banks. Rising pollution levels and the diminishing water table have led to the river dying, while many continue to extract from her for their own selfish needs. The manner in which the Authority resolves this problem shall indeed be a challenge.

7. **Lack of people's participation and tackling this apathy:** The former Ganga Action Plan and several other river revival schemes have failed due to the lack of public involvement and participation from its initial planning stages till its execution. The various ministries involved have themselves stated that public participation and involvement in this venture are crucial for its success. Therefore, how the Authority shall involve the public shall be an imperative challenge in the road ahead.

1. Hydro-electric Projects

Remove dams and save rivers

It is true that without energy, mankind shall come to a standstill. But we must also decide what our minimum energy requirements are, and this is not a single individual's responsibility but a collective one.

Mahatma Gandhi had once remarked-Nature provides for everyone's needs, but not for Man's Greed. Our growing energy demands have led us to find different sources, both renewable and non-renewable. Initially we were solely dependent on coal as a resource for power. We found an alternative in oil, and soon it too is a resource that is feared shall run out, especially at the rate that we are utilising it. These have also led to Global Warming and excessive carbon dioxide emissions, which have forced many nations to explore renewable green sources of energy, even nuclear fuel, if necessary.

All this has led to the loss of bio-diversity and many species have become endangered in the process. A question that must be asked here is that aren't we, human beings a part of the larger natural cycle? If we impact our environment so negatively, we will soon be at the receiving end of Nature's wrath. What was once a balance of give-and-take in energy, in our simple traditional ways of living has now turned into a quest for consuming more, from more sources of energy. Rather than conserve energy, we smugly demand more with a willingness to deplete Mother Nature in the process.

Till date, we have seen that every hydro-electric power project has not generated the power in the numbers that they boast of during construction. Many dams generate only half its capacity, and in some places even a quarter of the requirement is not fulfilled. One can cite the examples of Pala Maneri and Tehri dams in this connection. In fact in between Maneri Bhali and Tehri dams, the Ganga is a vast reservoir of stagnant water, rendered useless until

its waters are released, and several crores of rupees have been spent in cleaning it up. The Environmental Impact Assessments of many dams show an unfavourable cost-benefit ratio, which is routinely ignored in this quest for profits.

The Ganga's unique healing properties are attributed to its geological formation, minerals that flow from its glacial source, microbes and vegetation that surround the area and oxygen levels maintained in flowing waters. When the water is collected in a lake and then diverted into tunnels and pipes for harnessing power, this natural composition is disrupted, and the Ganga's waters become stagnant and de-oxygenated.

Civil Engineers often make a big talk about how the 'run-of-the-river' type of dams are a revolutionary alternative to large dams. But, as seen from above, our findings establish that it is no better than other large dams. The positive change shall therefore come only with a whole new outlook minimising consumption of energy rather than looking at energy efficiency.

The Authority must consider our energy security in the future after deliberating on it thoroughly, as to what it means to secure it. However, securing our river is the first task for the Authority; therefore we suggest that it looks at a complete alternative to hydro-electricity power project, especially on River Ganga.

1.A The 'Bad' side of Hydro-electric projects Degradation of coastal areas, increase in floods and droughts

Hydro-Power is generated in the highest mountains of the world. This has led to increase in soil erosion and deforestation of the hilly terrain and also to reduced soil fertility of the river bed downstream.

In the first week of March 2009, I visited the two river-islands of Ghodamar and Gangasagar of River Hooghly in West Bengal. I



realised the negative impact that these dams actually have, vis-à-vis the large deposits of sediments due to excessive erosion. This has also led to a decrease in soil fertility downstream and large portions of the river remain dry and parched.

Rather, we need to focus on developing the hydrology of the riverbeds like that of Arvari, Ruparel, Sarsa, Bhagadi, Tildhe, Jahaajwali, Saabi and Maheshwara in Rajasthan. When rivers flow in their natural state, soil fertility increases, productivity per hectare increases, crops flourish and milk productivity also goes up. Life gets infused into a parched land.

The constructions upstream lead to drought in the catchment areas of the river. Construction of dams in a hilly terrain involves deforestation. This leads to soil erosion due the rainy season when there are plenty of flash floods, removing the thin, but very fertile top soil which gets deposited into layers and layers of sediment. This leads to a diversion in the normal streamline in which the surrounding banks of the river is subjected to further erosion.

Formerly, the deposit of sediments in the plains of the Ganga and the Yamuna made the Doab region the most fertile plains of the world. It was a natural process of the rivers' geo-hydrology. Presently, dams have led to excessive erosion and flash floods. These fertile deposits of silt are taken to the delta region where the tidal waves lead it to a constant blend of fresh and salty water, unsuitable for all types of cultivation. Soil productivity has decreased and this has left a direct impact on the livelihoods of those riparian communities.

The Planning Commission published the Nation's Energy Policy in 2006. Hydro-electric power was given a superior status with the argument that it does not release poisonous gases, smoke or dirty water (sewage effluents) into the atmosphere. The search for an alternative to petroleum as a source of energy has also led to the rise in demand for hydro-based power. There is certainly a need to revisit this policy and status given to hydro-power.

The University of Kochi, Department of Marine Geology has done an extensive study of Gangasagar Island. According to this study from 1976-1996, the rate of submersion of this island was at 0.79 sq. km per year. From 1996-99 alone, its rate of submersion increased by seven times, as the island loses 5.47 sq. km each year to submersion. This is attributable to the collection of silt deposits at the various dams constructed on the Ganga.

They conducted a study and came out with the findings that in the past 30 years, 1836 hectares of the coastal plains have been lost to the sea. In the 70s, the Godavari deposited 14.15 crore tonnes of silt per year at its delta. In the 80s it reduced to 8.7 crores tonne and in the 90s it got further reduced to 5.6 crore tonne per year. This research came to the conclusion that this submersion is due to increasing silt deposits being collected at various dams built across the river and its tributaries.

As per the Japanese Geological Survey of the Nile River in Egypt, the construction of the Aswan dam led to the sea encroaching into land by 4 km at its delta. Similarly, the Hwang-Ho in China used to deposit tonnes of silt in the 70s and 80s. However, after the construction of the Seoulangchi dam, its volume has reduced to 10 per cent of its original volume, which had led to widespread submersion of the coastline. These studies indicate that there is a direct relationship between the construction of dams and submersion and degradation of our coastlines.

In another related case, the Environment Impact Assessment of a dam that is to be built on River Alaknanda, a tributary to the Ganga, had maintained that siltation of the river at the dam is likely to be so high that its reservoir dam shall be filled with silt within nine years! Consequently, it is obvious that the equal proportion of silt shall not be released into the delta. The process of siltation at the mouths of a river forms temporary but fertile coastal plains, which negate the influence of tidal waves. Therefore, there is a subsequent increase in the degradation of the coastline, due to submersion of these coastal plains.

The loss of siltation at various dams poses a serious threat to Bangladesh. According to an article in Bangladesh's leading newspaper 'The Independent' by Munawar Hussein, Bangladesh was continually formed due to silt deposits of the Ganga, Brahmaputra and Meghna rivers. The loss of siltation causes a loss of nearly 10,000 hectares per year due to submersion, and roughly 1200 km of the coastline is swallowed by the sea. The added threat of Global Warming poses a more frightening situation, as the coast line comes further inwards each year. Till now, the silt deposits would keep the sea further out from the land, but this is slowly changing. Loss of land due to submersion will lead to several refugees from Bangladesh being forced to take shelter in India, a situation similar to 1971.

This is also likely to pose an international legal conflict.

The UN General Assembly in 1997 had adopted a resolution on the use on International Rivers, of which India is a signatory. Only three nations viz. China, Turkey and Burundi had refused to sign this resolution. Art. 7.1 of this resolution, clearly states that each nation is responsible for its rivers within its territorial boundaries and must ensure that harm is not caused to the other dependent nations. Art. 7.2 states that in the event of any harm or destruction caused, the parties may meet and deliberate to rectify the problem, or international collective action may be considered. If this trend of submersion continues, India must either remove these dams or pay a heavy compensation to Bangladesh in the form of damages.

In the future, our nation shall face a double threat. On the one hand we face the challenge of finding an alternative to oil, and on the other we must protect our coastline from submersion. The Energy Policy of India has declared hydro-power to be the solution for our energy requirements. But the removal of silt deposits and the natural by-product of Methane gas in stagnant waters collected at reservoir dams with vegetation deposits would cost us dearly.

