

Assessment of Potential Institutional Models for Sewage Treatment in Ganga Basin and the Way Forward

GRBMP: Ganga River Basin Management Plan

by

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1. Introduction

The river Ganga occupies a unique position in the cultural ethos of India. Legend says that the river has descended from Heaven on earth as a result of the long and arduous prayers of King Bhagirathi for the salvation of his deceased ancestors. From times immemorial, the Ganga has been India's river of faith, devotion and worship. Millions of Hindus accept its water as sacred. Even today, people carry treasured Ganga water all over India and abroad because it is "holy" water and known for its "curative" properties. However, the river is not just a legend; it is also a life-support system for the people of India. It is important because:

- The densely populated Ganga basin is inhabited by 37 per cent of India's population.
- The entire Ganga basin system effectively drains eight states of India.
- About 47 per cent of the total irrigated area in India is located in the Ganga basin alone.
- It has been a major source of navigation and communication since ancient times.
- The Indo-Gangetic plain has witnessed the blossoming of India's great creative talent.

Ganga, the longest river in India has a unique position in the Indian psyche. The river Ganga has a special place for the people and Government of India. People have incomparable reverence for the river Gangaji, whom they regard as a mother and believe it to be holy. Government of India (GOI) has declared it to be the Nation River and set up the National Ganga River Basin Authority (NGRBA). NGRBA was set up as a planning, financing, monitoring and coordinating authority for strengthening the collective efforts of the central and state Government for effective abatement of pollution and conservation of the river Ganga.

National Ganga River Basin Authority (NGRBA) chaired by the Prime Minister in its First Meeting held in October 2009 desired to make a comprehensive Ganga River Basin Environment Management Plan (GRBEMP). This task has been given to the Consortia of 7 IITs (Indian Institute of Technology at Mumbai, Delhi, Guwahati, Kanpur, Kharagpur, Chennai and Roorkee). The most important, and also the most challenging, task is to ensure Un-polluted flow in the rivers of the Ganga Basin in general, and the main stem of the river Ganga in particularly. The task appears to be uphill in the backdrop of the general public perception that earlier attempts under much publicized Ganga Action Plan (GAP) have not yielded any fruitful results and much of the huge expenditure (to the tune of more than Rs 10,000 million) incurred has been wasted. The Central Government now proposes to allocate Rs 70,000 million with the assistance of World Bank under the Clean Ganga Mission by 2020.

The preparation of Ganga River Basin Environment Management Plan (GRBEMP) is not only a massive but complex challenge. While rectifying the existing damage done by earlier interventions and pollution, equally important is to curtail, reduce, and to the extent possible, eliminate the processes that cause damage to Ganga. In rectifying the existing damage along with technological interventions, policy interventions play an equally critical role. While policy is a framework, law provides the legitimacy to it

and its implementation rests with the institutions of governance. The sub theme on "Policy, Law and Governance" shall deal with this important task of formulating a plan for this in Ganga Basin.

2. Scope

The scope encircles the strengthening of the Governance and Institutional structures of Ganga River Basin Management Plan, with the stakeholder's engagement and participation with each other in an inclusive, transparent and accountable manner to accomplish better service provision that is, free of corruption and abuse, and performed within the rule of law.

3. Rationale for Analysis

The rationale for analysis of **Governance and Institutional Mechanism of the GAP & NGRBA** could be stated by presenting some arguments.

First, the GAP and NGRBA has been the first –ever multi state, national –level substantial effort for reducing the pollution of the national river Ganga. Being the national program it has set the precedence for Ideal Governance and Institutional Mechanism framework for the other rivers in the country.

Second, the GAP and NGRBA initiative has attempted to address the most complex dynamics around the issues of river pollution. Major issues are; vast and socio-culturally complex civilization, densely populated cities directly along its banks. Most of the urban centers lack proper sewage treatment facilities (Vajpai, 2005). Lack of empowerment of the local people all continue to contribute to the deteriorating state of the Ganga.

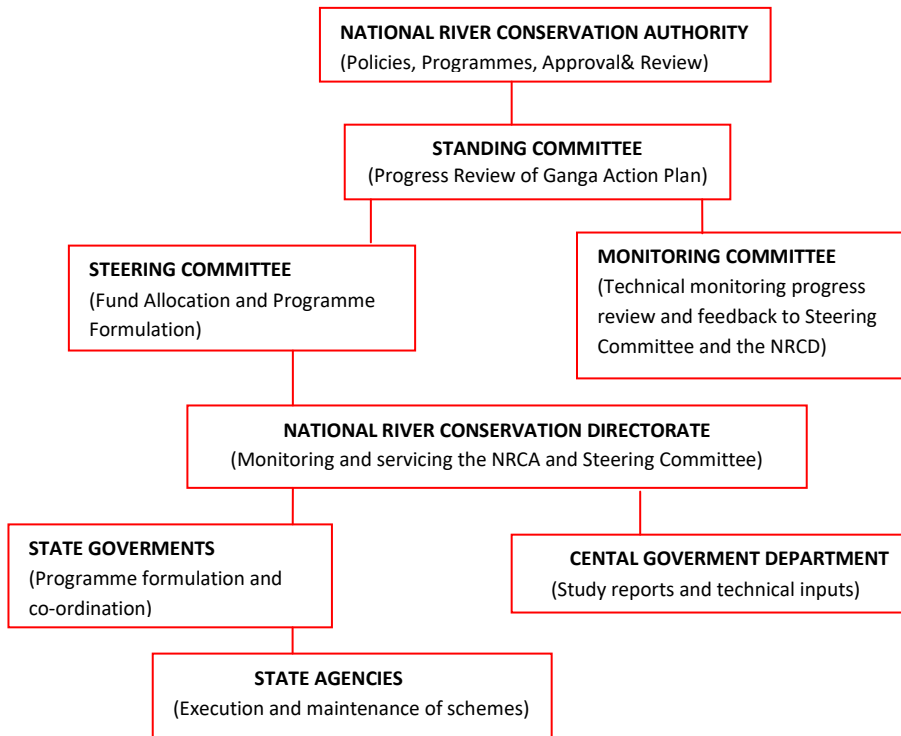
Third, GAP and NGRBA is a new phase by adapting a river basin approach. The Government itself has accepted that, the need for revamping the Ganga cleaning program was being widely recognized. Ganga has a special place in the hearts and minds of all Indians and these needs to be recognized. It was felt that a model for river cleaning should be set up through a new institutional mechanism. A statement to this effect was made in Parliament by Shri Namo Narain Meena, Minister of State in the Ministry of Environment & Forests. A Notification in this regard is also being issued by the Government (PIB Friday, February 20, 2009). Proposed institutional frame work of NGRBA is quite weak-Sri Nitish Kumar (PR. No. – 14, Press Release, Date-05.10.2009)

