# SANKAT MOCHAN FOUNDATION
# CLEAN GANGA CAMPAIGN

## स्वच्छ गंगा अभियान

**SILVER JUBILEE YEAR - 2007**

**1982 - 2007**



# SOUVENIR



**25 Years of Dedicated Service to Clean**

# GANGA



नमामि गङ्गे तव पादपंकजं सुरासुरैर्वन्दितदिव्यरुपम् ।
भुक्तिं च मुक्तिं च ददासि नित्यं भावानुसारेण सदा नराणाम् ।।



**Varanasi**

Silver Jubilee Year - 2007

# SOUVENIR

## SILVER JUBILEE YEAR - 2007

## 3-4 November, 2007

स्वच्छ गंगा अभियान

CLEAN GANGA CAMPAIGN

SANKAT MOCHAN FOUNDATION

B 2/15, Tulsighat, Varanasi - 221 001 INDIA

Silver Jubilee Year - 2007

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**29th Oct' 07**

Prof. V. B. Mishra
Founder/President
Sankat Mochan Foundation
Amar Bhawan
Assi
**VARANASI-221005**

Dear Sri Mahant Ji,

Our heartiest congratulations to Sankat Mochan Foundation for completing 25 years of Swatchha Ganga (Clean Ganges) Campaign- the longest running, most ambitious and comprehensive environmental campaigns in the world.

We, at Clarks Hotel, Varanasi have been inspired from your environmental campaign and with a view to make our small, humble contribution have adopted Raja Ghat i.e. removal of silt from the Ghat after the Monsoons.

We have also involved ourselves in our own humble way with Gangotri Sewa Samity, Varanasi for cleaning of the Old (Prachin) Dashaswamedh Ghat/Shitla Ghat.

We wish you once again our very best wishes in your noble efforts to clean our Holy Ganges and hope your efforts will inspire many Private Institutions/Individuals in genuine environmental initiatives.

Please Keep up the good work and continue to inspire us all.

With warm personal regards,
Your Sincerely
For **Hotel Clark Varanasi Ltd**

**Upendra Gupta**
**Managing Director**



Members standing in Back Row (From the left) :- Prof. S.K.Mishra, Pt. Hari Ram Dwivedi, Dr. D.K.Sundd, Mark Katz, Angela Jane Baker
Sitting in Middle Row :- Catherine Porter, Susan Lennox, Colin Lennox, Dr. S.N.Upadhyay, Prof. Veer Bhadra Mishra, Fran Peavey
Sitting in Front Row :- Anupam Dubey, R.K.Mishra, Ashok Pandey, Rana Mani Tiwari, Dukhi Mani Tiwari, Gopal Pandey Members not in Pict.
Dr. V.N.Mishra, Dr. Vijay Nath Mishra , Eva Nordlof, Berrit Lindahl, Umesh Chandra Tiwari, Ram Narain Shukla, Chhaya Tiwari



w From the left R.K.Mishra ,Pt. Hari Ram Dwivedi, Dr. D.K.Sundd, Prof. S.K.Mishra, Dr. S.N. Upadhyay, Prof. Veer Bhadra Mishra, Ashok Pandey
Nath Mishra, Sitting in the Front Row :- Anupam Dubey, Rana Mani Tiwari, Vasistha Tiwari, Dukhi Mani Tiwari, Gopal Pandey
s not in the Picture :- Dr. V.N.Mishra, Dr. Vijay Nath Mishra , Umes' Chandra Tiwari, Ram Narain Shukla, Chhaya Ti[illegible] Eva Nordlof, Berrit Lindahl,

# गंगास्त्रोत्रम्

देवि सुरेश्वरि भगवति गंगे, त्रिभुवनतारिणि तरलतरंगे।
शंकरमौलिविहारिणि विमले, मम मतिरास्तां तवपदकमले ।।1।।

भागीरथि सुखदायिनि मातस्तव जलमहिमा निगमे ख्यातः।
नाऽहं जाने तव महिमानं, पाहि कृपामयि मामज्ञानम्।।2।।

हरिपदपाद्यतरंगिणि गंगे हिमविधुमुक्ताधवलतरंगे।
दूरीकुरु मम दुष्कृतिभारं कुरु कृपया भवसागर पारम्।।3।।

तव जलममलं येन निपीतं परपदं खलु तेन गृहीतम्।
मातर्गंगे त्वयि यो भक्तः किल तं द्रष्टुं न यमः शक्तः।।4।।

पतितोद्धारिणि जाह्नवि गंगे खण्डित गिरिवर मण्डित भंगे।
भीष्मजननि हे मुनिवरकन्ये पतितनिवारिणि त्रिभुवन धन्ये।।5।।

कल्पलतामिव फलदां लोके प्रणमति यस्त्वां न पतति शोके।
पारावारविहारिणि गंगे विमुखयुवतिकृत तरलाऽपांगे।।6।।

तव चेन्मातः स्रोतस्स्नावः पुनरपि जठरे सोऽपि न जातः।
नरकनिवारिणि जाह्नवी गंगे कलुषविनाशिनि महिमोत्तुंगे।।7।।

पुनदसदंगे पुण्य तरंगे जय जय जाह्नवि करुणा पांगे।
इन्द्रमुकुटमणिराजितचरणे सुखदे शुभदे भृत्यशरण्ये।।8।।

रोगं शोकं तापं पापं हर मे भगवति कुमति कलापम्।
त्रिभुवनसारे वसुधाहारे त्वमसि गतिर्मम खलु संसारे।।9।।

अलकाऽऽनन्दे परमाऽऽनन्दे कुरु करुणामयि कातरवन्द्ये।
तव तट निकटे यस्य निवासः खलु वैकुण्ठे तस्य निवासः।।10।।

वरमिह नीरे कमठो मीनः किं वा तीरे शरटः क्षीणः।
अथवा श्वपचो मलिनो दीनः तव नहि दूरे नृपतिकुलीनः।।11।।

भोभुवनेश्वरि पुण्ये धन्ये देवि द्रवमयि मुनिवरकन्ये।
गंगास्तवमिममलंनित्यं पठति नरो यः स जयति सत्यम्।।12।।

येषां हृदये गंगाभक्तिः तेषा भवति सदा सुख सुखभुक्तिः।
मधुराकान्तापञ्झटिकाभिः परमाऽऽनन्दकलितललिताभिः।।13।।

गंगास्तोत्रमिदं भवसारं वाञ्छितफलद विमलं सारम्।
शंकरसेवक शंकररचित पठति सुखी स्तव इति च समाप्तम्।।14।।

(श्रीमदादिशंकराचार्य रचितं)

# मर्यादा है इस देश की पहचान है गंगा .....

मर्यादा है इस देश की पहचान है गंगा
पूजा है धरम दीन है ईमान है गंगा

यह है परम्परा यही संस्कृति है देश की
विश्वास आस्था भरी बेटी नगेश की
महिमा समा गयी है इसी में अशेष की
दुखहारिणी विनाशिनी अनगिन कलेश की
सच मानिये सारे सुखों की खान है गंगा

इस देश के इतिहास की तहरीर यही है
धर्मावलम्बियों की जागीर यही है
लाखों की रोजी रोटी की तस्वीर यही है
कितनो के माथे की लिखी तकदीर यही है
भारत की धरा धाम का सम्मान है गंगा

श्रद्धा यही पूजा, यही आराधना यही
संकल्प से जुड़ी पवित्र साधना यही
इतिहास औ भूगोल है विज्ञान भी यही
जो लीन हुए उनके लिए ज्ञान भी यही
गीता रमायन वेद औ पुरान है गंगा

यह धार बह रही है भगीरथ की निशानी
बह बह के कह रही है यह तीरथ की कहानी
देती है मुक्ति जिन्दगी भी बाँट रही है
पापों की खाइयों को रोज पाट रही है
विधि का लिखा पवित्रतम विधान है गंगा

दूषित न करे कोई यह अमरित की धार है
ममता भरी धरती के गले का सिंगार है
आदर्श प्रवाहित है कि पावन विचार है
हर लहर में लिखा पवित्र माँ का प्यार है
अपने में ही सम्पूर्ण हिन्दुस्तान है गंगा

मर्यादा है इस देश की पहचान है गंगा
पूजा है धरम दीन है ईमान है गंगा

● पं. हरिराम द्विवेदी

**English Translation**

## Ganga, Symbol of Integrity and Identity of India

Ganga is a symbol of integrity, identity, honesty, religion and worship of India.

An epitome of tradition, culture, faith and worship, Ganga owes its source to the Himalayas.

The grandeur of Lord Shiva is imbibed in Her. She takes away all troubles and worries and is treasure of bliss.

She is the history of India, the realm of followers of religion, the bread and butter of millions and fate of countless.

Ganga depicts faith, the worship, the pledge for penance, the history, the geography and the science.

Ganga is the wisdom, holy Gita, the Ramayana and all epics.

The stream of Ganga, a mark of Bhagiratha tells about pilgrimages.

She gives salvation and dispenses life. She removes sins and is also sacred law of destiny.

None should pollute the stream of Ganga which is full of nectar.

Ganga is garland of this lovely earth and totality of India. Waves of Ganga carry ideals, sacred notions and love of mother.

**T.V. RAJESWAR**
Governor, Uttar Pradesh

**Raj Bhawan**
Lucknow - 227132



# MESSEGE

I am happy to know that the Sankat Mochan Foundation, Varanasi is celebrating Silver Jubilee Function of Clean Ganga Campaign on 3 - 4 November, 2007. To commemorate the event a souvenir is also being published.

I congratulate the organizers that they have managed to focus on such an important issue like clean and healthy Ganga, which will certainly attract the attention of general public in India and abroad as well.

I extend my greetings to the organizers and all the participants and wish the Silver Jubilee Celebration all success.

Sd/-

**(T.V. Rajeswar)**

आजम मियाँ
**AZAM MIAN**

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**ADDITIONAL PRIVATE SECRETARY**
**MINISTER FOR SCIENCE & TECHNOLOGY**
**AND EARTH SCIENCES**
**GOVERNMENT OF INDIA**
**NEW DELHI**
**23rd October, 2007**

Dear Sh. Mishra ji,

Kindly refer to your letter dated 3rd October, 2007 inviting Hon'ble Minister to the Sankat Mochan Foundation (SMF) on 3rd - 4th November, 2007 at Ganga ji, Tulsighat, Varanasi.

It is regretted that due to pre-occupations, Hon'ble Minister will not be able to attend the said function. He however, conveys his best wishes for the success of the event.

With regards,

Yours sincerely,

Sd/
(AZAM MIAN)

**Shri Veer Bhadra Mishra**
President,
Sankat Mochan Foundation
Head Office : B 2/15, Tulsi Ghat
Varanasi - 221 001 (U.P.)
*(Fax No. 0542 231 4278)*

Anusandhan Bhawan, 2, Rafi Marg, New Delhi-110 001
Ph.: 91-011-23316766, 23714230, 23321681, 1682 ● Fax : 23316745

# Foreword

The past twenty five years of the Swatchha Ganga Campaign are checkered with four different need based roles of the Sankat Mochan Foundation. Founded in 1982, the Foundation launched the campaign and started the programme of creating mass awareness about the causes of Ganga pollution and urgency to clean Ganga ji which imparts Bhakti & Mukti to all believers. Its subsequent roles as a watchdog, as a technical group and as activists are a part of the history of one of the longest running, most ambitious and comprehensive environmental campaigns in the world that aims at stopping every drop of sewage and waste material from entering in to the holy river. Hundreds of friends, and devoted supporters from India, USA, Sweden, Australia and other parts of the world joined during this journey and became an integral part of the campaign. The foundation cherished with pride the successes and achievements made through the generous help of all supporters.

The articles and memoirs being published in this Silver Jubilee Memoir reflect the history of the campaign run under the charismatic leadership of Prof. Veer Bhadra Mishra affectionately hailed as 'Mahant ji'. The selfless and devoted contributions of the SMF Directors and the Friends of Ganges in Sanfransisco, Stockholm and Sydney have placed the Foundation on an international pedestal.

Our thanks go to the friends who have contributed in bringing out this memoir. Together we rejoice and strive for a clean Ganga and in the words of the celebrated folk singer Pete Seeger, do expect "that miracle would happen some day" to bear the fruits of twenty five years of dedicated struggle.

Contributions of SMF staff and Australian volunteer Ms. Angela Jane Baker are gratefully acknowledged. We would like to put on record and express our gratitude to FoG members, donors and sponsors with a special mention to the **State Bank of India** for their help & support in printing this Souvenir.

✍ Editorial Board

झूला

एक और उपलब्धि

JHOOLA




चेयरमैन श्री दीनानाथ झुनझुनवाला व निदेशक
श्री सत्यनारायण झुनझुनवाला प्राप्त कर रहें हैं

# वर्ष की सर्वश्रेष्ठ उदीयमान कम्पनी

## ग्लोब ऑयल पुरस्कार 2007

इस महत्वपूर्ण उपलब्धि में सहयोग हेतु उपभोक्ता,
निवेशक, सप्लायर, ग्राहक, व्यापारिक सहयोगियों
व कर्मचारी परिवार के प्रति हमारा विनम्र आभार

**झुनझुनवाला वनस्पति लि.**

हेड ऑफिस : वाराणसी ( उ.प्र. )

इ-मेल : jhoola@satyam.net.in

# Silver Jubilee Committee
# Sankat Mochan Foundation

## (a) SMF Team

| | | |
|---|---|---|
| Prof. V.B. Mishra | - | Chairperson |
| Dr. V.N.Mishra | - | Convener |
| Prof. S.K.Mishra | - | Member |
| Prof. S.N.Upadhyaya | - | Member |
| Dr. D.K. Sundd | - | Member |

## (b) U.S. Team

Fran Peavey
Catherine Porter

## (c) Australian Team

Sue Lennox
Colin Lennox

## (d) Swedish Team

Dr. Marc Katz
Eva Nordlof

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रजत जयन्ती वर्ष पर हार्दिक शुभकामनाएँ

## रमाशंकर प्रसाद बरनवाल (रामा बाबू)
### मालवीय रोड- देवरिया



समाजसेवी एवं प्रबन्धक
गंगा प्रसाद इण्टरमीडिएट कालेज
मझगांवा-देवरिया-उत्तर प्रदेश

# Our Efforts to Stop the Abuse of Ganga Mata

**Prof. Veer Bhadra Mishra**
*President, Sankat Mochan Foundation*

Varanasi the oldest city and Ganga the holiest river are appreciated by the entire Hindu community as well as others. Situated on the bank of Ganga and named after the rivulets Varuna and Asi, the two tiny tributaries of Ganga forming boundaries of the holy city, Varanasi has special connection with the rivers. Practicing Hindus still exist in Varanasi. They exemplify this special connection of Varanasi. They are the custodians of the age old culture and faith of India in mother Ganga. This microscopic minority of people, their culture and faith are facing imminent danger of extinction because of the open drains, sewers, and such other outlets discharging domestic sewage and some industrial effluent directly into Ganga river.

About 116 cities situated on the river bank in Ganga's 2500 Km journey from Himalayas to the ocean, pollute the river. Ganga basin provides fresh water to 40 percent of the Indian population. India must respond to this suffering of Ganga and her people. Hence the Sankat Mochan Foundation (SMF) was set up in Varanasi with the goal of "Restoring the Ganges (Ganga) by alleviating its fast deteriorating environmental condition" and the Clean Ganga Campaign was launched in the year 1982.

Practicing Hindus believe that Ganga is mother and goddess. Like fish living in water they can not live without Gangaji. They don't know pollution and can't believe that Ganga is polluted yet. They are suffering on account of Ganga pollution. In today's modern world only few have the sensitivity to understand them and their spiritual life. These practicing Hindus have become endangered specie of human beings. SMF has responded to this human suffering and resolved to make a sincere and committed effort to stop this abuse of mother Ganga and thus protect the human life and several thousand years old culture which sprouted on her banks. The Swatcha Ganga Campaign (Clean Ganga Campaign) is a mission of SMF to serve Ganga. We have decided to use the best scientific methods and technology together with our faith and commitment to stop abuse of our mother. Zero discharge of pollutants in Ganga ji is our goal. We are conscious of the difficulties in our Campaign. To fulfill the objectives of our mission to clean Ganga is difficult because the masses in India have no scientific appreciation of the pollution and the persons in authority responsible for decision making, are having their own mind set and prejudices. In face of these odds the Sankat Mochan Foundation and its friends in many parts of the world specially in U.S.A., Sweden and Australia have decided to be resilient and persistent in running the Campaign for Clean Ganga.

Common people in India are not ready to believe that Ganga can be polluted. They are unhappy and hurt if one says that Ganga is polluted and filthy. But when taken near a sewer outfall discharging domestic sewage

directly in Ganga, their spontaneous public response is to stop this disrespect of our mother Ganga. Thus SMF is able to harness the energy generated by people's love and respect for the river. Swatcha Ganga Campaign uses this positive energy.

SMF has used its scientific skill and Swatcha Ganga Research Laboratory to show that the Ganga water is polluted in the cities situated near her banks. When challenged, SMF has used its technical skill and worked with Indian and foreign experts to give a solution for the problem of Ganga pollution in Varanasi. It prepared a project feasibility report which would use gravity force and not the scarce and undependable electrical energy available in India for interception and diversion of the point sources of pollution causing about 95% pollution of the river. Secondly it would use a system comprising of four ponds arranged in series and known as AIWPS (Advanced Integrated Wastewater Pond System) for treating the wastewater. This system is very good for a tropical country like India. The first pond is anaerobic and guarantees complete methane fermentation of organic matter leaving practically no sludge. In the second pond micro algae use sun light produce abundant amount of oxygen needed for the aerobic bacteria working in it to provide next stage of treatment. The algae will assimilate and remove the chemical pollutants also. The third pond ensures quiescent condition for algae to settle down and get removed. The fourth pond is the maturation pond where the waste water is allowed to stay for a long period for most of the fecal bacteria to perish. This pond system (AIWPS) has been working successfully in other parts of the world. The project prepared by SMF is most economical to build and operate and has grass root support. It uses practically no electricity for interception of sewage and its treatment. The local government (the municipality of Varanasi) has adopted this plan.

Currently SMF is working to build the capacity of the elected municipal councilors so that they can defend their project in higher levels of Government and other forums. We hope that someday the Varanasi Nagar Nigam and SMF together can solve the problem of Ganga pollution in Varanasi and inspire other river cities to solve their problem of river pollution.

Community using the Ganga river directly also pollute the river. This is termed as non-point source of pollution. It is only five percent of the total pollution of Ganga and has to be cleaned by the direct users - the people of Varanasi. For cleaning the pollution caused by direct users the Sankat Mochan Foundation works with the community and uses culturally consistent ways to motivate the people to take care of the river. To sensitise the people to take care of the non-point pollution is our "spiritual work with the people" requiring patience and innovation. We involve regular bathers in the river, boatmen and others including villagers, women, children, priests and washer men in this work. We involve schools also and encourage school-children to learn scientific aspects of environment, water pollution and work in our Swatcha Ganga Research Laboratory. Students are happy with our work which uses both culture and science. Our environmental education programme is culturally consistent.

SMF believes that faith and commitment in Ganga ji on one side and science and technology on the other are like two parallel banks of the river. They don't

meet. But both these banks must be firm and strong. They are essential to protect the river and solve the problem of pollution. We are convinced that faith and science together can take care of the whole earth and its wonderful flora and fauna. The goal of global peace and happiness could be realized only by interfacing faith and science.

Carefully considering its strengths and weaknesses, the SMF launched its Swatcha Ganga Campaign to clean the Ganga river in Varanasi as its first project. In the last 25 years of this innovative Campaign, the Foundation assumed different roles to use its extremely limited resources to stop the abuse of mother Ganga and acted as catalytic agent, watch dog, expert and activist to achieve its goal of Clean Ganga. It has been able to bring the issue of Ganga pollution under focus of national and global attention. It has been successful in working with the local government and present a non-electrical appropriate solution to clean Ganga in Varanasi. The solution has grass root support and is presently waiting for the Government of India's sanction for its implementation. The solution successfully implemented in Varanasi will show a way to clean the rivers of India.

In the year of Silver Jubilee of its Campaign SMF has resolved to work more energetically to accomplish the work of cleaning Ganga ji at Varanasi and its work for other reaches of Ganga. The SMF has plans to extend its work to clean Ganga between Allahabad and Varanasi. These are the two holy cities within our reach where unprecedented congregation of people for holy dips and religious activity is witnessed. SMF has plans to work in this reach as coast guard to monitor point sources causing pollution of Ganga. This will involve mapping the point sources and monitoring the quantity and quality of pollution flowing through them. SMF plans to involve local NGOs, teaching institutions in this work. Depending on resources available, the Foundation will expand its work from one end of the Ganga to the other. SMF proposes to assist other municipalities situated on the banks of Ganga and make outlines of plans conducive to the local conditions for interception, diversion and treatment of domestic sewage falling into Ganga within the municipal limits. There are impending threats to our environment and our river system vis-à-vis the global warming, climate change. SMF is studying ways to meet these challenges.



# नगर निगम वाराणसी

## नगर निगम, वाराणसी नगरीय क्षेत्र के निवासियों को समस्त आवश्यक सुविधाएँ उपलब्ध कराने में हमेशा तत्पर हैं।

**हमारी उपलब्धियाँ :**

1. जवाहर लाल नेहरू नेशनल अरबन रिन्यूअल मिशन प्लान के अनतर्गत पेयजल, जलोत्सारण, स्टार्म वाटर ड्रेनेज, सालिड वेस्ट मैनेजमेन्ट, आधुनिक पशु वधशाला का निर्माण, पर्यटक स्थलों का सुन्दरीकरण तथा बेसिक सर्विसेज टू अरबन पुअर योजना के विस्तृत कार्ययोजना तैयार तथा स्वीकृति की प्रक्रिया में है।
2. वर्ष 1976 के बाद प्रथम बार नगर के समस्त आवासीय एवं अनावासीय भवनों का सामान्य कर निर्धारण द्रुतगति से प्रारंभ।
3. नगर निगम द्वारा प्रथम बार नगर के निवासियों को कम्प्यूटरीकृत गृहकर की बिल प्रेषित करने की प्रक्रिया प्रारंभ।

**हमारी अपेक्षाएँ :**

1. नाले, नालियों पर कहीं भी अतिक्रमण न करें एवं इस प्रकार अतिक्रमण करने वालों को बढ़ावा न दें।
2. अपने समस्त देयों का भुगतान समय से कर नगर के विकास में अपना योगदान दें।
3. अपने आवासीय भवन का कर स्वकर प्रणाली के अन्तर्गत स्वयं निर्धारण कर जमा करें।
4. कटे, बासी, खुले खाद्य पदार्थों का सेवन न करें।

**लाल जी राय**
**नगर आयुक्त**
**एवं समस्त नगर निगम परिवार**

**कौशलेन्द्र सिंह**
**महापौर**
**एवं समस्त पार्षदगण**

# SANKAT MOCHAN FOUNDATION : AN INTRODUCTION AND ITS SERVICES

The river Ganga (Ganges) is one of the greatest rivers of the world. It may not be so in physical terms but there are few rivers on earth which are so important and sacred to so many people. For hundreds of millions of Indians Ganga is the focal point where their regional practices, caste, creed, gender, wealth and poverty merge. People living on the banks of Ganga, especially in places like Varanasi, are custodians of the faith and culture related to Ganga. The holy city of Varanasi situated on the bank of Ganga is one of the oldest living cities of the world. It is a city which has grown around the Ganga, and is linked intrinsically with this river. About 60,000 people take holy dip every day in Ganga on the historic ghats (flight of stairs leading to the holy water) stretched in a 7 km long river face of the city. Nowhere in India and may be in the world such a long stretch of a river is used for religious bathing. Today; India is suffering from a gigantic problem of pollution of her rivers. The cities are growing fast and have become the biggest polluters of the rivers. Sewer outfalls, surface drains, and other types of openings present on a river bank and discharging waste water in river are point sources of pollution and SMF has observed that they contribute about 95% of the total pollution of Ganga. There are 30 outlets which discharge sewage directly into Ganga and cause heavy pollution of the river at Varanasi. The cumulative effect of this pollution is such that BOD of Ganga water at the downstream end of the city is around 30 mg/l and fecal coliform bacteria level is 6 to 7 log. The remaining 5% of pollution is caused by non-point sources, i.e. direct users of the river engaged in bathing, defecating on the bank, dumping garbage, washing clothes and cattle4 and disposing of dead bodies into the river etc. Opinion in the city against this pollution started building since 1970.

In 1982 the Sankat Mochan Foundation (SMF) was created by Prof. Veer Bhadra Mishra, a professor of Hydraulic Engineering at Banaras Hindu University and the Mahant (High Priest) of the famous Sankat Mochan Temple of Varanasi and other like minded people and the Swatcha Ganga Campaign (Campaign for a clean Ganga) was started by the SMF to clean Ganga at Varanasi. The campaign, a non-political, secular public education programme has successfully used the love and commitment of the people for Ganga together with science and technology in its endeavour to clean Ganga. In the 25 years of its existence the campaign has become a grass root movement. It has inspired many in India and abroad.

The SMF is an NGO with a difference and in a remarkable way it has brought together Science, Technology, Culture, Tradition, People, and Local Government for cleaning Ganga. SMF has worked internationally from its inception with supporters like Oz-GREEN, Australia and Friends of Ganges, USA and Sweden and others. An excellent water quality monitoring laboratory, the Swatcha Ganga Research Laboratory at Tulsighat, Varanasi established in 1992, owes its existence to the SIDA, Sweden and Oz-GREEN. SMF's work has been recognized by UNEP and its President Prof. V.B. Mishra was awarded the Global 500 Roll of Honour at Rio where the United Nation Conference on Environment and Development and the Earth Summit was held in 1992. He has been chosen as Hero of the Planet by the Time Magazine, for his work to protect the environment. He was praised

by the US President Bill Clinton in the year 2000 with whom he shared the podium in a public meeting at Agra, India. The national and international print and electronic media have extensively covered the activities of the SMF.

The Foundation has over 140 active members and the Board of Management comprising eminent engineers and management scholars besides socio-political persons. The Foundation is an NGO registered in 1982 under the Societies Act of India 1860. The Foundation's accounts are audited and submitted to the Government. In 1992 the Foundation was registered under FCRA (Foreign Contribution Regulation Act) and is authorized to receive foreign donations and assistance directly.

Since the inception, the Sankat Mochan Foundation has been campaigning for a Clean Ganga for 25 years one of the longest running, most ambitious and comprehensive environmental campaigns in the world with the key goal of establishing a model for effective and appropriate sewage treatment and community participation in river management. In this time we have developed several projects for achieving our goal, ranging from water quality monitoring, environmental education, design of appropriate sustainable water management technology, civil activism to legal advocacy for a clean, healthy Ganga.

The activities of the SMF are listed below:

1.Swatcha Ganga Research Laboratory (SGRL): The main work is regular Ganga water quality monitoring and research into the effects of non-point pollution sources on water quality. The SGRL also plays an integral role in our School Education Program (see below) and has been made available to university students (locally and abroad) to assist with their studies.

2.Publication of the data gathered by the SGRL regarding pollution monitoring: Publication of our water quality data increases awareness of the state of the Ganga amongst the general community and puts pressure on the government to take appropriate action. Publication is achieved by direct approaches to the media, participating/hosting seminars and workshops at which influential stakeholders and Policy Makers are in attendance and which the media report on; through scientific publications by students and staff and through the regular participation in international documentary making.

3.Swatcha Ganga Environmental Education Center (SGEEC):SGEEC imparts environmental education to students, educates school children and teachers about river pollution and inculcates in them love for Ganga. This center organises:

a. Awareness programmes for school children: School groups visit SMF for a half day program which includes a presentation on the work of the Swatcha Ganga Campaign, a boat ride (when weather permits) to view the pollution sources, water quality testing to learn about the science used and more importantly to gain an appreciation of the effects of pollution on the river, plus an opportunity to discuss the issues.

In addition, we also run a program of poster painting and debating competitions for students.

b. An annual event of Chhatra Sangam (Students Congress):A two day program to which local schools are invited to participate in discussion, visioning and action planning on ways they can contribute to a Swatcha Ganga. Every second year students from international schools participate in the Chhatra Sangam. They share their own experiences from home and create their own action plans for Swatcha Ganga.

c.World Water Day- Human Chain:An annual event to create a Human Chain at the bank of Ganga on World Water Day (22nd March) by school children, social organisations, tourists and citizens of Varanasi. The Chain stretches along the 7 km historical ghats bathing area and symbolises that the people will not permit the disposal of foreign matter into the Holy River Ganga.

d. Clean Drinking Water Supply in the Villages: Sankat Mochan Foundation, with the help of Oz GREEN Australia, has installed eight Deep Tube Wells in six villages, deprived of access to clean water. These villages are located near to a Sewage Treatment Plant (STP) and have had their original drinking water sources (bore-wells) contaminated due to the release of poorly treated effluent from the STP. The work for this project carried out by SMF has been completed; however, due to its success the local government is now continuing with the work.

4.Updating our Project Feasibility Report (PFR): The PFR is a technical report which outlines the SMF's recommended solutions to achieving the objectives of the Ganga Action Plan; this report has been adopted by the Varanasi Nagar Nigam (VNN) as their preferred plan of action. Updating work is focused on research into the solution to stop the flow of domestic sewage into Ganga and treatment of sewage to an innocuous level.

5.Work with municipal councilors of VNN: The SMF organises workshops, seminars and other modes of interaction with councilors with a view to build their capacity and assist them in their interaction with the Government for implementation of the plan prepared by SMF and accepted by VNN.

6.Control of non-point sources of pollution: The SMF had organised a large volunteer program to address the control of non-point source pollution. Volunteers regularly clean the ghats (of pollution such as garlands, plastics and in extreme cases even carcasses). It is hoped that through this demonstration, not only can we contribute to decreasing the amount of pollution but also motivate other people to change their own polluting behaviours.

7. Efforts to raise funds and resources to do the work listed above.

**Future Aims:-**

1.Preparation of Detailed Project Report (DPR) for execution of the PFR to clean Ganga at Varanasi which will be able to earn more carbon credits and reduce methane emission and thus help the process of reducing global warming. Latest research shall be incorporated in finalizing various components of the plan.

2.SMF also plans to work for other reaches of Ganga as well to prepare activities for the protection of Ganga including:

a. SMF would like to extend its river water quality monitoring program to Allahabad in addition to Varanasi. These are the two holy places within our reach where unprecedented congregation for holy dips and religious activity takes place.

b. SMF would like to work as coastal guard to monitor point sources causing pollution of Ganga. This will involve mapping the point sources and monitoring of quantity and quality of pollution flowing through them. SMF plans to involve local NGOs, teaching institutions in this work spanning from one end of Ganga to the other.

SMF proposes to assist other municipalities of cities situated on the banks of Ganga by making an outline of plan conducive to local conditions for interception, diversion and treatment of domestic sewage to clean Ganga at such places.

# Diversion, Conveyance, Treatment & Disposal of Sewage and Sullage Flowing into Gangaji at Varanasi-Technology Selection,Detailed Designing and Execution

**Dr. G.D.Agrawal**

## 1. Background

At the outset it has to be fully acknowledged and sincerely accepted that the works for diversion, conveyance, treatment and disposal of the Varanasi sewage and sullage flowing in to Gangaji, implemented under GAP-I at a substantial cost of around Rs. 50 Crores, have not been a cause of satisfaction to any one who was not personally or financially involved in the planning or execution of these works-pilgrims and bathers find Ganga ji as polluted and unaesthetic as earlier, Nagar Nigam and citizens find life being made much worse by sewage backing up in the trunk-sewer due to the new gate blocking the old out-fall, while residents of villages around Dinapur and Varuna confluence (like Kamauli) feel that virtual hell has been opened upon them by the bypassed, partially treated or "treated" effluents. To all these people numbering over 95% of all people concerned with pollution of Gangaji at Varanasi, the implementation of GAP-I at Varanasi has been a TOTAL FAILURE. The remaining 5%, with obvious stakes in the implemented works and technology, continue to defend these with arguments like (a) the designs implemented were under-capacity and inadequate due to financial constraints (b) sewage flows and characteristics have vastly changed in the last decade (c) there were minor flaws in the design and execution (d) any technology is bound to have some flaws and shall create some problems and difficulties for some people and (e) there are no practical or feasible alternatives. They are unwilling to accept that their priorities and approach have been at fault. Obviously the decisions for technology-selection, detailed-designing and execution of GAP-II cannot be left on this same adamant and biased group of vested interests and alternative approaches have to be tried out. A risk of failure of a new approach is better than a well-known disaster like the proverbial deliberate jumping into a well for quenching ones thirst.