We need energy for economic development, but there should not be destruction in the name of development. Our Constitution makes

the preservation of our territorial integrity the primary duty of our Government. Only when the Government re-evaluates the merits and demerits of hydro-power and sets aside its corrupt practices towards this 'development' it can fulfil our constitutional obligations. Further more, we should look at restoring our National River by the natural process of minimal human intervention, and let nature take its course in securing our common future.

1. B The Business of Hydro-electricity A Game of Truth and Lies

The Government of Uttarakhand has painted a very colourful picture of hydro-electric power projects to its residents. I was a member of the Bhagirathi High-Powered Empowered Committee and was able to get a first-hand learning experience of how dams, tunnels, barrages alter the ecological flow of rivers. It was then that I concluded that dams and tunnels are extremely harmful to the unique properties of Ganga Jal. Collecting the river's water at a reservoir dam, or making it pass through tunnels and pipes makes the water de-oxygenated, which eventually kills the life-giving microbes in the water.

Pilgrims of Rishikesh and Haridwar have often said that they have not felt the same satisfaction after bathing in the Ganga after the Tehri dam was built. The enormous amount of water which has been converted to the reservoir at Tehri, is also slowly penetrating beneath the surface, which is causing a certain amount of pressure on the tectonic plates of which the Shivaliks rest. Studies have stipulated that it is highly likely that in this disaster-prone region, the dams may result in an earthquake of an intensity of 10 on the Richter scale. This stagnant water is also a breeding ground for mosquitoes and is causing a rise in malaria, in a zone which has not been associated with such diseases. These problems have not been calculated in the economic terms and included in the cost-benefit ratio.

Therefore, the general public and Government operate under a mistaken impression of the benefits of such projects. It is

astonishing that our symbol of culture, faith and civilization is being destroyed to generate a few 100 MW of power and is being hailed as a 'source of employment'. Are we willing to obtain electricity at the cost of the life-giving Ganga?

There is also a flawed method of calculating the amount of power generated. The National Thermal Power Corporation had submitted to the Ministry of Environment and Forests that this project shall produce 127 crore units of power at an input Rs. 2.37 per unit. The Government shall receive a healthy profit of Rs.300 crore from it. However, there are two considerations here:

1. The figure does not deduct the cost-price or input involved. This price is the quoted price of power itself, and not the profit attained after the power is sold. (Selling Price; Cost Price). Moreover, a high input investment is bound to have slow returns in the start due to unforeseen factors while trying to increase production output. However, this price does not take into account the above.
2. Also, it is the profits of the Company producing the power which is being said to be the benefit of the whole society. E.g. If a tobacco-making industry has declared a profit of Rs.1 crore annually, it does not mean that this is a benefit for society at large (or real growth indicator) as it does not take into account the potential health risks of its consumers.

The Government must therefore not project the profits of the private companies involved in these power stations as a benefit to society, because they never include the calculation of social cost (risk of environment degradation, pollution, etc.) while calculating the cost benefit ratio during the Environmental Impact Assessments of such projects.

The truth is that hydro- electric power projects have an unfavourable cost-benefit ratio leading to losses for the Government and society at large. These projects are a loss to both

the economy and religious sentiments. The actual figures of profits are estimated at approx. Rs.152 crores and losses of approx. Rs.373 crores per year. However, the profit for bureaucrats, technocrats, politicians and contractors is extremely large due to corrupt practices involved, as the Government gets a commission per contract granted and 12 per cent electricity cess each year.

I believe that the same ugly state of affairs is present in Uttar Pradesh while building the Ganga- Express Highway. The river-bed which has always been free from settlements in this highly populated state is the only land available for which compensation for rehabilitation need not be given.

However, the river-bed is extremely important for environmental reasons, as turtles and earthworms nest on the banks and such a construction would lead to these species becoming endangered. Keeping this in mind, the bed should not be converted into walls of concrete.

If the Government makes an honest assessment of dams, barrages, expressways or any other artificial constructions on rivers that would be a revelation for the people on the ugly reality of this senseless "development". It is time this truth-- often brushed under the carpet in the offices of our Governmental authorities--is set free.

1.C The truth behind 'Run-of-the-river' type dams

We are witnessing the sprouting of several 'run-of-the-river' type of dams across several rivers in the Himalayas. These dams have been hailed as revolutionary and was hoped to silence environmentalists and social workers who protest the construction of large dams once and for all. The truth remains that this new name for an old act of destruction in the name of development.

In this context, we shall elaborate the example of the state of Uttarakhand.



The Chief Minister of Uttarakhand has declared that, "... Instead of big dams, there will be small 'run-of-the-river' dams constructed..." We must understand how they function, if we are to come to a conclusion of how sustainable they are

Big dams collect water in reservoirs during the monsoons, which are later used for irrigation during the dry season. 'Run-of-the-river' type of dams create small lakes instead. These dams cater to generating only hydro-power; therefore a minimum amount is stored, the rest being diverted back to the main stream after its use. It is said that these dams do not create any collateral damage such as submersion, displacement and rehabilitation as in these dams, water collects at a level barely 40-50 m above ground level.

In the following illustration, let us compare the two kinds of dams.

Imagine a river that is 90 km in length, where at 45 km there is a dam built creating a reservoir for irrigation and power generation.

Now let us consider, on the same 90 km long river, there are three 'run-of-the-river' type of dams built at every 30 km. The big dam shall tap water at the 45 km stretch which can irrigate the land beneath its slope, and generate power at the reservoir but will also submerge a certain portion of the river's catchment area, whereas the 'run-of-the-river' type of dam can generate power for the complete 90 km length but will render the water unfit for both irrigation and drinking purposes. Thus, both types of dams have their respective demerits, which demonstrate that it is not worth altering the natural quality and piety of Ganga Jal.

We shall elaborate on the points of the 'run-of-the-river' type of dams here:

- Firstly, when the water is made to flow through tunnels and pipes for a long stretch, and then released at that point to move turbines and generate electricity, it becomes heavily de-oxygenated for want of access to air. This leads to the

death of the microbes which normally thrive in flowing water. These microbes retain the natural piety of Ganga Jal, thus making the water stagnant and unfit for drinking purposes.

- Secondly, the sand and sediments on the natural river-bank are often used by the local communities in their housing structures or daily use. Because of their free-flowing particulate that do not retain moisture, they are non sticky. What was formerly a free gift from nature now requires a license and payment to obtain.
- Thirdly, the construction of big dams would at least give some form of compensation and rehabilitation due to displacement caused at the catchment areas of the reservoir. However, run- of the river dams may not cause immediate displacement but does result in unproductive environs, lower productivity in yield at farming and loss of livelihood. Here the locals are not given any form of compensation, and moreover are not permitted to freely utilise forest produce or the river banks but are not compensated for this loss.
- Fourthly, the locals have lost many of their crematory sites which the Hindu religion has always maintained at a river bank, preferably at a confluence of two streams or rivers. The villagers would also keep a relic from the crematory site, usually a stone and take it to their homes as a keepsake. Now, many locals are forced to travel all the way to Haridwar to perform these rites.
- Fifthly, the natural flow of rivers being altered also creates different wavelengths of pressure on the tectonic plates of the Shivaliks. This makes the area very unsafe, as the Himalayas have always been a disaster-prone region. Inside many houses, cracks have appeared in walls forcing

many villagers to evacuate their homes in search for a more stable zone (away from the radius of such dams).

- Sixthly, the threat of earthquakes is accelerated due to the blasting during the construction in which dynamite is used to clear hills. On several occasions, many natural streams and water sources used by the locals are diverted or disappear from their origin. Deprivation in access to water is a violation of our fundamental rights, and these villagers routinely face this problem.
- Lastly, when the constructions of dams are proposed and leased out to private companies the local villagers of the area are brainwashed by the merits of such a project. The promise of 24- hour power supply and a stable source of employment attract many towards them, and the Government gives the entire set up its blessing which only adds to the factor of enticement to the locals. The after-effects of flooding, environmental degradation, crop loss, and loss to livelihood is simply swept under the carpet, and by the time they are realised, it is known to be too late for collective action to put a stop to the process.

It is also seen that the local women are never in favour of selling their lands to these private players, but the patriarchal structures in our society ensures that women are not allowed to participate in the process of decision-making. On several instances, men have been enticed by the promise of money and alcohol and greed has led to the loss of a stable family budget.