Forth, the SWOT analysis of GAP also points at the different dimensions of broader problem of Governance failure, despite some of its achievements.

GAP-I: based on Traditional approach. Major weaknesses involve:

- Financial issues
- Technological issues
- Operations issues
- Maintenance of Assets
- Neglect the Role of communities

Institutional framework of GAP



The National Ganga River Basin Authority (NGRBA)

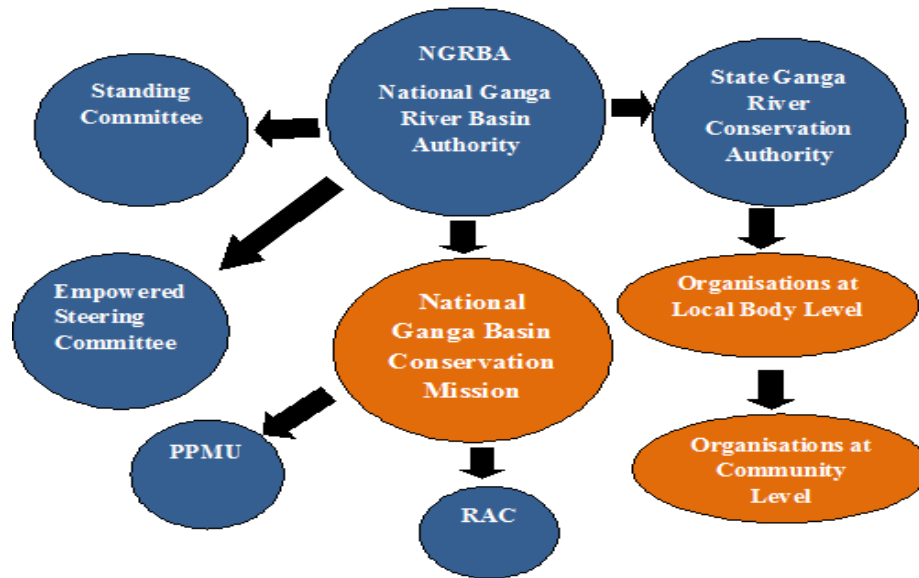
The formation: 20th February, 2009,

The Role: A Financing, Monitoring and Co-ordinating Authority.

Major weaknesses

- No Accountability
- Without Transparency
- Working in a detached manner

Institutional Framework of Existing NGRBA



NOTE: The institutions already created are shown in blue, those proposed to be created are shown in orange

4. Activities carried out

- I. Inaugural meeting of PLG group meetings at IIT Delhi on July 25, 2011 discussing the scope and objectives of the PLG group.
- II. Review of literature including documents such as reports, parliamentary debates, commentaries and critiques (Tyagi, 2010; AHEC, 2011; PIB, 2009; Kathpalia, 2006; Dixit et al, 2011; Rogers and Hall, 2008; MDBA, 2009.)
- III. Study of river basin management systems/approaches adopted elsewhere in the world, e.g. Murray Darling Basin in Australia, Rhine Basin in Europe, Nile Basin in Africa, as a source of information for picking up ideas relevant to the Ganga Basin.
- IV. Personal meetings and discussions with The Director, NRCDD, Ministry of Environment and Forests (MoEF); The Director, The National Water Development Agency (NWDA); and The Director, Karnataka Urban Infrastructure Development & Finance Corporation, Bangalore.
- V. Continued discussions with other PLG group members at IIT Bombay, IIT Kharagpur and IIT Kanpur through email and phone.
- VI. Khare, M, "Environmental Policy and Governance Issues of Ganga River Basin Management Plan", in one day workshop on, "Water and Environmental Issues of Ganga River Basin Management Plan", ASCE, IIT Delhi, 4TH November 2011.

VII. PLG group meeting in IIT Delhi, on March10, 2012 discussing the proposed structure of the NGRBMP.

VIII. Khare, M, "The Governance and Institutional Structure of proposed NGRBMP" in one day workshop on, "Development of a Framework for Benchmarking of Sewage Treatment System with reference to Sewage Pumping Station", 5 April 2012, NIT Patna

5. Literature Review

The Murray-Darling Basin river catchments cover an area of 1.06 million km, or 14 per cent of Australia's land area. It is located in the states of Queensland, New South Wales, Victoria, South Australia and the Australian Capital Territory. Annual economic output from the Basin is around AUD\$23 billion (USD\$16.79 billion). AUD\$10 billion (USD\$7.3 billion) of this is from agriculture, equivalent to almost one third of the value of Australia's total annual agricultural output.