## 2. Objectives and Approach

2.1 It has to be accepted that the most critical use of Gangaji at Varanasi is for cultural/religious bathing, 'Achaman', worshipping and other rites on its city-side left bank, particularly some 'ghats' considered pious. The first and foremost objective thus has to be to ensure aesthetic and health-promoting features in these critical areas. The indicating parameters shall be floating and suspend matter, colour, odour, taste, coliforms and toxic chemicals and monitoring shall need to be carried out close to left bank in the intensely used areas. The success of the effort shall have to be judged by demonstrating the critical bathing areas to be made aesthetically 'Clean' and health-wise safe and not by talking of improvements in mid-stream levels of DO or BOD

2.2 For this, the diversion of all sewage

and sullage flowing into Gangaji on the city-side left bank in the BHU to Varuna confluence reach shall have to be all the time reliable and foolproof, with no room for by-passes, overflows, weepages joining and fouling the bank visibly, except during periods of maintenance, aptly scheduled and announced well in advance (minimum 72 hours notice published in newspapers and displayed on ghats). Any use of pumps or other powered mechanical equipment in such diversion gets obviously obviated due to chances of unscheduled and frequent breakdowns in power and such equipment.. The diversion has to be essentially by gravity, whatever the problems in or cost of such an alternative. Alternatives that cannot meet the basic objective are not worth considering, however simple, cheap, practical or otherwise attractive they may be made to look. And when sincere efforts have not even been made to try it out, rejecting the idea of a low-level interceptor to receive and convey out of the reach all inflows from the critical areas as 'impractical' can only be the result of a mind-set, bias or outright vested interest.

2.3 As in case of diversion, the objectives and priorities for location and design of treatment and disposal have to be clearly decided and understood. Here again removal of health-impairing pollutants like fecal coliforms and chemical toxicants as also of aesthetics impairing foam, colour and odour shall need to be given primacy over conventional concern for removal of bulk organics or eutrophication causing nutrients. Economics and recovery of resources shall be of value, but cannot be allowed to cloud-up vision about basic objectives.

3. Diversion and Conveyance of Sewage / Sullage

3.1 Two alternative proposals, for diversion and conveyance of Varanasi sewage/sullage (so that it does not flow into and foul up Gangaji), have been put forth. One by UP Jal Nigam and the other prepared by Sankat Mochan Foundation and sponsored by Varanasi Nagar Nigam. These are briefly examined in following sections.

3.2 The U.P. Jal Nigam proposal follows the same approach and technology of diverting away sewage/sullage by strengthening the city sewerage system and depending on pumping to lift any flows or weepages reaching banks of Gangaji back into the sewer system. If the objective were to design and appropriate sewerage system for Varanasi city as would be done for an ordinary mega-city, the Jal Nigam approach, would be OK. But Ganga Action Plan is not an urban infrastructure improvement plan and its objective is to ensure cleanliness and piety of Gangaji, especially in critical reaches, and not merely to provide better sewerage system for Varanasi. Since the UP Jal Nigam proposal shall not ensure all-time, reliable and fool-proof diversion as discussed in para 2.2, this proposal shall have to be appropriately modified or abandoned. UP Jal Nigam claiming to have experienced and knowledgeable engineers supporting this proposal should put on stake their future professional careers and pensions against ensuring fulfilment of objectives as defined in Para 2.2. if it still wants its proposal to be considered.

3.3 The other proposal is based on the concept of using a low-level interceptor-sewer along the 'ghats' on the city-side left bank of the river to receive all sewage/sullage flowing

towards the river, including even the smallest drains and weepages by gravity and to convey the collected waste-waters outside the critical reach, again by gravity flow, and without any pumping, for appropriate further handling. The soundness, reliability and capability of this proposal to meet the desired objectives has been accepted by all including Dr. I.C. Agrawal, the expert assigned to evaluate the proposal by NRCD (See Merit No. 1 on p 14, bottom para on p 23, remarks on bottom left of p 25 of the report by Dr. I.C. Agrawal of April 1996 for NRCD). Yet the proposal and even the basic concept are rejected merely on basis of details of technical design and difficulties during construction and maintenance. What would have been proper, is to accept the basic concept and develop a better design as also appropriate technology to execute it and resolve the anticipated (or imagined) practical problems. UP Jal Nigam and NRCD have, to-date, failed to adopt this approach. They should do it now, rather than following the cult of convenience, they should adopt what is likely to deliver the goods.

3.4 In their revised proposal of Sept 97, and the signed memoranda regarding their acceptance of the proposal and willingness to bear with the problems or difficulties it may cause during construction and maintenance from bathers, ghatias, citizens and inhabitants of Sota area, SMF have virtually answered all the doubts raised on their earlier design by Dr. I.C. Agrawal and NRCD. The crucial objections were (a) relating to hydraulic gradients and self-cleaning velocities which have been resolved by design modification and (b) objections from, or inconvenience of various groups of people as apprehended by the commentors. And Jal Nigam as a mere construction agency, and with no long term stake in the success of the works, have no business to keep raising new doubts and questions. There may still be questions regarding details of construction technology, and obviously there is scope for further improving upon some design details. Let the revised proposal be accepted and taken up for construction and an appropriate technical committee appointed to consider further design improvements and construction details.

4. Treatment and Disposal of Intercepted Sewage

4.1 The sewage treatment proposals made by UP Jal Nigam, once again true to their mind set, give preference to Activated Sludge and UASB technologies which require less land and are more cost-effective when removals of coliforms, colour, toxicants or nutrients are not the important concerns. Accepting coliforms to be now some-what important they do talk of adding "maturation ponds" to reduce coliforms in some ASP/UASB plants. But UP Jal Nigam rejects ponding as the basic treatment due to (a) non-availability of adequate land (b) exorbitantly high cost of land when available and hence much higher financing and interest and depreciation costs and (c) apprehensions of nuisance in neighbourhood. They forget that under Indian conditions and to meet the objectives at Varanasi (coliforms, colour, toxicants, nutrients not reaching Gangaji) ponding offers the most effective solution and if the land at Sota as proposed by SMF were to be used, the problems of availability and cost of land would disappear. Of course it needs to be proved, if it has not been already adequately proved, that this shall not hurt the flow-regime

of the Ganges. And would Tehri Dam or the new barrage at Kanpur not affect the regime of Gangaji? To this author, SMF analyses have satisfactorily shown that the effect of installing ponds at Sota as proposed by SMF shall be negligible if any.

4.2 AIWPS as developed at University of California and proposed by SMF for Varanasi are some what more complex and sophisticated than Duncan Mara or conventional waste-water ponds. But the overall scheme appears to be very well suited for the objectives and conditions of Varanasi. To this author, the only defect of the scheme is providing, too large factors of safety at several stages. This might have been done to play absolutely safe and even oversafe, at this what would be the first trial of this lay-out in India.

The name and prestige of an institution like UC Berkeley and an expert like W.J. Oswald is not a small stake. This author (whom Jal Nigam officers called Bhishma Pitamaha of Environmental Engineering in India) is willing to stake his own professional reputation and all he has including life on the proposal delivering goods.

4.3 It is strongly recommended that the proposal of Prof. Oswald & Green/SMF/ Nagar Nigam Varanasi be approved for implementation and an appropriate technical committee as proposed in last sentence of Para 3.4 entrusted with the task of finalising the detailed designs.

5. Execution

Having selected a Ghat-Sewer and AIWPS for implementation, there can be absolutely no question to leave the execution to UP Jal Nigam who have opposed these "tooth and nail" all these years. The obvious decision would be to put Varanasi Nagar Nigam (the ultimate beneficiary, lawful owner and the agency to operate and maintain the assets created) in charge of execution with a strong technical advisory committee appointed by the responsible to NRCD. The committee should avoid having any-one who has worked for UP Jal Nigam (or an equivalent organisation in any state of India) at any time to save the child from the clutches of step-mothers. It could have professors, municipal engineers, engineers from private sector etc. from India or aborad. The committee should clear design details and fund releases.





# Friends of the Ganges/US

**Catherine J. Porter**

At the very beginning of the effort to clean Gangaji, the Swacha Ganga campaign included friends from the United States who were captivated by the plight of Ganga and who wanted to serve in any way. The earliest partners in this work, Linda Hess (who introduced Fran Peavey to Mahantji) , Mark DuBois, Jerry Brown, Barbara Pyle and many others, were thinking partners for Mahantji and the Directors

S.N. Upadhayay and S.K. Mishra. Social change activist Peavey committed to come every year for five years as a strategist in the campaign – a commitment that soon grew to include each of the last 25 years. She and the directorship became fast friends as well as colleagues in the work of Swacha Ganga, and have grown in the joy of that friendship through thick and thin times of the campaign. Joined in the work in 1988 by Catherine Porter, the two women have introduced dozens of other supporters from Friends of the Ganges/US – people who contribute their time, engineering expertise, access to international media, financial resources, and the gift of friendship.

HIghlights in the FOG/US and SMF partnership, besides the growing amity among all the SMF staff and FOG friends, include the 1992 International Seminar supported by USAID (via program director Earl Kessler) and others. It brought together some of the two nations' best engineering minds to imagine a sewage treatment system that would work on nominal electricity. Tunneling expert Tim Smirnoff remains active on the FOG/US team.

A subsequent exchange with prominent engineer William Oswald of University of California at Berkeley, and his partner Bailey Green, finally helped SMF and Varanasi Nagar Nigam identify the treatment system they felt would work best for Ganga in Varanasi: the Advanced Integrated Wastewater Ponding System (AIWPS) and a gravity-feed interceptor to transport wastewater downstream to the treatment ponds.

The FOG/US team has been active mostly in political strategies and in garnering support from friends in Delhi and the U.S. They sponsor a regular visit by Mahantji – every three years or so to the US to be sure the campaign retains a high profile in the media and among long-time supporters.

Fran Peavey introduced Gangaji and the campaign to Australian educator activists Sue and Colin Lennox in 1992 The Australians fast became partners in the work, creating the youth, education and outreach programs that give the campaign breadth and scope. Their support, and the support they garnered from Aus/AID has been key to the campaign all these years.

It is hard to imagine the Swacha Ganga campaign without remembering hundreds of friends and supporters from across the globe, too many to list here, but all appreciated for their generosity and kindness.

FOG/US is proud to have been an active partner from Day One, and renews its commitment to provide help every year until "not a single drop of sewage enters the river along the bathing ghats of Varanasi".

# OzGREEN Australia and Sankat Mochan Foundation 1992-2007

**Sue and Colin Lennox**

Our first memories of River Ganga are of a late winters evening in January 1992. The River seemed to stretch away forever into the last twinges of light. Magical. Mystical. Majestic. Magnificent.

We had just arrived at Tulsi Ghat on our first ever visit to India. We were there to participate in the first River Ganga Teachers Forum - at the invitation of Fran Peavey. Little did we know that we were about to change our lives forever and were at the beginning of dear friendships that would span the rest of our lives and thousands of miles between India, Australia and USA.

Many things stand out from that first visit the significance of which continue to be embedded in our beings:

Sankat Mochan Foundation and Friends of the Ganges Meeting the SMF and FoG team was just like meeting old friends. For us both there was a sense of inner rightness. We could see a group of people who lived and worked from their core values science and spirit joined in action. We felt at home, that we had something to contribute and that we could belong.

Gangaji Seeing the relationship between people and the river and feeling our own connections with Her during early morning meditations and quiet boat trips at dawn and dusk touched us deeply. How is it that school teachers from Sydney can develop such a deep and abiding love? She haunts our hearts, reaching out to us all the way to Australia so that even at this distance we can visit Her in meditations and feel our connection with Her and our Tulsi Ghat family.

We saw terrible pollution on that first trip and for the first time measured the actual levels of Faecal coliform. It took us three days to get the dilutions right. We had to travel out to BHU labs by rickshaw to put the plates into an incubator. When we finally got our first results we all had tears in our eyes as we realised just how bad the pollution levels were.

Feeling an inner call to do something it was like our worst fears and our deepest caring came together in one experience. We struggled for months to find what it was we could do to help and this search continues to this day. But on this first visit we resolved to do what we could.

We could see that in our own society we had lost the deep connection to our environment that we saw in the relationship between the people of Varanasi and Gangaji. This loss of connection meant that people could view caring for the environment as an option, not connected to major life decisions. On the other hand we witnessed how a connection deeply rooted in faith could blind people to the every day reality of the impacts of polluted water. We felt that we could contribute to a world view that incorporated a deep connection with the Earth, a clear understanding of scientific realities and a commitment to work together for change.

If this sounds like an intense experience it was. It was a turning point in our lives when we realised just how serious the global water crisis was and that we needed to and could play a small part in doing something positive. During the remainder of 1992 we questioned ourselves deeply. We asked ourselves what we could do and how could we support ourselves to do it. After months of struggle we decided that we needed to be prepared to support ourselves to follow our hearts. In the following months we moved our young family in with Col's Mum, sold our home and quit our jobs. We began setting up OzGREEN as two volunteers working in a borrowed garage.

Today OzGREEN is working nationally in Australia. And since that first trip we have travelled to Varanasi more than 20 times.

So what have been the highlights and achievements of the last sixteen years? For us the most important has been the sharing of a deep and challenging journey. Together we have struggled and together we have come up with some great ideas (and some not so great ones too!) The important thing is we have sought to keep to three guiding principles:

- Scientific evidence
- Spirit of caring
- Engaged community action

Sankat Mochan Foundation OzGREEN Australia Achievements 1992-2007

- 1992: Sue and Colin Lennox travel to Benares with Fran Peavey for the first Teachers Conference. They bring water quality testing equipment and train SMF staff and volunteers. Faecal coliform testing for sewage pollution of River Ganga is undertaken by the SMF for the first time.
- 1993: Sue and Colin travel to Benares for the second time, bringing their children Jodi, Rowan and Wade. Set up SMF with a laptop computer, email and training to use the internet. Work with newly established lab to develop protocols and processes for Faecal coliform testing.
- 1994: Film the Swatcha Ganga video (winner of United Nations Media Peace Prize) and The first sewage tour with Tiwari's Varuna Confluence, Konia Sewage Pumping Station and bypass; Dinapur Sewage Treatment Plant, Kamauli Village. Vipul Mishra and Ashok Pandey travel to Australia to participate in OzGREEN's Youth River Congresses and to launch Friends of the Ganges Australia. SK Mishra travels to Australia for Australian Conservation Training Initiative six-week program in Project Management for NGOs.
- 95-96 Ongoing support and dialogue between SMF and OzGREEN about problems associated with sewage contamination of the river and groundwater and setting up an environment education centre.
- 1997: 60 Minutes (Australia) film story about Swatcha Ganga campaign; mega meeting with Friends of the Ganges USA and Sweden.
- 1998: Launch of the Swatcha Ganga Environmental Education Centre at Tulsi Ghat. Develop design for the mini-tube wells to alleviate the suffering of villages worst affected by sewage contamination of ground water. OzGREEN raises funds for first tube well.
- 1999: Work begins on installation of the first mini-tube well at Kamauli Village.
- 2000: Launch of the first mini-tube well at Kamauli Village by Australian MP Richard Jones MLC. Mahantji travels to Australia and speaks at a special luncheon at NSW Parliament hosted by Richard Jones MLC.
- 2001: Mini tube wells installed in Dinapur and Sarai Mohana.
- 2002: First Youth River Congress (Swatcha Ganga Chattra Sangam) at Tulsi Ghat involves hundreds of Benares school children. Following the success of this program, the Ghat Purohit Sangam is organised and brings 120 River Priests together for the first time, enrolling them as key allies of the Swatcha Ganga Campaign.
- 2003: Inaugural International Youth River Congress attended by students from Varanasi, Australia, Bangladesh, Allahabad, Mirzapur Patna, Kolkata & Mathura. It is inaugurated by Australian High Commissioner. Later that year Mahantji travels to Australia and visits the Murrumbidgee River. Launch of second Sarai Mohana Mini Tube Well. Launch of Sehua Mini Tube Well (making a total of eight village water supplies installed).
- 2004: SK Mishraji travels to Australia to speak at the International River Symposium.
- 2005: Second group of young Australians from the Darling River travel to Benares to participate in the third International Youth River Congress.
- 2006: Ongoing support of the environmental education centre, research lab, World Water Day program, River Priest, school and boatmen programs and core SMF functions.
- 2007: Testing of water quality of religious bathing areas during Kumbh Mela in Allahabad January 2007. Fifth International Youth River Congress.

I had wanted to go to India for years but wanted to combine a holiday with an activity that would benefit the community. I hadn't found anything until October 2006 when I first attended a program of OzGREEN. When I found out about the Student Congress jointly organised by the Sankat Mochan Foundation and OzGREEN I immediately began preparations to attend.

Attending the Student Congress allowed me to experience India as more than just a tourist. It gave the journey much more substance and it enabled me to be there for something that is really important for me: Global Sustainability.

Being 27, I perhaps had a different experience of the Student Congress than most others. I saw it through the eyes of someone who has been working as an environmental educator for most of my career (although at times I felt this experience wasn't fully utilised). It was incredibly inspiring to see people who were working so hard to tackle the problem of pollution in Ganga through a multitude of ways: science, education, community engagement and, unfortunately, through the courts. It was amazing to witness the deep spiritual connection that so many people had with Ganga but also confronting to see people throw garbage into the river after worshiping Ganga. At times it was difficult to come to terms with the apparent contradictions that occurred. But the SMF persists in the education and community engagement to help change this behaviour.

Creating change can occur frustratingly slowly, and the Sankat Mochan Foundation has many obstacles. They haven't given up and I will forever be inspired by the passion and commitment that I saw in my time with them.

# The Ganga at Varanasi and a travail to stop her abuse*

*Veer Bhadra Mishra*

*Ganga, the holiest of Indian rivers is highly polluted near many cities on its banks. The problem of pollution at Varanasi as at many other places, is due to sewage inflow, industr ial waste, animal carcasses, unclaimed human bodies, plastic bags, etc. The biochemical oxygen demand is as high as 20 mg/l and faecal coliform counts is around 1.5 million/100 ml at downstream end of the city. This article deals with the most appropriate cost-effective technical solution. The efforts due to the Sankat Mochan Foundation and its Swatcha Ganga campaign have not fructified so far, even after more than two decades, due to apathy and prejudices of the executive. Our universities and profe s-sional bodies have to take a pro-active lead, be it cleaning rivers, environment or other spheres.*

**Keywords:** Ganga pollution, sewage treatment, Sankat Mochan Foundation, Varanasi.

## Varanasi, Ganga and the people

Varanasi (25°20¢N and 83°7¢E) is an ancient city situated on the left bank of river Ganga. The holy scriptures of India describe Varanasi as Kashi – a column of light and that Lord Shiva came down from Mount Kailash in the Himalayas to make Varanasi as His headquarters. Ganga in her 2500 km long journey from the Gomukh in the Himalayas to Ganga Sagar in the Bay of Bengal passes through Varanasi. The 7 km long river-face along the city of Varanasi extending from Asi to Varuna is a hallowed place. Today the famous ghats of Varanasi add to the grandeur of this holy river-face.

About 60,000 people take a holy dip in the Ganga at the ghats each day. There may be a few thousand people among them for whom Ganga is the medium of life. They have immense faith in the Ganga, are committed to her and cannot be separated from her. They want to have a 'darshan' of the Ganga, touch her water, submerge their body into her water and get ecstatic contentment by sipping her water. They cannot bear anybody saying that Ganga is sick and polluted. The culture and the faith related to the Ganga have survived for thousands of years because of these practising Hindus. They are ignorant of the present processes of development, science and technology. They do not have the present skills of articulation to interact with the modern world and also do not have a forum to do so. But they are gems born with the rich cultural heritage of India. When exposed to the modern world, they respond favourably to all good things which the world offers us today.

## Urban growth – Pollution of Ganga

Another name for Varanasi in our holy texts is Anandvan, a forest of bliss. It has been a city of tanks and little forests, a peaceful place in pursuit of the metaphysical world. His Holiness Adi Shankaracharya said:

असारे खलु संसारे सारमेतत् चतुष्टयं,
काश्यां वासः सतां संगः गंगांभः शिव पूजनम्

(In the otherwise non-substantial world, the four substantials are: living in Kashi, the company of good people, water of the Ganga and worship of Shiva).

The world changed with the Industrial Revolution and other developmental processes. During the British period in India, Varanasi was given its due importance. A well-designed underground gravity sewage system for a population of 2 lakhs was laid in Varanasi, when flushed to ilets were installed. Though no sewage treatment plant was installed, the sewage system was good enough to divert the city's sewage away from the ghats. No sewage flowed into the Ganga in the religious bathing area. Other urban infrastructure needed for Varanasi was laid. The present population of the city is about 1.5 million. The infrastructure created for 200,000 people has not been improved. The sewage system has become old. People have started settling in low-level lands and on both sides of the small rivers, Asi and Varuna. People have started using storm water drains as sewer outfalls.

Master plans were made, suspended, discarded and changed due to political pressures. This has resulted in an

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unplanned development of Varanasi in the last 50 years. The capacity of the old sewers has been exceeded and the city's sewage and industrial waste flow into the river in the religious bathing area also, through 30 point sources, i.e. sewer outfalls, open drains and other outlets. The maximum population density of the city near Shri Vishwanath Temple is 100,000 per $km^2$. People have pet animals in their houses. No arrangement exists for solid waste disposal, including disposal of the animal carcasses. Firewood is becoming costlier everyday. It is difficult for the 'Shmashan Ghat' (cremation ground) to cope with the pressure of increasing number of cremations done on the river bank. The result has been abuse of mother Ganga. The total sewage and industrial effluent of Varanasi is flowing into the river along the ghats of Varanasi. Garbage, dead bodies of animals and unclaimed human bodies, plastic bags, etc. are also thrown into the river where people take a holy dip. In 1986, according to Government's estimates, about 147 million litres per day (MLD) of sewage and industrial waste generated in Varanasi flowed into the Ganga. Now, over 200 MLD of wastewater is flowing into the river.

Ganga's capacity to bear the aforesaid abuse is exhausted. She is sick in Varanasi. Along the ghats of Varanasi, Ganga water is polluted. About 95% of this pollution is caused by sewage flowing into the river from the point sources of pollution described above. The level of this pollution can be quantified by biochemical oxygen demand (BOD) in mg/l of the river water, which is a measure of organic matter present in water, and the number of faecal coliform counts (FCC)/100 ml of water sample, indicating the presence of faecal coliform bacteria in water, the root cause of practically all water-borne diseases. The BOD of Ganga water in Asi, at the beginning of the city is around 4 mg/l and FCC/100 ml is around 60,000. The river flows downstream from this point and the quality of Ganga water at the end of the town at the Varuna confluence is poor, with BOD equal to 20 mg/l or more and FCC around 1.5 million/100 ml. The river water at the end of the town is grey and stinks, with methane bubbles coming to the surface. This is a serious matter. The river along the ghats of Varanasi is used culturally, and is used for sipping, drinking and worship in the temples. Ganga's designated use in holy cities like Varanasi cannot be defined by class A, class B or class C rivers. The media and planners these days classify Ganga as class B river for which BOD < 3 mg/l and FCC < 500/100 ml. Without accepting it, even if this criterion for the Ganga is quoted for discussion, the river is heavily polluted along the ghats of Varanasi. The condition of the river water in all the big cities (more than five in number) situated along the Ganga is more or less like that of the Ganga in Varanasi. In smaller cities (about 100 in number) the river is polluted, but pollution level is lower than that at Varanasi.

The encouraging or brighter part of this disgusting situation is that the entire 2500 km length of the Ganga is not polluted. Dissolved oxygen level in Ganga water is good and fish can be found in most parts of the river. River water even at the worst polluted places is better in the midstream and also at a distance of several kilometres from the city on its upstream and downstream sides. Thus the whole river is not polluted.

Technically speaking, if point sources discharging pollutants in the river are firmly stopped, 95% of the river pollution will be eliminated. The city's wastewater must be treated appropriately to make it innocuous for reuse in fields and other such places. In today's world and for a river like Ganga in Varanasi this can definitely be done. It is the responsibility of all of us to do this.

The remaining 5% of the river pollution is caused by non-point sources. The society has to be educated and made environmentally conscious to deal with this 5% pollution.

## The Sankat Mochan Foundation and its 'Swatcha Ganga' campaign

The aforesaid problem of pollution of Ganga at Varanasi and its solution were carefully examined by a set of teachers from Banaras Hindu University (BHU), Varanasi and citizens of Varanasi committed to the Ganga and the Indian tradition, and who have the necessary technical and scientific knowledge. Initial material support came from the Sankat Mochan Temple established by Goswami Tulsidas, the celebrated saint poet who wrote *Ramacharit Manas*. Legal formalities to create a secular foundation named as Sankat Mochan Foundation (SMF) were completed in 1982, when SMF came into existence. All the aforesaid committed persons became members of SMF. A 'Swatcha Ganga' campaign was launched in the same year. Enthusiasm and optimism were seen in every step of the Foundation. SMF was a tiny organization and it is tiny even today, but the work needed to clean the Ganga was very big – much bigger than the capacity of SMF. The foundation wisely decided to act as a catalytic agent, work with the people and spread the message of 'clean Ganga' and the need for everybody's participation and assistance to accomplish the objective of a clean Ganga. Varanasi was chosen as the place to start work.

SMF's work as a catalytic agent to clean the Ganga comprised of talks at street corner meetings, organizing conferences for women, boatmen, Pandas (priests sitting on the ghats), dance dramas and painting competitions by school children, poets' conferences, etc. All these activities designed to reach out to the society proved effective.

Rajiv Gandhi as Prime Minister of India, in his first address to the nation, urged people to come forward to save Ganga and his government decided to launch Ganga Action Plan (GAP) to clean the river in Varanasi and some other cities. The Indian bureaucracy monopolized the GAP to have control over the abundant funds made available for it. The twin objectives of GAP were to intercept and di-

vert the sewage so that it reaches the sewage treatment plant (STP), and make the effluent of the STP innocuous for use in agriculture and such other activities. The government with its nodal agency implemented GAP in Varanasi between 1986 and 1993. Five sewage pumps were installed to intercept sewage flowing into the river from 30 point sources. Out of the 147 MLD sewage generated in Varanasi only 122 MLD was stopped from flowing into the Ganga and 102.9 MLD was treated in the STPs. However, the STP did not control faecal coliform bacteria. But the government argued with SMF that its GAP was successful. SMF was disappointed, helpless and challenged by such an outrageous statement.

SMF took the challenge. It gathered funds to create the Swatcha Ganga Research Laboratory (SGRL) situated at Tulsi Ghat, which monitored the river water quality every day. The published data of SGRL's monitoring exercise exposed and embarrassed the government. SMF proved that during electrical power failure (which happens every day) and during the five months of the flood season, the sewage pumps did not work and total sewage of the city passed into the river every day. The treated effluent of the STPs was ruining the health of the villagers, their crops and the groundwater. This strategy of SMF in exposing the faults of GAP made the government defensive. The government made proposals to implement GAP Phase II in 1994 and got money sanctioned for its implementation. But in the new plans, the faults of the earlier GAP were not corrected.

## Varanasi Nagar Nigam and Sankat Mochan Foundation as public–private partners to clean Ganga

Varanasi Nagar Nigam (VNN), after receiving the powers given to it by the 74th Amendment of the Indian Constitution, decided to prepare its own proposal for GAP Phase II. VNN requested SMF to make this alternative proposal. SMF's team of experts from India and USA made this alternative proposal for GAP Phase II. Details are given later in this article. VNN unanimously accepted this alternative proposal in the form of a project feasibility report (PFR) known as VNN–SMF PFR for GAP Phase II and

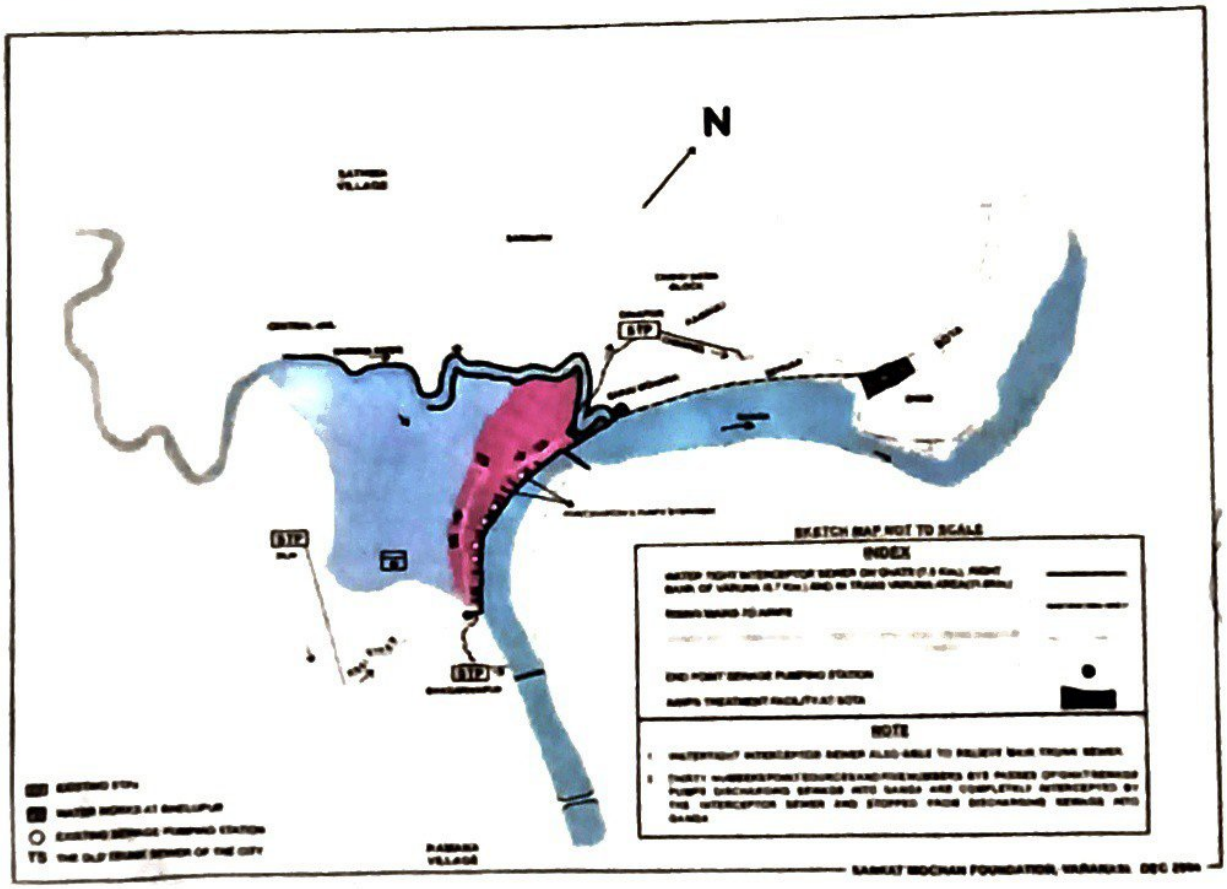



**Figure 1.** SMF–VNN proposed PFR for GAP phase II at Varanasi

requested the government to release funds for its implementation. The schematic location of the sewerage system and treatment plant suggested in the proposed PFR is shown in Figure 1 (refs 6, 7).

The VNN-SMF PFR has been appraised by government's experts. Good suggestions coming out of this appraisal exercise were incorporated in the VNN-SMF PFR for GAP Phase II in 1998. But the Government rejected the VNN-SMF PFR and insulted the VNN. About 56 corporators of VNN filed a PIL against this action of the government. Since 1998, the matter is pending in the court of law.

In the meantime, the government insisted that its PFR for GAP Phase II be considered by VNN. However, VNN did not find it suitable for Varanasi. The government's PFR for GAP Phase II has been returned with five objections raised by the VNN.

The government appointed technical committees to examine both the PFRs. These technical committees have given their recommendations in favour of the VNN-SMF PFR. This PFR is less expensive in all respects than the government PFR. The government is not acting on the reports of the committees that have recommended VNN-SMF PFR.

The VNN-SMF PFR has been unanimously accepted by the General Body of the VNN. It meets all the local needs. The work of SMF with VNN is exemplary. A real public-private partnership has done the capacity building of VNN and has stopped the wrong-doings of people in power in matters of GAP Phase II. Other municipal corporations and Nagar Nigams have succumbed to the pressure of the government. They have allowed the government to plan GAP phase II in their cities and implement them. Hundreds of crores of rupees were spent once again in these cities, but the Ganga could not be cleaned. Varanasi is the only city where the Nagar Nigam is struggling for its rights to set up an appropriate system to clean the river and its environment. SMF is drawing every ounce of its energy to support VNN. The struggle continues and Ganga continues to be polluted.