It is the Authority's duty to lay before the local villagers the merits and demerits of such a project so that they may make an informed decision in this regard and try to involve more women in this process. Corrupt practices shall only lead to anger that simmers beneath the surface that shall one day erupt against the Government and the net effect is that Ganga Mayya continues to suffer.



Progress and development is desired by every nation. But at what cost should this progress be attained? At the cost of reducing oxygen levels in our water, destroying Mother Earth or taking the life out of our rivers? The Chief Minister of Uttarakhand should look at alternative sources instead. We believe that, otherwise we are on the path to self-destruction. Keeping a river in chains, leads to it dying there is a very deep inter-relationship between rivers and their natural surroundings. If a river is not allowed to flow in the manner which is meant to be, it retracts towards excessive flooding, drought and degradation. Therefore, dams and even the 'run-of-the river' type of dams should not be constructed on our rivers, and especially that river whose faith has nurtured a civilisation.

2. Global Warming and Climate Change

Most multi-national corporations and industrialists do not harbour a sense of love or respect for Mother Nature. Their sole interest is to make profits while they simultaneously plunder and loot natural resources and in the process are negative influences on society, teaching all those who wish to ape this habit. Global warming shall not be resolved by these people, but by those who adopt an alternative simpler lifestyle. It must be realised that achieving Energy Efficiency is only the means to an end, and not an end in itself.

In today's fast-paced world, technology and engineering have led to over-exploitation of our natural resources. Our Earth bears the brunt of our growing demand while the rich become richer and the poor are getting poorer.

An Economic Consultancy firm, McKinsey has stressed on the importance of increasing carbon productivity. This is argued in its report "Carbon Productivity Challenge: Curbing Climate Change and Sustaining Economic Growth." Presently, on an average, the world economy produces an income of \$740 while emitting one ton of carbon into the environment. The disastrous impacts of burning these fuels can be contained if the same one ton carbon can produce \$7,300 worth of income.

In this event the total Carbon emissions in 2050 can be reduced from 85 gigatons to 20 gigatons while maintaining the present rate of world economic growth. This improvement in productivity can be attained by improving insulation, use of fuel-efficient vehicles, production of ethanol from sugar cane, use of solar energy for heating water, saving forests, etc. This suggestion of McKinsey is in the right direction and is certainly welcome.

McKinsey also argues, contrary to popular perception, that the developing countries will also have a large role in reducing these



emissions. The projected reductions are distributed as follows: United States, Europe, Russia and Japan, 41 per cent; developing countries, 59 per cent, of which oil-exporting West Asia and China, 31 per cent; and other developing countries, including India, 28 per cent.

The basis of these assessments and projections is not disclosed. It is believed that these figures do not match the present trends. According to the World Bank, the emissions by high-income countries increased from 10.3 billion tons in 1990 to 12.7 billion tons in 2003. The emissions from developing countries in this same period increased from 10.6 to 12.6 billion tons. Clearly the share of developed and developing countries in total emissions was nearly equal. But the developing countries are contributing much less on per capita basis. The per capita emissions by developed countries increased from 11.8 to 12.8 tons in this period while it remained unchanged at 2.4 tons for the developing countries. In such circumstance, the burden of reduction should fall on the developed countries if the global parity among human beings is to be maintained.

Say, a family runs into economic difficulties. It has two sons—one a strong boy who eats 10 rotis, and other weak boy, who eats only two per day. Who shall bear the burden if the total food intake has to be reduced by 50 per cent? Obviously, the consumption of the strong boy should be reduced by a greater per cent than that of the weak boy. But their report states otherwise.

This firm, established by the developed countries to promote their interests, says the developed countries contributing 12.8 tons per capita will contribute to reduction of emissions by 41 per cent; and the developing countries contributing 2.4 tons per capita should contribute by 59 per cent! This is extremely discriminatory in nature.

McKinsey has estimated that a mere one per cent of global investments will have to be diverted to make improvements in carbon productivity in order to contain global emissions to target

level of 20 Gigatons by 2050. The question is how developing countries will manage this investment in this competitive era? McKinsey admits “many developing nations would find it harder to finance the incremental investments. It is possible that international community could finance such investments just as the World Bank funds investments. Countries with strong net savings such as China and oil-producing Gulf States would have the ability to make these investments. Thus at a global level, the costs are not daunting.”

We must examine the above quote carefully. The share of developing countries in reduction of emissions is estimated at 28 per cent. There is no solution as to how will developing countries, find the additional one per cent investment without falling behind? Instead, McKinsey smothers over the problem by invoking the fortuitous position of China and Gulf states.

There is another confusing point to be considered by McKinsey. It compares the proposed increase in carbon productivity with the improvements in labour productivity after the Industrial Revolution and the investments in infrastructure made by America in building highways and electrification in the last century. But there is a fundamental difference between them. The incomes of people rise with improvement in labour productivity and investments in infrastructure; but they reduce with investments in insulation, fuel-efficient cars and forests that are required to increase carbon productivity. McKinsey is equating investments in a computer, which leads to economic growth, with another investment that does not like a pleasure cruise.

McKinsey assumes that increase in carbon productivity will lead to less use of energy just as one consumes less fuel in cooking food on the improved choola (stove). But this may not happen. It is seen that homes that cook food in a fuel-efficient microwave ovens also consume more electricity because they simultaneously use more washing machines, air-conditioners, geysers, etc. The savings from one microwave oven is more than nullified by increased consumption from the other equipment.

Professor Michael Molitor of University of New South Wales, Australia explains: “Engineers have managed extraordinary, double digit efficiency gains in the latest batch of Boeing’s jet turbines,” but, he said, “in terms of gross emissions, all these wonderful efficiency gains and greenwashing had been absolutely swamped by demand increase. The 2, 00,000 + (fuel-efficient) Priuses registered in California emitted more than the cars they replaced because people were driving further. Despite more efficient engines, air travel is set to skyrocket in coming years.”

The point was made by the simple equation: Total consumption = population x level of individual consumption x technology.

Improvements in technology are nullified if the level of individual consumption rises along with it.

Admittedly both actions have to be taken into account—increasing carbon productivity and containing consumption. The key question is which comes first?

The same chain of thought must be considered while evaluating the true costs and efficiency while building dams. Reducing carbon footprints must be a means to reducing our ecological footprint and not an end in itself.

3. Barrages for Flood Control

For several rivers, including the Ganga we have witnessed an increased rate of flooding over the years. In some cases it was mere preview, but the August 2008 floods in Bihar , when 35 lakh people were displaced it became a genuine cause for alarm.

For over a century, barrages are understood to be the main instruments of Flood Control - Dr. Rajendra Prasad, the first President of India had laid the foundation stone of the Kosi River Barrage. Then, it was assured by our civil engineers that this was the one-stop solution for flood control. The same was held for the barrages of the Hooghly River and the plan for Inter-linking of rivers.

The Ganga- Expressway from Naroda to Balia in Uttar Pradesh is also being constructed on the same pretext of flood control (one of the 'merits' of such a project as stated by the Government)! This Eight-lane highway at a height of 7.8 m above the average river level shall be serious threat to the natural flow of water, aquatic species, riparian communities and their livelihoods. The Uttar Pradesh Government is well aware of the scientific research that was conducted to assess the impacts such a project shall have, but have turned a blind eye to it.

Inferences can be drawn out from the various problems of the Kosi, which has caused loss of lives and destruction to all its dependent communities of a scale much larger than it did before barrages and dams were constructed.

The truth remains that no matter how much construction and engineering works are done on a river to control floods, flooding of a river is inevitable. Rivers are meant to flood each year as in their natural course it is desirable as well for the sake of replenishing soil fertility in their catchment areas. What needs to be controlled is the rapidity and destructive force that a flood may bring, and measures to see that displacement and loss of life and property are minimal.

Landslides, deforestation, soil erosion, construction of dams and encroachments are some of the reasons why floods are growing more destructive each year. Several old fishermen who live by the Hooghly River have seen the change in the type of flooding that has happened over the years. They would look forward to the monsoon seasonal flooding earlier as it promised a better catch and fertile soil once the flooding receded. Nowadays this only brings extreme devastation each year.

When there is heavy flooding at the Kosi with the combined force of heavy rain and the various dams and barrages being broken in the process, the sheer force of the waters make it impossible to flee well in time. It resembles a flash flood, and the locals are unable to prepare themselves for such a calamity. This was seen in the August 2008 flood which caused massive displacement, loss of life and property.