While use of the Basin's resources has brought huge benefit to Australia, this has had some detrimental ecological, cultural, social and economic consequences. In recognition that (under Australia's federated system of government) no one government alone was able to effectively manage the Basin's emerging natural resource management problems, the federal and relevant state governments negotiated the Murray-Darling Basin Agreement in October 1985 (which replaced the earlier 1915 River Murray Waters Agreement). Its aim is "to promote and co-ordinate effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Murray-Darling Basin".

The management structure established to underpin the governance of the Agreement comprises:

- I. The Murray-Darling Basin Ministerial Council, the decision-making forum;
- II. The Murray-Darling Basin Commission, the executive and advisory arm of the Council;
- III. The Community Advisory Committee, which provides the Council with advice and provides a two-way communication channel between the Council and the community; and
- IV. The Murray-Darling Basin Act 1993, which was ratified by the five Basin governments through identical legislation enacted by each Parliament.
- V. Millington (2002) suggests there are four common features or attributes or principles that constitute best practice in integrated river basin management and it is those river basin organisations or country agencies that have addressed all four in one form or another that seem to be doing best.

They can be stated as follows.

1. An institutional framework exists which is both robust and flexible, and includes modern legislation and an integrated policy framework.
2. Planning and management is knowledge driven. Strategic assessment of water and related resources receives high priority, and does not stop at mere data management, but actively pursues the generation

of strategically focussed information and knowledge.

3. Integration is built into institutions, resource management, and policy. There is recognition of the holistic nature of ecosystems, and all policies, decisions and projects are evaluated against this background.

4. Community participation is built into all processes. It is seen as the normal way of doing business. It recognises also that the natural resources of a country belong to its people, and they have a right to participate in its management – with the flow-on effects that community participation leads to government efficiency, ownership of policies and actions by the community, and to more readily accepted principles of cost sharing.

So if the MDB Initiative is world best practice Integrated Catchment management then it will not only have these features but will have the governance structures and arrangements that enable them and account for performance.

Nile Basin Initiative Institutionalizing Cooperation

In spite of the glasnost in relations between formerly belligerent co-riparian's, moving from relations characterized by political conflict to new forms of cooperation required significant institutional development. It was not sufficient that the countries were now in a position to develop institutional cooperation; they required external assistance in order to facilitate this process. In 1997, the Nile Ministers requested that the World Bank establish a fundraising group for cooperative projects on the Nile. The Nile Basin Initiative that developed out of this request represented are-emergence of the earlier NRBAP. It now forms the most important basin-level approach to cooperative development of the Nile waters ever undertaken, and its significance extends well beyond the basin itself.

The Nile Basin Initiative describes itself as a “transitional arrangement until a permanent legal and institutional framework is in place” (NBI, 2000) and comprises a Council of Ministers of Water Affairs of the Nile Basin (Nile-COM), a Technical Advisory Committee (Nile-TAC) and a Secretariat (Nile-SEC).

Focusing on a process-oriented approach, the NBI firstly sought to establish a common point of departure for all stakeholders, namely the NBI “Vision.” This aimed at framing the tasks to be institutionalized within subsidiary action programs (SAP) at a sub-basin level. These SAPs aimed to “identify and implement investment projects that confer mutual benefits at the sub-basin level and that the riparian's agree to pursue cooperative [activities]” (NBI, 2000).

The “visioning process” took six months to complete, and the wording of it required major revision, discussion, and fine-tuning. Nevertheless, the importance of establishing the “vision” lay as much in the process undertaken as in the end result, and by bringing together all the co-riparian's (except for Eritrea which, at the time, remained an observer) raised important discussion on key legal and development issues.

The success to date of the NBI lies in one of its institutional innovations, namely the application of the principle of subsidiary, or management of the basin at the lowest appropriate level.

The Eastern Nile program and the Nile Equatorial Lakes program aimed to express the vision in terms of actions on the ground, bringing high level political engagement and agreement to socioeconomic development within the states themselves. In tandem with these action programs, a shared vision program would help to continue to support the process of cooperation, included within which were a number of cross cutting projects:

- I. Nile Basin Tran boundary Action
- II. Regional Power Trade
- III. Efficient Use for Agricultural Production
- IV. Water Resources Planning and Management
- V. Applied Training
- VI. Confidence-Building and Stakeholder Involvement
- VII. Socioeconomic Development and Benefit Sharing (see appendices).

This program was envisaged to “create an enabling environment for cooperative management and development ... through a limited but effective set of basin-wide activities and projects” (NBI, 2001).

Since 2001 the major preoccupation of the process has been the establishment of sound funding for this portfolio of projects and programs. To this end, the International Consortium on the Cooperative Development of the Nile (ICCON) was created and held its first meeting in Geneva (ICCON 1) in June 2001, at which it received pledges from donors of US\$120 million over a six to eight-year time frame. ICCON’s long-term aim as a partnership of riparian states and the international community is to promote joint funding, transparency, and more broadly to raise support for the NBI. One of the key process issues is the establishment of a multi-donor Nile Basin Trust Fund to provide “streamlined, cost-effective funding ... which would consolidate donor support and ensure the clarity and cohesiveness of the program” (NBI, 2000). Following Parliamentary approval of the NBI’s new international organization status under Ugandan law in September 2002, it was envisaged that the NTF would shortly come under the management of the Nile Basin Secretariat.