It is hard to believe that prejudices and mindset of the people in power can go to this extent to stop implementation of a proposal, which is technically most appropriate for Varanasi and is most economical and has the support of the people. Constitutional rights of the III Tier of the government (which VNN is today) to decide its plan to clean the Ganga and implement it, have been denied by the government. Supporters of VNN are called 'hounds' and the government's important functionaries have said openly that such NGOs should be driven out of the town. It is a painful experience and the pain becomes acute when we realize that for the same work, SMF received Global 500 Roll of Honour in 1992 at Rio on the occasion of UN's celebrated conference UNCED and the Earth Summit. *Time* magazine during the millennium year nominated SMF's President as one of 'seven heroes of the planet'. In the year 2000 President Clinton invited SMF's President to share the podium with him at Agra, when he (Clinton) gave a public lecture on the environment. He openly praised SMF's work as a unique example of faith and science.

The *New Yorker* magazine has covered our work in right perspective in a ten-page article in 1998, but the media in India has never gone into the details of the work that SMF is doing for cleaning the Ganga by combining faith and science. An Indian magazine sees this combination of science and faith as weakness of the 'Swatcha Ganga' campaign. It finds religious rites of Hindus in Varanasi and a combination of science and faith as reasons for increasing pollution of Ganga in Varanasi. The World Bank thinks that development and environmental protection cannot be done without combining faith, spiritual approach and science. Ted Turner's UN Foundation found the solution given by SMF for GAP Phase II at Varanasi to be excellent and offered to give full assistance to this project. But the Government of India told UNDP that NGOs could not be encouraged in infrastructure building. The government invites Japan International Cooperation Agency (JICA), Government of Japan to do the job of cleaning the Ganga. JICA finds the work bankable and submits its proposal for giving Japan Bank for International Cooperation's (JBIC's) loan to VNN for implementing the Uttar Pradesh Jal Nigam (UPJN) PFR for GAP Phase II (Figures 2 and 3) (refs 8, 9). JICA has submitted a plan for enhanced taxation on the people of Varanasi to recover its loan. VNN does not accept this. The government dissuades the UNDP to give grant-in-aid for Ganga in Varanasi, but encourages JICA to work on this project to earn profit and tax the people. VNN's chief executive working under the Government of Uttar Pradesh agrees with JICA and does not find himself obligated to carry out VNN's resolution in respect of GAP Phase II. Small financial assistance given by International Development Agencies of governments like Sweden and USA directly to NGOs may also stop, because the Government of India has taken a policy decision that foreign assistance to NGOs may not be given directly. NRIs living outside India want to support gurus, temples and Hindu organizations and they are not so interested in NGO activities going on in India for development and appropriate use of technologies. Big international foundations want NGOs to work in areas, which are favoured by these foundations. Hence SMF is not able to get funds from them also. SMF does not have staff and energy to simultaneously work to generate resources and continue with the pressure struggle.

What should we do? Where shall we go? We know that we are doing right things and working with commitment to clean the Ganga and using all our technical skills and energy to achieve the goal of a clean Ganga. This story needs exposure at the widest level. We started working when our hair was black and we are still working for a clean Ganga at Varanasi when our hair has greyed. No tangible results so far. We are not going to be deterred

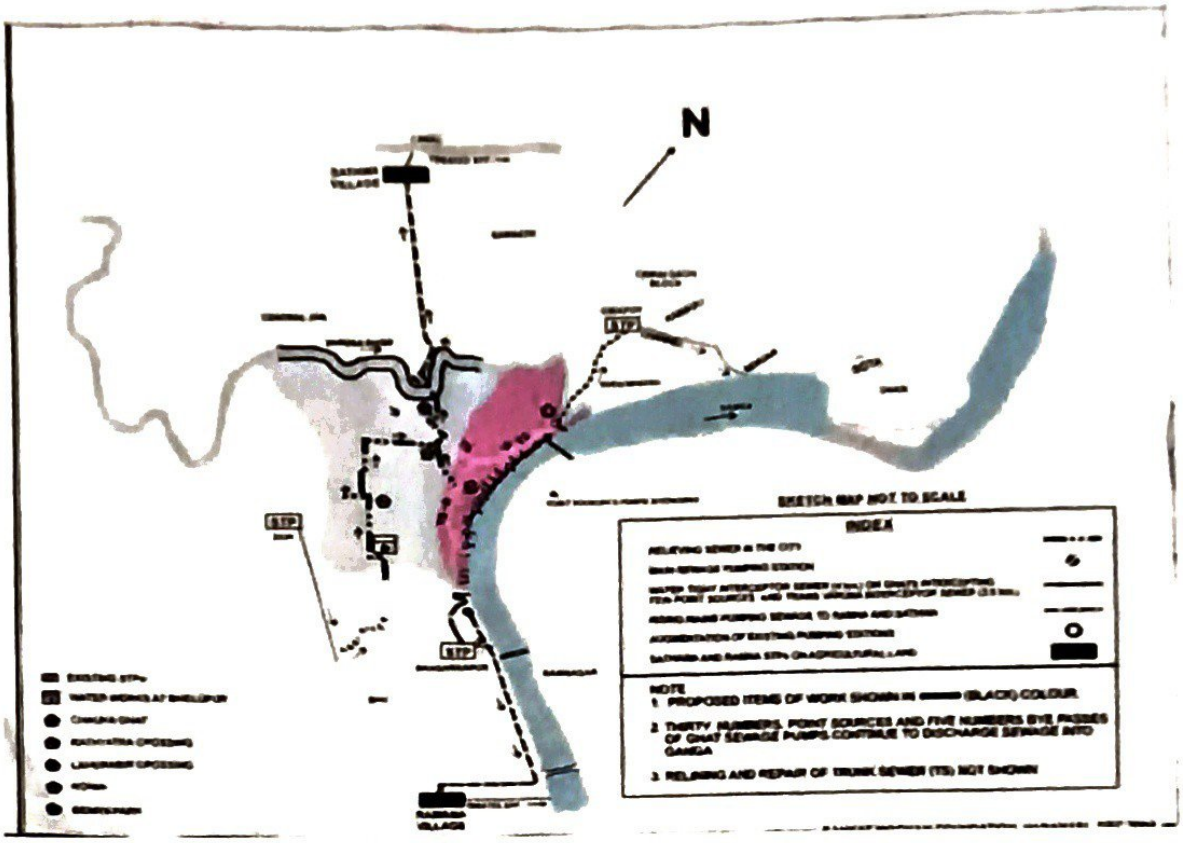



**Figure 2.** PFR for GAP phase II in Varanasi proposed by UPJN.

from the path we have chosen to clean the Ganga at Varanasi. We have the same enthusiasm, which we had in 1982. Hope this travail will come to a happy end when appropriate infrastructure to clean the river is put in place and the river gets cleaned. The example thus set in Varanasi will inspire other river cities to take care of the river in their own territory.

## The technical solution

The failure of the system created in Varanasi by the government between 1986 and 1993 under the GAP Phase I, non-availability of electrical power and the need to have a most economical alternative prompted SMF to search for suitable site-specific solution for interception and diversion and treatment. The basis of the proposal prepared by SMF for GAP Phase II for Varanasi was the follo wing:

(i) Interception and diversion of sewage flowing into the Ganga on the ghats to be done without using electric power and pumps.
(ii) The treatment plant for Varanasi to use the least amount of electric power and a technology which ensures elimination of faecal coliform and other harmful bacteria and to be low in operational and maintenance costs.
(iii) Retrofitting of the existing pumps and STP to ensure use of GAP Phase I facilities.

The proposed technical solution for prevention of pollution of river Ganga at Varanasi has the following fe atures:

(i) Watertight interceptor sewer along the ghats of the Ganga between the last line of buildings and the river. This will collect the sewage from all 30 ghat-front wastewater point sources and convey the same by gravity to a treatment plant.
(ii) Two interceptor sewers along the two banks of river Varuna, conveying the collected sewage to the treatment plant.
(iii) Advanced Integrated Wastewater Oxidation Pond System (AIWPS), developed at the University of California at Berkeley, USA, of 300 MLD capa city at the sandbar known as Sota, about 8 km downstream of the city (Figure 1).

For the interceptor sewers, proper care has been taken to ensure their stability against uplift pressure during floods. The gradient and size of the interceptor sewers have been designed to ensure flushing velocity. Their alignment will be along the pathway existing between buildings on the ghats and the river.

### *Search for an appropriate site for the treatment plant*

A wasteland called Sota about 8 km downstream of Varanasi city and situated a few kilometres away from the main valley of the river, was selected for a treatment plant on the basis of reconnaissance survey of the area. It does not belong to the cultivators and can be used without paying any compensation charges required in the acquisition of land. The entire area of the wasteland (500 m × 14 km) is about 10 m above the river bed, but is flooded by the river every year for about 45 days. It carries 3–6% of the flood discharge. Using Sota for making ponds will stop this flood discharge and would direct it to the main channel. Closing Sota for making the ponds would create an afflux of 10 cm at the site during record floods, and the effect of this afflux gradually fades about 40 km upstream of Sota. The question before SMF was whether the closure of Sota would change the regime and course of the river and start heavy erosion and silting in the river.

James W. Kirchner from University of California at Berkeley, USA and some faculty members of BHU along with SMF staff surveyed the 40 km stretch of the river likely to be affected by closure of Sota. The aforesaid apprehension of scour, erosion and change of river course may not occur on the linear timescale. Physical modelling of the whole stretch of the river and of the timescale is not possible. Hence an appropriate simple mathematical modelling was done and in any case, such a model would give more dependable result than a physical model[10].

The result of the mathematical model confirmed that closing Sota for the treatment plant may deepen the bed of the river by about 0.4 m, which is comparable with the size of bed bards formed in the river every year. The course of the river will not change. Bank erosion rate may increase by 3–6% of the present rate. It may be noted that the river is in the alluvial plain and does not have a firm bank or bed. Little erosion or deposition goes on. Closing Sota for ponds will not affect this process substantially to cause any alarm. The decision to choose Sota for the treatment plant was taken based on this scientific study.

### *The treatment technology – AIWPS*

The sewage treatment plant proposed in SMF–VNN PFR uses AIWPS technology designed by W. Oswald and his associate Bailey Green at UC, Berkley, USA (Figure 4). Almost 50 years of effort by Oswald and his team has resulted in the development of ecologically efficient natural system for wastewater treatment and water reclamation. Their scientific study has been based on research involving physical, chemical and microbiological laboratory, pilot plant and field study and has established the most efficient way to use solar energy for algal photosynthetic oxygen release from the supporting water and discovering the special design requirements to foster in pond methane formation, so efficient that it virtually eliminates the costly sludge removal required for any waste stabilization pond system[1–5].

This technology has been successfully used at many places in California and elsewhere. The AIWPS is a series of four ponds and first of this series is called 'advance facultative pond' (AFP). The next pond in series is called the 'high rate pond' (HRP). The third pond is knows as 'algal settling pond' (ASP) (Figure 4). The AIWPS facility proposed at Varanasi to suit the shape of the land available and the quantity of the sewage to be handled is shown in Figure 5. Number of modules depends upon the quantity of the sewage. For maximum efficiency, each module should not handle more than 50 MLD of wastewater. The treated water goes to the 'maturation pond' (MP) provided to remove the faecal coliform bacteria. The wastewater is screened and degritted before it is allowed to go through the AIWPS.

#### *The advance facultative pond*

- The AFP has large area which prevents intrusion of oxygen to ensure stable fermentation in the deep fermentation pit located at its bottom.
- The fermentation pit is in complete anaerobic condition, capable of fermenting all the organic material other than refractory material and thus leaving no residue in the form of sludge.
- The fermentation pit removes all settleable solids and 60% of BOD. About 20% of BOD is removed in the top layer of AFPs.
- Settleable solids in the fermentation pit undergo anaerobic decay to produce methane and soluble acids.
- In the fermentation pit, organic nitrogen is converted into nitrogen gas.
- The fermentation pit retains parasitic Helminth ova and heavy metals. Various chlorinated hydrocarbons (pesticides) also undergo biodegradation to some extent in the fermentation pit.
- The large column of water in the AFPs purifies methane to 85–88%. Methane is collected in the submerged gas collectors.
- Greenhouse gas emission is minimized and $CO_2$ generated during fermentation and electricity generation is absorbed in AFPs.

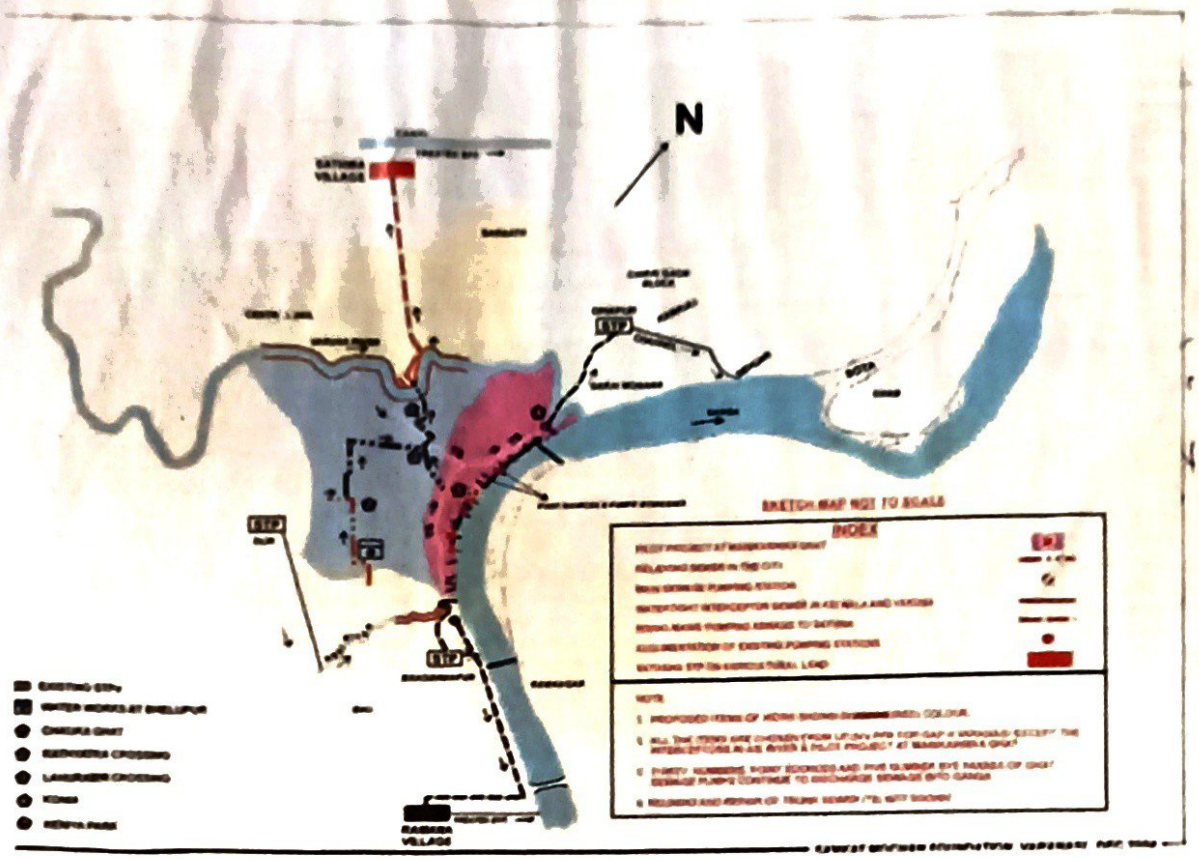



**Figure 3.** Water quality management plan for Ganga in Varanasi by JICA.

*The high rate pond:* The specific features of HRP are:

- HRP is endless, gently paddle-wheel mixed, raceway designed to grow crop of algae and to release a maximum amount of free molecular oxygen in dissolved state (DO) to the surrounding water under controlled conditions.
- Idealized photosynthetic equation is:
  $CO_2 + 2\ H_2O \rightarrow (CH_2O) + O_2 + H_2O$
  $(CH_2O)_x$ typifies the organic matter in the plant material.
- Abundant supply of oxygen is ensured if sufficient light, moderate temperature, time and nutrients are present to foster algal growth. About 2% of the intensity of full sun is sufficient for maximum growth rate. Hydraulic mixing ensures it.
- Analysis of algal cell gives 52.4% carbon, 7.4% hydrogen, 29.7% oxygen, 9.2% nitrogen and 1.3% phosphorus on an ash-free-dry-weight basis.

The stoichiometric formula for algal cell is $C_{106}H_{181}O_{45}N_{16}P$. When this is generated by photosynthetic process, $O_2$ is released at a rate 1.55 times the dry weight of algae produced.

- Photosynthetic oxygen generated in HRP raises DO level reaching super saturation level of 20 to 30 mg/l. A DO cap on AFP oxidizes $H_2S$ or $PH_3$, and seeds the AFP with algae adopted sewage composition.
- pH on top may increase to 9. Bacteria growing in lumps go to the bottom in neutral pH zone
- DO released could be a short-lived radical acting as a disinfectant.
- DO in soluble form goes to bacteria which break down organic waste.
- Due to high pH levels in HRP, calcium and magnesium present in the sewage are precipitated.

*The algal settling pond*

- ASPs are designed to be as quiescent as possible in order to permit sedimentation of the heavier algal species grown in HRP.
- ASPs are designed in pair, to permit algal removal either by drawing in pond or by pumping them to under-

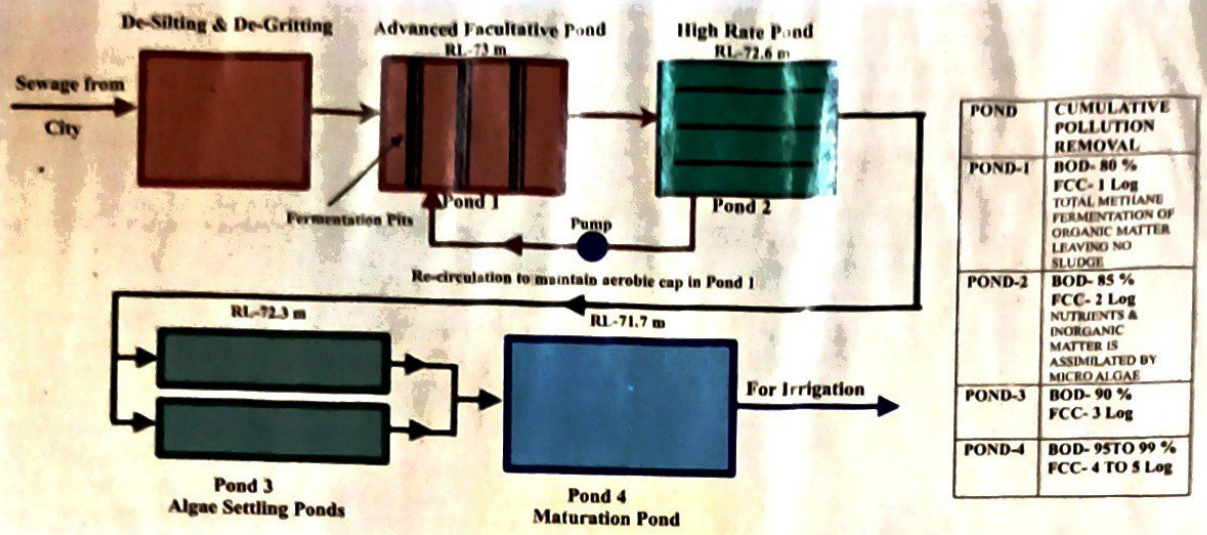



**Figure 4.** Schematic representation of AIWPS facility process. The AIWPS facility comprises of ponds 1–4 placed in series. The sewage flows by gravity from one pond to the other. After desilting and degritting, th e sewage enters 7 m deep Pond 1 through methane fermentation pits placed at the bottom and rises slowly in complete anaerobic condition. It flows to shallow Pond 2 b etween channel dividers in aerobic condition caused by micro-algae generating oxygen by photosynthesis. The total electrical energy consumption in this process is 0–100/100–200 kWh per ml depending upon methane recovery/no methane recovery and is much less than other conventional sewage trea tment technologies. The wastewater along with micro-algae flows alternatively to one of the twin Ponds 3. One of the twin ponds empties into Pond -4 after the algae in it settle down and are re-moved from the bottom. The other twin receives discharge from Pond 2. Clean water good for fish culture/irrigation havi ng faecal coliform bacteria in hundreds only and BOD less than 10 mg/l results in Pond 4. AIWPS facility is running successfully at several places in USA for decades and is good for the tropical climate.

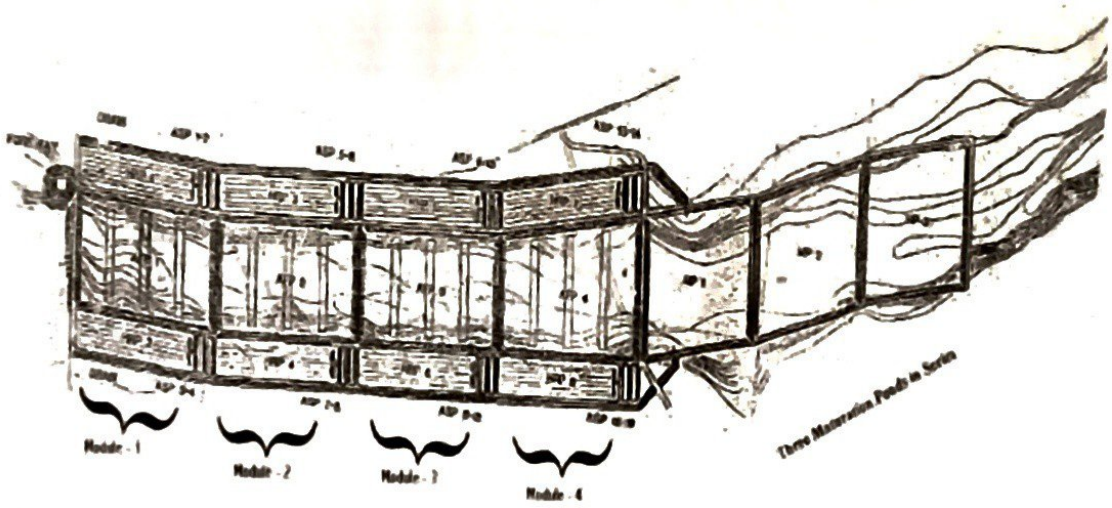


**Figure 5.** Schematic map of AIWPS facility proposed at Sota showing four modules in parallel and three maturation ponds in series. AFP, A dvanced facultative pond, HRP, High rate pond; ASP, Algal settling pond and MP, Maturation pond.

drained drying beds. Unless there are suspended solids, it is not necessary to remove algae from pond effluents. They can be used as excellent fish food when they di-luted to maximum DO at a level good for respiration of fish and algae itself. Algae have fertili zing value.

*Maturation pond*

- MPs may be simple holding ponds for ASP effl uents. Ten to twelve days holding provides sufficient disi n-fection for safe surface irrigation.

They are designed for residual disinfection. If the system has been correctly designed, water in MP is stable enough to grow catfish, carp, etc. Water from MP should have a faecal coliform concentration less than 1000 per 100 ml, WHO's guideline for irrigation of crops not eaten raw. Since microalgae are rich in nitrogen, phosphorus and potassium, the major components of good fertilizer, these are important yield benefits in irrigating crops with water containing process algae.

### *Advanced treatment and water reclamation*

If unrestricted use of wastewater is required, then dissolved air floatation followed by sand filtration and ultraviolet (UV) disinfection have to be done to achieve faecal coliform of 2.2 per 100 ml or less. This increases the cost but it is less than the cost which has to be incurred on a traditional tertiary treatment to achieve the aforesaid results. UV disinfection or reverse osmosis could also be used[11–15].

## Concluding remarks

The resurgence of India in the modern times has become phenomenal which the world is experiencing today. In this process, culture, science and technology (S&T), political process and the people must interact for balanced development of the country. We need to inculcate scientific outlook in the masses. S&T needs to appreciate the finer elements and fundamentals of our culture. Our universities and professional bodies have to take the lead, be it cleaning of rivers, environment or other spheres, affecting one billion people living in this country. A good beginning could be made by cleaning Ganga at Varanasi, using appropriate technology with minimum cost and by involving people. It will be inspiring and rewarding for the nation to clean river Ganga.


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# The Upper Ganga Basin - its landuse landcover distribution and dynamics during 1990-2005 - a remote sensing perspective

R.S. Dwivedi, S.V.C. Kameshwar Rao , M S R Murthy, *C.S.Jha and P.S.Roy

The management of natural resource of the Upper Ganga basin is very crucial to the food and water security of the large proportion of Indian population residing in the most thickly populated agro-eco-region of India. In the event of the climate change/ temperature rise, the food production as well as the fragile water balance in this basin may be affected significantly. The global models have not been able to predict the scenarios of future climatic change with certainty because of non-availability of reliable baseline databases on natural resources. Thus, there is an urgent need to study and inventory the bioresources of the basin such that the future scenarios and decision support can be developed on the basis of these initial conditions / baseline databases. In the last three decades, the remotely sensed data have successfully demonstrated to be the singular tool for the monitoring of earth resources. Realizing the importance of the global climate change studies and the role of remote sensing in generating information on natural resources, National Remote Sensing Agency, Department of Space, Government of India has undertaken a study on natural resources of the important river basins in the country under the ISRO Geosphere Biosphere Programme ( I/D GBP).

The primary objective of the study is to generate baseline information on agricultural resources in the basin and to analyse the change scenario at every five years during the time period 1990 to 2005. The study brings out the trends in the change in the cropping system in the basin. The Upper Ganga basin is spread over in 2,13,054 km2 and cuts across 57 districts in three states viz Uttarakhand (13) , UP ( 40) and Bihar (4). In order to analyse the landuse / landcover , satellite data of IRS 1A LISS-I of 1990 to 1995 and IRS P6 AWiFs of 2005 have been analysed. In addition, legacy data on agro-economic, socioeconomic and meteorology have also been used in the study. The satellite data were atmospherically and geometrically corrected as per the standards, mosaiced (Figure 1) and classified to generate season-wise landuse / landcover maps (Figure 2).

The results indicate an increase in the cultivated land by about 3 % whereas the wastelands have shrunken by the same percentage during the period of 1990-2005. During kharif season, the area under rice and sugarcane has increased by 9 % and 1%, respectively. However, during rabi season, area under wheat has increased by 12% and the area under fallow land has reduced by matching percentage.

The change in the major land use classes during kharif (1990-2005) includes a rise of about 46% and 25% in area respectively in the acreage of rice and sugarcane. The area under other crops and fallow land has dropped by 49%. The area under settlement has increased by 70%.

During rabi season (1990-2005), the acreage of wheat, sugarcane and other important crops increased by 15 and 3%, respectively. There is a substantial reduction in the fallow land.

Interestingly, the change in the major cropping

system (1990-2005) include an increase @ 7% up to 1995 in rice wheat cropping system. Thereafter it does not show up any significant change. Contrastingly, there has been a drop of about 5% in the spatial extent of rice fallow cropping system.

The identification of the drivers of LULC change and the impact of meteorological / socioeconomic factors on the food production in the basin are planned to be studied.

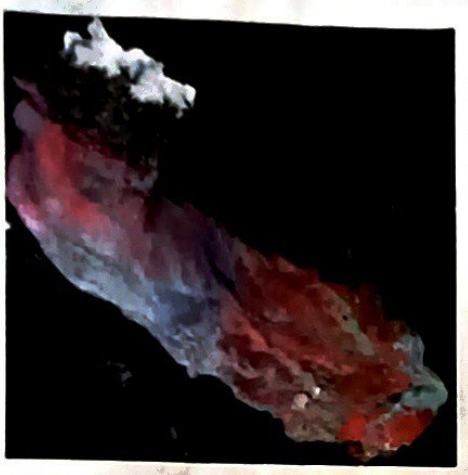



Figure 1: IRS P6 AWiFS False Colour Composite Image of Kharif 2005

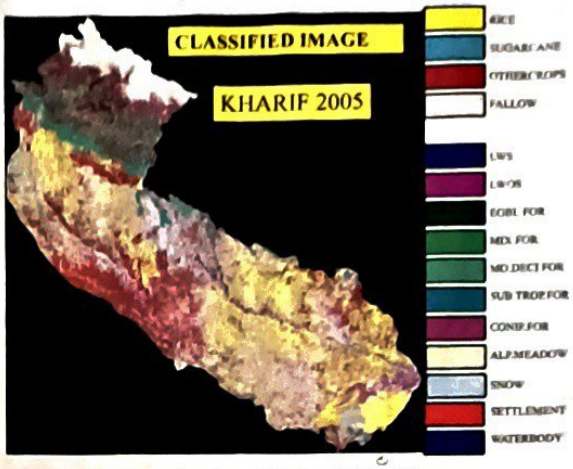
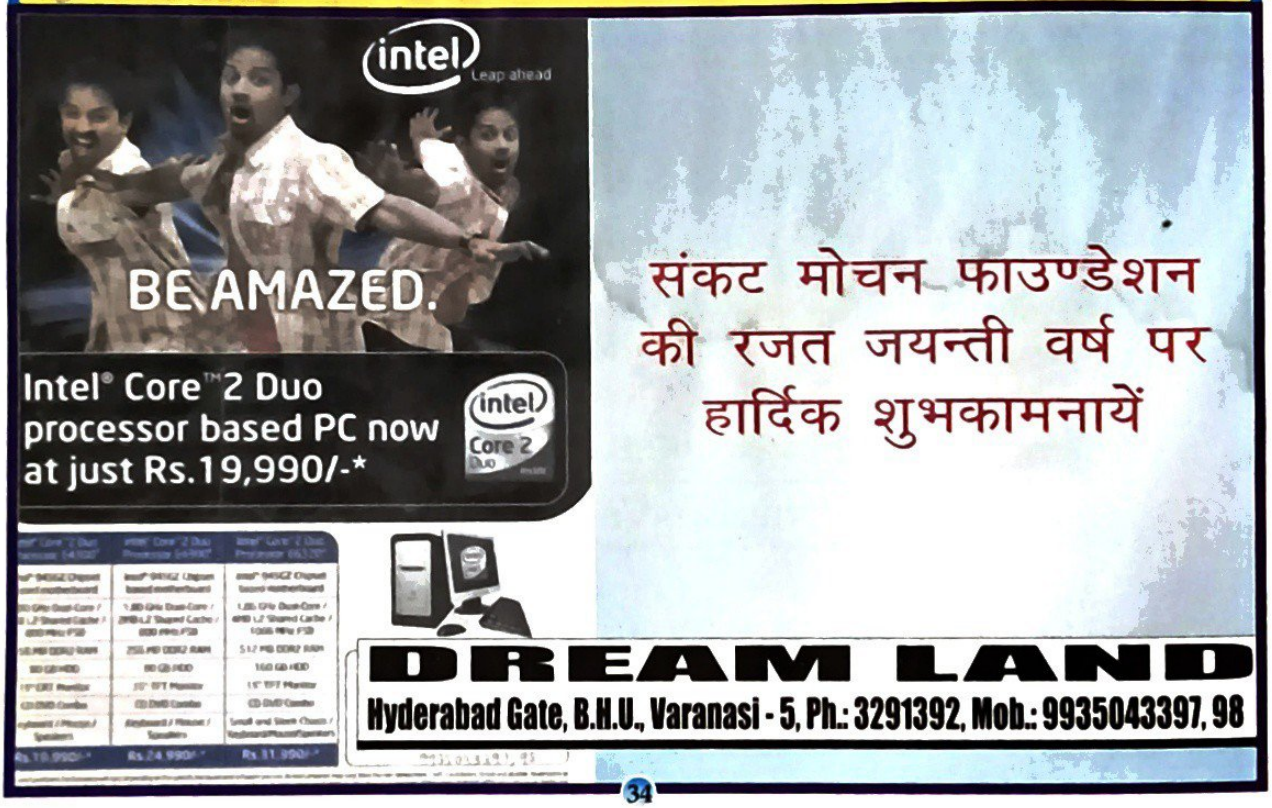



Figure 2: Classified IRS P6 AWIFS image of Kharif 2005 (LWS Land with Scrub ; LWOS Land without scrub; EGBL FOR Evergreen Forest; MIX FOR Mixed Forest; MO DECE FOR Moist

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# RIVER GANGA : THE LIFELINE OF VARANASI

**Aditi Mishra***

It was a pleasant morning at five. I was sitting at the bank of River Ganga. It was a cool weather and I was enjoying the beauty of the river.This river is one of the most important rivers in India. Varanasi-the holy city being situated at the westen bank of Ganga, has all the importance due to Ganga ji. The other two important rivers are Brahmaputra and Indus. Long long ago, when the people in this city were dying for want of water;Lord Shiva gave us life : River Gangafrom his hair.