Scientists have also determined that the construction of dams and barrages have reduced the amount of silt deposits at the mouths of the Ganga. The imposing threat of Global Warming shall bring the rising seas to swallow several portions of Bengal and Bangladesh. If these silt deposits actually find their way to the delta region, it shall increase the elevation of the coastline and may considerably reduce the portion of land and coastal plains that could be submerged.

Ways to reduce devastation caused by Floods and Drought

Bihar is a state that faces the extremes of the Ganga's wrath with massive flooding and drought at the turn of the season. The proposal for Inter-linking of India's rivers shall have the most disastrous effect on this state, as the Ganga flows in its maximum volume here. Fishermen, boatmen and ferries have always formed a major part of society in this state. Presently, Bihar has lost its ties with accustomed lifestyle due to this unpredictable river. The traditional methods of rainwater water-harvesting, Chaal, Taal and Paal in the mountainous, plains and delta belts respectively, are no

longer maintained and with the rising strain on the resources, the state has become more disaster-prone.

The same state that was the cradle of the golden era of Indian civilisation now has its people obtaining flood-relief packages and resorting to mass migration for better opportunities to other states. The alienation and fear of this mighty river have led the people to look at the Ganga with indifference. Until this zone is 'flood-safe', the Ganga shall continue to be in a self-destructive mode.

The actual solution lies in smaller bunds and check dams which divert water to its main course and recharge the ground water table in the monsoon season. The flood plains should be free from encroachments so that the river may swell in width rather than height, thereby leading to greater surface percolation. The traditional methods of Chaal, Taal and Paal must be brought back.

Check dams cannot be equated with 'run-of-the-river' types of dams. The structures and purpose of check dams are very different from those of hydro-electric dams. These check dams keep the flow of rivers in their natural course and increase the chances of surface penetration during flooding to recharge the ground water table. 'Run-of-the-river' types of dams are concrete tunnels, pipes and dams which make water flow through those areas which is not part of the natural stream of the river.

The Ministry of Water Resources performance budget in 2001-02 has listed several measures for minimising disaster due to flooding—better communication facilities, creating settlements at a plain which is higher than most flood-prone regions and providing drinking water supply to such settlements and colonies. We recommend that reviving the traditional methods of water-harvesting also be introduced on a large scale by the Authority as a slow but sure method of control. Civil Engineers work under a mistaken impression that a region where water flows in plenty does not require harvesting techniques. If this mindset is changed, they shall understand why the same region is both flood and drought prone and can work towards a more sustainable solution.

4. Encroachments of Greed

India, in the past, while planning for the Kumbh, had several rules, regulations and codes of conduct to be followed. These rules included a ban on all encroachments onto the river bank, to the effect that cultivation was allowed only 300 gaj (yards) beyond the outer limit of the flood plain. Any obstruction and diversion of her natural flow was prohibited.

These rules were followed by not just the public, but the King and religious leaders (the clergy) as well. When their attitudes changed, so did the river's natural qualities, flow and piety. The same saints who were entrusted with the responsibility of safe-guarding our rivers have built their ashrams right on the river-banks. In this regard, the Government and Society are 'no saints' either!

Nowadays, settlements or construction can be seen right at the river-front, on the embankments. Real Estate is such a prime commodity, that its location (whether it is right at the river-bed or in a far corner of a city) is irrelevant.

In the name of development the Government insists on constructing a Ganga Express Highway selling large portions of land to the Construction Company that has been given the tender to build it. It has also declared the area to be a Special Economic Zone! If this isn't a blatant form of encroachments on common property, what else can it be called?

In Delhi, at the banks of the Yamuna, between I.T.O Bridge and Nizamuddin Bridge, one sees the developing of the site for the Commonwealth Games 2010, construction of Metro Rail and bus depots, even after there have orders to put a stop to it. Prior to this, the Akshardham temple was constructed right on the embankment of the Yamuna.

In Patna, there are several illegal tenements and bottled water plants on the banks of the Ganga. The same can be seen of Allahabad, Kanpur, Sultanpur... the list can go on. Human

settlements, colonies, government offices, hotels etc. continue to be built on river banks. Encroachments are a regular phenomenon in most cities and big towns. The Government does not hesitate to convert the common ownership of the river banks to those of private parties. The city municipal corporations do not hesitate to empty the entire city's garbage and sewage into our rivers and real estate developers do not hesitate to build concrete 'jungles' at the river-front. It seems as if this is the natural course of events, therefore one which does not need an alternative at all!

When Jal Biradari had appealed to the Chief Minister and Lieutenant Governor-General of Delhi to stop all forms of encroachments on the Yamuna--their reply was "Can we leave such expensive real estate unused or unutilised?" We must ask, are forests, river, grasslands, marshes, mountains, lakes or any other natural 'resource' for common use and ownership a 'useless' form of land? Or do they serve a higher, better purpose than profits, greed and real-estate? The Authority must work towards banning all encroachments on the Ganga, especially that of the Uttar Pradesh's Ganga Expressway. This is indeed a huge challenge for the Authority.

5. Pollution, the end-result of profit-making

Ganga Jal is no longer suitable for bathing let alone potable, as our scriptures have hailed her to be the ultimate symbol of purity. Every town, city or metro empties her sewage directly into her mainstream, or the municipal drains flow straight into the Ganga. The discovery of coliform bacteria (present in human excreta) in a large volume shows that Ganga is not able to self-purify like it used to. In Allahabad alone 67 drains and sewage outlets find their way into the Ganga.

Despite several anti-pollution laws being in force since the 70s, and Rs. 7000 crore being set aside for a clean-up plan in the 80s, our activists affirm that there isn't a single town, city or settlement that does not pollute the Ganga.

Several sewage treatment plants do not function properly because of the sheer volume of sewage as well as corruption which prevents their maintenance. Had these units been functioning properly, such treatment facilities should have been able to restore water to a standard, fit for bathing—hence the name 'Bathing Standards' is given to all the standard parameters for water purification.

The failure of 'scientific methods of purification' of under the Ganga Action Plan: Causes

1. Lack of people's participation.
2. Widespread corruption.
3. Overload of sewage effluents into the installed treatment facilities.
4. Reduced flow in the main channel of the river and its tributaries.

The impact of rising pollution in the Ganga are varied. Disease and death due to water-borne diseases is on the increase and pollutants in the river have also endangered the species of the river Dolphins,

endemic to the Ganga. Turtles (in Kalakkar) and crocodiles have also been reduced in numbers over the years, not to mention the numerous microbes and plant life which were all a part of its natural vegetation.

Industrial Pollution

Industrial Pollution is most dangerous form of pollution in the Ganga. Intensity of this kind of pollution is such that even when it is only about 20 per cent of the total volume, the impact on the water of the river is most damaging. In Uttar Pradesh's Unnav district, arsenic levels in the water have increased substantially. The factories in the various towns of Haridwar, Rourkee, Bijnor, Meerut, Ghaziabad, Bulundshehar, Kannauj, Kanpur and Farakka have increased pollution to alarming levels. In Rae Bareilly the Bhawani Paper Mills directly empty its sewage into the Saai River, a tributary of Ganga. Paper mills, sugar factories and breweries are the biggest polluters who employ thugs in the process without giving a second thought to the law, society, environment or the fear of God. Big names like the Mawana Sugar Mill and the Gopal milk-plant are not the only units responsible for this pollution but also the numerous smaller factories and plants in their neighbouring areas. Blood flows from slaughter houses along the banks straight into the Ganga. The colour and texture of the water has changed to a sluggish opaque instead of the clear waters that once flowed.

Jal Biradari has done an extensive study of the Ganga in Uttar Pradesh and has found that the stretch from Kannauj to Unnav is the most affected due to industrial pollution.

Agricultural Pollution

Each year 1.15 lakh tonnes of fertilisers and pesticides are emptied into the Ganga. Chemical Fertilisers and pesticides have already proven extremely harmful for sustainable agricultural practices. The demand for them remains high because of the sheer demand for food from our growing population. However, it must also be remembered that their presence in our food and water is harmful to

health. Therefore profits attained out of the bumper crop cannot be called a real profit as the same amount is lost to pollution and health risks.

Organic farming must be encouraged by the Government. There is a niche for organic food products in the West which can be simultaneously developed here, if only brought forth. This involves a comprehensive level of planning and organisation.