The NBI in 2003 – appropriately the International Year of Freshwater – is now at the stage of moving from the development of cooperation and the institutionalization of this process to the achievement of development through joint multilateral and bilateral projects. This is a crucial test for the whole initiative and the principles on which it is built. The credibility of the external facilitation process is also at stake. Proof of success will not, in the long term, reside in cooperative frameworks or even the absence of major international conflict; rather it will lie in the capacity of processes and institutions to translate cooperation into development, and development that achieves poverty reduction from the local level upwards. One of the major challenges to ensuring the sustainability of the NBI is in creating a process of institutional support at all levels, including civil society at regional, national, and local levels. The importance of this challenge has been emphasized within the Nile Basin Discourse Project

(undertaken since 2001) that attempts to facilitate dialogue about the NBI and to establish learning processes for institutions involved in Nile Basin-related activities be they environmental, socioeconomic, or cultural. In 2003 a formal Nile Basin Discourse Desk was established in Entebbe.

6. What is governance?

- Governance is about the processes by which decisions are made and implemented.
- It is the result of interactions, relationships and networks between the different sectors (government, public sector, private sector and civil society) involved in service delivery.
- It involves decisions, negotiation, and different power relations between stakeholders to determine who gets what, when and how.
- Governance includes more actors than just the government; many stakeholders are involved.
- All those with a legitimate interest in the outcome of a decision-making process could be involved; but who and how powerful they are will determine how they are able to influence the outcomes of any decision.
- Stakeholders include users, governmental organizations (such as municipalities), utilities, service providers, NGOs, financiers, and civil society.

6.1 What is River Basin Governance?

“River Basin Governance involves the coordinated use and management of land, water, vegetation and other natural resources on a catchment basis..... The Government seeks to balance resources utilization and resource conservation through the minimization of land and soil degradation and the maintenance of water yield and quality”.

(New South Wales Soil Conservation Service, 1986)

6.2 Integrated River Basin Management (IRBM)

IRBM is defined as an integrated and coordinated approach to the planning and management of natural resources of a river basin, and which encourages stakeholders to consider a wide array of social and environmental interconnections in catchments/ watersheds. Under the IRBM, the best management practices (BMP’S) are developed using affordability, appropriateness and equity criteria. However, there are some critical factors that may prevent effective river basin management. These are generally connected to institutional, organizational, economic and socio-culture. In order to deal with such critical factors, we need improved river basin governance mechanisms. This mechanism primarily consists of various local, cultural, political, administrative and institutional attributes. The efficiency of the good governance attributes depend on ground actions, plans of management, strategic natural resource of management policies, use of resource science, engineering and economic analysis of management

options, community participation, incentives and many different type of government and community-led initiatives.

6.3 Elements of river basin governance

- Policy development.
- Primary and secondary legislation.
- Regulation and monitoring.
- Planning.
- Decision-making.
- Control: monitoring, policing, enforcement and sanctioning.

6.4 What is good governance?

- Good governance involves constructive cooperation between the different sectors where the result is:
 1. Efficient use of resources,
 2. Responsible use of power, and
 3. Effective and sustainable service provision.
- Good governance emerges when stakeholders engage and participate with each other in an inclusive, transparent and accountable manner to accomplish better service provision that is free of corruption and abuse, and performed within the rule of law.

6.5 Principles of effective river basin governance

Transparency

- Transparency comprises all means to facilitate citizens' access to information and their understanding of decision-making mechanisms.
- Guaranteeing transparency, integrity and accountability in IRBM is fundamental to creating a peaceful and secure management structure for its implementation.

Accountability

- Good governance and sound institutions play a huge role to promote accountability. Accountability means an individual or institution must answer for their own actions. It requires that citizens, civil society organizations and the private sector are able to scrutinize actions taken and decisions made by leaders, public institutions and governments and hold them answerable for what they have, or have not, done.

Participation

- Participation implies that all stakeholders, including marginalized and resource poor groups, are meaningfully involved in deciding how water is used, protected, managed or allocated.
- IWRM can only be successful if all stakeholders can become meaningfully involved, including marginalized and resource-poor groups.
- Governments should support the participation of all stakeholders. Principles of effective IRBM governance
- Legislation needs to not only grant communities and other stakeholders a right to become involved in the RBMP process, but should also encourage their participation in statutory institutions through incentives and grant free access to information.

Access to justice

- Effective basin governance that promotes principles of IRBM should provide a framework where everybody has access to basin, which can be materialized through access to justice.
- In practical terms, this means that legal frameworks need to provide solutions that enable all users to demand their rights from duty bearers. This requires not only an effective legal framework, but also well functioning institutions.

Responsiveness

- Responsiveness refers to how well leaders and public organizations take the needs of citizens into account and is able to uphold their rights.
- A basin governance agenda addressing responsiveness could include the following components: human rights, anticorruption, integrity and regulatory equality.

6.6 Enablers for effective river basin governance

Effective governance of river basin resources and services requires broader and well-organized participation by civil society, including the media. Governments cannot solve these problems working alone. Working with civil society, which may include the local private sector, is essential.

To achieve more effective river basin governance it is necessary to create an enabling environment, which facilitates private and public sector initiatives that fit within the social, economic and cultural setting of the society. There is no single model for competent river basin governance. There are, however, some basic principles and desirable features that facilitate improved performance shown below.

6.7 An enabling environment for effective river basin governance is:

(A) Open and transparent:

- Institutions should work in an open manner;
- Use easy and understandable language to nurture trust and confidence of the public in the bureaucratic structures, which are inherent to river basin institutions;
- All policy decisions should be taken in a transparent manner so that both insiders and outsiders can easily follow the decision-making procedure.