According to the Hindu mythology, it is believed that this river is noless than our mother. Our mother Ganga helps and protects us like a mother



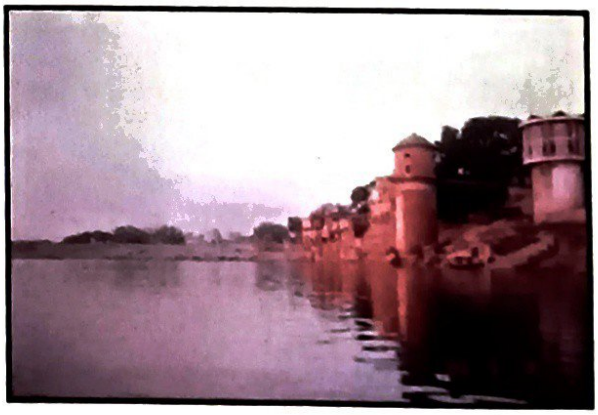
protects her child or a shell protects the pearl inside it.

Maa Ganga helps us in many ways such as bathing, drinking its water and carrying out our life processes.The water comig from this river is also used by the farmers in their fields, it is used in watering plants and irrigation works. The Ganga Ghats are also the home for the homeless. The aquatic animals and plants are also helped by this river for their home and survival. So, we know that she is not only the life of people living in Varanasi but also she is the life of the aquatic animals and



plants.

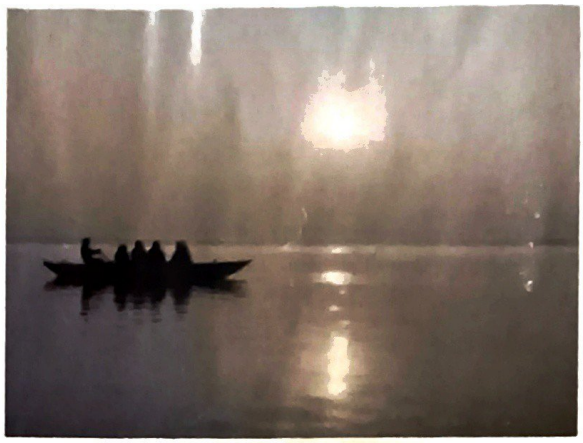
Many of the women worship Ganga as goddess on the festivals like-Teej,Chhathh,Ganga Dusshehara, etc. Some people have faith in worshipping Ganga while the others are carelessly polluting the river.



*Student of Class-VIII, Delhi Public School, Varanasi

It is very shameful that the people are polluting the river who is no less than our mother. This is our duty to protect her just as she protects us. Many people are affected by the waterborne disease by bathing and drinking water of this river. People are polluting the river in many ways viz. they are throwing dead bodies in the river, the polluted water from the factories and the toilets are going in the river, the sweepers cleaning the roads near the river are throwing the garbage into the river. People are washing the cattle in the river and buffaloes can also be seen in the river to keep them cool in summers. We should not do these things to the River. Ganga gets polluted day by day .We have to finish this suffering.

cleaning the roads near the river are throwing the garbage into the river. People are washing the cattle in the river and buffaloes can also be seen in the river to keep them cool in summers. We should not do these things to the River. Ganga gets polluted day by day .We have to finish this suffering.



**GANGA IS THE LIFE OF VARANASI**
**JAI GANGA MAA!!!**




# The Point sources of Pollution in the Middle Reach of Ganga

## The most serious menace polluting Gangaji

The Ganga Mata and the people are facing serious problem of water pollution due to the point sources discharging sewage and other pollutants directly into river. The stretches of the holy river where large number of users collect on the banks of Gangaji suffer most due to several point sources existing there. In planning Ganga cleaning in the Ganga Action Plan of Govt. of India since 1985 these point sources have never been marked. The result of this has been disastrous :bad planning and failure of the plan. The river and public continue to suffer.

The Sankat Mochan Foundation (SMF) has full knowledge about the number and location of the point sources in Varanasi. So the plan which SMF team has made for the people of Varanasi takes into account all these points. We say with certainty that the UP Govt's plan and Japan International Cooperation Agency (JICA) plan for GAP-II have been prepared without taking into consideration of all these points. So this is one of the main reasons that these two proposals can not fulfill the objectives of GAP and can not clean Ganga..

The middle range of the Ganga is defined as the reach from Kanpur to Varanasi both cities inclusive. This reach has two very important pilgrimage places, Allahabad and Varanasi and also other important pilgrimage places where city is not big. It could be said that from public health point of view and cultural and environmental reasons this middle reach will finally decide the success or failure of GAP.

In Allahabad and Kanpur there is no data regarding the number of location of these point sources. The disastrous result of this ignorance is reflected in GAP-I and even in the planning and execution of GAP-II. Even the technical committee formed by the Ministry of Environment and Forests (MoE&F) in 1999 was not shown these point sources during its site inspection. The very high profile plan of JICA does not take into account the point sources of Kanpur and Allahabd.

In view of this national ignorance about the sources of pollution in these cities SMF have collected the data regarding point sources in Allahabad and Kanpur. After including its data for Varanasi a bunch of three maps and tables are given in the following pages to put on record the point sources of pollution in these three big cities of the middle range of Ganga.

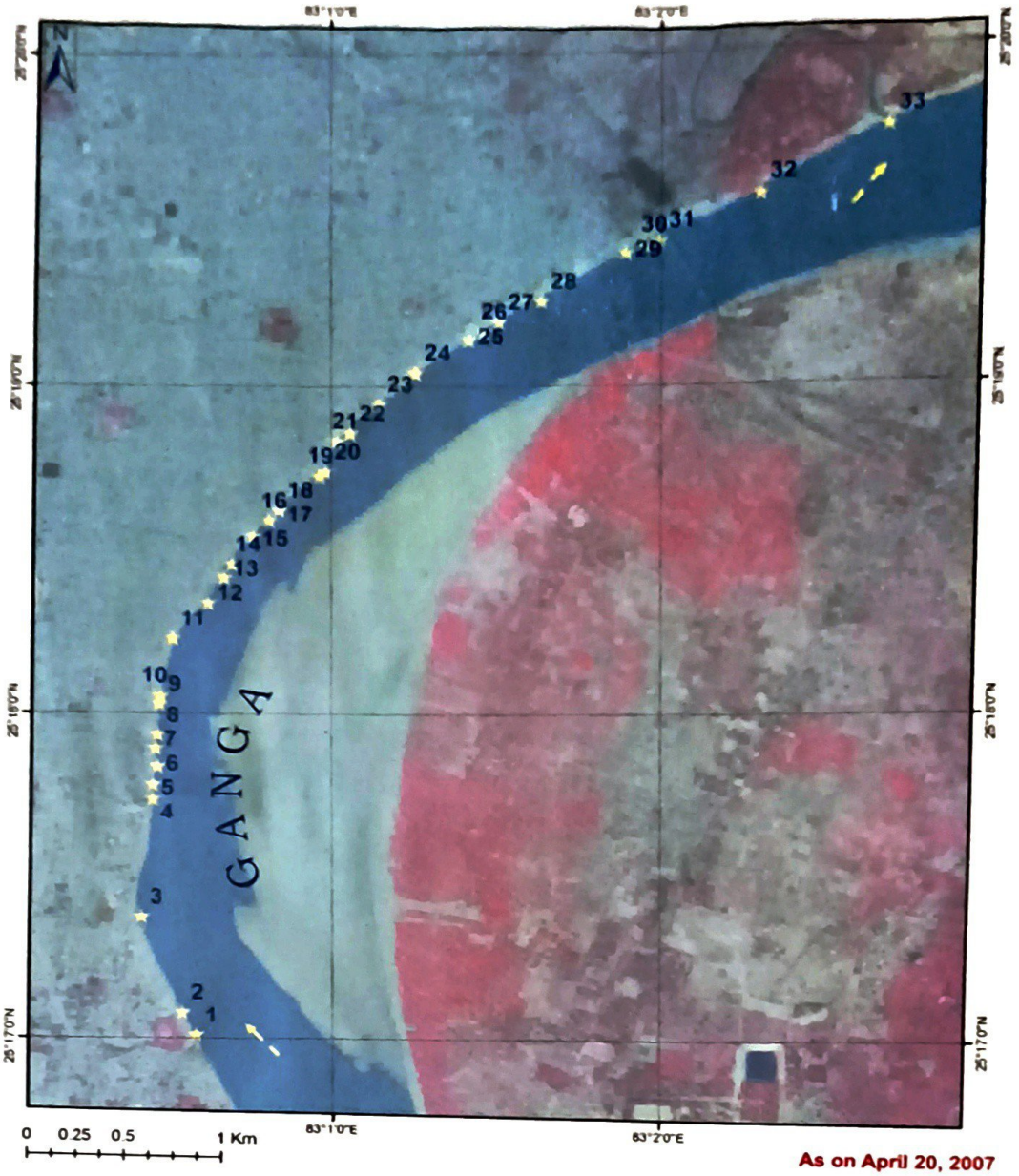

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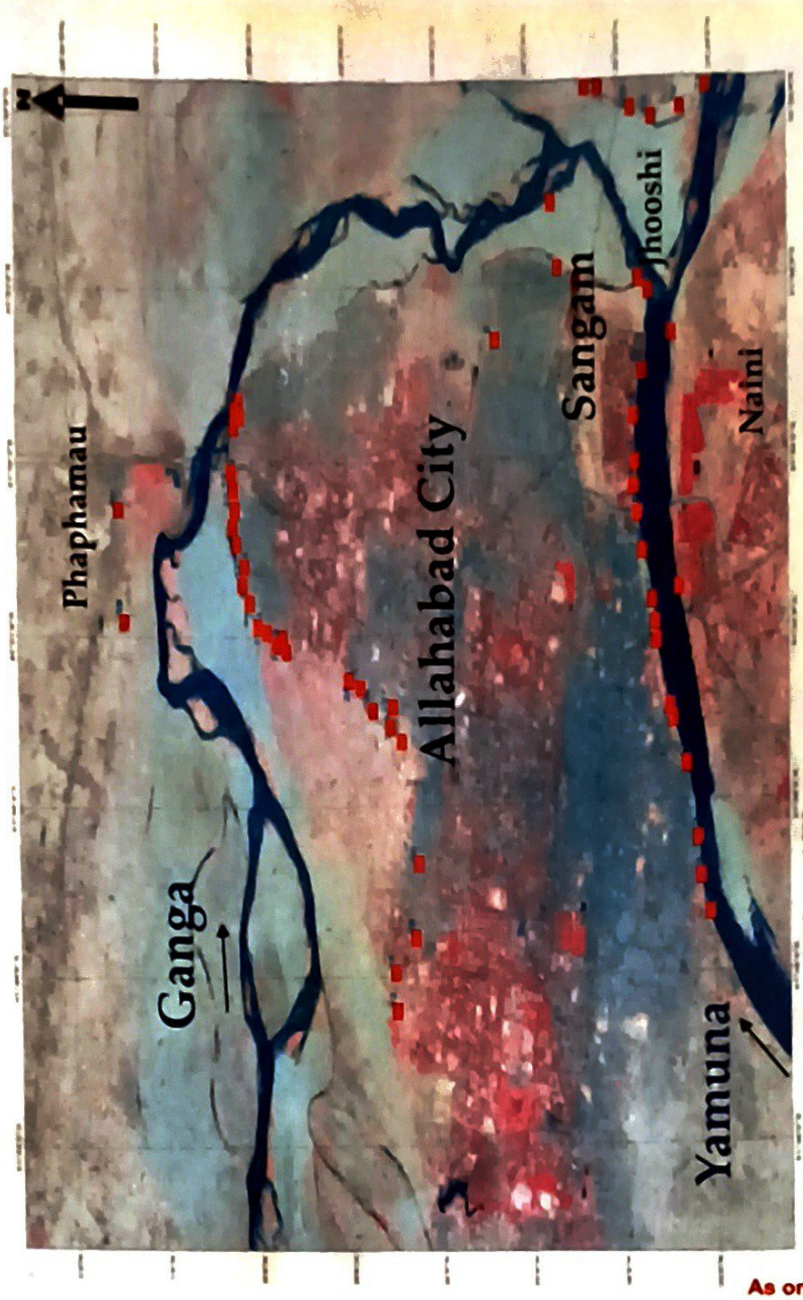
# Point Sources Discharging Sewage into Ganga at Varanasi




As on April 20, 2007

- The point sources : Sewer Outfalls and open drains marked with numerals discharging domestic sewage of Varanasi City into Ganga.
- All point sources have been observed for GAP-II Varanasi with a GPS by the Sankat Mochan Foundation, Varanasi and superimposed by National Remote Sensing Agency, Hyderabad on their satellite image.

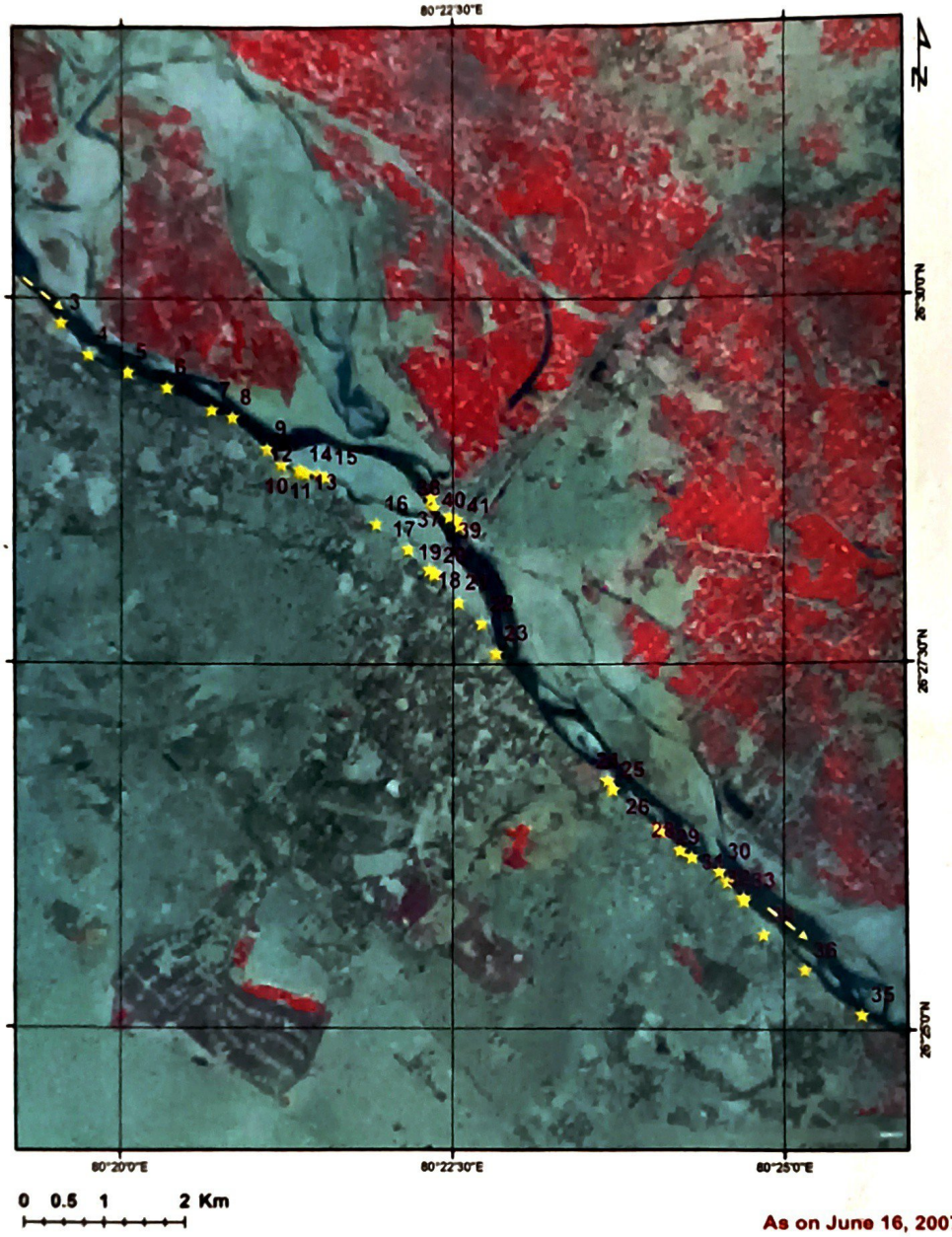
# Point Sources Discharging Sewage in Ganga and Yamuna Rivers at Allahabad City




As on June 10, 2006

- The point sources : Sewer Outfalls and open drains marked with numerals discharging domestic sewage of Allahabad City into Ganga and Yamuna.
- All point sources have been observed with a GPS by the Sankat Mochan Foundation, Varanasi and superimposed by National Remote Sensing Agency, Hyderabad on their satellite image.

# Point Sources Discharging Sewage into Ganga in Kanpur City




As on June 16, 2007

- The point sources : Sewer Outfalls and open drains marked with numerals discharging domestic sewage of Kanpur City into Ganga.
- All point sources have been observed with a GPS by the Sankat Mochan Foundation, Varanasi and superimposed by National Remote Sensing Agency, Hyderabad on their satellite image.

## Point Sources Discharging Sewage into Ganga River at Varanasi

| | Location | Latitude | Longitude |
|---|---|---|---|
| 1. | Nagwa Drain (River Asi) | 25° 17′ 00.5″ | 83° 00′ 34.9″ |
| 2. | Drain at North of Ravidas Park | 25° 17′ 04.7″ | 83° 00′ 32.4″ |
| 3. | Ganga Mahal Ghat Drain | 25° 17′ 22.4″ | 83° 00′ 24.9″ |
| 4. | Niranjani Ghat Drain | 25° 17′ 44.1″ | 83° 00′27.1″ |
| 5. | Shiwala Ghat Drain | 25° 17′ 46.8″ | 83° 00′27.1″ |
| 6. | Dandi Ghat Drain | 25° 17′ 50.1″ | 83° 00′28.0″ |
| 7. | Harishchandra Ghat Drain | 25° 17′ 53.4″ | 83° 00′27.7″ |
| 8. | Vijayanagram Ghat Drain | 25° 17′ 55.9″ | 83° 00′28.1″ |
| 9. | Chauki Ghat Drain | 25° 18′ 01.6″ | 83° 00′28.4″ |
| 10. | Kshemeshwar Ghat Drain | 25° 18′ 03.1″ | 83° 00′28.7″ |
| 11. | Pandey Ghat Drain | 25° 18′ 13.8″ | 83° 00′30.8″ |
| 12. | Ahilyabai Ghat Drain | 25° 18′ 20.3″ | 83° 00′37.4″ |
| 13. | Rajendra Prasad Ghat Drain | 25° 18′ 24.9″ | 83° 00′40.3″ |
| 14. | Man Mandir Ghat Drain | 25° 18′ 27.4″ | 83° 00′41.8″ |
| 15. | Meer Ghat Drain | 25° 18′ 32.5″ | 83° 00′45.7″ |
| 16. | Lalita Ghat Drain | 25° 18′ 35.4″ | 83° 00′48.6″ |
| 17. | Jalasen Ghat Drain | 25° 18′ 37.3″ | 83° 00′50.4″ |
| 18. | Manikarnika Ghat Drain | 25° 18′ 37.4″ | 83° 00′50.4″ |
| 19. | Sankatha Ghat Drain | 25° 18′ 43.6″ | 83° 00′57.9″ |
| 20. | Bhonsle Ghat Drain | 25° 18′ 44.4″ | 83° 00′59.0″ |
| 21. | Mehta Ghat Drain | 25° 18′ 49.9″ | 83° 01′01.0″ |
| 22. | Panch Ganga Ghat Drain | 25° 18′ 51.4″ | 83° 01′03.5″ |
| 23. | Brahma Ghat Drain | 25° 18′ 56.7″ | 83° 01′08.7″ |
| 24. | Lal Ghat Drain | 25° 19′ 02.3″ | 83° 01′15.5″ |
| 25. | Trilochan Ghat Drain | 25° 19′ 08.2″ | 83° 01′25.2″ |
| 26. | Gola Ghat (Sewage Pumping Station) | 25° 19′ 09.6″ | 83° 01′27.9″ |
| 27. | Nandeshwar Ghat Drain | 25° 19′ 11.4″ | 83° 01′30.7″ |
| 28. | Teliyanala Ghat Drain | 25° 19′ 15.2″ | 83° 01′38.4″ |
| 29. | Bhaisasur Ghat Drain | 25° 19′ 23.7″ | 83° 01′53.7″ |
| 30. | Raj Ghat Drain I (Beside Bridge) | 25° 19′ 25.2″ | 83° 01′56.9″ |
| 31. | Raj Ghat Drain II (Below Bridge) | 25° 19′ 26.0″ | 83° 01′59.7″ |
| 32. | Basanta College outfall (Trunk Sewer) | 25° 19′ 34.1″ | 83° 02′18.0″ |
| 33. | Varuna-Ganga Confluence | 25° 19′ 45.6″ | 83° 02′40.9″ |

## Point Sources Discharging Sewage into Ganga and Yamuna River at Allahabad City

| Location | Latitude | Longitude |
|---|---|---|
| **Drains Discharging in Ganga** | | |
| 1. Point near Sangam | 25° 25' 41.5" | 81° 52' 57.7" |
| 2. Drain U/s Sangam | 25° 25' 44.8" | 81° 52' 58.8" |
| 3. Mori Gate | 25° 26' 28.1" | 81° 52' 59.7" |
| 4. Small Drain at Daraganj | 25° 26' 40.9" | 81° 53' 05.9" |
| 5. Dasaswamedh | 25° 26' 45.1" | 81° 53' 28.4" |
| 6. Drain (Salori+Baghara) | 25° 27' 22.5" | 81° 52' 42.0" |
| 7. Sri Narayan Ghat, Big Drain | 25° 30' 14.3" | 81° 52' 13.6" |
| 8. Shiv kuti Drain I | 25° 30' 14" | 81° 52' 16.6" |
| 9. Shiv kuti Drain II | 25° 30' 11.5" | 81° 52' 18.7" |
| 10. Shiv kuti Drain III | 25° 30' 9.1" | 81° 52' 20.5" |
| 11. Drain at Shankar Ghat I | 25° 30' 16" | 81° 51' 55.1" |
| 12. Drain at Shankar Ghat II | 25° 30' 15.4" | 81° 51' 49.7" |
| 13.Drain at Shankar Ghat III | 25° 30' 14" | 81° 51' 43.1" |
| 14.Malviya Drain at Jonhwal | 25° 30' 13.5" | 81° 51' 37.7" |
| 15. Drain at Janual | 25° 30' 12.5" | 81° 51' 32.0" |
| 16. Drain at Rasoolabad I | 25° 30' 8.1" | 81° 51' 22.5" |
| 17. Drain at Rasoolabad II | 25° 30' 7.7" | 81° 51' 18.7" |
| 18.Drain Mehdauri colony I | 25° 30' 4" | 81° 51' 11.7" |
| 19.Drain Mehdauri colony II | 25° 29' 55.5" | 81° 51' 1.4" |
| 20.Drain Mehdauri colony III | 25° 29' 54.1" | 81° 51' 0.9" |
| 21. Drain Mehdauri colony IV | 25° 29' 44" | 81° 50' 56.1" |
| 22. Drain Mehdauri colony V | 25° 29' 42.9" | 81° 50' 56.0" |
| 23. Drain Mehdauri colony VI | 25° 29' 42.8" | 81° 50' 55.4" |
| 24. Drain at Nayapura-Nakauli | 25° 28' 57.2" | 81° 50' 43.0" |
| 25. Drain at Nayapura-Military area | 25° 28' 51.9" | 81° 50' 41.0" |
| 26. Drain at Myorabad Ganesh Nagar | 25° 28' 43.9" | 81° 50' 34.1" |
| 27. Drain at Beligaon I | 25° 28' 32.2" | 81° 50' 34.2" |
| 28. Drain at Beligaon II | 25° 28' 30.7" | 81° 50' 28.0" |
| 29. Drain at Beli Colony I | 25° 28' 26.2" | 81° 50' 23.9" |
| 30. Drain at Beli Colony II | 25° 28' 14.5" | 81° 49' 39.1" |
| 31. Drain at Newada | 25° 28' 30.7" | 81° 50' 28.0" |
| 32. Cantonment Drain | 25° 28' 16.6" | 81° 49' 13.5" |
| 33. Nirala Ghat | 25° 28' 29.7" | 81° 48' 47.6" |
| 34. Kali Pultan | 25° 28' 30.5" | 81° 49' 0.9" |
| 35. Bandhwa Drain | 25° 28' 5.1" | 81° 47' 39.4" |
| 36. Kandhaipur, Kabirpanthi | 25° 27' 54.1" | 81° 46' 39.3" |
| 37. Kandhaipur Hanuman Mandir | 25° 27' 54.3" | 81° 46' 31.2" |
| 38. Bamrauli Nalla | 25° 27' 49.6" | 81° 45' 23.7" |
| 39. Basana Nalla | 25° 27' 54.1" | 81° 46' 9.3" |
| 40. Mansaiya Nahar | 25° 31' 37.5" | 81° 55' 42.4" |

| Location | Latitude | Longitude |
|---|---|---|
| **Drains Discharging in Yamuna** | | |
| 41. Drain at Fort | 25° 25' 43.6" | 81° 52' 28.5" |
| 42. Choolha Ghat drain I | 25° 25' 48.3" | 81° 51' 56.9" |
| 43. Choolha Ghat drain II | 25° 25' 48.6" | 81° 51' 49.9" |
| 44. Shiwala Ghat | 25° 25' 43.4" | 81° 51' 26.9" |
| 45. Gau Ghat | 25° 25' 37.4" | 81° 51' 9.6" |
| 46. Badi Bhootari | 25° 25' 35.7" | 81° 51' 01.5" |
| 47. Balua Ghat | 25° 25' 26.5" | 81° 50' 31.8" |
| 48. Katghar | 25° 25' 25.8" | 81° 50' 30.0" |
| 49. Chachar Drain | 25° 25' 16.8" | 81° 50' 12.4" |
| 50. Meerapur | 25° 25' 9.2" | 81° 49' 46.1" |
| 51. Kakahara Ghat | 25° 25' 7.4" | 81° 49' 32.0" |
| 52. Naini side | 25° 25' 5.8" | 81° 50' 12.9" |
| 53. Khakholi Drain | 25° 25' 25" | 81° 51' 23.9" |
| 54. Arail Naila | 25° 25' 26.3" | 81° 52' 41.2" |

* Note: There are 6 other minor drains not marked

**Drains Discharging in Ganga in Jhooshi Area**

| Location | Latitude | Longitude |
|---|---|---|
| 61. Sadaphal Asharam | 25° 24' 28.8" | 81° 54' 25.1" |
| 62. Swami Brahamanand Ashram | 25° 25' 51.1" | 81° 53' 59.1" |
| 63. Jhooshi colony Nalla | 25° 25' 18.7" | 81° 53' 58.2" |
| 64. Between Rly. Bridge and Road Bridge | 25° 26' 2.6" | 81° 54' 6" |
| 65. Golok Ashram | 25° 26' 12.8" | 81° 54' 7.9" |
| 66. Sadguru Ashram | 25° 26' 18.6" | 81° 54' 7.7" |
| 67. Jhooshi Market Nalla | 25° 26' 20.5" | 81° 54' 9.8" |
| 68,69.Triveni School | 25° 26' 29.2" | 81° 54' 14.6" |

# Point Sources Discharging Sewage into Ganga River at Kanpur City

| Point Sources | Latitude | Longitude |
|---|---|---|
| 1 | 26 36 50.6 | 80 16 29.8 |
| 2 | 26 36 43 | 80 16 29.3 |
| 3 | 26 29 50 | 80 19 32.5 |
| 4 | 26 29 37 | 80 19 44.9 |
| 5 | 26 29 29.8 | 80 20 2.5 |
| 6 | 26 29 23.5 | 80 20 20.3 |
| 7 | 26 29 14.4 | 80 20 40.5 |
| 8 | 26 29 11.3 | 80 20 49.8 |
| 9 | 26 28 58.4 | 80 21 5.6 |
| 10 | 26 28 51.8 | 80 21 12 |
| 11 | 26 28 50 | 80 21 19.9 |
| 12 | 26 28 49.2 | 80 21 21 |
| 13 | 26 28 48.5 | 80 21 22.8 |
| 14 | 26 28 48.1 | 80 21 28.6 |
| 15 | 26 28 46.9 | 80 21 32.1 |
| 16 | 26 28 27.7 | 80 21 55.1 |
| 17 | 26 28 17.3 | 80 22 9.5 |
| 18 | 26 28 8.9 | 80 22 19 |
| 19 | 26 28 7.8 | 80 22 21.1 |
| 20 | 26 28 7 | 80 22 21.6 |
| 21 | 26 27 55.4 | 80 22 32.4 |
| 22 | 26 27 46.8 | 80 22 43.1 |
| 23 | 26 27 34.5 | 80 22 49.5 |
| 24 | 26 26 41.8 | 80 23 40.2 |
| 25 | 26 26 37.9 | 80 23 42.7 |
| 26 | 26 26 22.7 | 80 24 3 |
| 27 | 26 26 20.9 | 80 24 4.4 |
| 28 | 26 26 13 | 80 24 13 |
| 29 | 26 26 10.2 | 80 24 18.3 |
| 30 | 26 26 4.2 | 80 24 30.7 |
| 31 | 26 26 0.1 | 80 24 34.4 |
| 32 | 26 25 53.4 | 80 24 41.6 |
| 33 | 26 25 52.2 | 80 24 41.8 |
| 34 | 26 25 38.3 | 80 24 50.6 |
| 35 | 26 25 5.9 | 80 25 34.7 |
| 36 | 26 25 23.9 | 80 25 9.2 |
| 37 | 26 28 38.3 | 80 22 20 |
| 38 | 26 28 34.3 | 80 22 21.2 |
| 39 | 26 28 30.7 | 80 22 28.3 |
| 40 | 26 28 29.5 | 80 22 31.4 |
| 41 | 26 28 27.1 | 80 22 32.8 |

# Student Congress 2007

## Esther Duffy*

Our first memories of River Ganga are of a late winters evening in January 1992. The River seemed to stretch away forever into the last twinges of light. Magical. Mystical. Majestic. Magnificent.

We had just arrived at Tulsi Ghat on our first ever visit to India. We were there to participate in the first River Ganga Teachers Forum - at the invitation of Fran Peavey. Little did we know that we were about to change our lives forever and were at the beginning of dear friendships that would span the rest of our lives and thousands of miles between India, Australia and USA.

Many things stand out from that first visit the significance of which continue to be embedded in our beings:

Sankat Mochan Foundation and Friends of the Ganges Meeting the SMF and FoG team was just like meeting old friends. For us both there was a sense of inner rightness. We could see a group of people who lived and worked from their core values science and spirit joined in action. We felt at home, that we had something to contribute and that we could belong.

Gangaji Seeing the relationship between people and the river and feeling our own connections with Her during early morning meditations and quiet boat trips at dawn and dusk touched us deeply. How is it that school teachers from Sydney can develop such a deep and abiding love? She haunts our hearts, reaching out to us all the way to Australia so that even at this distance we can visit Her in meditations and feel our connection with Her and our Tulsi Ghat family.

We saw terrible pollution on that first trip and for the first time measured the actual levels of Faecal coliform. It took us three days to get the dilutions right. We had to travel out to BHU labs by rickshaw to put the plates into an incubator. When we finally got our first results we all had tears in our eyes as we realised just how bad the pollution levels were.

Feeling an inner call to do something it was like our worst fears and our deepest caring came together in one experience. We struggled for months to find what it was we could do to help and this search continues to this day. But on this first visit we resolved to do what we could.