Religious Pollution

When every religion's, community's and society's leader unites towards a common cause, it sets a system of norms in place that soon become customary laws. A new set of rituals and Ganga worship is needed that does not involve the excessive use of flowers, leaves; *arti etc.* because the aquatic species and microbes that would immediately consume these items have themselves disappeared. Moreover, the Ganga is no longer the same river that could self-purify within 22 km of flowing waters.

Toxic wastes and sewage has diminished this capacity greatly. The Parliament must therefore bring about a new set of rituals that is altogether less polluting. In fact, until the river is revived with her self-purifying capacity restored, we do not have any right to enjoy a dip in this holy river. The religious parliament must also ensure that the crematory grounds and the various articles used in a cremation do not directly flow into the mainstream river. A portion of the river can be set aside for this purpose. The river should be accessible so that Ganga Jal is used. This area can be beautified so that people may be appeased and satisfied with the crematory ground.

Hospitals and police stations should refrain from disposing unidentified dead bodies into the river. One might also ask: Does Ganga Snan (the age-old practice taking a holy dip) also pollute the river? My reply to it would be 'No'; however, the way one looks at her is no longer that of reverence but rather as a medium for cleansing one's transgressions. Bathing in the Ganga was a pious act for devotees who venerated her, rather than a mere ritual to

wash away one's sins. Our scriptures never permitted this ritual of soul-cleansing. There was also an unbroken custom followed by all castes and ages – never defecate in the river and enter the water only after wiping out the grime, dust and sweat from one's body.

We have forgotten that rivers are the repositories for our common future. We take it for granted that our rivers are bound to die and nothing can be done in this regard.

All this would require an active public participation and involvement working in harmony with the Government, society and religious leaders.

We re-affirm that this may seem a gargantuan task ahead of us, but is certainly not impossible to achieve.

6. Over-exploitation of Rivers

If there is a factor that adds on to the harmful effects of pollution that is the exploitation of the ground water aquifers and water-table as the last recourse for potable water. There are thousands of litres of ground water being continually extracted from these aquifers for domestic, commercial and industrial use. This has led to the depletion of the water-table levels which would constantly feed these rivers, and replenish them in the dry season as well.

Even farmers who live and farm on the Ganga's banks are careless about the method of irrigation. Taps are left with water running; wells are bored to harvest several thousands of litres per day—all which have left the region dry and unproductive. The Gomati, Sarayu, Sai, Ramganga and Yamuna banks are now facing a scarcity of water! It is indeed shocking that, people remain blind to this mounting concern.

When any Government Authority speaks of underground water-supply, they are quick to state that 80 per cent of this water is being utilised for irrigation. They advocate for bore wells, tube wells and wells being licensed out for this purpose.

The actual scenario can be measured differently. The same amount of water which can be used to irrigate thousands of hectares of agricultural land is drained by a single unit of a bottling plant of a company like Coca-cola. While the water used for irrigating a poor farmer's land is re-utilised as it finds its way back to replenishing the ground water table, the effluent from a bottling plant is filled with noxious gases and poisons that destroy both surface and subterranean waters.

The Authority must therefore exercise a greater level of control on these water-exhausting industrial plants.

Rather than conferring such wide-powers on the Authority alone, it is also desirable that the local community be made aware of the notion of community ownership of their ground water sources.

This has proved to be a more successful means towards securing water rights as well as conserving it for a sustainable use.

We must harvest to replenish the equal amount of water that is extracted from our aquifers. This shall lead to a sustainable 'give-and-take' inter-relationship, ensuring that the same quantity and quality of water is restored, which also recharges our dried or thinning rivers. Such easementary rights of a community must be accorded better protection vis-à-vis industrial grants and these customary rules and laws of natural resource use must be given a superior status to statutory laws, or must be recognised in our statutes.

To secure the ecological flow of the Ganga and her tributaries their banks must have a green belt of those trees that replenish the ground-water table. We wonder if the authority is willing to work in this direction...

7. Lack of People's Participation Tackling this apathy

Whenever we leave an issue for the Government to tackle we, as a society, forget our own civic responsibilities.

Maybe, this is a negative interpretation of the term 'welfare state' but it is true that individuals safeguard only their private property and do not hesitate to care for public property in a manner similar to trash!

The Government is also responsible for this apathy as it prefers to exclude society in any decision-making or law-making process. The Government has also never asked the public or riparian communities of their notions and ideas on their rivers. They have neither understood the river, its hydrology, its flow, the livelihoods dependent upon it or its ecology but are quick to spend crores of rupees towards 'river conservation'. This explains why the Ganga Action Plan, introduced in the late 80s, was a total failure despite our treasury shelling out a sum of Rs. 7000 crores for this purpose!

It is imperative that the Authority provides for maximum public involvement and participation at every step of the way. Innovative strategies must be employed in this regard, and the functioning of the authority ought to be de-centralised. Only then, can the rules, laws and regulations for Ganga Mayya be instrumental towards her restoration.

There must be an equal role for Saints, society and the Government in the functioning of this Authority. An effort must be made to unite Man's consciousness with the Ganga. A civic consciousness imbibed in a citizen of any western country, stops one person from littering and also stops any other individual from doing so. The same consciousness is needed here and the Authority must launch a nation-wide campaign imbibing this respect on our newest National symbol.

If we, the people of India, can make our own customary laws and norms for our river, then we will be able to identify and unite with her consciousness. As the Kumbh has a certain degree of universal acceptance, it is a golden opportunity to develop our laws and bye-laws there. Every 12 years, when the Kumbh convenes, these laws and norms ought to be reviewed and fresh resolutions of innovative ideas be introduced for our river. This is a long-lost tradition we can bring back to serve as an occasion for these momentous steps.

People must take an Oath on this holy occasion:

- To respect and serve the Ganga.
- To take a collective action against all those who defecate, litter and pollute in the Ganga and
- To culminate the various ideas that may be utilised towards her restorations by a natural, cost-effective and collective means.

Every six years, the Authority should convene at Haridwar to deliberate on the policies for the Upper Ganga and at Allahabad for Middle Ganga which can be called 'Ardh Kumbh.'

The Authority should take all these deliberations into account, and try to implement these suggestions as if it were their own. These events can be used as a forum to increase the numbers of people's participation in our river revival techniques. Faith can move mountains in the Indian consciousness. If this faith is manifest in every Indian's heart, instead of just a penal liability on polluters and encroachers, it will culminate in a clean, perennial and healthy Ganga.

Let Society Lead the Way

Production should not always be that for personal profits. When people work towards a common future, it creates an environment of well-being and prosperity.

In the 1970s, Alwar district was classified as the 'Dark Zone' for want of irrigation supply and potable water. In the 1980s, when four young graduates, motivated by Gandhian philosophy, came to its village called Bhikampura with a view to start a school, they realised that, while the villagers wanted to send their children to school, they had to send them to fetch water instead. Thus, a plan was devised by the NGO and the community jointly to revive the traditional water-harvesting structures (johads) with the villagers contributing to its production costs. Soon, the johads proved to be a success as it tapped rainwater and replenished the ground water aquifers of the entire 'Arvari' basin. The community of people formed a local parliament once the river revived, mutually agreeing to manage the land, water supply, grazing tracts etc., entirely by themselves.

A similar situation came about in the village of Nimbi, Jaipur district. Their Sarpanch invited the same organisation, Tarun Bharat Sangh, to work jointly with them and have the traditional water-harvesting bund repaired. The villagers agreed to contribute 25 per cent of the cost in cash. The land downstream of the bund was sandy and uncultivable grassland earlier. Now about 200 bigha of this land has been given out on annual rent of Rs 3,000 per bigha to immigrants from Bihar and Bengal for the cultivation of melons in the summer season. The village gets an income of Rs 6,00,000



from this cultivation. They earn about Rs 18 lakhs in the three seasons during which melon cultivation is expected to take place. Plus they have now started cultivating flowers and vegetables and taken to dairying.

In the summer months of 2000 as many as 750 persons from outside Nimbi got employment in the village. In the previous year, vegetables worth Rs. 3 crore were produced in the village and were transported to mandis in Delhi and Chandigarh. Now the village has turned green. The hillocks now have a green cover. In the North-South summit in Johannesburg the success story of Nimbi was highlighted. Now the urban people are making a bee-line to buy land in Nimbi, a place where even the locals had abandoned their ancestral holdings.