(B) Inclusive and communicative:

- The quality, relevance and effectiveness of government policies depend on their ability to ensure wide participation throughout the policy chain, from planning to ongoing service delivery;
- Improved participation means better results and better governance.

(C) Coherent and integrative:

- Water governance should enhance the effectiveness of IRBM and decision-making should take place within an integrated framework;
- Dialogue is needed both horizontally between stakeholders at the same level (e.g. inter-sectoral collaboration), and vertically between stakeholders at community, district, basin and national levels;
- Political leadership and institutional responsibility at all levels are the basic ingredients of a consistent approach within a complex system.

(D) Equitable and ethical:

- Equity between and among the various interest groups, stakeholders, and consumer-voters should be assured throughout the process of policy development and implementation;
- It is essential that river basin governance has to be strongly based upon the ethical principles of the society in which it functions and based on the rule of law;
- Legal and regulatory frameworks should be fair and enforced impartially.

(E) Accountable:

- Decision-makers and service providers need to take responsibility for their decisions and services;
- Accountability is needed from all stakeholders involved in policy and decision-making processes;
- Decision-makers in government, the private sector and civil society organizations are accountable to the public, as well as to institutional stakeholders;

(F) Efficient:

- All types of efficiencies should be considered: economic, political, social, and environmental.

(G) Responsive:

- Responsiveness requires that policies are implemented in a proportionate manner and decisions are taken at the most appropriate level;
- It is important that policies should be incentive based to ensure a clear social or economic gain to be achieved by following the policy.

(H) Sustainability:

- The institutions should also be built considering long-term sustainability to serve both present and future users of water resources and water services.

7. Purpose of Restructuring the Institutional Framework of NGRBA

7.1 What is restructuring?

Restructuring refers to changes in “soft” management systems, or to the organizational and institutional dimensions of management systems. In simple terms, restructuring results in changes in who does what.

7.2 Why restructure?

a. Restructuring to improve performance

Many governments have reached the conclusion that significant changes to utility governance and structure are necessary to ensure the quality of service desired by users. Changes in incentive structures, management norms, and the relationship between the utility and the government are thought to be required. Accordingly, reforms in governance structures have been undertaken. Good governance is important for the effective performance of organizations, underpinning important functions such as: enforcing rules, and adapting rules as required; mediating conflict; building trust and legitimacy; and ensuring accountability. This, in turn, reduces risk. Improving governance can lead to more efficient and cost-effective service provision, service levels more attuned to users’ preferences, and increased responsiveness to changing conditions and public needs. When restructuring, particularly when creating standalone agencies and involving private companies, municipal governments must balance different aspects of good governance. For example, increasing managerial autonomy raises the question of how to maintain high levels of accountability and transparency.

b. Restructuring to source financing

In cases where governments are unwilling or unable to borrow to meet investment needs, restructuring may provide a way to source financing. Often, when finance is the key restructuring goal, private finance is a possible option, and municipal governments consider creating a stand-alone utility or delegating water supply to an independent operator who provides project financing. From the perspective of

governments, this strategy sometimes has the advantage of reducing apparent pressures on government budgets.

c. Restructuring to meet new legislative requirements

New legislative requirements may enable or even require restructuring of utility services. In many instances, legislation creates new options for restructuring; in some cases, restructuring is required by legislation. In many jurisdictions, legislation has been introduced recently that imposes new operational management requirements. In some instances, other restructuring processes (such as municipal amalgamation) may impose new legislative frameworks that drive utility restructuring.

8. Significance of Proposed NGRBMP

In the press note of 04 November 2008:-

“...there is a need to replace the current piecemeal efforts taken up in a fragmented manner in selected cities with an integrated approach that sees the river as an ecological entity and addresses issues of quantity in terms of water flows along with issues of (water) quality.”

Following in line of above, the proposed NGRBMP has the following attributes of significance:

- The composition of National Ganga River Basin Management Plan includes the Prime Minister as chairman, the Union Ministers and the Chief Ministers of states.
- NGRBMP has been created with a view to empower the community, who knows the ground reality of the river Ganga in terms of its resources, ecology and quality and quantity of the water flowing through it; and are directly affected through any changes or developments in the Ganga Basin Area.
- NGRBMP is powered by the expertise in the fields of river conservation, hydrology, environmental engineering, social mobilization and other fields and created in response to persistent demand from religious and spiritual leaders, civil society and academicians to accord a special status to river Ganga.

The river basin conservation is therefore an Integrated Ecological Approach rather than the Tradition Approach. The Traditional Approaches are essentially hydro- centric. They are single sector (water) oriented in which the river basin is viewed as a complex physical system- based on interrelationships between the hydrological and geomorphologic characteristics of the basin and its rivers and streams (Hooper, B, 2005).

On the contrary, the Integrated Ecological Approach views the river basin as an integrated ecological system which produces natural resources, products or amenities of direct or indirect human values and ecosystem services of fundamental worth. The principal objective of this approach is maintaining its overall resource productivity on a long-term, sustained-yield basis. The present structure of the NGRBA has been proposed based on the Integrated Ecological Approach, the first and foremost task of which is formulating the integrated river basin management (Hooper, B, 2005).