* Congress attendee January 2007


**वाराणसी जल संस्थान**
**वाराणसी**

आवश्यक सूचना : जल ही जीवन है अतः बूँद-बूँद पानी की बचत करें, साथ ही निम्न बिन्दुओं पर विशेष ध्यान दें।

1. निजी जल संयोजनों के टूटे पाईप को तुरन्त लाइसेंस युक्त प्लम्बर से ठीक कराकर पेयजल को दूषित होने से बचाएँ। टूटे पाईप के कारण आपको गंदा, दुर्गन्धयुक्त, दूषित पेयजल मिल सकता है। ऐसे जल को प्रयोग में न लाएँ।
2. हैंडिया मार्का हैण्ड पम्प तथा सार्वजनिक नलों का सही ढंग से उपयोग करें एवं सार्वजनिक नल को खुला न छोड़ें।
3. अपने आवासों की निजी टंकियों, रिजर्वायरों, पानी रखने वाले घड़ों, सुराहियों आदि की सफाई निरन्तर करते रहें।
4. कहीं भी यदि पाईप लाईन में लीकेज हो अथवा गंदे पानी की शिकायत हो तो तत्काल जल संस्थान के कंट्रोल रूम के फोन-2277959 पर सूचित करें।
5. पाईप लाईन में सीधे टुल्लू पम्प आदि न लगाएँ क्योंकि इसका असर पड़ोसियों के जलापूर्ति पर पड़ सकता है।
6. अवैध जल संयोजन न कराएँ, यह दण्डनीय अपराध है। लाइसेंस युक्त प्लम्बर जिन्हें परिचय पत्र दिये जा चुके हैं, से ही नियमानुसार जल संयोजन कराएँ।
7. जल संस्थान के देयों-जलकर, सीवर कर, जल मूल्य एवं न्यूनतम प्रभार का भुगतान समय से करें। ताकि जल संस्थान की आर्थिक स्थिति सुदृढ़ रहे। जिससे जल संस्थान जनता को निर्बाध रूप से जलापूर्ति करता रहे।

आर.के. त्रिपाठी
महाप्रबन्धक

कौशलेन्द्र सिंह
महापौर




# संकट मोचन फाउण्डेशन : 25 वर्षों की अनथक यात्रा

प्रो. कौशल किशोर मिश्र

किसी भी स्वयं सेवी संस्था के लिए २५ वर्ष की यात्रा पुरी करना देश समाज और स्वयं उस संस्था के लिए बड़ी उपलब्धी मानी जानी चाहिए। काशी की अन्तर्राष्ट्रीय स्वयं सेवी संस्था 'संकट मोचन फाउण्डेशन' ने सक्रियता से यह यात्रा पुरी की है। गंगा के स्वच्छता के अभियान के प्रति समर्पित संस्था ने अपने रचनात्मक, वैज्ञानिक और सांस्कृतिक क्रिया कलापों से जन जीवन पर गहरा असर डाला। लोगों में जागरूकता पैदा करना ही इसका उद्देश्य नही था बल्कि समस्याओं के प्रति रूचि पैदा करना भी इसका लक्ष्य था। अपने लक्ष्य में इसे पूर्ण सफलता मिली। फलतः जीवन दयिनी नदियों को स्वच्छ करने के अभियान में कार्यपालिका, न्यायपालिका और विधायिका को हस्तक्षेप करने को बाध्य होना पड़ा है। केन्द्रीय सरकार द्वारा प्रायोजित गंगा ऐक्शन प्लान संकट मोचन फाउण्डेशन के अथक प्रयासों की ही देन है। 'नागरिक समाज' अथवा 'सभ्य समाज' की स्थापना में गैर सरकारी स्वयं सेवी संस्था के सकारात्मक महत्व को पूर्ण रूप से स्वीकार किया जाता है। संकट मोचन फाउण्डेशन ने इस दिशा में देश में एक मापदण्ड का कार्य किया है। गैर राजनितिक स्वयंसेवी संस्थाओं को स्वयं में सभ्य समाज अथवा नागरिक समाज का संगठन माना जाता है। जब सरकारें राजनितिक अथवा स्वार्थपूर्ण कारणों से समस्या के निदान में असफल होने लगती हैं तो सभ्य अथवा नागरिक समाज को अराजकता में परिवर्तन होने का खतरा उत्पन्न होता है। ऐसी स्थिति में समाज स्वयं अपने संगठन का निर्माण कर सामाजिक, पर्यावरणिक, सांस्कृतिक अराजकता रोकने का प्रयास करती है। इसमें समाज की सीधी भागीदारी सुनिश्चित होती है। यदि अराजकीय स्वयंसेवी संस्था सकारात्मक रूप से ठोस पहल करती है तो सरकार की विश्वनियता की अपेक्षा संस्था की विश्वसनीयता का विस्तार होता है। भारत में कुकुरमुत्ते की तरह स्वयं सेवी संस्थाओं का जाल है। सभी 'सभ्य समाज' के निर्माण का दावा करते हैं। वास्तविकता यह है कि अधिकतर स्वयं सेवी संस्थायें सरकारों का मुखापेक्षी बन जाती है और सरकारों से बेरोजगारी में रोजगार खोजने का उपक्रम करती हैं तथा अपने मूल उद्देश्यों से भटक जाती है। संकट मोचन फाउण्डेशन का अपने मूल उद्देश्यों से २५ वर्षों में कभी भटकाव नहीं हुआ। वह सरकारों का मुखापेक्षी न होकर अपने उद्देश्य की प्राप्ति के लिए सरकारों से विरोध लेने का साहस जुटा लेती है। रचनात्मक समाजिक सुदृढ़ीकरण के लिए फाउण्डेशन का प्रयास हमेशा नागरिकों के लिए प्रेरणा का स्रोत बना रहा। आज संकट मोचन फाउण्डेशन अपना २५वां स्थापना दिवस मना रहा है, काशी के नागरिकों और अन्तर्राष्ट्रीय स्तर पर पर्यावरण तथा रचनात्मक कार्य करने वाले सभ्य नागरिकों के लिए यह संस्था एक अनुपम भेंट है।

### फाउण्डेशन की यात्रा अपने आप में इतिहास है

आस्ट्रेलिया के एक पर्यटक ने १४ जून १९८६ को पूछा कि काशी में सरकार बड़े जोर-शोर से गंगा को स्वच्छ करने की बीड़ा उठा रही है। आखिर इस विकराल समस्या पर सरकार की नजर गयी कैसे? गंगा तो ५० वर्षों से लगातार मैली हो रही हैं। पहले सरकार का ध्यान इन पर क्यों नहीं गया? प्रश्न बड़ा विकट था, कि आखिर गंगा प्रदूषण की पहली आवाज कहाँ से उठी? मैने कई लोगों से बातचीत की। पत्र पत्रिकायें उलटीं, ताकि इस विशाल मुक्ति परियोजना के प्रारम्भ का पता चल सके। अनेक लोगों ने इस सम्बन्ध में दावे किये हैं। कुछ लोगों ने १९८० में काशी हिन्दू विश्वद्यालय के वैज्ञानिकों को श्रेय दिया है। जिन्होंने काशी में गंगा के प्रदूषित होने की बात श्मशान घाट पर शव जलने, उससे उत्पन्न राखों तथा अधजले लाशों के आधार पर निष्कर्ष प्रस्तुत किया। लेकिन यह निष्कर्ष तो तब प्रस्तुत किया गया जब गंगा प्रदूषण की बात आम हो चुकी थी।

गंगा प्रदूषण से सम्बन्धित खतरों की तरफ सबसे पहले काशी वासियों को डॉ. सम्पूर्णानन्द ने अगाह किया था। उन्होंने २७ जून १९५२ के अपने एक भाषण में कहा था 'गंगा अमृत की धारा है। काशी वासियों का कर्तव्य है कि वे इसमें जहर घुलने से रोकें'। लेकिन इस बात का उतना व्यापक असर नहीं हो पाया। उसके बाद जब-तब काशी में गिरते नालों, सड़ते तैरते शव, आदि को देखकर कोई गंगा के मैली होने की बात उठा देता। काशी के नागरिकों पर इन बातों का कोई असर नहीं होता। यहाँ यह विश्वास था हजारों वर्षों के अविरल बहने वाली गंगा कभी प्रदूषित हो ही नहीं सकती। बड़े बुजुर्गों का विश्वास था कि गंगा में कोई ऐसा तत्त्व मौजूद हैं जिससे बन्द बोतल में गंगा जल वर्षों वैसे ही पड़ा रहता है उसमें कीड़े नहीं पड़ते।

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२२ मई १९७६ में १५ से १९ नवम्बर तक स्वीडेन के लुंद विश्वविद्यालय में 'शहरों में जल प्रदूषण के सामाजिक, आर्थिक पहलू' पर एक अन्तर्राष्ट्रीय कार्यशाला का आयोजन हुआ। इसमें विभिन्न देशों के ३६ जलभौतिक विद एवं विशेषज्ञों ने अपने-अपने देशों की जल-समस्याओं पर शोध पत्र प्रस्तुत किया। काशी हिन्दू विश्वविद्यालय के सिविल इंजीनियरिंग के तत्कालीन विभागाध्यक्ष एवं संकाय प्रमुख डॉ. निखिलेश राय ने वाराणसी में सीवर व्यवस्था के चरमराने की बात कही। उनका तर्क था कि वाराणसी में जनसंख्या के बढ़ते घनत्व और तेजी से हो रहे औद्योगीकरण एवं सीवर व्यवस्था दुरुस्त न होने के कारण प्रदूषण का खतरा बढ़ रहा है।

२२ मई १९७७ को धर्मयुग ने गंगा-जल प्रदूषण की समस्या पर श्री दुर्गा प्रसाद श्रेष्ठ द्वारा प्रस्तुत एक साक्षात्कार छापा। इस साक्षात्कार में काशी हिन्दू विश्वविद्यालय के सिविल इंजीनिरिंग विभाग के डॉ. वीरभद्र मिश्र ने बड़े तर्कपूर्ण ढंग से वाराणसी में गंगा प्रदूषण की चर्चा की। उन्होंने यहाँ तक भविष्यवाणी की थी कि अगर गंगा में गंदगी इसी तरह गिराई जाती रही तो अगले पाँच वर्षों में गंगा का अमृत-जल पीने व अन्य उपयोग के अयोग्य हो जायेगा। यह भविष्यवाणी एकदम-सटीक निकली। १९८२ तक आते-आते काशी में गंगा जल पूरी तरह से प्रदूषित हो गया। काशी वासियों ने साफ तौर पर देखा कि गंगा के जल का रंग ही प्रदूषण के कारण परिवर्तित हो गया है।

१९७७ में अपने साक्षात्कार के समय प्रो. वीरभद्र मिश्र ने कहा था "शुद्ध पीने-लायक, पानी में किसी प्रकार के 'बायोलॉजिकल कन्टेट' नहीं होने चाहिए। मनुष्यों के 'आर्गेनिक वेस्ट' मिलने से या किसी रासायनिक उच्छिष्ट के मिलने से पेय जल अपेय हो जाता है। शहरों में बड़ी मात्रा में मलमूत्रादि युक्त पानी को बहने के लिए सीवरों की व्यवस्था की जाती है। इसके अलावा 'वेस्ट वाटर ट्रीटमेण्ट' भी होते हैं जो गन्दे पानी को अहानिकारक बनाने में मदद करते हैं। यदि इस प्रकार 'ट्रीटमेण्ट' करके पानी को किसी नदी में छोड़ा जाय तो जल प्रदूषण की समस्या आधीरह जायेगी।"

तत्कालीन समय में वाराणसी की स्थिति की चर्चा करते हुये आपने कहा था - "प्रदेश में वाटर पोल्यूशन कन्ट्रोल बोर्ड और केन्द्र तथा प्रान्तीय सरकारों के वाटर पोल्यूशन एक्ट के रहते वाराणसी में डीजल रेल कारखाना तथा वाराणसी नगर महापालिका अपना-अपना गन्द पानी बिना किसी शोधन के गंगा में नित्य छोड़ रहे है। अस्सी नाला जिससे नगर महापालिका के लंका क्षेत्र का गंदा जल एवं डीजल रेल कारखने का सारा गन्दा जल गंगा में मिलता है - भदैनी जलकल (जहाँ से शहर को गंगा जल पीने हेतु पंप किया जाता है) से केवल १८३ मीटर पर स्थित है"। आगे उन्होंने कहा था -

"गंगा से सम्बन्धित सारी सिंचाई योजनाओं के चालू होने पर काशी में गंगा के बहाव में ३० प्रतिशत की कमी होगी। यह कमी एक गम्भीर समस्या उत्पन्न कर देगी। जल की कमी से पीने के पानी की समस्या ही नही, जल में रेती की मात्रा बढ़ने से हो सकता है, गंगा का बहाव ही बदल जाय, फिर बनारस के घाटों की मशहूर छटा का क्या होगा?"

इसके बाद प्रो. वीरभद्र मिश्र जी के कई साक्षात्कार दिनमान, साप्ताहिक हिन्दुस्तान के अनेक अंकों में छपे। काशी में गंगा के प्रदूषित होने के दर्द से छटपाटाते प्रो. मिश्र १९७८-७९ में कई बार वाराणसी के अधिकारियों, प्रदेश सरकार एवं केन्द्र सरकार को इस भयावह समस्या के प्रति आगाह करते रहे। लेकिन अकेले आदमी की आवाज नक्कार खने की तूती बन कर रह गयी। १९८० में श्रीमती इन्दिरा गांधी की सत्ता में पुनः वापसी और दुबारा प्रधान मंत्री बनने के बाद १९८१ में वाराणसी आगमन हुआ। इस वाराणसी आगमन के समय प्रो. मिश्र ने काशी में गंगा प्रदूषण की समस्या के सम्बन्ध में बात-चीत की। दिसम्बर १९८२ में श्रीमती गांधी के बुलावे पर वे दिल्ली गये। इस समय तक गंगा प्रदूषण की चर्चा जोर पकड़ने लगी थी। संसद में कई बार इस प्रश्न पर विचार किया गया। लेकिन किसी सुनियोजित योजना के बिना इन सबका कोई अर्थ नहीं था। देश के अखबारों ने यद्यपि इस प्रश्न को उछालना प्रारम्भ कर दिया था।

दिल्ली में तत्कालीन प्रधान मंत्री श्रीमती इन्दिरा गांधी से बातचीत के दौरान प्रो. मिश्र ने काशी में गंगा प्रदूषण की समस्या से निपटने हेतु अपनी योजनाओं पर काफी-विचार विमर्श किया। वापस आने पर उन्होंने वाराणसी में 'संकट मोचन निधि' नामक स्वयंसेवी संस्था की स्थापना की। इस संस्था की स्थापना निम्न उद्देश्यों को लेकर की गयी-

१. गंगा एवं इसके जल ग्रहण क्षेत्र में व्याप्त प्रदूषण की रोकथाम एवं पर्यावरण के संरक्षण हेतु सुदृढ़ सामाजिक चेतना एवं वैज्ञानिक आधार का निर्माण।

२. सांस्कृतिक पुण्यभूमि काशी की प्राचीन परम्पराओं की रक्षा तथा जगतवंद्य गोस्वामी तुलसीदासजी की पुनीत कृतियों के माध्यम से समाज में नैतिकता एवं आध्यात्मिकता का प्रचार प्रसार।

३. समाज के निर्बल वर्ग महिलाओं एवं शिशुओं के लिये सम्यक् स्वास्थ्य सेवाओं में योगदान।

काशी में संकटमोचन निधि की स्थापना एक ऐतिहासिक कार्य रहा। वैसे गंगा से सम्बन्धित अन्य संस्थायें भी थी जैसे गंगा घाट सुधार समिति। लेकिन इन स्वयंशासी संस्थाओं ने गंगा को प्रदूषण मुक्त करने की कोई ठोस आवाज नहीं उठाई।

संकटमोचन निधि ने अपना पहला कार्यक्रम 'स्वच्छ गंगा अभियान' के रूप में काशी से प्रारम्भ किया। इस अभियान को राष्ट्रीय स्तर पर चलाने के लिये दृढ़संकल्प व्यक्त किया गया। दिसम्बर १९८२ के अन्तिम सप्ताह में आयोजित राष्ट्रीय पर्यावरण कांग्रेस में निधि के अध्यक्ष प्रो. वीरभद्र मिश्र ने भाग लिया। इस सम्मेलन में उन्होंने

अपना महत्वपूर्ण पत्र, 'गंगा की पर्यावरणीय समस्यायें और जनशिक्षा योजना के माध्यम से इसका समाधान' प्रस्तुत किया। जनवरी १९८३ के पहले सप्ताह में तत्कालीन पर्यावरणीय राज्यमंत्री श्री दिग्विजय नारायण सिंह ने संकटमोचन निधि के कार्यालय, पुस्तकालय तथा 'स्वच्छ गंगा अभियान' के सूचना केन्द्र का उद्घाटन किया। जनवरी १९८३ के अन्तिम सप्ताह में श्री वीरभद्र मिश्र के नेतृत्व में एक प्रतिनिधि मण्डल ने उ.प्र. के तत्कालीन राज्यपाल श्री चन्द्रेश्वर प्रसाद नारायण सिंह से लखनऊ में भेंट की और काशी में 'स्वच्छ गंगा अभियान' के सम्बन्ध में विस्तृत बातचीत की।

१९८३ तक वाराणसी में 'स्वच्छ गंगा अभियान' देश का पहला महत्वपूर्ण कार्यक्रम था। सबसे आश्चर्य की बात यह है कि गंगा जैसी विशाल नदी को स्वच्छ कराने का अभियान पूरे देश में काशी की एक स्वयंसेवी संस्था कर रही थी। इस राष्ट्रीय नीति का निर्माण नहीं किया जा सका था। संकटमोचन निधि के अन्तर्गत स्वच्छ गंगा अभियान में मुख्य रूप से तीन व्यक्तियों की अभूतपूर्व साझेदारी रही - निधि के अध्यक्ष - महन्त प्रो. वीरभद्र मिश्र, अभियान के निदेशक डॉ. सिद्धनाथ उपाध्याय एवं शांतनु कुमार मिश्र, अभियान के बढ़ते कदम से उत्साहित होकर प्रवासी भारतीयों एवं गंगा प्रेमी विदेशियों ने 'फ्रेण्ड्स ऑफ दी गैंजेज़' (गंगा मित्र) नामक एक अन्तर्राष्ट्रीय संस्था का गठन किया। इस संस्था ने काशी के 'स्वच्छ गंगा अभियान' को तकनीकी सहायता के साथ-साथ आर्थिक सहायता देने की भी पेश-कश की। इससे गंगा के प्रदूषण के प्रति विदेशी एवं प्रवासी भारतीयों की चिन्ता का स्पष्ट अन्दाजा लगता है। काशी के स्वच्छ गंगा अभियान की यह पहली सफलता है कि इस संस्था ने विकराल समस्या को अन्तर्राष्ट्रीय आवाज बनाने का प्रयास किया। किसी भी स्वयंसेवी संस्था के लिये यह एक अभूतपूर्व सफलता है।

१९८४ में काशी में स्वच्छ गंगा अभियान के संयोजकों ने और तीव्रता से कार्य किया ताकि गंगा को प्रदूषण मुक्त करने की आवाज में और तेजी आ सके। इनमें डॉ. सिद्धनाथ उपाध्याय और शान्तनु कुमार मिश्र का योग महत्वपूर्ण था। गोष्ठियों, पत्रकों, पोस्टरों, सिनेमा पारदर्शियों के माध्यम से काशी में जन जागरण अभियान प्रारम्भ हुआ। गीतों, लोक गीतों, लोक गायकों और उनके रिकार्डों के माध्यम से उ.प्र., बिहार, बंगाल की जनता को जागृति करने का प्रयास हुआ। नगर की ५०० महिलाओं ने गंगा प्रदूषण मुक्त की शपथ ली। छोटे बच्चों का प्रदूषण के प्रति जागरुकता लाने हेतु स्वच्छ गंगा बाल चित्रकला प्रतियोगिता और प्रदर्शनी का पर्याप्त असर रहा। गंगा की २५२५ कि.मी. की सम्पूर्ण लम्बाई में कुल मिलाकर १०० छोटे-बड़े नगर हैं। हर जगह गंगा का निर्मल जल किसी न किसी रूप में प्रदूषित है। इतनी बड़ी नदी के प्रदूषण मुक्ति होने की आवाज सिर्फ वाराणसी ही उठा रहा था, यह भी अपने-आप में कम महत्वपूर्ण बात नहीं है।

विश्व की प्राचीनतम नगरी से उठने वाली किसी भी आवाज को नकारना इतना आसान काम नहीं है। अन्ततः वाराणसी की आवाज सरकार के कानों में भी पहुँची। अप्रैल १९८४ में प्रधान मंत्री श्रीमती गाँधी ने केन्द्रीय जल-प्रदूषण नियंत्रण मंडल से गंगा को साफ करने की एक व्यापक योजना बनाने का आदेश दिया। यह योजना इस उद्देश्य को सामने रखकर तैयार की गयी कि सातवीं पंचवर्षीय योजना के अन्त तक यह कार्य पूर्ण हो जाय। अक्टूबर १९८४ में इसकी रिपोर्ट प्रस्तुत की गयी। ५ जनवरी १९८५ को प्रधान मंत्री बनने के बाद श्री राजीव गाँधी की पहली महत्वपूर्ण घोषणा 'केन्द्रीय गंगा प्राधिकरण' के गठन की थी। १६ जनवरी १९८५ को श्री गाँधी ने दस सदस्यों का केन्द्रीय गंगा प्राधिकरण नियुक्त किया। वे स्वयं इसके अध्यक्ष बने। इस प्रकार जिस 'स्वच्छ गंगा अभियान' को वाराणसी की एक स्वयंसेवी संस्था अपने बल-बूते पर कर रही थी उसे केन्द्रीय सरकार ने व्यापक आधार देते हुये स्वयं अपने हाथ में ले लिया। वाराणसी के स्वच्छ गंगा अभियान की यह एक अभूतपूर्व सफलता है। लेकिन सबसे चौंकानेवाली बात तब उत्पन्न हुई कि जिस काशी ने इस महा अभियान की अगुआई की वहाँ के किसी भी व्यक्ति को 'केन्द्रीय गंगा प्राधिकरण' का सदस्य नहीं बनाया गया। होना यह चाहिये था कि प्राधिकरण में वाराणसी के सांसद तथा स्वयंसेवी संस्था से भी एक सदस्य को लिया जाता। हरिद्वार में लगने वाले कुंभ मेले को ध्यान में रखते हुए सफाई अभियान उ.प्र. में हरिद्वार और ऋषीकेश से प्रारम्भ किया गया। यह कार्य कुम्भ मेले से पूर्व समाप्त भी हो गया। इस पर कुल ६६ लाख २० हजार रूपये का खर्च आया। सफाई अभियान के दूसरे चरण का शुभारम्भ वाराणसी में १४ जून १९८६ को प्रधान मंत्री ने किया। वाराणसी में इस योजना पर कुल ४३ करोड़ रूपये का प्राविधान रखा गया। वाराणसी के घाटों की मरम्मत के लिये ६ करोड़ ८० लाख रूपये खर्च करने की घोषणा हुई। साथ ही शहरी गलियों के सुधार कूड़ा करकट के निस्तारण और आधुनिकतम सुलभ शौचालयों के निर्माण पर बड़े पैमाने में कार्य करने की योजना थी। वाराणसी को प्रदूषण मुक्त करने के लिये इतनी बड़ी धनराशि आवण्टित तो की गयी लेकिन किसी भी बड़ी योजना को 'खाओ कमाओ' का धन्धा मात्र बन कर रह गयी। सरकार की इतनी बड़ी योजना असफल हुई। होना यह चाहिए था कि संकट मोचन निधि जैसी स्वयंसेवी संस्थाओं की भी निश्चित भूमिका तय की जानी चाहिए थी। ये संस्थाएँ न केवल अधिकारियों के मनमानीपन पर नियंत्रण करती अपितु जन जागरण अभियान जैसे सशक्त माध्यम से जनता को योजना की खामियों एवं गुणों से अवगत कराती। बिना जन चेतना और सहयोग के योजना से जुड़े अभियान सफल नहीं हो सकते। स्वयंसेवी संस्थायें जन सहयोग का सच्चा माध्यम बन सकती थी।

काशी में सरकार द्वारा स्वच्छ गंगा अभियान के शुभारम्भ से पूर्व संकटमोचन निधि और उनके द्वारा संचालित 'स्वच्छ गंगा अभियान' के आयोजकों ने इतना अधिक कार्य कर दिया है कि सरकारी मशीनरी उस कार्य को करने में करोड़ों रूपये फूँकती और वर्षों समय

लगता। महन्त प्रो. वीरभद्र मिश्र, प्रो. सिद्धनाथ उपाध्याय, प्रो. शान्तनु कुमार मिश्र, श्री हरिराम द्विवेदी, डॉ. राय एवं डा. रमेश चन्द्र तिवारी जैसे अभियान के सदस्यों ने १९८४ के उत्तरार्ध और १९८५ के पूवार्द्ध में अपन तीव्र गतिविधियों से काशी के जनमानव को उद्वेलित कर दिया। आज स्थिति यह है कि काशीवासी अब अपनी 'माँ की मैली बने रहते बर्दाश्त नही कर सकते। इस जागरण को बनाये रखने के लिये उक्त संस्था लगातार सक्रिय है।

काशी में अभियान ने कई महत्वपूर्ण कार्य किए जैसे १९८४ में २५ वर्ष से कम आयु वाले युवा-युवाओं के लिए अखिल भारतीय निबन्ध प्रतियोगिता, १९८५ व ८६ में अखिल भारतीय कवि सम्मेलन की आयोजन कर गंगा की दुरावस्था की गाथा को घर-घर तक पहुँचाने का कार्य किया गया। वैज्ञानिक आधार के लिए दिसम्बर १९८४ से अप्रैल १९८५ तक राम नगर एवं अस्सी नाले के पास गंगा जल के प्रदूषण की नियमित जाँच की गयी और लेखा जोखा बनाया गया जो बदस्तूर आजतक जारी है। दिल्ली के अवध थियेटर ग्रुप द्वारा 'एक नदी की कहानी' का मंचन भी काशी की जनता को जागरित करने वाला रहा। यह स्वच्छ गंगा अभियान की ही देन है कि उसी दौरान वाराणसी में 'गंगा तटीय होम गार्डस' का गठन हुआ। अक्टूबर १९८५ में निधि के सहयोग से राजघाट स्कूल, वाराणसी में स्वच्छ गंगा प्रयोगशाला की स्थापना की गयी। उसी दौरान निधि के अस्सी स्थित कार्यालय में ऐसी ही प्रयोगशाला स्थापित की गयी थी जो बाद में तुलसी घाट पर अत्याधुनिक साज-सज्जा के साथ आज भी मौजुद है। देश के शिर्षस्थ गायकों में पं जसराज जैसे लोग भी निधि के इस अभियान में अपने आप को जोड़ा। १२ जनवरी १९८६ को फ्रांस की राष्ट्रीय असेंबली की विदेशी मामलों की समिति के अध्यक्ष श्री क्लादे एम्टे के नेतृत्व में वाराणसी भ्रमण पर आये सात सदस्यीय शिष्ट मंडल का स्वागत निधि की तरफ से किया गया। शिष्ट मंडल ने निधि के सदस्यो से समन्वय स्थापित कर कार्य करने की इच्छा प्रगट की थी।

१९८६ से लेकर २००७ तक संकट मोचन फाउण्डेशन की गतिविधियाँ अपने चरम पर रही। प्रो. वीरभद्र मिश्र और उनके कर्मठ सहयोगियों ने अपने उद्देश्य की प्राप्ति के लिए साधना की, साधक की भूमिका निभायी। जनवरी १९९२ में संकट मोचन फाउण्डेशन ने एक अन्तर्राष्ट्रीय सेमिनार के माध्यम से देश विदेश के तकनीकी विशेषज्ञों को आमंत्रित कर गंगा में बढ़ रहे प्रदूषण एवं इसके रोकथाम के उपाय पर चर्चा हुई। स्व. श्रीमती सुभाषिणी देवी और तत्कालीन नगर प्रमुख श्रीमती सरोज सिंह के नेतृत्व में 'क्रैब ग्रास' की फ्रैन पीबी के सहयोग से एक विशाल अन्तर्राष्ट्रीय महिला सम्मेलन आयोजित हुआ। देश विदेश की पर्यावरण के प्रति जागरूक महिलाओं ने इस सम्मेलन में खुली और सक्रिय भागीदारी की। महिलाओं का गंगा के संदर्भ में इतना बड़ा सम्मेलन काशी में आजतक नहीं हुआ था। गंगा और पर्यावरण के प्रति महिलाओं की चिंता से देश अवगत हुआ। संकट मोचन फाउण्डेशन ने अनेक वर्षों से गंगा की दुर्दशा के प्रति लोगों का ध्यान आकर्षित करने के लिए गंगा के घाट पर अस्सी से राजघाट तक मानव श्रृंखला बनाने का कार्यक्रम डॉ. विश्वम्भर नाथ मिश्र के नेतृत्व में शुरू किया। २२ मार्च 'विश्व जल दिवस' के अवसर पर प्रतिवर्ष होने वाला कार्यक्रम देश का अनूठा अभियान है। इस कार्यक्रम में काशी के हर वर्ग, हर धर्म एवं हर संप्रदाय के लोगों की भागीदारी काशी के लम्बे घाटों के श्रृंखला पर दिखलाई पड़ती है। इस कार्यक्रम ने काशी में एक त्योहार का रूप ले लिया। 'गंगा मईया की जै' 'गंगा को प्रदूषण मुक्त करो' जैसे नारे गुंजायमान होते रहे। पर्यावरण शुद्धि के लिए जागरूकता पैदा करने का यह अभियान सरकारी संस्थाओं और सरकारों के लिए एक अबुझ पहेली है। फाउण्डेशन ने इसी दौरान अन्तर्राष्ट्रीय गोष्ठी की। वैज्ञानिकों, समाज सेवियों, राजनितिज्ञों के साथ समाज के सभी वर्गों को सम्मिलित कर ये गोष्ठियां गंगा को समर्पित होता रहा। गंगा भारतीयता का प्रतीक नहीं अन्तर्राष्ट्रीयता का प्रतीक बन गयी। लोगों को लगातार जागरूक बनायें रखने के लिए फाउण्डेशन के सदस्यों ने काशी के आम लोगों के साथ जुड़कर सड़कों पर मार्च किया।

सरकार ने गंगा को प्रदूषण मुक्त करने के लिए जिस योजना को स्वीकार किया उसमें इतनी खामियां थी कि गंगा का मूल स्वरूप में आने में संका उत्पन्न करती थीफाउण्डेशन की एक बड़ी उपलब्धी यह रही कि उसने इन खामियों को लोगों के सामने उजागर किया एवं वैज्ञानिक आध्येयता प्रो. वीरभद्र मिश्र के नेतृत्व में एक वैकल्पिक योजना प्रस्तुत की। सरकारें इस योजना को लागू करने में क्यों कतराती रही यह समझ से परे है। फाउण्डेशन की योजना वैज्ञानिक कसौटी पर कसी हुई थी। सरकारी योजना में उद्देश्य की सफलता संदिग्ध थी। नेता और अधिकारी अपनी योजना को इसलिए लागू करना चाहते थे कि इस पवित्र योजना में दलाली का लाभ मिल सके। दुनियां के सभ्य समाजों में ऐसा पहली बार हुआ कि सरकारें (राज्य और केन्द्र ) अपनी योजना को लागू करने के लिए एक स्वयं सेवी संस्था से संघर्ष करे। पिछले वर्षों से केन्द्र और राज्य सरकारें फाउण्डेशन की योजना को लागू करने से रोक रही है। परिणाम यह हुआ कि एक अच्छी योजना सरकारों की 'गुन्ताड़ेबाजी' का शिकार हो गयी। क्या सरकार चाहती है कि देश में सभ्य समाज की स्थापना न हो? गंगा की दुर्दशा जारी रहे? स्वयं सेवी संस्थायें स्वतंत्रता, पवित्रता और इमानदारी से अपनी भूमिका का निर्वाह न करें? सरकार जिस 'सुशासन' (Good Governance) का ढोंग पीटती है उसका पाखंड नजर आये?