I remember the hardships the local people faced when mining was going on in the jungles of Sariska (Rajasthan). The forest dwellers, Adivasis, cattle breeders and the wild animals, all were victims of this exploitative activity till Tarun Bharat Sangh stepped in. The local people too joined in and the results are there for everyone to see. In the case of revival of the Arvari river too, we got a similar support from the locals whose contribution was recognised through an award given to Bhaonta-Kolyala villages by the then president of India, K.R. Narayanan.

Jal Biradari has also taken up a national campaign to revive at least one river in each state in a manner similar to community-based initiatives. Initially, such a plan is met with a lot of experiential, technical, administrative and financial problems but in the end, efforts like these bear fruit.

Why is that the things which add to our comfort in life also create pollution? Why can't things be produced keeping in mind the minimum levels of pollution? But then who is bothered? The issue will not go away by pointing an accusing finger at one another. We need collective action to get rid of the malaise. Once we have the desire to overcome the avenues too will appear before us.

Pollution has a direct connection to profit motives. Some people want to make more profits using shortcuts and investing less. A responsible individual or society should always keep in mind the long-term interest of humankind, the purity of water and soil, the health of rivers and water bodies and the survival of bio-diversity.

It is hoped that the Authority includes all stakeholders in such a manner and encourages community-based initiatives for restoration and conservation of the Ganga. This is more of a necessity than ideal as stated in several other illustrations so that its work may be termed a success.

Role of the Saints

1. The first and foremost step that must be taken by the Saints, is that they ensure sewage and wastes of any kind are not emptied into the rivers at the various pilgrim sites.
2. It is observed that saints have loyal set of disciples; therefore they can set a code of conduct amongst them to develop an understanding of the sustainable use of natural resources and water resources. This can happen only if the religious leaders unanimously agree to form a Parliament that has its own laws of discipline towards the river. Any violation of these rules shall call for a penalty to be imposed that is religious and legal in nature. The Parliament must consist of a representative of each religion and caste, because the Ganga is not restricted to any caste or religion.
3. Therefore, it is necessary for these religious heads to fulfil their role of leadership step out of the realm of their Ashrams, Mosques, Temples and Gurudwaras and really contribute towards environmental consciousness.
4. When every religion's, community's and society's leader unites towards a common cause, it sets a system of norms in place that soon become customary laws. A new set of rituals and Ganga worship that does not involve the excessive use of flowers, leaves, aarti etc. is needed because the aquatic species and microbes that would immediately consume these items have themselves disappeared. Moreover, the Ganga is no longer the same river that could self-purify within 22 km of flowing waters. Toxic wastes and sewage

has diminished this capacity greatly. The Parliament must therefore bring about a new set of rituals that is altogether less polluting. In fact, until the river is revived with her self-purifying capacity restored, we do not have any right to enjoy a dip in this holy river. The religious parliament must also ensure that the crematory grounds and the various articles used in a cremation do not directly flow into the mainstream river. A portion of the river can be set aside for this purpose. The river should be accessible so that Ganga Jal is used. This area can be beautified so that people may be appeased and satisfied with the crematory ground.

5. It is also the duty of the Saints and civil society organisations and volunteer groups to take a lead in getting involved without waiting for funding and designated project work towards River revival, and toil towards wiping out corruption, encouraging sustainable means of agriculture and protecting our traditional values at the grass-root levels.

The Authority Must Take People's Mandate

1. Our nation's most important river is the Ganga. The Ganga that flows from Gomukh to Gangasagar is the life-life to millions of Indians. It is therefore only necessary to inculcate awareness and learning of this sacred river in all primary and middle schools (where dropout rates are markedly lower than higher education). A handbook or a guide to the structure and functioning of the Authority and all the relevant laws governing this river be made in a language that is simple to read and understand, and is available in both, Hindi and English. As the region is dominated by a population that is Hindi-speaking it especially ought to be available in Hindi for more people to be directly involved in this river's revival.
2. We must give the Ganga the same respect that is given to other National Symbols. It must get the same status legally and nationally as other symbols. Disrespect to the National River should be a punishable offence but moreover, it is the civic consciousness generated that follows which is more important. A force from deep within stops one from insulting our national symbols in addition to the punitive action that one fears. This must be imbibed and understood as the true meaning of River Ganga being a National River.
3. Water is a state subject in our Constitution. Pollution laws are thus implemented by the various State Pollution Control Boards. A suggestion is that it be moved to the Concurrent list in order that the Authority is able to easily combat this problem minus administrative drawbacks.
4. The flood plains of Ganga should be analysed and demarcated. Riparian populations must be given rights to continue all those activities that do not contribute to damage. A Special River Zone model of development can

be followed where the maximum protection can be accorded to the river while encouraging terrestrial development at the same time, in a manner similar to the protection given to Tiger Reserve sanctuaries and National Parks.

5. All activities in the Ganga Reserve Area thereby demarcated must be controlled by the Ganga River Basin Authority only. No other statutory body, organisation or political party should interfere in such an area. Strict laws should be made to enforce the above.
6. In the Ganga Reserve Area, religious and public activities must be minimal, so that it causes the least amount of damage and pollution. There must be a comprehensive set of rules and regulations to control them.
7. The immediate banks of the river must have a 500m wide green belt on both sides with those trees endemic to the area known for its replenishing techniques. Smaller rivers and its tributaries may require only a 300m wide green belt around it, but they are vital to each river basin.
8. Only those activities of human intervention that contribute to river replenishment traditional farming, small fish farms and orchards etc. should be encouraged in the catchment areas. The existing sewage outlets and dump zones must be prevented from entering the river bed, until complete treatment allows for the sewage to be an ingredient of the river rather than a pollutant.
9. Existing pollution laws that impose a strict punishment on polluting industries must be enforced and strictly followed. An exemplary situation can be created in order to deter the future industries from refraining to build their sewage/treatment facilities. On several occasions we have examined that sewage is being emptied directly into the Ganga at a level well beyond the standard parameters. This

has led to diseases, manifested in those riparian communities in the form of cancer, kidney failures, asthma, disability and death. Construction of flats, hotels and recreational activities that emit pollutants directly into the stream must be banned.

10. Habitual polluting industries or units must be punished severely, in a manner similar to culpable homicide in our penal code. All Environmental laws must be strictly implemented and followed as per the National Environment Policy.
11. With due respect to the geo-cultural and biological diversity of India, to preserve its unique gene pool protecting the Ganga would directly impact in protecting the endemic flora and fauna that is unique to this Himalayan belt.
12. Existing dams that are built on the Ganga must reach their maximum capacity before any new ones are constructed. This is the surest way to maintain ecological flow and generate the power needed the same time.
13. Renewable sources of energy and alternate means must be developed. Rainwater-harvesting (esp. by traditional methods) can also be encouraged on a greater scale in order to divert the use of river water for domestic consumption. We must also determine the minimum requirement of electricity for each individual and working unit, such that there is optimum use of power resources.
14. Plastics and polythene bags should be banned in such an area by the local panchayats and municipal corporations. Avoiding them altogether is more cost-effective than having to clean them out of the river bed. Such a ban is beneficial for the local flora and fauna endemic to the area and shall aid conservation techniques.

15. Every year, 1.15 lakh tonnes of fertilisers and pesticides find their way into the Ganga. The global market sees a huge potential for organically grown crops and produce. The reserve areas around the Ganga should encourage traditional and local farming practices that prevailed minus harmful fertilisers and pesticides. This practice of farming is organic and more sustainable especially for reviving the river by planting and growing those trees and crops that replenish the water table. These schemes should also be subsidised by the Government so that farmers are willing to invest in such practices.
16. The pilgrim sites and towns that are along the banks of the river like Haridwar, Rishikesh, and Banaras etc. should be developed in a manner that is non- industrial but yet will generate employment. For example Call Centres and the related service sector that employ a certain workforce without emitting pollutants into the air or water can be thought about. Pilgrim-related tourism that is sustainable and ecologically conscious can generate more employment than large industries.
17. We cannot equate the Ganga with any other ordinary river. She is unique, special and sacred and this should be the prime focus rather than her economic or financial use.
18. Lastly, but most importantly, we firmly state that there is no need to link our rivers by artificial means. Mother Nature has always linked all those rivers that need to be linked. The Ganga and the Yamuna have their source in the Himalayas, but they ultimately meet at Allahabad from where the world's most fertile plains begin. Rivers cannot be linked by man or companies. Nature alone fulfils her duty by doing so. This is because every river is unique in its hydrology. Injecting a new blood type into another is fatal for even a human being. There are so many factors which are considered in a simple blood donation as well. Rivers too are living beings and the same principles would apply.