8.1 Governance Mechanisms in the Proposed NGRBMP

- **Use of a system approach**, in which attention is directed towards both natural and the human because both are affected directly or indirectly by the policy.
- **Use of a strategic approach**, in which attention is directed to key issues. It means that the issues are identified through consultation, disclosure with stakeholders, community, and government and with whom the issues are linked.
- **Use of a stakeholder approach**, in which the non government groups and citizens are able to participate in decisions making process about river basin resource management.
- **Use of PPP approach**, in which state governments, local governments, non-government organization (civil society, community, private partnership organization, NGO's) and individuals, each has a role, requiring common objective setting, definition of roles and responsibilities, and conflict resolution mechanisms.
- **Use of a balance approach**, in which the development and construction or projects are worked targeting the ecosystem protection, and satisfying social norms and values.

8.2 Utilities of Governance

- Extensive debate between society and government. Consensus private sector participation.
- There is adequate system of subsidies to ensure the need of the poor are satisfied.
- Assurance of reasonable rates and returns, transferring efficiency gains to the consumers.
- There is a regulatory body that is accountable for timely and adequate information to consumers and regulators.
- There is provision of opportunities for meaningful and related user's participation.
- The independent and capable regulatory bodies.
- Conflict-solving mechanisms that ensure to resolve social, environmental, ecological or economic adjudication conflict arise in the basin area.

8.3 The River Basin Management Characteristics

- Management goals are integrated rather than planning resource use and conservation from either single or multi-purpose reasons.
- Management planning is proactive rather than reactive resource: looking to identify the problems before they occur and being cautious in resource use.

- Management work in a co-operative work environment, rather than using confrontational and directive management.
- Management encourages commitment in staff rather than using command-and-control management.
- Management empowering the local and regional decision-making rather than centralizing decisions and directive staff.
- Management is based on a problem-solving rather than functionality.
- Management provides appropriate, relevant, and affordable projects and information to the effectors of the catchment area.

The modified structure of the NGRBMP being proposed here shall be having outlined different levels/stages as

A. Planning stage

- i. Define the problem/ scope the issues
- ii. Collate available knowledge
- iii. Identify the community objective
- iv. Identify the state government objective
- v. Negotiate specific objectives
- vi. Identify issues/knowledge gaps/ implementation issues
- vii. Device basic catchment plan
- viii. Identify resources
- ix. Develop more detailed plans
- x. Develop specific evaluation criteria and monitoring indices

B. Research stage

- i. Identify feasible solutions
- ii. Identify barriers to adoption of research
- iii. Identify basic physical and social research needs
- iv. Conduct basic research

- v. Conduct collaborative action research

C. Implementation stage

- i. Derive an implementation strategy
- ii. Assign priorities & responsibilities for implementation
- iii. Define available resources
- iv. Allocate resources for priority activities
- v. Conduct and coordinate implementation
- vi. Design monitoring & evaluation
- vii.** Assign responsibilities and resources
- viii. Conduct monitoring and evaluation

9. Outcome

During last one year (May, 2011 – April 2012), the PLG group at IIT Delhi has extensively reviewed the literature on River Basin Management and interacted in many meetings and workshops inviting the critical feedbacks from key stakeholders/NGO, Senior Executives and Managers related to water sectors.

Table 1 list out the gaps and shortcomings in the existing institutional and governance structure of NGRBA and GAP1 and describes as to how the proposed NGRBMP fulfils these deficiencies under different working regimes.

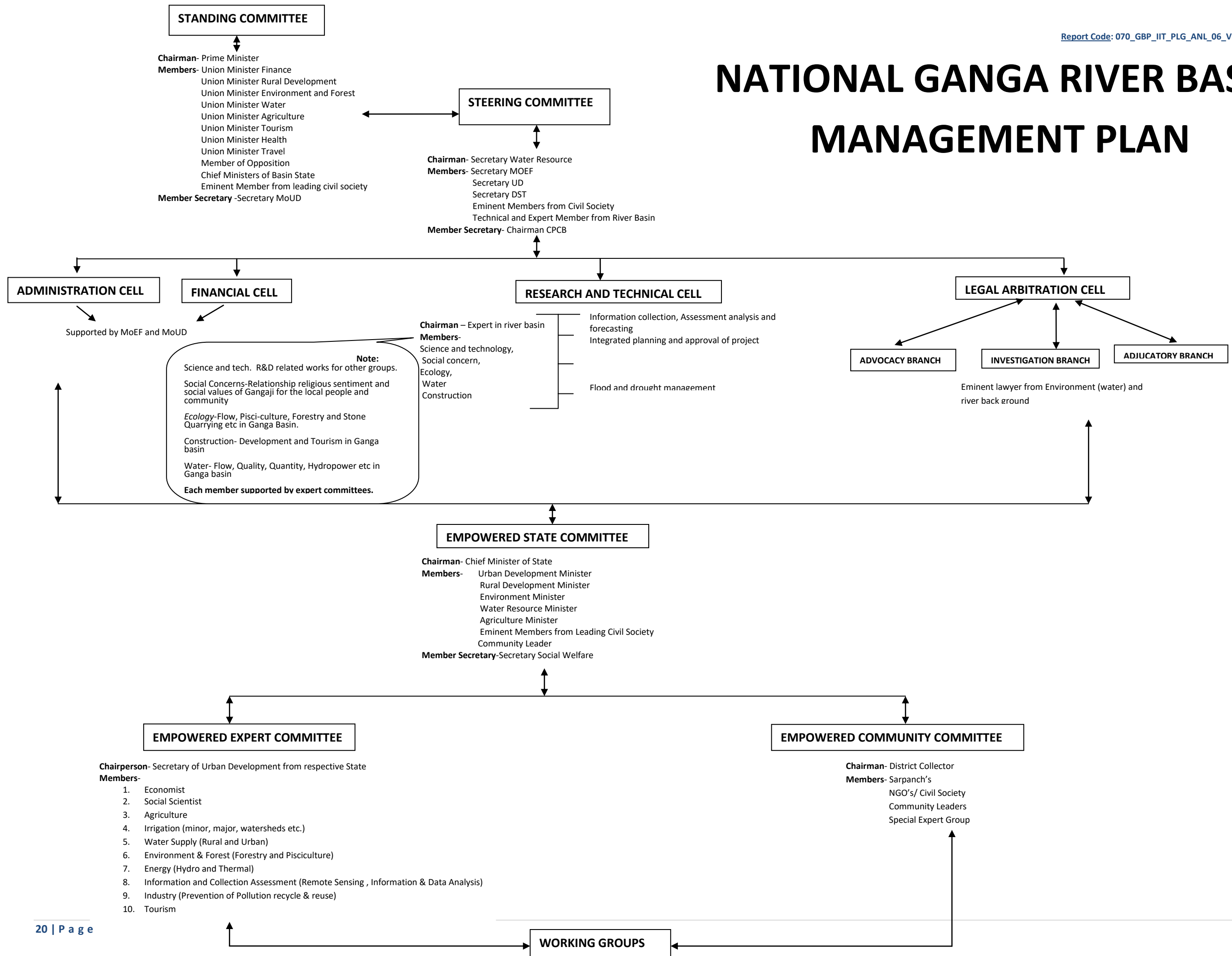
Table 1Characteristic and Approaches of Governance and Institutional Mechanism: NGRBA/GAP vs NGRBMP