सत्ता के विकेन्द्रीकरण के लिए सरकार ने अनेक प्रयास किये। १९९६ में ६४वां संविधान संशोधन लागू हुआ जिसका उद्देश्य था कि स्थानीय संस्थाओं को संवैधानिक जामा पहनाया जाय। स्थानीय संस्थाओं के

माध्यम से पर्यावरण संरक्षण के साथ जमीनी स्तर पर सरकार के सत्ता की भूमिका तय किया जाय। केन्द्र के विकास की योजनाओं को स्थानीय निकायों के साथ स्वयं सेवी संस्थाओं के समन्वय से विकास का कार्य किया जाय। सत्ता के बिचौलिये अच्छी योजनाओं का दुरूपयोग न कर सके लेकिन यह संविधान संशोधन पारित न हो सका। पंचायती राज संस्थाओं के पुनर्गठन हेतु २ ऐतिहासिक विधेयक ७२वां व ७३वां सितम्बर १९९० में प्रस्तुत किया गया लेकिन सरकार के भंग होने से इस विधेयक का कानूनी रूप सामने नहीं आ सका। सितम्बर १९९१ में नरसिंह राव सरकार ने फिर संशोधन विधेयक प्रस्तुत किया। दिसम्बर १९९२ में लोकसभा और राज्य सभा ने इस विधेयक को पारित किया। २४ अप्रैल १९९३ से पंचायती राज्य संबन्धी संशोधन का ७३वां संविधान संशोधन लागू हुआ। इससे स्थानीय निकायों को संवैधानिक आधार मिला।

७३वें सविधान संशोधन से ग्रामीण स्थानीय संस्थओं को सुदृढ़ होने का अधिकार मिला लेकिन नगर विकास की समस्यायें जस की तस बनी रहीं। ७४वें संविधान संशोधन १९९४ के द्वारा नगर पालिकाओं को संवैधानिक जामा पहनाया गया। संविधान की १२ बी. अनुसूची के अनुच्छेद २४३ ब में अनु. २४३ म में विधान मंडल को इस सन्दर्भ में कानून बनाने की शक्तियां दी गयी। इनमें १८ विषय शामिल किये गये जिसमें सांस्कृतिक, शैक्षणिक और सौंदर्यपरक पहलुओं की अभिवृद्धि करने का विषय शामिल किया गया। इसके साथ ही नगरीय वानिकी पर्यावरण संरक्षण और पारिस्थितिकीय पहलूओं की अभिवृद्धि का दायीत्व नगर निगमों को सौपा गया। इसका अर्थ यह हुआ कि प्रदूषण मुक्ति के लिये सरकारी योजनायें नगर निगमों के माध्यम से संचालित की जायेगी। काशी में गंगा प्रदूषण की समस्या से मुक्ति की योजना का क्रियान्वयन वाराणसी की नगर निगम के द्वारा संपत्र होगी। स्वच्छ-गंगा अभियान जैसे केन्द्रीय योजना में नगर निगमों की भूमिका महत्वपूर्ण हो गयी। संकट मोचन फाउण्डेशन ने वाराणसी नगर निगम के सभासदों को ७४वें संविधान संशोधन द्वारा प्रदत्त अधिकारों के प्रति जागृत किया उन्हें स्वच्छ गंगा अभियान से जोड़ने का सफल प्रयास किया। परिणाम यह हुआ कि महापालिका में लगभग सभी सभासद और नगर प्रमुख फाउण्डेशन द्वारा प्रस्तुत योजना के पीछे एक जुट होकर खड़े दिखाई दिये। संकट मोचन फाउण्डेशन की गतिविधियों में वाराणसी महापालिका के चुने हुए सभासद और नगर-प्रमुख सक्रिय रूप से भागीदार बनते रहे। एक स्वयं सेवी संस्था ने नगर महापालिका को पर्यावरण और प्रदूषण मुक्ति के अभियान में जिस सक्रियता से जोड़ा वह देश में स्वयं सेवी संस्थाओं की उपादेयता स्पष्ट करती है।

७४वें संविधान संशोधन ने संकट मोचन फाउण्डेशन जैसी संस्थाओं को कार्य करने के लिए संवैधानिक और कानूनी आधार दिया है।

अपने २५ वर्षों के जीवन यात्रा में फाउण्डेशन ने काशी ही नहीं देश और विदेश के पर्यावरण विदों को प्रेरित किया है। स्वच्छ गंगा अभियान के प्रति समर्पित इस अभियान को लाल फीता साही और सरकारी बाधाओं का जितना सामना करना पड़ा है वह देश की विकास योजनाओं को सही ढंग से लागू करने में सरकार, राजनितिज्ञों और नौकरशाहों का नकारापन साबित करती है। काशी को इस बात का गौरव प्राप्त है कि उसके पास संकट मोचन फाउण्डेशन जैसी सकारात्मक कार्य करने वाली संस्था मौजूद है। काशी को इस बाद का गर्व है कि उसके पास प्रो. वीरभद्र मिश्र जैसे पर्यावरणविद हैं जिन्हे अन्तराष्ट्रीय स्तर पर मान्यता भी प्राप्त है लेकिन दुर्भाग्य है कि इस देश ने उनकी क्षमताओं और योग्यताओं का भरपूर उपयोग नहीं किया। अन्तर्राष्ट्रीय स्तर पर उन्हें जितना सम्मान प्राप्त हुआ उतना सम्मान उन्हें देश ने नहीं दिया। इतिहास इस बात का साक्षी रहेगा कि फाउण्डेशन व उसके कार्यकर्त्ताओं ने गंगा प्रदूषण से मुक्ति और पर्यावरण संतुलन के लिए जो कार्य किया उसे मिटाया नहीं जा सकता। इतिहास के पत्रों में फाउण्डेशन का कार्य एक अमिट लकीर है।

# THE GANGES RIVER IS POLLUTED. SO WHAT?

**Roger Choate**

**[Campaigner Roger Choate from Sweden worked with Swatcha Ganga from 1999 until last year both as an organizer and fundraiser. These reminiscences are adapted from a lecture he delivered in England in 2005.]**

I'm a backroom boy.

You'll normally find me behind the scenes in Banaras, talking strategies and peddling press releases while running up impressive telephone bills. This is fairly normal behavior at an environmental pressure group like The Campaign for a Clean Ganges. We are trying to create heightened public awareness in India and abroad about cleaning the world's most important river the literal lifeline for nearly 500 million people. That is about one person out of every 12 on this planet.

Our founder and leader is Dr. Veer Bhadra Mishra, who uniquely combines his roles as a professor of hydraulics and also as Hindu high priest (Mahantji) to press for cleanup of the river flowing alongside his ancestral home. Not surprisingly, the campaign seeks to combine Hindu cultural values with the empirical evidence of water contamination. This is not always easy.

In 1999 Time Magazine nominated Mahantji as "hero for the planet" for awakening global opinion to the plight of the Ganges. That was the same year I finally sallied forth from my hometown of Stockholm to Banaras also called Varanasi to see if there was something useful I could do for his Campaign. I've been at it ever since, usually hunched over a computer, fugue-like, at our little office at Tulsi Ghat overlooking the huge waterway.

But let me insert an early footnote here. This is the last time I will use the word "Ganges": her proper name is the Ganga. Sometime in the early 19th Century a British cartographer hit upon the name Ganges. Nobody is sure how he concocted that particular word, but anyway it stuck.

Although, perhaps it should be noted that Hindus themselves have 107 other names for the Ganga. Names such as Bhagyavati, which means happy. Avyaya, which means imperishable. And Nitya suddha, which means eternally pure.

All these names point to the utter reverence that is attached to the river in Hinduism, as one of the world's major religions. In Hindu belief she is the mother of all rivers everywhere. Every river is Ganga. An Indian professor turning up at Harvard University gazed at the nearby Charles River and exclaimed: "Oh, I see you have the Ganga here, too!"

Her spiritual status apart, the Ganga is by no means the world's biggest river, nor the longest. The Nile stretches more than 4,000 miles, while the Ganga is only 1,560 miles long. But Ganga supports more people than any other. Millions live along her banks. Without Ganga, their existence would be impossible. Bathing in it. Drinking it. Washing clothes in it, irrigating their fields, dying by it and then having their ashes borne away by it.

The goddess can kill

So Ganga is worshipped by Hindus as a divine goddess who is, by definition, pure. But empirical evidence tells another story. In many stretches, poisons and filth blight the goddess. Heavy metals, pesticides, arsenic, mercury and even, in one place,

reported traces of plutonium. And, of course, disease-causing fecal coliform. Fecal coliform is animal and human waste in water.

Every day our modest laboratory takes samples of fecal coliform at one or more ritual bathing ghats. We have found that the fecal coliform count can reach as high as about 67,000 times the accepted Indian standard for human bathing.

This count rises still higher at those ritual bathing areas near the drainage pipes that dump raw municipal sewage into Ganga. Drinking Ganga water in Banaras, needless to say, may not be salutary and could conceivably move you far more swiftly into the Next Life. Bearing in mind that up to 40,000 pilgrims arrive every day in the holy city, and you can easily understand what our campaign is all about. And because of Ganga pollution overall, across her entire length, millions suffer. To die of dysentery is a ghastly exit.

The great tsunami left around 300,000 dead and millions homeless. But every year the Ganga directly or indirectly is believed to perhaps contribute to the deaths of as many as 1,500,000 Indian children under the age of 5, struck down by waterborne diseases such as dysentery and diarrhea. These figures are extrapolated from estimates from the World Health Organization and other sources, and cannot be verified with any exactness. Specialists are constantly debating the numbers and the causes of waterborne deaths. But in addition to filthy water, we also know that poor hygiene is another important reason for child death in India and elsewhere in the developing world.

The exact number of adult deaths due to contaminated water is not really known either. Eight out of 10 Indians are said to suffer from major stomach complaints at some stage in their lives, according to the WorldWatch Institute in Washington. When I asked an Indian colleague about this, he only laughed and said the figure is too low. "It should be 10 out of 10!" In Banaras, perhaps 40 to 45 percent of those who take a dip in the river regularly have skin or stomach ailments, according to doctors and state government health officials. A major hospital in Banaras has stated its concern about an alarming increase in skin infections and waterborne diseases along the great ghats.

Despite all this, the religious significance of the Ganga looms larger. To bathe in the Ganga is thought to remove all sins - although even a single drop of the water grazing the cheek might conceivably cause skin rash. To die along the Ganga in the holy city of Banaras and to have your ashes deposited into the river can assure a direct pathway to salvation, Hindus believe. The soul is liberated and released from the cycle of birth, death and rebirth.

Eternal campaign?

The Campaign for a Clean Ganga (Swatcha Ganga Abhiyaan) is one of the oldest environmental efforts in India. It all started back in 1982 when a group of concerned citizens in Banaras most of them professors and engineers were appalled by mounting levels of contamination in the river, and decided to do something about it, and formed the Sankat Mochan Foundation, which in turn launched the Campaign.

Led by Mahantji, the campaign played a leading role in pressuring the national government to take action. And the national government heeded the call. In 1986 the late Prime Minister Rajiv Gandhi came to Banaras and announced the launch of the Ganga Action Plan to clean the waterway in 29 cities.

There was a solid round of applause.

Five years later Rajiv Gandhi was assassinated. At the same time, it became clear that the Action Plan was not acting at all well. In most of the selected cities the wastewater treatment plants were plagued with problems or simply non-operational.

For instance: power cuts regularly occur in many parts of northern India because demand exceeds supply. There can be power cuts several times a day. When that happens, the plants simply stop, and it takes a long time to get them going again, long after the power has been switched back on.

Another problem: many municipalities cannot always afford to pay their electrical bills. This

causes closures for long periods. Faulty engineering and faulty maintenance often plague the plants themselves. Meantime, there was and is continued dumping of raw sewage into Ganga by 103 cities. This grows exponentially every year because of steady migration from the Indian countryside into already crowded urban centres.

So the dream of Rajiv Gandhi was unfulfilled. It became evident to the Campaign that our work was far from over. On the contrary, Indian and international environmentalists would have to fight a second battle to purify the Ganga.

This second battle would prove formidable. Forces arrayed against us now included the entire Action Plan bureaucracy of 27,000 people and also civil servants who wanted the failures hushed up. But critics were not cowed. The Auditor General of India stated that that the Ganga Action Plan "was formulated without proper assessment of actual ground realities."

So in 1992 the Campaign convened an international seminar in Banaras to assess river damage. We went on to propose a non-electrical wastewater treatment system that bypasses the problem of electrical supplies altogether. The system relies instead on photosynthesis and plenty of sunlight, which tropical India easily provides.

Municipal sewage is intercepted and diverted into a sewer line, and then moved by gravity some 2 miles to ponds on an island. Each of the four ponds has a special purifying function, utilizing microbes and algae to treat the water. Unlike conventional systems, the pond system effectively removes fecal-coliform, which is the main river pollutant in Banaras.

The "pond system" plan devised by our own engineers and the University of California has been officially endorsed by the Banaras City Council. This decision has since been thwarted by illegal actions by the Uttar Pradesh state government that wants the old Action Plan resuscitated, even though it can never be made to work.

We have taken them to court. And the fate of Ganga and other Indian rivers may rest on this one constitutional case. The issue is this: Can a municipality determine the kind of environmental policies it wants, as stipulated in the Indian Constitution?

The legal process does tend to drag on in India, because the judiciary is overwhelmed by staggering caseloads. With our case still undecided, we are struggling to somewhat alleviate the environmental disaster in the holy city that sees around 80 million gallons of municipal sewage dumped into the river every day.

Our own squads of cleaners remove refuse and litter along the riverfront daily, and also remove animal carcasses and human corpses floating in the river itself. In a demonstration project in 2004, we cleaned and beautified a stretch of seven ghats along the river in cooperation with the British High Commission. This is the first time in several generations that an attempt has been made to beautify the ghats: those flights of broad stone steps leading down to the river.

Flooding from Ganga has infected groundwater systems in towns near Banaras. So we implemented fresh water supply programs with assistance from Australian environmentalists. This specifically means drilling deep-water wells. Before that happened, an estimated 25% of the local population suffered from various waterborne ailments. Children were the main victims, infected by viral sores and rashes.

We still have miles to go when it comes to public awareness in India. Many ordinary Hindus find it difficult to accept the thought that the river they regard as spiritually pure is in fact materially damaged. Nor is the concept of collective civic action very well understood.

To his credit, Mahantji has spearheaded a cultural démarche in attempting to reconcile traditional Hindu belief with the facts of scientifically measurable pollution. Instead of describing the river as a potential killer, he explains to devout Hindus that Mother Ganga is not feeling well. She can be cured by eradicating pollution.

So public awareness is high on our agenda. We give Hindu priests operating along the ghats regular

pollution updates, and also convened the very first conclave of river priests to discuss more comprehensive measures. Meantime, we have staged workshops and seminars across the Ganga Basin to alert politicians and the public about river deterioration. We have also conducted environmental education programs in Banaras' schools and institutions.

In 2003 we staged the nation's first Clean Ganga Day, in Kolkata (Calcutta), together with local partners and ably organized by Volunteer Amitayush Vyas. This 12-hour event consisted of a river seminar, student manifestations and a gala concert along the Hoogli River. Media coverage is vital for events like this, and Clean Ganga Day indeed received widespread attention. Its success led us straight to the nation's capital in New Delhi in 2004 and 2005, where we staged Clean Ganga Day as an annual event.

The event in 2005 was monitored by 18 international television channels, along with widespread national coverage. The Indian Express daily newspaper captured the overall mood at Clean Ganga Day, noting what it called "the marked concern for the immediacy of the threat to Ganga." The potentially deadly nature of certain pollutants and rising risk of epidemics were recurring themes.

Next life for Ganga

The political climate in India seems to have changed somewhat with the transition to a centre-left national government guided by Ms Sonia Gandhi. This is perhaps an opening for the Campaign. In a meeting with us awhile back, Ms Gandhi expressed sympathy with the Campaign. It is clear that the great Ganga vision of her late husband, Rajiv Gandhi, still needs to be fulfilled.

Because there is no good reason why a mighty river like the Ganga supporting so many human beings is polluted in the first place. It is sometimes said that poor countries "can't afford" environmental control. This is not necessarily true. Despite so many poor citizens running at 52 percent India does have both capital access and manpower to clean the Ganga. Lacking is the political will.

Smashing through this firewall of political apathy is our job. Because no great river in world be it the Thames or Hudson has ever been cleaned without public pressure being brought to bear. A ravaged holy river tells us that a way of life that lays waste to the environment is a way of life that cannot hold.

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# The Ganga : Life Line of Rural Indo-Gangetic Plain

**Dr. R.C. Tiwari***

Water as precious, water as basic for sustenance of life and water as the symbol of purity is essential requisite of most Hindi rituals. Plants contain 60 to 85 percent whilst animals and human living body consists of 65 to 67 percent water. Food, fuel, fibre, furniture and fertilizer as well as medicine are obtained from plants. The plants absorb and nutriment through roots in water medium from soil. The Indo-gangetic plain a grain bowl of worlds is densely populated of which 65 percent are farmers. About 80 percent farmers are small or marginal having from holdings less than two hectares. Most of the Indo-gangetic plain is double to triple cropped annually. Irrigation is major input of crop production. The production more than potential had have been explanatory natural resource such as water exporting natural resources such as water fence degrading the environment. The Ganga water is a important source of irrigation in gangetic plain which may create a problem in future. The Ganga from Rishikesh to Farrakkha stretches a distance of 1680 km in Indo-gangetic plain. As regards elevation in above mean sea level (MSL) it is 22.42 mSL of Farakkha to 348.0 MSL of Rishikesh. The major share of ganga water goes to irrigation through Upper Ganga Canal and Lift Irrigation Projects. On one side Ganga collects surface runoff of water and eroded soils resulting in reduction in soil fertility and yield but on the other side if this is major source of surface as well as recharged underground irrigation water which is essential for enep production. The data collected on different aspects of Ganga-irrigation reveals that there is about 40 to 60 percent irrigation water loss between source and site of irrigation. The impeded drainage, excess and repeated use of Ganga irrigation (mis-management) has raised many problems with support to environmental quality and soil health.

As the Ganga water carries the surface eroded top soil containing plant nutrients and organic matter its water analysis indicates that water is good for irrigation and increases the crop yields.

*Ex-Professor & Head, Deptt of Soil Science, Institute of Agricultural Science, Banaras Hindu University.

Trees have shown higher accumulation capacity for nutrients when irrigated with Ganga water. The uncultivated Ganga water irrigation soild have shown high level of organic carbon, higher soil population of fauna of arthropods in comparison of cultivated soil.

The sutdy of Ganga river on agricultural aspects between Mirzapur and Ballia stretch has revealed the following :-

The irrigation quality of Ganga water is good and can be safely used for irrigation for almost all types of crops with a little danger or no sodium accumulation at harmful levels. In soils whose permeability is low the irrigation may develop salinity hazards. The Ganga water and tubewell irrigated soils (for 10 years) analysis has revealed that farmer soil have high organic cartoon sand and silt as well as NPK contents than latter. This is due to polluted Ganga water. The grain yields of moong, wheat and rice irrgated with Ganga water were higher in comparison to tube well water irrigation.

The subjective sewage of farmers of the Ganga lift canal common area had indicated that Ganga canal irrigation is good. The yields of wheat, rice have increased tremendously but the traditional common crops such as oil seeds, pulses, and coarse grain have almost disappeared from the command area of Ganga Canal. The orchards of fruits and other trees have wilted due to higher water table. The weeds and mosquito population have increased manifold. The Ganga Canal command area is cooler than ever.

Indeed if Ganga water is used for irrigation purposes instead of water bearing poured in sea will have a better and beneficial utilization. But the erratic, excess and so to say un-managed Ganga irrigation water for long duration will degrade the soil and adjoining environment. The secondary selinezation had have been developing with time-lapse. The Upper Ganga Canal constructed during 19th century did not receive due attention on water management. Hence the canal constructed during 1836 to 1854 have created unhealthy situation.

Adm Corbett wrote "20 years of irrigation with Ganga Canal in Muzaffarnagar and Saharanpur districts have become notoriously unhealthy and special enquires and reports have been made on the causes of unhealthiness of these districts which previous to opening of the canals were as healthy as any in upper India." The results of the inquiries and reports is a recomendation that these districts, which formerly did not suffer from excess of water, should have their surface drainage or natural drainage channels improved. This is being done, and the result must be that the rain falling on these districts improved, will more quickly find their way to rivers. "Improved surface drainage is the popular any of the present time in India".

Thus t is obvious that extension of Ganga Canal irrigation facilities through canals sooner or latter is going to create an unhealthy situation in Ganga Canal

command area which have been created in recent past. Small river like Lift Canals having a network of hundreds/thousands of kilometers may be cause of great concern if not attended property in time.

The Ganga Canal irrigation of not practiced properly may create unhealthy situation in the area. The construction of diversion channels for drainage of excess water, plantation of water looming trees along canals scientific and judicious use of irrigation is need of the time. It needs immediate curating majors to check secondary salinization of soils.

Excessive use of Ganga Canal water may become hazardous if not attended properly "Irrigation and drainage should run simulteniously"

**In Fond Remembrance of**
**James Porter**
**Environmentalist, Civil Engineer, Pacifist**
**and Lover of Gangajee**

May he rest in peace and be well
remembered here in this place he loved

And In tribute to his Loving Daughter Catherine J. Porter and the many Friends of the Ganges For their tireless efforts over for the Past 25 years to Clean Gangajee and support the Sankat Mochan Foundation mission to achieve its Goal of

**"Not one more drop of sewage in the water"**

# Ganga: A Sacred River of India

**Pratibha Kumari***

गंगा गंगेति यो ब्रूयात् योजनानाम् शतैरपि।
मुच्यते सर्वपापेभ्यो विश्वलोकम् स गच्छति।।

The most sacred Ganga which kills the sins of people, nurtures them and destroys all physical and mental distress is supposed to fulfill all desires if people worship it. We owe greatly to River Ganga to which we call Mother Ganga. It is a custom that every Hindu keeps water of Ganga in home not only for worshipping purposes but it may be required at the time of death. It is presumed that if a few drops of Ganga-water are dropped in the mouth of dying man, he is set free from the pains of rebirth.

The Ganga originates from Gangotri. It is said that the Ganga descended on earth to revive the 60, 000 sons of Raja Sagar. The kind Bhagirath had done the penance for many years to bring Ganga on earth. It meets to ocean flowing via many places viz. Rishikesh, Haridwar, Allahabad, Varanasi, Patna. On the way to final destination, it provides life to people, crops, animals and other creatures. The people take dip in holy Ganga for self mortification. The ash after cremation is also flown in Ganga water to get rid of sins and rebirth.

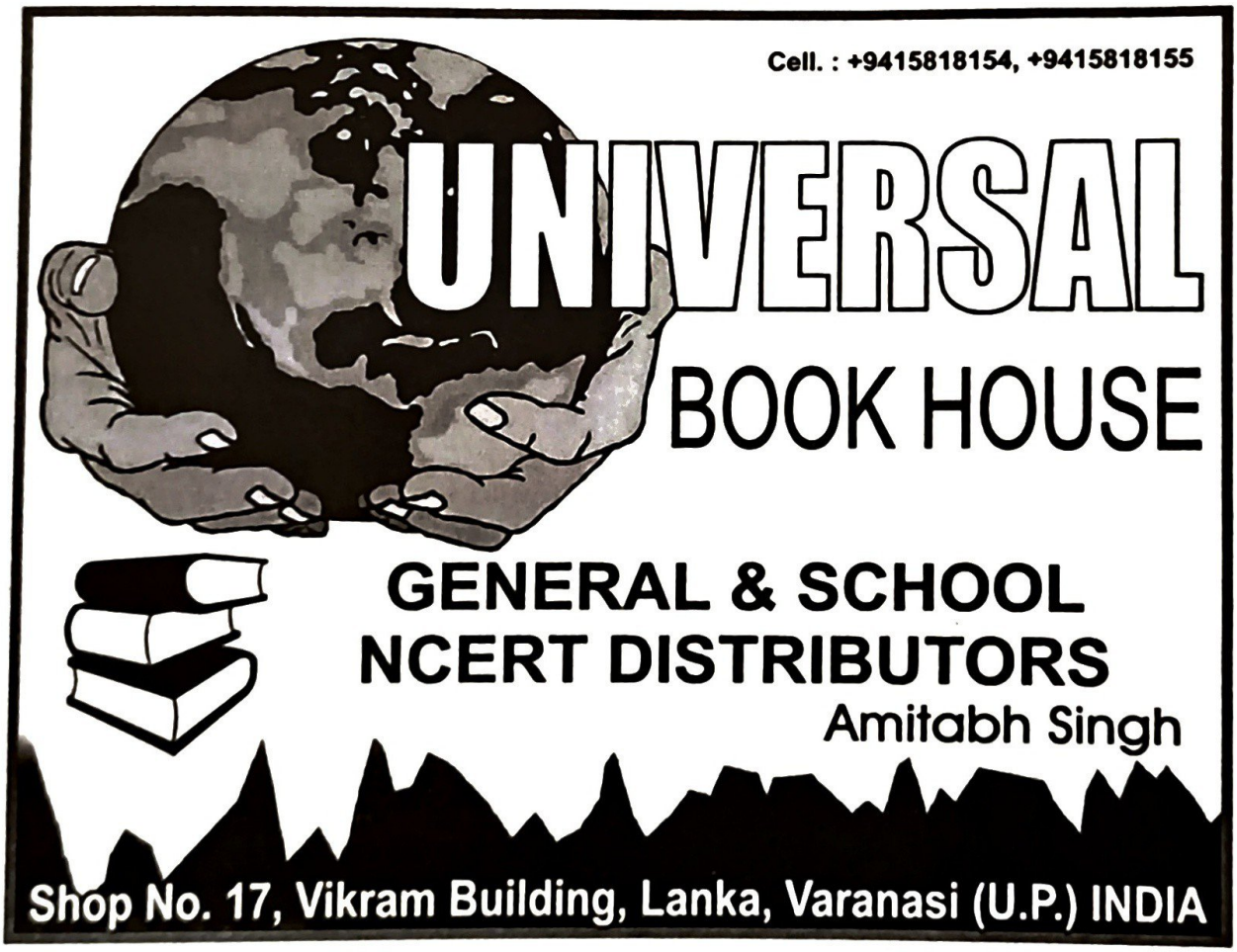
But in present time the cleanliness of water of the Ganga is declining due to so called development in terms of civilization, urbanization and industrialization. The increase in population is also a factor in polluting this holy and pious heritage. The sewage from cities on industries situated on the bank the Ganga is being poured continuously in this holy river. Toxic chemicals and waste materials from agricultural fields and industries are getting their ways to the river. The washer men are washing clothes with detergents and soil in river. Flowers from temples, half burnt bodies and dead animals are thrown into it. The condition of Ganga water has become so degraded and full of harmful organism and toxicants that people hesitate to drink the water otherwise there was time when the water of Ganga was used for drinking and worshipping in house and on several occasion.

Now many Government Agencies, Non-Government organization and even a few foreign agencies have come forward to take up the job of cleaning the Ganga. The Sankat

* Principal, Tulsi Vidya Niketan

Mochan Foundation under the guidance of Dr. Veer Bhadra Mishra has done a lot in this direction by creating awareness in the people of Varanasi. It invites the students of the schools of Varanasi to participate in this job. The Students take part in debates and workshops conducted by this organization. The students of Tulsi Vidya Niketan have also been working for this mission for many years. They clean ghats and persuade the people not to wash clothes and throw wastes in the river.

There is urgent need of awareness among the people for keeping Ganga clean and free from pollutants. The Government has to take up the mission as a challenge and put maximum possible efforts to support this mission. We, the citizen of Varanasi should take a pledge to keep the sanctity and honour of Mother Ganga.



# GANGA DHAARAA IN TRINIDAD, WEST INDIES

**Raviji**

Mangaree from Cedros, South Trinidad felt a rising enthusiasm born from anticipation as she drew nearer to her destination. Her father had come from either Bihar or Uttar Pradesh as an indentured labourer. Often he used to sing, 'Jis Desh Mein Ganga Bahati Hain'. His voice was battered yet there was such soulfulness in his rendition. Often his face will grow wistful and tears will glisten in his eyes.

All this coursed through Mangaree's mind and soon her own joint pains disappeared. Since 4.00am they had been traveling from Cedros, passing many Maxi-taxis (mini buses) on the way filled mostly with ladies and some men all making their way to Blanchisseuse, a tiny fishing village in the Northern Range.

At 6.00am, Shankar, her son had switched on the radio. They were shocked to hear a local Bhajan written in mixed English and Bhojpuri, "Lovely Ganga Dhaaraa, Mai Ganga Dhaaraa" sung by Savitri and Seeromani. Mangaree reached out to her father's memory and bowed. When they arrived, Shankar had to drop them off and leave to park at the end of a long line of vehicles perched precariously on the edges of deep slopes. Little Ganesh was tired.

Sati, Mangaree's daughter- in- law, was pacifying the little boy who wanted to be lifted up. His mother was unable to lift him because in one hand she held a basket filled with thariaa, lotaa, maalaa, doodh and poojaa samagree, the other was strained with a larger basket filled with food; catchourie, chatnee, daalpoori and hot chaana and aloo curry. Mangaree bent low, lifted Ganesh up and secured him on her godee. Her relieved grandson instinctively wrapped his arms around her neck and his legs around her waist and smiled at a group of little boys walking behind.

Sanskrit mantras by Sri Ravi Bharati and Bhojpuri bhajans by Rookmini Beepath filtered through the forest and provided a confirmation that they were close to their destination. Yellow, the colour identified with Ganga, predominated in saris, shalwars, jerseys, and kurtaas that lit up against the lush tropical rain forest.

It was 9.00am and the ceremonies were well underway. The shankh and ghanti announced that Aarti was in progress. Ganesh was as anxious as his aajee, to reach the action at Ganga Dhaaraa. Shankar joined them at this point and transferred Ganesh onto his shoulders. From his privileged seat Ganesh could see the thick crowd waiting in line at Ganga Pravesh.

The entrance sat under the old guardian of the river, a gigantic silk cotton tree, reaching out in welcome, like a deity with many long silvery arms. Here pilgrims were offering flowers as mantras were chanted by Pandit Mookhram, the PRO of the Inter Religious Organisation. There was also a Ganesh Moorti where offerings are first made before entering Ganga Dhaaraa.

Sati was relieved to place her heavy load on the side of the river where other pilgrims had left theirs. Ganesh filled his mouth with a laddu given to him as Prasaad by a pilgrim who had just finished her poojaa at the Ganapati Tri-Ninaad Ghaat. He watched the flowers offered at the bank of Ganga Dhaaraa flowing north just like Uttarayana, Kaashi.

Mangaree felt a rush of emotion; Shankar held his mother's hands letting her know he shared the moment with her. Sati reached out to hold Shankar's hand. On

one hand they had fulfilled the desire of his aged mother whose last wish, as she often said, was, "To bathe in Ganga and offer jal on behalf of Maa and Paa, before I join them." His mother could not make the trip to Kaashi but now they had Ganga here in Trinidad. On the other hand, it was possible to bring his son, to have mundan sanskaar. Shankar, like so many others his age, had his mundan sanskaar outside a church in Siparia. Now his son can have his sanskaar at Ganga Dhaaraa, with clean water flowing by, sohars being sung and Pandit Vigyaan chanting mantras while Hardeen Mamoo, the appointed barber shaves him carefully.

The water of Ganga Dhaaraa was cold but friendly. Pilgrims were intent on their personal poojaa, yet helpful and generous. They were all making their way to Tri-Ninaad Eeshwar Mahadeo, a Shiva lingam shrine in a small cave. This was where the first poojaa began and all devotees, by tradition, worship here first before making offerings at the different Ghaats on the way down.

A long line of devotees were already there, patiently awaiting their turn. It will take hours and there are no seats. Plucking of leaves to place as seats was frowned upon with stern looks and bold signs. Mangaree admonished Ganesh for spitting in the water. "Dhat tere ki, Ha' 'respeck' for Ganga Mai!" Shankar was surprised to see many signs put up along the river banks about preventing pollution of the river. The one that stood out most was Manu's law in Sanskrit, "Naapsu mootram, poorisham va.... do not urinate, spit, throw bodily refuse, poisonous substances and iron in rivers." The standing was tough on young and old but no one was complaining, it was not a picnic but a teerath. Volunteers moved up and down the river performing short dramas on water pollution, reminding people to take away plastics and non biodegradable objects when they leave.

A group of Bhaktas led by Chandra Katwaroo stood chanting Hanuman Chaaleesaa for hours at Hanuman Ghaat. Many were gathered at Tulsi Ghaat where the Ganga Poojaa by Pandit Budharath was in progress. Right here on the opposite bank a discourse on environmental issues by Sevikaa Maya Ji would begin at 1.00pm. Later, there will be intense nonstop chanting by Pandit Beesram and The Kendra Mandali.

Here and there floating downstream were aarti boats made of dried coconut husks and a lighted deeya surrounded by flowers. Later this would increase and mingle with a 20, 000 yellow buttercup saari offered to Ganga Mai during visarjan and aarti. "You will enjoy the Ganga Aarti. A special brass instrument of 100 deeyas which was used every sandhya for Ganga Aarti at Paramaarth Niketan Ashram was sent by Muni Ji of Rishikesh", Dean explained "and as the sun will begin to withdraw its rays, devotees will make their way home and volunteers would light deeyas along the banks, creating an enchanting scene as the final offering to Ganga Mai".

The shankh blasted, the ghanti reverberated, the swift rushing water amidst the rocks sang merrily and washed the feet of young, old, rich, poor, Hindu, non Hindu, Indian, African, White, Mixed.

"Is desh mein bhi Ganga Dhaaraa bahati hain!"