Structural Arrangement

1. Implementing any of the above mentioned steps would imply a need for not just the Government but also, community groups, societal consciousness and a natural process. As we are aware, private land is for private use and benefit. However, for restoring Ganga's pride we need to adopt this three-pronged approach of Government, community and Nature towards securing a common benefit and welfare in the future. In addition to the Chief Ministers of the five states of which the river flows through, it is also fit that the Chief Ministers of the various other states that are in the catchment area as well as those which directly and indirectly benefit from this river be included. The Cabinet Ministers of the various inter-related departments should also be part of the Authority. A Rishi is the representative of Nature herself. As Badrinath is the most important pilgrim site which lies in between Bhagirathi and Alaknanda, it is our request that the Respected Shankracharya or a nominee on his behalf is also a part of this Authority.
2. The Notification of February 20, 2009 that sets up the Ganga River Basin Authority has laid down the composition of the Authority (Sec.3.) Para 3 of sec.3 states, "the Authority may also co-opt upto five members in the field of river conservation, hydrology, environmental engineering, social mobilisation and such other fields." We recommend that, rather this expert body be constituted at the will of the Authority; it ought to be mandatory instead.
3. At the State and district levels, the composition of the Authority should comprise experts in water management and harvesting, experts in aquatic biodiversity, a High Court Judge (Retd. or serving), a media representative,



representatives of various religious heads, a Parliamentarian and the relevant ministry officials for every state and district level of policy-making. We also recommend that the total number of Governmental representatives exceed the number of non-governmental members in order to ensure that its statutory obligations are not compromised.

4. The role and participation of women in this Authority should be equal, if not more than that of men, as women can empathise with and sensitize various issues more effectively.
5. A Legal Centre for all issues relating to the Ganga should be instituted at all districts which must have the cognizance of all the relevant civil courts.
6. Based on the geo-cultural diversity of the area that varies at different stretches of the Ganga's banks, committees should be set up to monitor and evaluate the methods taken up for river revival. These committees should be set-up with representation from the Government, non-governmental sector and from among woman, who are grass root level leaders.
7. In a manner similar to how the Kumbh used to organise people into a community that preserved the Ganga in the ancient times, the various riparian stakeholders must unite to form an organisation that evaluates all the statutory and customary laws for the Ganga. Such an organisation can be called 'Ganga Jan Panchayat' and ought to be registered under the Society's Registration Act, 1860. This organisation should meet at least twice a year and submit a written analysis or documentation to the Authority.
8. There should be an independent Monitoring and Evaluating Committee for the Authority from the national level to the panchayat levels for scientific and legal analysis of all the laws implemented and followed for river revival.
9. A National River Appellate Authority should be set up for hearing all appeals and decisions related to the Ganga.

TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY,
PART II, SECTION 3, SUB-SECTION (ii)

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 20th February, 2009

S.O.521 (E).— Whereas the river Ganga is of unique importance ascribed to reasons that are geographical, historical, socio-cultural and economic giving it the status of a national river;

And whereas the river Ganga has been facing serious threat due to discharge of increasing quantities of sewage effluents, trade effluents and other pollutants on account of rapid urbanisation and industrialisation;

And whereas the demand for river water is growing for irrigation, drinking purposes, industrial use and power due to increase in population, urbanisation, industrialisation and growth in infrastructure, and taking into account the need to meet competing demands;

And whereas there is urgent need,-

(a) to ensure effective abatement of pollution and conservation of the river Ganga by adopting a river basin approach to promote inter-sectoral co-ordination for comprehensive planning and management; and

(b) to maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development;

And whereas it is required to have a planning, financing, monitoring and coordinating authority for strengthening the collective efforts of the Central and the State Governments for effective abatement of pollution and conservation of the river Ganga;

Now, therefore, in exercise of the powers conferred by sub-sections (1) and (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) (hereinafter referred to as the said Act), the Central Government hereby constitutes the Authority mentioned below for taking measures for effective abatement of pollution and conservation of the river Ganga.

1. Name of the Authority.— The Authority so constituted by the Central Government shall be known as the 'National Ganga River Basin Authority' (hereinafter referred to as the Authority).

2. Headquarters of the Authority.— The headquarters of the Authority shall be at New Delhi.

3. Composition of the Authority.— The Authority shall consist of the following members, namely:-

- | | | |
|--|---|----------------------------------|
| (a) Prime Minister | - | ex officio Chairperson |
| (b) Union Minister, Environment and Forests | - | ex officio Member |
| (c) Union Minister, Finance | - | ex officio Member |
| (d) Union Minister, Urban Development | - | ex officio Member |
| (e) Union Minister, Water Resources | - | ex officio Member |
| (f) Union Minister, Power | - | ex officio Member |
| (g) Union Minister, Science and Technology | - | ex officio Member |
| (h) Deputy Chairman, Planning Commission | - | ex officio Member |
| (i) Chief Minister, Uttarakhand | - | ex officio Member |
| (j) Chief Minister, Uttar Pradesh | - | ex officio Member |
| (k) Chief Minister, Bihar | - | ex officio Member |
| (l) Chief Minister, Jharkhand | - | ex officio Member |
| (m) Chief Minister, West Bengal | - | ex officio Member |
| (n) Minister of State, Environment and Forests | - | ex officio Member |
| (o) Secretary, Union Ministry of | - | ex officio Member-
Secretary: |

Environment and Forests

Provided that the Authority may co-opt one or more Chief Ministers from any of the States having major tributaries of the river Ganga, which are likely to affect the water quality in the river Ganga, as ex officio Member;

Provided further that the Authority may also co-opt one or more Union Ministers as may be required, as ex officio Member;

Provided also that the Authority may also co-opt upto five members who are experts in the fields of river conservation, hydrology, environmental engineering, social mobilization and such other fields.

4. Powers and Functions of the Authority.— (1) Subject to the provisions of the said Act, the Authority shall have the power to take all such measures and discharge functions as it deems necessary or expedient for effective abatement of

pollution and conservation of the river Ganga in keeping with sustainable development needs.

(2) In particular, and without prejudice to the generality of the provisions of subparagraph (1), such measures may include measures with respect to all or any of the following matters, namely: -

(a) development of river basin management plan and regulation of activities aimed at the prevention, control and abatement of pollution in the river Ganga to maintain its water quality, and to take such other measures relevant to river ecology and management in the Ganga Basin States;

(b) maintenance of minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development;

(c) measures necessary for planning, financing and execution of programmes for abatement of pollution in the river Ganga including augmentation of sewerage infrastructure, catchment area treatment, protection of flood plains, creating public awareness and such other measures for promoting environmentally sustainable river conservation;

(d) collection, analysis and dissemination of information relating to environmental pollution in the river Ganga;

(e) investigations and research regarding problems of environmental pollution and conservation of the river Ganga;

(f) creation of special purpose vehicles, as appropriate, for implementation of works vested with the Authority;

(g) promotion of water conservation practices including recycling and reuse, rain water harvesting, and decentralised sewage treatment systems;

(h) monitoring and review of the implementation of various programmes or activities taken up for prevention, control and abatement of pollution in the river Ganga; and

(i) issuance of directions under section 5 of the said Act for the purpose of exercising and performing all or any of the above functions and to take such other measures as the Authority deems necessary or expedient for achievement of its objectives.

(3) The powers and functions of the Authority shall be without prejudice to any of the powers conferred upon the States under any Central or State Act, being not inconsistent with the provisions of the Environment (Protection) Act, 1986 (29 of 1986).



(4) The Authority shall combine regulatory and developmental functions as stated in sub-paragraphs (1) & (2), keeping in view the powers vested with the State Governments and their institutions.

5. Meetings of the Authority.— The Authority may regulate its own procedures for transacting its business including its meetings.

6. Jurisdiction of the Authority.— The jurisdiction of the Authority shall extend to the States through which the river Ganga flows, namely, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal and such other States, having major tributaries of the river Ganga, as the Authority may decide for the purpose of effective abatement of pollution and conservation of the river Ganga.

7. Monitoring of effective abatement of pollution and conservation of the river Ganga.— The Authority may evolve its own mechanism for monitoring of effective abatement of pollution and conservation of the river Ganga and issue directions thereof under section 5 of the said Act for the said purpose.