Working Regime	Overview	NGRBMP	GAP-1, NGRBA
Purpose	Value sustainability, contributing to society through river management plan.	Integrated River Basin Approach, ensuring ' <i>Aviral Dhara</i> ' and ' <i>Nirmal Dhara</i> '.	Hydro-centric, Based on traditional Approach.
Knowledge and Skills	Diverse Knowledge & skills, inter-disciplinary operation.	Knowledge and Skills to understand links between physical & social systems. " <i>Ability to Work Across Disciplines</i> "	Knowledge and Skills to ensure control and economic valuation.
Approach towards Relationships	Willing to engage with others, open minded, respectful of different perspectives.	Focus on genuine engagements & connection with others. " <i>Involved Upfront, Trusting and Respectful</i> "	Directive and Formal relationship.
Accountability & Transparency	Clear accountability mechanisms and information; Provision to facilitate stakeholder scrutiny and participation.	Accountability & Transparency facilitated by communicating and debating issues openly. " <i>Decision Making with Stakeholders</i> "	No such provision; Accountability & Transparency are only formal.
Continual Improvement	Experimental learning, evaluation & ongoing innovations.	Learning through experience and questioning current approach. " <i>Show and Demonstrate</i> "	Theoretical education and learning with formal evaluation.
Risk Management	Addressing risk associated with uncertainty.	Risk is shared and reduced through information and communication. " <i>Risk Communication</i> "	Risk is controlled; often underwritten by the Government.
Leadership	Clear & strong leadership to set the direction and engage other to participate.	Leadership through influencing, encouraging and supporting others. " <i>Influencing and Guiding</i> "	Formal leaders influenced by the Government; directing others.
Cooperation & Collaboration	Working together to achieve common goals.	Partnership considering member's needs including PPP. " <i>Interactive and Community Deliberation</i> "	Formal partnership involving the Government.
Infrastructure	Infrastructure is integrated; enabling to value river basin ecosystem and its health.	Decentralised infrastructure tailored for site requirements; enabling fit for purpose use. " <i>Site Specific</i> "	Large scale, centralised infrastructure.
Administrative arrangement	Distinct role and responsibilities; facilitate effective member interaction.	Facilitate cooperation for the community and local body; " <i>Working Closer Together</i> "	Centralised
Authority	Power should be shared; and strategic considerations be at the forefront of the political process.	Power decentralised; individual responsibility is emphasised. " <i>Empowering the Community Level</i> "	Power centralised with government; and enforced through <i>top-down</i> mechanisms.

10. The NGRBMP

Based on the above analysis, the PLG group of IIT Delhi has proposed the modified institutional and governance structure of the NGRBMP for further critical discussions and feedback which is appended with this report.

NATIONAL GANGA RIVER BASIN MANAGEMENT PLAN



After further discussion on the structure with Prof. Vinod Tare, Mr. Om Kareshwar, we modify the institutional governance structure and prepare a questionnaire to support or give verity to our proposed Structure.

After the 74th amendment of Constitution of India we are supposed to decentralize power as much as possible but in reality whether it is Centre or State; none is truly willing to adhere to the spirit of this much talked amendment.

In this existing NGRBA structure in Standing Committee instead of several Cabinet Ministers along with Prime Minister it should be proposed to have such a composition which to a great extent could reflect the political will of the Nation in respect of Ganga River Basin. It is most often observed that whenever there occurs such a high level non-party executive meeting where Prime Minister chairs; seldom any cabinet colleague dares to speak anything before him either because of courtesy or lacking of having any additional point. In such a case it is sheer wastage of valuable time of other Cabinet Ministers. The Prime Minister is the Head and Principal of its Council of Ministers. The Prime Minister seldom takes any decision on policy matter without the approval of its constituent ruling political parties and later on that political decision of those ruling parties are approved through formal CoM meeting. In such a good procedure in place; it is really useless to have such a structure where PM has to take decision again with his Cabinet colleagues, it's nothing but repetition and faulty decision making process.