Ganga Dashahara was revived in Trinidad 15 years ago to provide a unique teerath opportunity to celebrate the descent of Ganga Mai. The committee has capitalized on the opportunity this occasion provides to educate thousands of pilgrims annually on the importance of caring for the environment, with special focus on the waterways that give ceaselessly to nurture us. This is done through activities on the festival day itself as well as pre festival seminars and workshops. The Ganga Dhaaraa Teerath Committee congratulates the Sankat Mochan Foundation for 25 years of service dedicated to Swatcha Ganga and supports your call for '**not a drop of sewage in the Ganga!**'

# An Australian Volunteer in Varanasi

**Angela Jane Baker**

I am in Varanasi, India, perched on an extremely warm concrete wall, looking out over the Holy Ganga River. In about an hour, at sunset, the parrots and the lone king fisher will arrive. The colour of the sky will change from a metallic, hazy, light grey to a golden rose which literally bounces off surfaces and makes faces glow. These effects are caused from the ever persistent monsoon clouds that have stubbornly refused to rain as often as they should for this time of year (or so I'm told). A wooden row boat has just floated by, Indian tourists are wearing bright orange life jackets, an unnecessary addition I think given how smoothly and serenely this Goddess river flows and quite ironic given the lack of safety in just about all other aspects of life here- a quick example: Maintenance work is taking place on electricity lines along a main road near by. While the traffic continues to pass in its natural calamity, skinny men haul thick, heavy cables by hand and fraying rope up the poles to barefooted men suspended by small belts of canvas. It strikes me as extremely dangerous for all of us, but life continues in either blissful ignorance or submissive acceptance as there really is little alternative.

I'm typing on the laptop that the Sankat Mochan Foundation (SMF) have given me to work on. The SMF are an environment group whose ambition it is to see the Ganga free of pollution. They have been campaigning for this cause for the last 25 years and have a pretty cool story to tell as a result:

It actually all begins back in the time of Shakespeare. When Will was churning out his little gems in England, a bloke by the name of Tulsidas was achieving similar heights in the scholarly world of India. Like Shakespeare, he was an excellent story teller, poet and play wright. Tulsidas is most famous for his poem (a story written in verse and sung by devotees) the Ramacharitmanas (I've only just learnt how to say and remember this title). It is a rendition of the story of Lord Rama, who is an incarnation of Lord Vishnu one of three ultimate god figures in Hindu religion. Tulsi's poem is one of the most important texts in Hindu religion. It is easily read and interpreted by anyone that can read regardless of caste or wealth as Tulsi, controversially broke from tradition and wrote his poem in colloquial Hindi instead of Sanskrit. It is also a really beautiful story in which the Gods frequently "rain down flowers from heaven".

Tulsi chose to write a good portion of the Ramacharitmanas in Varanasi, the arts and cultural capital of India. The centre for Indian Bohemia I guess. He lived in a house on the then outskirts of town, next to the forest and on the banks of the Holy Ganga. He would visit the forest often, to prey at a small shrine of Lord Hanuman, the Monkey God and the Son of the Wind. Tulsidas had a soft spot for Hanuman ji (Ji is the affectionate way of referring to someone in India) and it is said that he was guided and inspired by him to write the Ramacharitmanas. Indeed, Tulsi apparently beheld the Lord Rama after following instruction from Hanuman ji. The Hanuman Shrine in the forest has now become a very important temple thanks to its association with the Ramacharitmanas (unfortunately the forest has been reduced to a small, sad, poorly kept stand of trees though); the temple is known as the Sankat Mochan Temple. Sankat means Problems and Mochan means Remover,

this is another name for Lord Hanuman as it is believed that he has the ability to remove your problems- so if you have some issues, pray to the monkey god, because he is really good at getting rid of them.

The scene of my beautiful sunset is a mere 15 meters from the house that Tulsi lived in. His humble abode is now incorporated into the main building in the grounds at Tulsi Ghat (the word Ghat actually refers to the steps that lead from the river up to the old buildings and they are generally named after the original inhabitant or a king or queen; look up Varanasi or Ganga and you're sure to see pictures of the Ghats). Tulsi Ghat is also where the Sankat Mochan Foundation is based and where I sleep, eat and work. The forest is all but gone, but some lawn and a sacred Pipal Tree provide two good spots for gazing at the river. There is also an outdoor wrestling gym here, which I have a pleasant view of from my bedroom!!! And importantly there are several modest shrines and a small, yet precious, temple here too.

The missing link or story, between India's Shakespeare and me is the head priest (Mahant) of the Sankat Mochan Temple who also happens to be the President of the Sankat Mochan Foundation. Prof VB Mishra, was the first Mahant in his lineage to receive a university education; he studied Civil Engineering and was head of his department for a number of years. Before him, the Mahants studied Sanskrit, the Ramacharitmanas and of all things, wrestling (hence the gym). Mahantji quickly became acutely aware of the pollution in his precious Mother Ganga, in which he and thousands of others take Holy Dip every morning and so started a campaign to clean Her up.

95% of the pollution entering the Ganga at Varanasi comes from raw sewage and stormwater flowing into the river direct from the city itself, this is known as point source pollution because the location of the pollution can be pin pointed; it potentially could be rectified by some good engineering. The remaining 5% comes from the various activities along the banks, such as washing, bathing, throwing of garlands, garbage and the odd floating carcass (human and otherwise). This is known as non-point source and requires behavioural change within the community to rectify it. The result of all this pollution is that the water is grossly polluted right where people are bathing and drinking as part of their ritual practices, using the water for washing themselves, clothes and food vessels as well as enjoying recreational bathing. Probably the best illustration of the pollution levels is the following statistic (and then I promise I'm done with the stats).

Faecal coliform is a little bug that lives in human and animal guts and their waste. It lives alongside the nasty bugs that cause all sorts of discomfort and illness. The nasties are very difficult to count, so counting the f. coliform in a water source gives scientists a good indication of whether it is safe enough for use. The International Health guideline value for drinking water is 0/100mL CFU of f.coliforms (CFU means colony forming units). The standard for bathing is 200/100mL CFU. Last week when I assisted in some water testing, the count in the water, which we took right where the people are bathing, was 45,000/100mL CFU! This is a regular result, further down stream it is regularly in the millions/100mL.

You may well ask how can people who worship this river let it get so bad? And the answer to this formed the first challenge for the Foundation. The Mother Ganga is believed to have healing and cleansing powers. It must be remembered that in the minds of the people, we are not talking about a river here; we are talking about a spiritual being. How do you tell people that such a river is polluted? This is literally more offensive than spitting at or abusing their birth mother. On top of this, how do you explain the concept of pollution to people who have little or no education not to mention a scientific one? Its hard enough getting people in Sydney to understand that the water in a stormwater drain ends up in the Harbour!

Thus began an epic campaign, spearheaded by Mahantji, but no less supported by the dedicated board, staff and several overseas friends. It has lasted 25 years and included an incredible awareness raising program which led to the federal government initiating a plan of action, the state government bungling it atrociously, a court case, the building of a water quality laboratory at Tulsi Ghat, partnering with American academics to develop a plan to manage the point source pollution and a number of inspiring local projects to alleviate water health issues, put pressure on the government and educate the community. This campaign inspires documentary makers from all over the world, Ambassadors from Delhi, students from the local schools and environmental educators alike. Those who visit, rarely walk away unimpressed and a good example of this is the final link in the chain of my connection to SMF.

In 1992, Australian school teachers, Col and Sue Lennox, attended an SMF organised, International Seminar on River Health in Ganga Cities at Tulsi Ghat. At this seminar they saw the pollution of this sacred water, the ill effects of poorly managed sewage on local villagers and they met the SMF Team and learnt about their efforts for change. This experience catalysed a series of events in Col and Sue's lives that has led them now to being the founders of a quickly growing, highly effective, award winning environmental eduaction organisation in Australia called OzGREEN. OzGREEN work in a way that allows people to address the big environmental issues that are of concern to them and build the skills necessary to take appropriate action. OzGREEN are one of the few, brave environmental groups that work with people's emotional, intellectual and spiritual intelligence in order to solve issues and much of this work has grown from the inspiration of the spiritually based, scientifically informed campaigners at SMF. Working with SMF, OzGREEN have been fundamental in maintaining the laboratory and establishing the SMF Education Centre, the annual Swatcha (Clean) Ganga International Student Congress (Chhatra Sangam) and a program to install deep wells in villages surrounding Varanasi to access clean water. Col and Sue visit Varanasi every year and talk of Tulsi Ghat like it is a second home.

It has been my greatest luck to participate, volunteer and support OzGREEN's work in Australia. It has been my absolute pleasure to be adopted into the OzGREEN family and be supported by them to realise my own dreams of environmental well being as well as cope with my own challenges in my life journey. My being here is an action that I am taking to realise this dream and my journey to get here was an action I took to deal with a particularly challenging time in my life; both actions were defined by me during OzGREEN workshops.

So here I am, offering what assistance I can for however long it takes. What exactly "It" is I don't know. A clean Ganga? That would be nice, maybe then I could swim in her like I do the Murray, letting her cool waters stream through my hair, letting the mud seep between my toes, being carried softly along by the current. Playing as a platypus might, or perhaps in this case a Gangetic Dolphin, head submerged, swimming like a wave, water dancing around my mouth and nose as I blow bubbles and sing the songs of the river, unafraid of what this precious holy water, that is kindly washing away the sins and sorrows of my mind, might do to my body.

Perhaps, "It" is the life lessons I have to complete here. Accepting that I am easily frustrated and sensitive, learning how to live with this energy and appreciate it, hopefully one day use it to my own benefit as an environmentalist. Or maybe "It" is figuring out what the next step is, when I vision the immediate future path, I don't see anything, it is still a big blank page in the art book, and I like it this way, for now.

State of Ganga

# Stopping Domestic Sewage is the only solution for 'Clean Ganga'

**V.N. Mishra**

Ganga ji symbolizes the rich cultural and religious heritage for 1 billion Hindus around the world and she also supports and sustains the life of 40% of the Indian population living in her basin irrespective of caste, creed and religion. Thus, holy river fully honours and strengthens the philosophy of our constitution. Our first Prime Minister Pd. Jawahar Lal Nehru used to say 'Ganga is a silken thread which binds the country together'. The message is clear that this holy river provides a very strong medium to integrate this sovereign country which is also an important socio-political need. Knowing the importance and facts related to Ganga, one fails to understand why this river in not acquiring an important political dimension for the salvation of the river from the critical state of pollution.

In June 1986, Prime Minister Rajiv Gandhi was probably the first political leader who understood the socio political importance of this river and without any delay launched an ambitious Ganga Action Plan through a big public meeting held at R.P. Ghat (Varanasi) with an objective to revive Ganga what she was some 200 years ago. The objective of GAP was defined in a very clear way stating that the domestic sewage flowing into the river must be stopped and treated in a way that it becomes innocuous for reuse. It was never mentioned that which particular technology is to be used. He identified Varanasi as an important holy city for citing a successful example for the pollution abatement scheme for the other river cities. It was never planned to execute this project in 'n' number of phases in the same city as it is being done in the form of GAP-II. The fact being that the important cities were selected in GAP-I and on successful completion of this project it was planned to extend this model to the other river cities under GAP-II.

In recent times Ganga action plan was declared a grand success by the centre in the Hon'ble Supreme Court and emphasised that cleaning of Ganga is at par with Rhine, Thames and Danube inspite of the fact that nearly 2000 small and big drains discharging domestic sewage into the river starting from Haridwar to Kolkata. They appreciated that the river flowing in the major states in northern Indian has been benefited by GAP and carries potable water from Rishikesh to Patna except for small stretches near Kanpur, Allahabad and Varanasi which still remain a problematic area.

The statistical data related to average pollution is in no way justified. Span of the river originating from Gomukh to Ganga Sagar is 2550 km and if one considers the average pollution along the length of the river, the result is obvious, 'Ganga is always clean'. What was the need of launching such a project for river pollution abatement?

The suffering of the river is merely due to discharge of the domestic sewage into the critical stretches of Kanpur, Allahabad, Varanasi and Patna and this contribute to 95% of the pollution. Rest 5% is due to the habit of the users and could be removed by general awareness programmes in these cities. However, this pollution is very visible and eye catching and generally the innocent considers this as the major cause of pollution.

Any floating lump (dead body etc.) will not be dispersed immediately in the flowing water bodies. Once it is taken out the cleanliness is restored. On the otherhand, if domestic sewage is mixed, it is immediately dispensed and becomes practically impossible to remove this pollutants. No technical solution exists for their removal only the natural flow will clean the river what we call it as a self cleaning mechanism of the river. If domestic

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sewage discharge into the river is stopped, the river quality would drastically improve to a level what it was some 200 years ago.

The sheer incompetence of the GAP officials to stop the pollution of Ganga in Varanasi is being nicely managed by leveling accusations like not acquiring the land for sewage treatment plant in Ramna even after depositing Rs. 20 crores upto 2006. GAP officials complain that 20 big and small drains discharge sewage into the holy river in Varanasi could not be stopped even as the work on GAP-II continued since 2001. In spite of the full patronage of the State Government the Ganga Pollution control unit (GPCU) of Jal Nigam could close only two major nallah out of 20. A basic work like this should have been completed in two to three years time and would have removed 95% pollution of Ganga without the need of acquiring even a single unit of fertile land. Inspite of full support and security cover from the Government and the district administration, GPCU could not complete even fifteen percent of work in a span of 7 years and 'dirty flows the Ganga'.

In spite of the implementation of 74th amendment of constitution since 1994, GAP-II in Varanasi is allowed to be done by the State Government instead of the local government The funds are being provided by the NRCD of the Government of India by ignoring the fact that GAP is subjudiced and the matter is pending in the Hon'ble High Court of Allahabad. The Varanasi Nagar Nigam has put 5 serious objections against the UPJN's proposal for GAP-II. The technical wing of NRCD has disapproved the Ramna Sewage Treatment plant because its treated effluent along with the fecal coliform bacteria will fall in Ganga in the upstream of river in Varanasi and is also not covered under the sanction given by the CCEA in 1994. One fails to understand why GPCU is desperately trying to start this work which is an extension of work executed in GAP-I which has failed miserably. The technology used is not capable of removing the fecal coliform bacteria. A proper interception of raw sewage along the religious bathing area and treatment of sewage by AIWPS (Advanced Integrated Waste Water Pond System - capable of removing fecal coliform bacteria) to make the effluents innocuous for reuse is the best solution which will make the river and its user healthy.

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# जहाँ जहाँ गंगा है वहीं वहीं महन्त जी हैं

आनंद बहादुर सिंह

**गोस्वामी तुलसीदास जी ने दोहावली में एक दोहे में कहा है-**

**कलि पाखण्ड प्रचार, प्रबल पाप पावत पतित।तुलसी उभय अधार, राम नाम सुरसरि सलिल।।**

निश्चय ही कलि में प्रचार तो पाखंड का है, पाखंड जहां तक हम समझते हैं असत्य को सत्य के रूप में प्रकट करना या रखना ही पाखंड है। इससे पाप का पलड़ा भारी पड़ गया है और सर्वत्र पामेर एवं पतित ही दिखायी पड़ते हैं। संक्षेप में कलि के स्वरूप की संक्षिप्त व्याख्या है। लोगों ने जोर देकर पूछा, महाराज। इससे बचने का उपाय क्या है? बाबा ने कहा बचने का दो ही आधार है- राम नाम एवं गंगा जल। पर यह उपाय व्यक्तिगत है। इससे समष्टि लाभ नहीं हो पाएगा क्या? वस्तुतः गोस्वामी तुलसीदास जी का स्वान्त सुखायः जिस प्रकार जगत् हिताय बन गया उसी प्रकार उक्त दोनों उपाय अन्त में समष्टि का कल्याण भी करते हैं। इन दोनों आधारों को हमारे मित्र एवं गुरुपीठ के महन्त जी पूरी ताकत से पकड़ लिया है और राम नाम लेते हुए उससे जो ऊर्जा प्राप्त होती है उसे उन्होंने स्वच्छ गंगा अभियान में लगा दिया। इस कार्य के लिए 25वर्ष पूर्व उन्होंने एक न्यास (संकटमोचन निधि) की स्थापना की जिसके आधार पर आपने सारे विश्व को अपने व्यक्तित्व एवं कार्यों के आधार पर समेट लिया। 'टाइम ने कहा कि विश्व के महानतम् कार्य करने वालों में सात में एक हैं एवं उन्हें मैगसेसे पुरस्कार से भी नवाज़े गये। जिस समय राष्ट्रपति क्लिंटन अमेरिका से भारत आए और आगरे के किले में सार्वजनिक समारोह हुआ उसमें राष्ट्रपति क्लिंटन ने उनकी बहुत सराहना की और उनके भाषण को सुना। आपके पास यदि कम्प्यूटर हो तो वेबसाइट पर देखें तो स्वच्छ गंगा ही नहीं अपितु नदियों की सफाई का जहां भी उल्लेख मिलेगा उसमें प्रो. वीरभद्र मिश्र ही प्रमुखता से विराजमान दिखायी पड़ेंगे।

आप के पिता श्री गोस्वामी तुलसीदास अखाड़ा के महन्त साकेतवासी महन्त बांके राम जी उच्चकोटि के योगी एवं राम भक्त थे। उन्होंने मानस राज हंस से मानस लगायी थी एवं काशी के प्रख्यात् योगी गुरुनाथ से मानस के योग-विज्ञान का भी अध्ययन किया था। उनका निधन 42 वर्ष की अवस्था में 1952 में हो गया। उस समय वर्तमान महन्त जी की उम्र मात्र 14 वर्ष की ही थी। राम एवं गंगा के प्रति उनके हृदय में बीज बोने का कार्य तो साकेतवासी महन्त जी ने अपने संस्कारों से किया था। इसके बाद उन्होंने सिविल इंजीनियरिंग में पी.एच.डी. डिग्री तक प्राप्त किया और अवकाश प्राप्ति तक अध्यापन किया। सिविल इंजीनियरिंग में भी उन्होंने हाईड्रेलिक शाखा में विशेष योग्यता प्राप्त की। इस क्षेत्र में पूरे देश में 4-6 विद्वान् हैं। यह उनका भौतिक आधार हुआ।

नित्य गंगा स्नान के कारण गंगा की दशा देखने का उन्हें सौभाग्य प्राप्त हुआ। कुशाग्र बुद्धि, अग्रसोची होने के नाते उन्होंने देखा कि यदि न बोला गया तो भविष्य में गंगा जी को सीवर के नाले अपने में मिला लेंगे। ऐसे माँ गंगा में थोड़ा बहुत गन्दगी पचा लेने की शक्ति है जैसे शिशु के वमन एवं शौच को माताएँ सप्रेम साफ करती हैं पर जब उसमें नाले या नाला सीवर का पानी उड़ेलता रहेगा तब तो माँ का सांसत में पड़ जाना स्वाभाविक है। लगभग 30 नाले अस्सी से लेकर वरुणा संगम तक गंगा में गिरते हैं। इतना ही नहीं, वाराणसी के भूगोल को आप देखें-पूर्व में गंगा दक्षिण में अस्सी एवं उत्तर में वरुणा वाराणसी का निर्माण करती है। दोनों गंगा की सहायक नदियां हैं एवं भगवान् विष्णु के चरण से निकली हैं। अस्सी को एक ऋषि ने शुष्क होने का श्राप दे दिया था। उनकी प्रतिमा शुष्केश्वरी के रूप में दुर्गा मंदिर में है। काशी का विस्तार हुआ। चारों ओर मकान बनने लगे वह भी बिना किसी योजना के। पश्चिम में भी काशी का विस्तार हुआ। नगर में शताधिक बहुमंज़िली इमारतें बनीं। सबका मल-जल सीधे गंगा में अथवा वाया अस्सी एवं वरुणा गंगा में आने लगा। सूर्यार्घ देते समय अंजली में कभी महर्षि पांतजलि आ गये थे। वहां अब टट्टी के खंड आने लगे। वस्तुतः जो गंगा भक्त होगा उसके छाती का फटना स्वाभाविक है। गंगा जी की आरती करना, उत्सव करना, घंटा-घड़ियाल बजाना भी परम्परा उचित है। गंगा की दशा में सुधार के लिए करो या मरो का नारा लगाना उससे भी अधिक उचित है। महन्त जी ने संकल्प ले लिया और आगे बढ़ते गए।

इसी दौरान पूर्व प्रधानमंत्री राजीव गाँधी ने गंगा की स्वच्छता का संकल्प ले लिया। गंगा कार्य योजना का शुभारम्भ दशाश्वमेध घाट पर स्वयं राजीव गाँधी ने सोनिया जी के साथ किया। एक कमेटी भी बनी जिसमें नगर के 2-3 विशिष्ट लोग भी रखे गए। उसमें महन्त जी भी थे। पांच वर्षों तक बैठकें होती रहीं, अफ़सर जीमते रहे, मेला ख़त्म, पैसा हज़म वाली कहावत चरितार्थ हुई। 4.5 लम्बायमान स्तूप काशी की शोभा को बिगाड़ने लगे जिससे मात्र मल जल ही निःसृत होकर गंगा में गिरता है। हर बैठक में महन्त जी अपनी असहमति जताते रहे। कार्य विवरण तो सरकारी रिकार्ड है। जो चाहे देख ले।

एक अफ़सर आया, उसने महन्त जी से कहा कि आप विकल्प के रूप में एक योजना क्यों नहीं बनाते? महन्त जी और देश विदेश के कुशल इंजीनियर योजना बनाने में जुट गए। योजना तैयार हो गयी। नागरिक सुनवाई भी हुई। नगर निगम ने 3-3 बार स्वीकार भी कर लिया पर अब तक बात बन नहीं सकी। सर्वोच्च न्यायालय मे नगर निगम के दो सदस्यों एवं एक गंगा भक्त द्वारा याचिका दायर करने पर सुनवाई चल रही है। सर्वोच्च न्यायालय ने नगर निगम के सभासदों द्वारा दाखिल वाद को प्रयाग उच्च न्यायालय के जिम्मे लगाया है। अपने महन्त प्रो. वीरभद्र मिश्र जी का यह सिद्धान्त है कि बिना प्रमाण के कोई बात न की जाय और किसी योजना का यदि विरोध करना हो तो उसका विकल्प दिया जाय। महन्त जी ने सरकारी योजना का विरोध तो किया वैकल्पिक योजना के साथ जिससे आज तक संघर्ष जारी है। राजहठ न रहता तो योजना कार्यान्वित भी हो जाती। सारी दुनिया में महन्त जी का जो यश फैला उसके मूल में उनकी वैकल्पिक योजना ही है। सारा सम्मान उसी के कारण है। आज सेतु समुद्रम् योजना के विरुद्ध अनेक वाद दाखिल है। पूरे देश में उसका विरोध हुआ पर किसी पक्ष ने वैकल्पिक योजना बनाकर नहीं प्रस्तुत किया। जिस योजना से राम सेतु भी नहीं टूटेगा एवं सेतु समुद्रम् योजना भी लागू हो जायेगी।

महन्त जी की योजना बहुत ही सरल एवं बोधगम्य है। जल संस्थान दो भागों में है (1) भदैनी का पम्पिंग स्टेशन जहां गंगा जी से पानी खींच कर भेलूपुर जल संस्थान में जाता है वहां से शोधित पानी की आपूर्ति शटर में की जाती है। पानी की सफाई के लिए अंग्रेजों ने भेलूपुर में आठ बड़े-बड़े तालाब बनवाए थे जिसमें भदैनी से आए जल को डाला जाता था। आठ तालाबों से गुजरने के बाद पानी स्फटिक की भांति चमकने लगता था। उस पानी को पुनः एक टंकी के माध्यम से पूरे शहर में जल की आपूर्ति कर दी जाती थी। अब तो पानी की सफाई के लिए मशीनें लगी हैं पर भदैनी से आए पानी को अब तालाबों के माध्यम से गुजरना पड़ता है। अब पता चला है कि इस कुण्ड प्रणाली (पांड्ससिस्टम) को सरकार भी मान रही है। जिस प्रणाली से काम किया गया वह तो निष्फल सिद्ध हुआ। फिर उसके लिए हठ क्यों? महन्त जी योजना के अनुसार अस्सी से वरुणा संगम तक घाट के किनारे एक गोल पाईप बैठा दी जायगी और उससे सारे नालों को जोड़ दिया जाएगा और वरुणा संगम पर एक बड़ा पपिंग स्टेशन लगेगा जो उक्त मल-जल को ढाब क्षेत्र जो सरकारी बंजर भूमि में है, भेज दिया जाएगा। वहां चार बड़े तालाबों से पानी गुजार कर उसे खेतों में सिंचाई के लिए दे दिया जाएगा। अंतिम तालाब से निकला पानी पारदर्शी होगा। इस योजना के कार्यान्वयन से बिजली का खर्च न के बराबर होगा। जो कुछ खर्च बैठता है वह तालाबों में मत्स्य पालन करके प्राप्त किया जा सकता है। इस योजना का कार्यान्वयन अमेरिका की एक नदी को गन्दगी से बचाने के लिए किया जा चुका है। इस वैकल्पिक योजना को मान तो सभी रहें हैं पर राजहठ के सामने सभी विवश हो गए हैं।

इस संघर्ष की लंबी कहानी मात्र 25 वर्षों की ही नहीं है। फाउण्डेशन बनने के कम से कम दस वर्ष पूर्व जिस समय लोको मोटिव कारखाने के अवजल को अस्सी नाले में मिलाया जाने लगा उस समय महन्त जी ने उसका प्रबल विरोध किया और हमलोगों का साप्ताहिक निकलता था, उसमें समाचार भी छपना प्रारंभ हुआ। बाद में डीरेका का अवजल एक ट्रीटमेन्ट प्लांट के जरिये खेतों में शोधित जल को भेजा जाने लगा। अब भी यह कार्य जारी है परन्तु दीनापुर एवं भगवानपुर में जो जलशोधन यन्त्र लगे हैं वह इस कार्य को नहीं कर पा रहे हैं और न कर पाएंगे। अब तो बात यह चल रही है पूरी गंगा की बात न करके मात्र काशी की गंगा पर ही विचार हो और यथाशीघ्र योजना कार्यान्वित कर वाराणसी के अवजल को घाट के नीचे बने पाईप से ढाब क्षेत्र में भेज दिया जाए। उनके इस भगीरथ प्रयास में धीरे-धीरे लोग जुट रहे हैं। अमेरिका ऑस्ट्रेलिया एवं ब्रिटेन के लोग भी इस कार्य में रुचि ले रहे हैं। ब्रिटिश उच्चायुक्त तो पधारे भी थे। फ्रांस के राजदूत भी इस सम्बन्ध में महन्त जी से मिले थे। इस सम्बन्ध में महन्त प्रोफेसर वीरभद्र मिश्र जी ने कई बार विदेशों की यात्रा भी की। फाउण्डेशन दो दिवस प्रति वर्ष मनाता है-पर्यावरण दिवस (5 जून), विश्व जल दिवस (22 मार्च) को। जलदिवस के दिन प्रति वर्ष अस्सी से लेकर वरुणा तट तक लोग पंक्तिबद्ध होकर स्वच्छ गंगा का संकल्प लेते हैं।

फाउण्डेशन में मेरा कोई भौतिक योगदान नहीं था पर बौद्धिक तो था। प्रारंभ में प्रचार कार्य भी मैं देख लेता था पर बाद में समर्थ लोग सारा कार्य विधिवत देखने लगे पर 25 वर्षों में कम से कम 100 सम्पादकीय हमने अपने साध्य हिन्दी दैनिक सन्मार्ग समाचार पत्र में लिखे हैं जिसमें कार्यों में हुई प्रगति का लेखा-जोखा जनता को देने का प्रयास किया गया। मेरे इस योगदान का निधि के लोगों ने मूल्यांकन नहीं किया। 25 वर्षों की अवधि में महन्त जी ने अपना सारा जीवन गंगा को समर्पित कर दिये और अखाड़े के कार्यों को जैसे संगीत सम्मेलन, ध्रुपद मेला, विवाह पंचमी पर होने वाले आयोजन एवं हनुमान जयन्ती समारोह का भी उचित ढंग से निर्वाह किया।

आज जहाँ गंगा हैं वहाँ महन्त जी हैं और जहाँ तुलसी है वहाँ उनके पास राम नाम है। इससे उनकी धन्यता स्पष्ट है।

आधुनिक भगीरथ

# प्रो. वीरभद्र मिश्र

**अन्जान मिश्र**

गंगा को शिव जो जटाओं से धरती पर लाने वाले भगीरथ भले ही पौराणिक कथाओं के पात्र बन चुके हों, पर मैली हो रही गंगा को प्रदूषण से रहित और निर्मल बनाने के लिए कठोर तप करने वाला आधुनिक भगीरथ आज भी अनवरत अपने प्रयास में जुटा हुआ है। 'गंगा प्राधिकरण और राष्ट्रीय नदी संरक्षण निदेशालय के नाम और काम के बारे में तमाम लोगों ने पढ़ा और सुना होगा, लेकिन बहुत कम ही लोग जानते होंगे कि वाराणसी में गंगा के निर्मलीकरण की बात सबसे पहले सोचने वाले भगीरथ हैं-पंडित वीरभद्र मिश्र। वह वाराणसी के प्रख्यात् श्री संकटमोचन मंदिर के महन्त हैं, अधिकांश लोग उन्हें इसी रूप में श्रद्धा से प्रणाम भी करते हैं। पर यह उनके बहुआयामी व्यक्तित्व का एक पहलू है। मिश्र जी का एक दूसरा परिचय भी है-प्रो. वीरभद्र मिश्र, प्रोफेसर इंस्टीट्यूट ऑफ टेक्नोलॉजी, बनारस हिन्दू विश्वविद्यालय।

मिश्र जी बताते हैं कि सात पीढ़ी पहले मेरे पूर्वज देवरिया से आकर वाराणसी से बस गए। मैं यहीं के आध्यात्मिक परिवेश जन्मा, पला और बड़ा हुआ। मेरे पिता पंडित बांकेराम मिश्र श्री संकटमोचन मंदिर के महन्त थे, पर हनुमान जी के चढ़ावे का एक भी पैसा कभी घर में खर्च नहीं किया जाता था। वह सारा धन पिता जी मंदिर के ही काम-काज में लगा देते थे और अपनी जीविका स्वयं अर्जित किया करते थे। यही मंदिर के महन्त की परम्परा है। माँ भी विदुषी महिला थीं। उन्होंने बचपन में ही मुझे रामचरित मानस के साथ-साथ गीता के भी चार-पांच अध्याय कंठस्थ करवा दिय थे। रोज गंगा-स्नान और पूजा-अर्चना बचपन से ही मेरी दिनचर्या है। उस समय कुश्ती का भी बड़ा शौक था इसलिए रोज अखाड़े में भी जाया करता.....।

श्री संकटमोचन मंदिर की परम्परा है कि महन्त के दिवंगत होने पर उसके बड़े पुत्र को ही उसकी गद्दी का हक़दार माना जाए। वीरभद्र मिश्र अपने माता-पिता के इकलौते पुत्र हैं। 1952 में 42 वर्ष की उम्र में उनके पिता पंडित बांकेराम मिश्र का देहान्त हो गया तब किशोरावस्था में ही वीरभद्र मिश्र को श्री संकटमोचन मंदिर का महन्त बना दिया गया। उस समय वह नौवीं कक्षा में पढ़ रहे थे।