8. Corpus of the Authority.— There shall be a corpus of funds provided by the Central Government for implementing such projects, programmes and other activities as may be decided by the Authority.

9. Administrative and technical support to the Authority.— The Authority shall be provided administrative and technical support by the Ministry of Environment and Forests, which shall be the nodal Ministry. The Authority may evolve an appropriate mechanism for implementation of its decisions.

10. Constitution of State River Conservation Authorities.— The State Governments concerned may constitute a State Ganga River Conservation Authority under the chairmanship of the Chief Minister with such composition and such powers as deemed fit for coordinating and implementing the river conservation activities at the State level.

11. Comprehensive management in the State.— Based on the integrated basin management plan drawn by the National Ganga River Basin Authority, the State Governments shall take steps for comprehensive management of the river in the State through their respective Authorities..

(Rajiv Gauba)
Joint Secretary to the Government of India
(No.A-12011/17/2008-NRCD-II)

High Court of Uttarakhand, Nainital
Judgement on May 18, 2009

Writ Petition No.15 of 2009 (PIL)

Rural Litigation Entitlement Kendra.Petitioner

Versus

Union of India & five others.Respondents

Dated: 18th May 2009

Hon. V.K. Gupta, CJ

Hon. V.K. Bisht, J.

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By this order this writ petition is being disposed of finally with the consent and agreement of the parties. With the consent and agreement of the parties the following agreed order is accordingly being passed. By a communication dated 19.02.2009 issued by Shri D.C. Shrivastava Director, Ministry of Power, Government of India addressed to professor G.D. Agarwal/respondent no.6, herein, the Government of India decided to suspend the work on Loharinag-Pala Barrage Project on Bhagirathi River with immediate effect. This order is the subject matter of challenge in the present writ petition.

On 26.02.2009 a Division Bench of this Court passed an ad-interim order directing that the aforesaid decision of the Government of India shall not be acted upon until further orders from this Court.

Vide notification S.O.521(E) dated 20.02.2009, Ministry of Environment and Forests, Government of India, in exercise of the powers vesting in it under Sub Sections (1) and (3) of Section 3 of the Environment (Protection) Act, 1986 constituted National Ganga River Basin Authority (Authority, for short) composition whereof is mentioned in para 3 of the said notification. Whereas the Prime Minister of India is the Ex-Officio Chairman of the said

Authority, Secretary, Union Ministry of Environment and Forests is its Ex-Officio Member Secretary.

The entire issue relating to the Loharinag-Pala Barrage Project on Bhagirathi River in District Uttarkashi in the State of Uttarakhand, viz. whether to continue with this project or not to continue, is hereby referred for consideration by the aforesaid Authority. It shall be entirely up to the Authority to either decide the issue entirely by itself, on the basis of the material available or to be collected or, before taking up the issue for its own consideration, to constitute an experts committee for furnishing to it requisite information and/or rendering it proper advice in the matter. Actually this Court is of the opinion that before taking up the issue for its own consideration the Authority actually constitutes an experts committee, as broad based as possible and as representative in character as is feasible, so that this Experts Committee formulates its opinion, arrives at its conclusions and submit its recommendations to the Authority for its consideration and taking a final decision in the matter.

This Court hopes and trusts that the experts committee, if it is so decided to be constituted by the Authority, is constituted within four weeks from today and it submits its recommendations to the Authority within two months thereafter. If the experts committee has to be constituted, the Ex-Officio Member Secretary of the Authority shall obtain directions from its Chairman for the said purpose. The Authority is requested by us to finalise its decision soon after the receipt of the report/recommendation from the Experts Committee.

Mr. Arvind Vashistha, learned Assistant Solicitor General of India undertakes to convey this order to all concerned in the Government of India, more particularly the Ex-Officio Member Secretary of the Authority as well as to the Ministries of Power and Environment and Forests, Government of India for their information as well as its implementation and compliance in letter and spirit. He shall do so positively within one week from today.

Interim order passed by this Court on 26.02.2009 is hereby vacated but we leave it open to the Experts Committee or the Authority to adopt any interim measure in the meanwhile in best public interest as is deemed appropriate and suitable.

Petition disposed of finally on the basis of the aforesaid agreed order

भारत सरकार
विद्युत मंत्रालय
श्रम शक्ति भवन, रफी मार्ग,
नई दिल्ली-११०००१



GOVERNMENT OF INDIA
MINISTRY OF POWER

Shram Shakti Bhawan,
Rafi Marg, New Delhi-110001
Fax : 2371-7519
Tel. :

19th February, 2009

Dear Prof. Agarwal ji,

This has reference to the two communications dated 19th February, 2009 received from Swami Chidanand Saraswatiji, Shri Rajender Singh, Shri M.C. Mehta, Shri S.K. Gupta, Shri Paritosh Tyagi and Shri Gyanesh Choudhary relating to the work on Loharinag-Pala Barrage Project in District Uttarakashi on Bhagirathi river and discontinuance of fast by your goodself.

The issue was discussed at length between the signatories to the communications and the Hon'ble Minister of Power, Hon'ble Minister of State, Prime Minister's Office, Power Secretary, Government of India and CMD. NTPC.

In continuation of our letter of 5th February, 2009, and in the light of discussions and in response to the request made in the second (part II) communication, it is decided to suspend work on Loharinag-Pala Barrage Project on Bhagirathi river immediately.

As assured in the communication, it is requested that your goodself may kindly discontinue the fast immediately.

With regards,

Yours sincerely,

(D.C. Srivastava)

Director to the Government of India

Prof. G.D. Agarwal.
Former Professor,
IIT, Kanpur

Press Releases

Printer friendly page With Banner | Without Banner

Tuesday, November 04, 2008

to be declared a "National River"

A GANGA RIVER BASIN AUTHORITY TO BE SET UP

15:57 IST

At a meeting chaired by Prime Minister, Dr. Manmohan Singh with Ministries of Water Resources, Environment and Forests and Urban Development in New Delhi today, a decision was taken to declare the Ganga as a National River and also set up a Ganga River Basin Authority as an empowered planning, implementing and monitoring authority for the Ganga River. The proposed Authority would be chaired by the Prime Minister and would have as its Members Chief Ministers of States through which the Ganga flows.

The Prime Minister referred to the special place Ganga has in the hearts and minds of all Indians and stated that this emotional link needs to be recognized and that the country should set up a model for river cleaning through the new institutional mechanism. It was decided that there is a need to replace the current piecemeal efforts taken up in a fragmented manner in select cities with an integrated approach that sees the river as an ecological entity and addresses issues of quantity in terms of water flows along with issues of quality.

The details of the Authority to be vested with appropriate powers would be worked out in consultation with State Governments and Central Ministries.

The unit of planning, it was felt, should be the river basin and action related to pollution abatement, sustainable use of water and flood management should be integrated. The proposed Authority will promote intersectoral coordination for comprehensive planning for the river. Various agencies working on different aspects of river conservation and pollution management would be brought together under this proposed Authority.

Prime Minister also directed that detailed final proposals may be prepared within two months after necessary wide ranging consultations. It was also recognised that the spirit of the Ganga Action Plan as conceived in 1985 by the then Prime Minister Shri Rajiv Gandhi of making the cleaning for the Ganga River a people's movement should be restored.

..

RCJ/SH/SKS

He has lived and worked with Rajasthan's communities, building over 8600 traditional water-harvesting structures, as a result of their collective efforts seven rivers, viz. Arvari, Sarsa, Ruparel, Bhagani, Jahaajwali, Maheshwara and Saabi in the water-scarce Rajasthan were revived. This success story not only gave the 'Jobad' international recognition but also made the world acknowledge the intrinsic worth of India's traditional knowledge.



His life's work has been dedicated to water conservation and management for which he is fondly known as 'the Waterman of India', and is also the recipient of the 2001 Ramon Magsaysay Award for Community Leadership. He firmly believes that India's rich Environment can be conserved and protected by our indigenous knowledge and practices. With this he has set forth on a mission to revive our nation's rivers. This book is a step in that direction.



Ms. Chiteisri Devi is pursuing a degree in Undergraduate Law from ILS Law College, Pune. Her areas of interest are Riparian Ecology, Environmental Law and gender Empowerment.



Ms. Renu Sisodia has a Masters in Social Work (M.S.W) from Tata Institute of Social Sciences, Mumbai. Her areas of interest are Rural Development and Environment.



Ganga Seva Abhiyan