महन्त पद संभालने के बाद भी पढ़ाई जारी रही। 17 साल की उम्र में मिश्र जी ने बी.एच.यू. में इन्जीनियरिंग की पढ़ाई शुरू की। तब अखाड़े में जाना छूट गया और सारा ध्यान पढ़ाई में लगाने लगे। आखिर बी.एच.यू. से इंजीनियरिंग की डिग्री और शोध करके पी.एच.डी. की उपाधि लेकर प्रो. वीरभद्र मिश्र वहीं अध्यापन का कार्य करने लगे तो जीविका की भी स्थायी व्यवस्था हो गयी। आज तक वह बी.एच.यू. के इंस्टीट्यूट ऑफ टेक्नोलॉजी में विभागाध्यक्ष रहे और सिविल इंजीनियरिंग के छात्रों को हाईड्रालिक मशीन्स, फ्लूइड मेकेनिक्स और ओपन चैनल हाइड्रालिक जैसे आधुनिकतम विषय पढ़ा चुके हैं, लेकिन इस वैज्ञानिक चेतना के साथ-साथ ही मन में आध्यात्मिक आस्था और श्रद्धा का भी सागर लहराता रहता है। यही कारण है कि 65 वर्ष की आयु में भी नित्य प्रातः उनकी दिनचर्या गंगा स्नान और पूजा-अर्चना से शुरू होकर काफी रात गए इसी के साथ खत्म होती है। नित्य गंगा स्नान करते करते इसके साथ उनका आत्मिक सम्बन्ध स्थापित हो चुका है। वह भावविभोर होकर बताते हैं, 'गंगा मेरी माँ है। जिस दिन मैं गंगा का स्पर्श नहीं कर पाता, मुझे लगता है कि मैं अपनी माँ से नहीं मिला। वाराणसी और यहाँ की संस्कृति, संस्कार, सभ्यता गंगा की गोद में ही पली-बढ़ी है, यदि गंगा खो गयी तो हमारा क्या होगा? सचमुच पतित पावनी करोड़ों-करोड़ भारतीयों की श्रद्धा और आस्था का प्रतीक है। मिश्र जी तो यहां तक कहते हैं कि 'अगर नील के बिना मिस्र की, ह्वांग हो के बिना चीन की, दजला फरात के बिना ईराक की और टेम्स के बिना इंग्लैण्ड की कल्पना नहीं की जा सकती उसी तरह बिना गंगा के भारत की भी कल्पना नहीं की जा सकती। मिश्र जी वाराणसी में गंगा के किनारे तुलसीघाट पर रहते हैं। इसी तुलसीघाट पर वह कोठरी है जहां रहकर पांच सौ साल पहले गोस्वामी तुलसीदास ने रामचरित मानस की रचना की थी। उसी कोठरी से लगा हुआ मिश्र जी का आवास है। रोज सबेरे आँखे खोलते ही वह गंगा दर्शन करते हैं। उसमें नहाते हैं और देर तक कमर भर पानी में खड़े-खड़े पूजा-आराधना करते रहते हैं, पर उनका मन बहुत दिनों से यह सोच-सोच कर कचोट रहा था कि पतित पावनी गंगा का धवल जल अब मैला हो गया है। उसकी निर्मलता दूषित हो रही है और वह हानिकारक तत्वों को नष्ट करने की क्षमता खो रही है। गंगा की पहचान सिमट रही है.....।

एक इंजीनियर के मन में गंगा और हनुमान जी के प्रति अदम्य श्रद्धा और आस्था आम जनों को भले ही आध्यात्म और

विज्ञान का द्वंद्व लगे पर श्री मिश्र के इस दोहरे व्यक्तित्व में कहीं भी टकराव की स्थिति नहीं है। वो कहते हैं, 'आध्यात्मिकता, भौतिकता नदी के दो तट जैसे हैं, लेकिन मानव जीवन की अस्मिता और अस्तित्व के लिए दोनों ही ज़रूरी है। किसी भी एक तट के बन्ध टूट गए तो मानव संस्कृति के साथ ही मानव भी टूट जाएगा। इसलिए देखा जाए तो ये दोनों एक दूसरे के पूरक हैं। यही कारण है कि मुझे आध्यामिकता एवं कर्मकाण्ड तथा इंजीनियरिंग के बीच किसी द्वन्द्व की अनुभूति नहीं होती, बल्कि धर्म व आध्यात्म और प्रौद्योगिकी-दोनों को ठीक ढंग से समझने में मदद ही मिलती है।

शायद इसी समझ के कारण अमेरिका में आणविक हथियारों के विरोध में सड़क पर उतरी भीड़ में अलबर्ट आइंस्टाइन भी खड़े देखे गए थे। जबकि वह स्वयं परमाणु ऊर्जा के आविष्कारक थे। उस समय आध्यात्मिक ज्ञान ने ही उन्हें प्रेरित किया होगा कि विज्ञान और प्रोद्यौगिकी का निर्माण मानव विनाश के लिए नहीं हुआ है। इसी समझ के चलते श्री मिश्र भी आध्यात्म की महत्ता स्वीकार करने के साथ-साथ विज्ञान की उपयोगिता को अपरिहार्य मानते हैं और संकटमोचन मंदिर के महन्त पद के साथ-साथ बी.एच.यू. इंस्टीट्यूट आफ टेक्नोलॉजी में सिविल इंजीनियर के विभागाध्यक्ष पद का भी बड़ी कुशलता एवं योग्यता से निर्वाह कर चुके हैं।

कुल मिलाकर कहा जा सकता है कि श्री मिश्र धर्म संस्कृति और आध्यात्मिक परम्परा के सागर में वैज्ञानिक चेतना से सम्पन्न प्रकाश स्तम्भ जैसे हैं। यही कारण है कि गंगोत्री से गंगासागर तक फैली गंगा की लहरें श्री मिश्र के आध्यात्मिक चेतना को चुनौती देती रहती हैं। बार-बार सवाल उठता है-क्या तुम इसी प्रदूषित गंगा में नहाते रहोगे? क्या पतित पावनी गंगा का जल ऐसे ही गंदा होता रहेगा? आखिर श्री मिश्र के इंजीनियर मन ने इस चुनौती को स्वीकार किया और मैली होती गंगा को निर्मल बनाने के लिए कुछ करने का विचार योजना का रूप लेने लगा। अन्ततः 1982 में श्री मिश्र ने 'संकट मोचन फाउण्डेशन की स्थापना करके 'स्वच्छ गंगा अभियान शुरू कर दिया है।

अगस्त 1982 में प्रो. वीरभद्र मिश्र ने तत्कालीन प्रधानमंत्री श्रीमती इंदिरा गाँधी को गंगा के सम्बन्ध में पहला ज्ञापन भेजा। इसका आशातीत परिणाम सामने आया। उन्हीं दिनों श्रीमती इन्दिरा गाँधी ने संसद में गंगा की स्वच्छता बनाए रखने के लिए कोई योजना बनाने की चर्चा की थी। श्री मिश्र के ज्ञापन का भी प्रभाव पड़ा और केन्द्र में पर्यावरण मंत्रालय का गठन हो गया। फिर फरवरी 1985 में तत्कालीन प्रधानमंत्री राजीव गाँधी ने पर्यावरण मंत्रालय के अधीन गंगा प्राधिकरण का गठन किया। जिस दिन इसकी घोषणा हुई, उस दिन वाराणसी में तुलसीघाट पर एक विशाल सभा करके इस घोषणा का स्वागत किया गया था। श्री मिश्र का उत्साह बढ़ गया। वह गंगा निर्मलीकरण के भगीरथ प्रयास में दुगुने जोश से जुट गए।

बाद में केन्द्र सरकार ने गंगा प्राधिकरण को और सक्रिय बनाने के लिये गंगा निदेशालय (जी.पी.डी.) गठित करके इलाहाबाद और कोलकाता में इसके केन्द्रस्थापित कर दिए। इस निदेशालय ने तीन मंडलों में डिवीजनल टॉस्क फोर्स भी गठित कर दिया, पर श्री मिश्र के बताए अनुसार यह पूरा ढाँचा ब्यूरोक्रेटिक बनकर रह गया। फिर भी गंगा एक्शन प्लान में प्रधानमंत्री राजीव गाँधी स्वयं रुचि ले रहे थे, इसलिए संसाधन भी उपलब्ध कराये जाते रहे। एक पृष्ठ की प्रोजेक्ट रिपोर्ट पर भी एक करोड़ रुपये की स्वीकृति मिल गयी। इसके बाद तो जैसे प्रोजेक्टों की बाढ़ आ गई।

अन्ततः 1986 में 14 जून को प्रधानमंत्री राजीव गाँधी ने वाराणसी के ऐतिहासिक राजेन्द्र प्रसाद घाट के मंच से गंगा-निर्मलीकरण के राष्ट्रीय अभियान का शुभारम्भ किया। इस योजना के लिए 254 करोड़ रुपये का बजट बनाया गया था, जिसमें से 43 करोड़ रुपये वाराणसी के लिए थे। उत्तर प्रदेश, बिहार और पश्चिम बंगाल में गंगा को स्वच्छ बनाने के लिए काम शुरू हो गया।

इस बीच गंगा निर्मलीकरण अभियान की चर्चा सारे संसार में होने लगी थी। हालैण्ड और फ्रांस के मिशनों ने भी इस योजना में विशेष रुचि दिखाई। प्रधानमंत्री राजीव गाँधी फ्रांस में आयोजित 'भारत महोत्सव में जाते समय अपने साथ गंगा जल भी ले गये थे। इससे फ्रांसीसी इतने प्रभावित हुए कि एक नई परियोजना बनाकर उन्होंने पर्यावरण विशेषज्ञों का एक दल भी वाराणसी भेज दिया। इस दल ने गंगा निर्मलीकरण के लिए एक्टिवेटेड स्लज प्लांट लगाने का सुझाव दिया था।

डाक्टर वीरभद्र मिश्र बताते हैं कि यह तकनीक बहुत खर्चीली है, इसके अलावा विदेशों में काफी कारगर सिद्ध होने के बावजूद भारत में सफल नहीं हो सकती, क्योंकि भारतीय नागरिकों का खान-पान साधारणतःशाकाहारी होता है, इसलिए यहां के प्रति लीटर सीवेज में 300 ग्राम बी.ओ.डी. भी नहीं उपलब्ध होता है और काफी सीवेज बी.ओ.डी. के अभाव में प्लांट में पर्याप्त बायो गैस नहीं बनती। ऐसी स्थिति में एक्टिवेटेड स्लज प्लांट की यहां उपयोगिता नहीं थी, लेकिन हमारे सारे नोट्स एवं रिपोर्टें पड़ी रह गई और मर्ज़ को अच्छी तरह समझे बिना ही दवा दे दी गई।

श्री मिश्र क्षुब्ध भाव से बताते हैं 'सच्चाई तो यह कि गंगा में कितना अवजल गिरता है-आज तक यह भी ठीक-ठीक पता नहीं चल पाया है। यहां तक कि अस्सी घाट से लेकर वरुणा नदी के संगम तक गंगा में कितने सीवेज गिर रहे हैं, इसकी भी जाँच-पड़ताल किए बिना ही 'एक्टीवेटेड स्लज प्लांट स्थापित कर दिए

गए। यहां दोनों किनारों से आकर पांच नालों पर सीवेज पम्प लगाए गए। यह काम 1986 में शुरु हुआ तो पहला चरण सात वर्ष बाद 1993 में पूरा हुआ। इस विलम्ब के कारण ही लागत 43 करोड़ से बढ़कर 50 करोड़ रुपये हो गया और परिणाम देखे बिना ही आश्वासन दे दिया गया कि इतने प्रतिशत प्रदूषण को खत्म कर दिया गया है।

इस आश्वासन से श्री मिश्र को सन्तोष नहीं हुआ और वह गंगा के वास्तविक निर्मलीकरण के प्रयास में जुटे रहे। इसी बीच अमेरिका, स्वीडन, ऑस्ट्रेलिया आदि देशों में भी 'फ्रेण्ड्स ऑफ गंगेज नाम से अनेक संस्थाएं गठित हो गयी थीं। उन संस्थाओं के प्रतिनिधि वाराणसी आने पर संकटमोचन फाउण्डेशन में जाकर प्रो. वीरभद्र मिश्र से भी मिलते थे। विचार विर्मश चलता रहा। श्री मिश्र से प्रभावित प्रतिनिधियों ने भी यह महसूस किया कि गंगा निर्मलीकरण के सरकारी दावों की वैज्ञानिक जाँच होनी चाहिए और जाँच भी किसी स्वतन्त्र एजेन्सी से उसकी अपनी प्रयोगशाला में नियमित रूप से करायी जानी चाहिए।

श्री मिश्र के प्रभाव से स्वीडन की कुछ संस्थाएं अपने आर्थिक संसाधनों से संकटमोचन फाउण्डेशन को लेबोटरी प्रदान करने के लिए तैयार हो गई तो उन्होंने काम आगे बढ़ाया और तुलसीघाट पर प्रयोगशाला स्थापित कर दी। इस प्रयोगशाला में 1992 से भगवानपुर तथा दीनापुर सीवेज ट्रीटमेन्ट प्लांट से गिरने वाले पानी की मानिटरिंग शुरू की गयी, जिसे 'वाच डॉग कहा जाता है। लेकिन जाँच-पड़ताल के परिणामस्वरूप प्रयोगशाला से जो आंकड़े मिलने शुरू हुए उससे सरकारी विभागों में खलबली मच गयी और परेशानी महसूस होने लगी। कुछ अधिकारी तो श्री मिश्र से इतने नाराज हो गए कि दीनापुर प्लांट में उनका प्रवेश भी वर्जित कर दिया गया। नाराजगी के मारे ही परेशान करने के लिए एक बार स्वीडेन की एक शोध छात्रा अनिका को इस प्लांट में घंटों रोके रखा गया।

गंगा निर्मलीकरण का दूसरा चरण शुरू करने के पहले गंगा निदेशालय का नाम बदलकर रहा राष्ट्रीय नदी संरक्षण निदेशालय कर दिया गया; लेकिन गंगा निदेशालय का पहला चरण अन्य सरकारी कामकाजों की तरह इतना हवाई और प्रभावहीन रहा था कि उससे क्षुब्ध संकट मोचन फाउण्डेशन की अगुवाई में वाराणसी की तमाम स्वयं सेवी संस्थाओं और नागरिकों ने दूसरे चरण के विरुद्ध जमकर आवाज उठाई। गंगा का निर्मलीकरण के नाम पर कुछ सीवेज पम्प लगाकर बेशुमार सार्वजनिक धन जिस तरह दुरुपयोग किया गया था, उससे सभी नाराज थे।

तब तक प्रो. वीरभद्र मिश्र ने प्रदूषण की मात्रा से सम्बन्धित तमाम वैज्ञानिक आंकड़े और बड़ी मात्रा में महत्वपूर्ण तथ्य एकत्र कर लिए थे और अब वह एक इंजीनियर के रूप में उनका विश्लेषण कर सकते थे। गंगा के साथ अगाध आध्यामिकता भावनात्मक और धार्मिक निष्ठा ने उन्हें इस दिशा में विशेषज्ञ की भूमिका निभाने के लिए विवश कर दिया। इससे उनके 'स्वच्छ गंगा अभियान का तीसरा चरण कहा जा सकता है। उन्होंने तथ्यों की विवेचना करते हुए बताया कि स्लज प्लाण्ट से भारी मात्रा में गलीज निकलता है। इस पर बहुत ज्यादा बिजली खर्च होती है और बैक्टीरिया को भी फैलने से नियंत्रित नहीं किया जा सकता। सबसे बड़ी बात यह है कि महंगी पद्धति के कारण देश को तीन करोड़ वार्षिक खर्च का बोझ उठाना पड़ेगा, लेकिन न सरकार ने उनकी बात सुनी न सरकारी अधिकारियों ने।

फिर भी आधुनिक भगीरथ श्री मिश्र अपने प्रयास में जुटे हैं। उनकी मान्यता है कि भारत में गंगा निर्मलीकरण के लिए प्राकृतिक प्रणाली के माध्यम से आक्सेडेशन प्लांट जैसी सार्थक परियोजनाएँ चलायी जानी चाहिए। एक अमेरिकी विशेषज्ञ डॉ. ओसवाल और कैलीफोर्निया की बर्कले यूनीवर्सिटी के प्रोफेसर डॉ. वेलीग्रीन ने 'एडवांस एण्टीग्रेटेड बेस्ट वाटर पांड्स सिस्टम (ए.आई.डब्ल्यू.पी.एस.) पर प्रयोग किए गए हैं। प्रो. वीरभद्र मिश्र ने भी उन पांड्स का निरीक्षण किया और उनका कहना है कि इस विधि से पूरा स्लज खप जाता है। उनके विचार से गंगा तटवर्ती पंचक्रोशी मार्ग पर ऐसे पांड्स बना दिए जाएं तो गंगा में मिलने वाले तमाम नालों की गन्दगी वहीं रुक जाएगी। इस प्रकार सारा सीवेज वाराणसी से बाहर चला जाएगा और वरुणा नदी के संगम से भी कहीं आगे पहुंच कर गंगा में गिरेगा।

श्री मिश्र बताते हैं कि 'संकटमोचन फाउण्डेशन से जुड़े लोग अनवरत रूप से 'स्वच्छ गंगा अभियान में लगे हैं। फाउण्डेशन के जुड़े इंजीनियर इस दिशा में देश विदेश के विशेषज्ञों से भी विचार-विमर्श करते रहते हैं। उन्होंने विभिन्न संस्थाओं के सहयोग से एण्टी सेन्टर इनसेप्टर डिजायन तैयार की है। पर्यावरण मंत्रालय के परामर्श पर एक वैकल्पिक प्रोजेक्ट भी तैयार किया गया जिस पर मात्र एक सौ पचास करोड़ रुपये व्यय होने का अनुमान है। इस प्रोजेक्ट को वाराणसी नगर निगम की स्वीकृति भी मिल गयी थी। इसके बाद नगर निगम में 1997 में 15 मई को उसे शासन की स्वीकृति के लिए भेज दिया था, लेकिन उस पर अभी तक कोई कार्यवाही नहीं हो सकी है।

श्री मिश्र ने अब ऐक्टिविस्ट की भूमिका अपना ली है। वो कहते हैं, 'लोग समझते हैं कि हम तीव्र धारा के विपरीत तैरने की

चेष्टा कर रहे हैं, लेकिन जब देश और विदेश के भी करोड़ों-करोड़ लोग गंगा को स्वच्छ देखना चाहते हैं तो हमने भी संकल्प कर लिया है कि येन-केन-प्रकारेण किसी भी मूल्य पर 'स्वच्छ गंगा कार्यक्रम को एक अभियान के रूप में चलाते रहेंगे।

इस आधुनिक भगीरथ को उसके सद्प्रयासों के लिए विश्व प्रसिद्ध पत्रिका 'टाइम तक ने सम्मानित किया, जिसके लिए देश-विदेश से बधाई और शुभकामनाएँ मिलीं, तब भी श्री मिश्र विनम्रता की मूर्ति बने रहे। वो कहते हैं, 'मेरी हार्दिक कामना है कि इस सम्मान और बधाइयों से ऐसी ऊर्जा निकले, जिसके सहारे स्वच्छ गंगा अभियान फ्लैक्स प्वाइण्ट तक पहुंच जाए, उसके सार्थक परिणाम सामने आए और गंगा तटीय संस्कृति की अविछिन्न धारा अविरल प्रवाहित होती रहे।

प्रो. वीरभद्र मिश्र की योग्यता का अनुमान इसी से लगाया जा सकता है कि इंजीनियर बनने के बाद उन्हें अमेरिका सहित पांच और स्थानों से ऑफर मिला था, लेकिन बहुमुखी प्रतिभा के धनी श्री मिश्र कहीं नहीं गए और उन्होंने वाराणसी में ही रहना स्वीकार किया, क्योंकि केवल गंगा ही नहीं, वाराणसी की समूची संस्कृति एवं परम्परा से अपार मोह है और वह हर क्षेत्र में उसे बनाए रखने का प्रयास (प्रयत्न) करते रहते हैं । यह सर्वविदित है कि वाराणसी संगीत का गढ़ रहा है, लेकिन संगीत सम्मेलनों पर अभिजात्य और सम्पन्न घरानों का दबदबा होने के कारण यहां की तमाम संगीत संस्थाएँ आर्थिक चक्रव्यूह में फंसकर समाप्त प्रायः हो चली तब विश्व विख्यात् सितार वादक भारत रत्न पंडित रविशंकर एवं जतिन भट्टाचार्य ने रिम्पा और अलाउद्दीन म्युजिक सर्किल के माध्यम से उस परम्परा को जीवित रखने की कोशिश की थी, पर सफलता नहीं मिली । आखिर उसी विषम घड़ी में मिश्र जी ने जन-साधारण के लिए संट मोचन मंदिर के प्रांगण में संगीत सम्मेलन की शुरूआत की। इसमें प्रवेश के लिए कोई शुल्क नहीं लिया जाता। वह परम्परा आज भी बनी हुई है और वहां हर वर्ष चैत्र पूर्णिमा -हनुमान जयन्ती से पांच रात भव्य अखिल भारतीय संगीत समारोह का आयोजन शुरू किया। प्रारंभ में स्त्रियों का नृत्य, गायन नहीं होता था, पर बाद में मिश्र जी ने शास्त्र सम्मत विधि से इसे भी शुरू करवा दिया। प्रतिवर्ष शिवरात्रि के अवसर पर तुलसीघाट पर त्रिदिवसीय ध्रुपद मेले के आयोजन में भी उनकी महत्वपूर्ण सहभागिता होती है। गोस्वामी तुलसीदास द्वारा स्थापित रामलीला एवं कृष्ण लीला के संचालन का भार भी महन्त प्रो. वीरभद्र मिश्र ही उठाते हैं।

तमाम व्यस्तताओं के बावजूद श्री मिश्र ने परिवार के भी अपने उत्तरदायित्वों का पूरी निष्ठा से निर्वाह किया, इसी का परिणाम है कि वर्तमान में उनके दो पुत्रों में से एक डाक्टर बना और दूसरा इंजीनियर है, जो काशी हिन्दू विश्वविद्यालय में अध्यापन का कार्य कर रहे हैं एवं उनके विरासत को संभाला हुआ है। स्वास्थ्य के मामले में मिश्र जी बचपन से ही बहुत कमजोर रहे। बाल्यावस्था में पोलियो ने आक्रमण किया। फिर टायफायड हो गया। चेचक भी निकली-इस तरह आयेदिन तरह तरह के रोग उन्हें सताते रहे, लेकिन उनका मनोबल कोई नहीं तोड़ सका।

सादा-सरल जीवन दृढ़ निश्चय मिश्र जी की विशेषता है। वह रोज सूर्योदय के पहले ही जाग जाते हैं। उनके शय न कक्ष की खिड़की गंगा की ओर है इसलिए आँखें खोलते ही माँ पतित पावनी का दर्शन होता है। फिर नित्य कर्म से निपट कर मिश्र जी घाट पर जाते हैं और गंगा में स्नान करके कमर तक पानी में खड़े-खड़े पूजन तथा गायत्री मंत्र का जाप करने के बाद करबद्ध होकर उनसे अपना सुख-दुःख निवेदन करते हैं। इसके बाद वह गोस्वामी तुलसीदास के निवास स्थान पर जाते हैं। वही मिश्र जी का मूल स्थान है। वहां वह त्रिपुरारी शिव और हनुमान जी के चरणों में बैठकर पाठ एवं जाप करते हैं।

मिश्र जी सायंकाल लगभग पांच बजे बनारस हिन्दू यूनीवर्सिटी से लौटने के बाद रात लगभग नौ बजे तक अपने आवास पर सामाजिक कार्यकर्ताओं एवं अन्य आगन्तुकों से भेंट मुलाकात और स्वच्छ-गंगा अभियान पर चर्चा करते हैं । इसके बाद नहा-धोकर वह संकटमोचन मंदिर जाते हैं। वहां लगभग आधा घंटा प्रतिमा के समक्ष बैठकर पाठ करते हैं, इसके बाद वह मंदिर से अलग महन्त के लिए बने कक्ष में बैठकर कुछ देर व्यवस्था एवं प्रशासन से सम्बन्धित कार्य निपटाया करते हैं, फिर फुरसत पाने पर कुछ देर संगीत साधना किया करते हैं। वाराणसी के सुप्रसिद्ध संगीताचार्य पंडित खन्नू लाल मिश्र हफ्ते में दो बार वहीं आकर मिश्र जी को संगीत सिखाया करते हैं। श्री मिश्र जी संकट मोचन मंदिर से घर लौटते हैं, तब आधी रात हो चुकी रहती है। उस समय वह भोजन नहीं करते। सिर्फ़ हनुमान जी का प्रसाद ग्रहण करते हैं। उस समय वह भोजन नहीं करते। सिर्फ़ हनुमान जी का प्रसाद ग्रहण करते हैं और दूध पीकर सोने चले जाते हैं। उस समय भी जब तक नींद नहीं आती तब तक केवल स्वच्छ गंगा अभियान के बारे में सोचते रहते हैं।

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# वेदना की संवेदना

*हरिराम द्विवेदी*

गंगा भारत की भूमि की जीवन धारा है। गंगा का जल साधारण जल नहीं ब्रह्मद्रव है। इस देश के जनमानस ने गंगा को देवी माँ की तरह पूजा है वह लोक की आस्था से जुड़ी हुई परम पवित्र सुरसरि है। भारतीय संस्कृति की पीढ़ियों से चली आ रही परम्परा गंगा से जुड़ी है और एक विशाल क्षेत्र गोमुख से गंगा सागर तक इससे न केवल जुड़ा है बल्कि इस क्षेत्र के पूरे भूखण्ड की सभ्यता सहस्राब्दियों से पुष्पित और पल्लवित होती आयी है। लोक में तो गंगा पूजनीया वन्दनीया हैं ही वह जीवनदायिनी और मुक्तिदायिनी भी हैं।

गंगा जल अस जल नहीं नहिं काशी अस धाम, मुकुति सरि सनहिं पथ कहीं नाहिं राम अस नाम।।

गंगा जल जैसा कोई जल नहीं है न ही काशी जैस धाम कोई धाम इस धरती पर है। मुक्ति के समान कोई पथ नहीं है और न ही राम जैसा कोई नाम है। लोक की इस मान्यता को नकारा नहीं जा सकता। जैसी मान्यता है अन्तिम क्षणों में गंगा का एक बूंद जल कंठ में पड़ जाय तो प्राणी को मोक्ष मिल जाता है। और वह भी काशी में हो तो फिर क्या कहना। काशी तो वैसे ही मोक्षदायिनी नगरी है। यह बात अनेक ऋषि-मुनियों एवं विद्वतजनों ने कही है।

वर्तमान समय में जो स्थिति है वह हमारी इस मान्यता और आस्था को न केवल आघात पहुंचाती है वरन् सोचने के लिए विवश कर देती है कि आखिर यह क्या हो रहा है? हम ऐसी पवित्र ममतामयी माँ गंगा को इतना प्रदूषित करके आने वाली पीढ़ी को क्या दे रहे हैं। तट पर बसे नगरों, महानगरों, कल-कारखानों के अवजल से गंगा की धारा प्रदूषित हो रही है । जो महाघातक है। एक ओर जगह-जगह लिफ्ट कैनाल बनाकर गंगा जल को उठाकर सिंचाई के लिए नहरों में बहाया जा रहा है तो दूसरी ओर उसमें अवजल मिलाकर उसे विषाक्त बनाया जा रहा है। शहरों की बढ़ती जनसंख्या से अवजल की मात्रा दिन प्रतिदिन बढ़ती ही जा रही है। उसके कम होने की न तो उम्मीद है न ही कोई रास्ता। यह क्रम ऊपर से ही चला आ रहा है और दिन प्रतिदिन इसमें वृद्धि होती जा रही है। तीर्थराज प्रयाग में और ऊपर गंगा में कितना जल है, यह सर्वविदित है। प्रयागराज में जमुना के मिल जाने से गंगा में कुछ जल अधिक हो जाता है। लेकिन जमुना की दशा दिल्ली, आगरा, मथुरा, वृन्दावन में देखकर बड़ी करूणा होती है। यह तो नीचे आकर चम्बल, बेतवा और केन मिल जाता है कि जमुना में कुछ जल दिखायी पड़ता है। लेकिन प्रयाग और काशी में जितना अवजल मिलते हैं उसे एक कर दिया जाय तो एक नदी अलग ही बन पाएगी। और यह सारा अवजल सीधे गंगा में गिर रहा है। हम देखते रहे और आज भी देख ही रहे हैं। गंगा को इस दुर्दशा से मुक्ति दिलाने के लिए वर्ष 1982 में संकट मोचन फाउण्डेशन की ओर से स्वच्छ गंगा अभियान का शुभारम्भ किया गया। विद्वान् मनीषी एवं विचारक श्रद्धेय प्रोफेसर वीरभद्र मिश्र जी के नेतृत्व में इस अभियान को गति मिली। अनेक सेमिनार हुए, जनजागरण के लिए तमाम सांस्कृतिक कार्यक्रम किये गये। इन सबके विवरण प्रशासन को दिये गये। जिसका परिणाम सामने आया । सरकारी तंत्र भी हरकत में आया। गंगा प्राधिकरण बना। गंगा कार्य योजना लागू हुई और सारे अवजल को मशीन से उठाकर ट्रीटमेन्ट प्लाण्ट तक ले जाने की योजना बनी। कार्य हुआ भी, लेकिन उसकी जितनी क्षमता थी, अवजल उससे कहीं बहुत ज्यादा था।

वाराणसी शहर की स्थिति यह है कि जहां शह की शुरूआत होती है वहीं एक नाला मिलता है जिसका अवजल अनवरत गंगा में मिलता रहता है। यही नहीं, शहर के अंतिम छोर तक यह क्रम कमोबेश जारी है और वरूणा संगम के पूर्व पूरे शहर का अवजल मिलता है। वरुणा की हालत और कारूणिक है। वह तो केवल अवजल की ही नदी बनकर रह गयी है। काशी जैसी पवित्र तीर्थ नगरी जहाँ लाखों श्रद्धालु प्रतिदिन गंगा स्नान करते हैं, गंगा जल ही पीते हैं, वहाँ गंगा की यह दुर्दशा। परम पूज्य महन्त प्रो. वीरभद्र मिश्र जी न केवल एक वैज्ञानिक और सम्मानित पर्यावरणविद् हैं बल्कि अतिसंवेदनशील प्राणी हैं। गंगा की इस दशा से वे इतने चिन्तित और दुःखी हैं इसे तो वे ही जानते हैं जो उनके निकट हैं और संकटमोचन फाउण्डेशन से जुड़े हैं। काश! वाराणसी का पूरा जनमानस उनकी इस संवेदनशीलता को महसूस करता, उनकी इस पीड़ा को समझ कर सक्रियता दिखाता तो प्रशासन और सरकार पर कुछ ज्यादा ही दबाव पड़ता और इसके निराकरण के लिए कोई न कोई ठोस उपाय सामने

आते। वैसे यहाँ का हर आदमी चाहता है कि अवजल का गंगा में गिरना बन्द हो।

स्वच्छ गंगा अभियान के रजत जयन्ती वर्ष के अन्तर्गत काशी ही नहीं, गंगा क्षेत्र के हर नागरिक की ओर से स्वच्छ गंगा एवं निर्मल गंगा की गुहार लगाई जा रही है। गंगा से की की महिमा है, गंगा से काशी है इसलिए काशी के लिए गंगा को रहना है। गंगा के रहने की सार्थकता तभी होगी जब इसमें एक बूँद भी अवजल नहीं गिरे। इसके लिए ही आदमियों को न केवल शपथ लेनी होगी बल्कि हर तरह से सक्रिय होना पड़ेगा।

गंगा हमारी संस्कृति है गंगा हमारी माता हैं, गंगा से अपना जनम जन्म का नाता है।।

इसलिए अपनी संस्कृति की रक्षा के लिए, अपनी माता की रक्षा के लिए गंगा को बचाना होगा। पीढ़ियों से चले आ रहे गंगा के नाते की रक्षा करनी होगी। और यह तभी संभव है जब गंगा में अवजल का गिरना रुक जाय। इतना ही नहीं, प्रदूषण के जितने भी कारक हैं उन सब पर पूर्ण रूप से नियंत्रण करना होगा। हर आदमी को शपथ लेनी होगी कि वह कोई ऐसा कार्य नहीं करेगा जिससे किसी भी प्रकार से गंगा का जल प्रदूषित हो। इसके लिए केवल शपथ ही नहीं, पूर्णरूपेण आचरण करना होगा। गंगा से लाखों लोगों की रोजी रोटी चलती है, गंगा कितनों की जीविका ही नहीं जीवन है। अतः इसकी रक्षा के लिए हर स्तर पर हर संभव प्रयास अपेक्षित ही नहीं अनिवार्य भी है। भारतीय संस्कृति की पवित्र मर्यादा गंगा से ही है। गंगा नहीं रहेगी तो सबकुछ विकृत हो जायेगा और उस स्थिति की भयावहता किसी भी संवेदनशील प्राणी को हिलाकर रख देती है। मंदिर की पूजा सी पवित्र गंगा-धारा बनी रहे, इसके प्रवाह से मिलने वाली संजीवनी लोक और संस्कृति को ऊर्जा प्रदान करती रहे। इस निमित्त गंगा की अविरल धारा में मिलने वाले अवजल का रुकना आवश्यक है। जिसके लिए हर प्राणी की भागीदारी हो और ममतामयी माँ गंगा की इस पीड़ा को महसूस करते हुए उनकी पवित्र धारा को प्रदूषण मुक्त स्वच्छ एवं निर्मल बनाने के लिए हर संभव प्रयास करें और आने वाली पीढ़ी के लिए अमृतवाहिनी सौंप सकने का अपना दायित्व निभाएँ। जय माँ गंगा।


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