Therefore it is suggested that this Standing Committee should be Chaired by Humble PM who is expected to come with requisite preparation i.e. has already done his homework and coordination with concerned ruling parties and Ministries in advance. The members should be the Leader of Opposition from Lok Sabha and Rajya Sabha. This would in true sense represent the Union of India at Centre. As the Ganga River Basin is spread and related to 11 Basin States it is highly desirable that this highest policy making body should have their representations as most of work and subject regarding any River Basin in India constitutionally vested with the basin States only. In a vibrant democracy it is widely recognized the need of civil societies and other eminent opinion makers to make a truly functional and participatory form of governance. Therefore the Chief Ministers of respective basin States should be the members along with the PM, Leader of Opposition (LS & RS) and eminent members of civil society through proper search and screening process. Then, this committee should have the top-most bureau crate i.e. Cabinet Secretary as Member Secretary. The Chairman of the Steering committee being in charge of implementation and execution should be invited member just to be the witness of Political Will and Concern. Thus whatsoever policy decision is taken by this highest body, it would be the mandate of the entire executives to make the policy working on ground level. This highest body should not have any executive role like sanctioning or authorizing or interfering with other decision making after setting the tone and tenor of the policy i.e. this body would not sit on the decision whether this or that project should be given green signal or not. No political interference at all.

After having a policy line in hand there comes the need of Steering Committee that should have full time Chairman having excellent track record and ranking similar to Cabinet Secretary/Chief Election Commissioner. The Secretaries of concerned and related Ministries e.g. UD, RD, DST, MoEF and others should be the member along with eminent members of civil society. This Chairman would work as Chief-Executive. Under the chairman there should have state of art secretariat. This secretariat should house separate and autonomous Administrative, Financial and Legal wing along with a centralized resource centre which may even be called as 'GANGA KNOWLEDGE CENTRE'. This GKC would have large base of empanelled experts of various related fields, e-library and other knowledge resources. The Legal wing would have Advocacy, Investigation and Adjudication cell independent but interlinked with each other.

Similar to the Central Standing Committee each Basin State should have their own Standing Committee comprising of Chief Minister as Chairperson along with Leader of Opposition of Vidhan Sabha and Parishad, eminent members of civil society and Chief-Secretary of the respective State as Member-Secretary and the Chairman of State Steering Committee as invited member.

Likewise there should be State Steering Committee comprising full time Chairman having rank and position of Chief-Secretary along with Secretaries of concerned Departments/Ministries, eminent members of civil society, From here there would be different approach i.e. from here onward, once the State Political Will is made clear and the Steering Committee has prima-facie decided to implement it, it would arrange the resources by coordinating with Central Secretariat under the Chairmanship of Steering Committee. Once the plan, DPR and all technical work is finished by Central Secretariat Resources in complete sync with local body, the State Steering Committee in coordination with Central Secretariat would facilitate the local body to implement the work efficiently.

It is envisaged that ultimately the decision should come from the community; work should be performed by the local bodies only. Neither the Centre nor the State shall be allowed or permitted to vitiate the spirit of 74th amendment. Both the governments' role would be confined to financing and facilitating through empowering the community and local bodies.

There shall not be misuse of any resources at any level therefore it is proposed for centralized state-of-art secretariat with GKC. This would pool the resources whether it's financial or human or time.

NATIONAL GANGA RIVER BASIN MANAGEMENT PLAN

STANDING COMMITTEE
Topmost Political Authority

STEERING COMMITTEE

- Chairman-Members-**
- Prime Minister
 - Leader of Opposition (Lok Sabha)
 - Leader of Opposition (Rajya Sabha)
 - Union Minister of Finance
 - Chief Ministers of 11 Basin States
 - Chief Justice of India
 - Eminent Members from Civil society through Search Committee
 - Vice-Chairman, Planning Commission
 - Chairman, Steering Committee
- Member Secretary -** Cabinet Secretary

- Chairman-** Full time Executive upto 70 years of age through search and screening committee (I.A.S. senior than Secretary-eligible for either Cabinet Secretary/Election Commissioner)
- Members-**
- Secretary, Finance
 - Secretary, Urban Development
 - Secretary, Rural Development
 - Secretary, Environment and Forest
 - Secretary, Water
 - Secretary, Agriculture
 - Secretary, Tourism
 - Secretary, Culture
 - Secretary, Science and Technology
 - Secretary, Commerce and Industry
 - Secretary, Social Justice and Empowerment
 - Secretary, Panchayat Raj
 - Secretary, Health
 - Secretary, Power
 - Secretary, Energy
 - Secretary, Renewal Energy
 - Eminent Members from Civil Society
 - Technical and Expert Members from River Basin
- Member Secretary-** Secretary DST

ADMINISTRATION CELL

FINANCIAL CELL

GANGA KNOWLEDGE CENTRE

LEGAL ARBITRATION CELL

Advocacy Branch

Investigation Branch

Adjudicatory Branch

Supported by MoEF AND MoUD

Eminent lawyer from Environment (water) and river background

EMPOWERED STATE STANDING COMMITTEE

EMPOWERED STATE STEERING COMMITTEE

EMPOWERED COMMUNITY COMMITTEE

- Chairman-Members-**
- Chief Minister of State
 - Leader of Opposition (Vidhan Sabha)
 - Leader of Opposition (Vidhan Parishad)
 - Eminent members of civil society
 - Chairman State Steering Committee
- Member Secretary-** Chief-Secretary

- Chairman-Members-**
- Full time Executive
 - Urban Development Minister
 - Rural Development Minister
 - Environment Minister
 - Water Resource Minister
 - Agriculture Minister
 - Eminent Members from Leading Civil Society
 - Community Leader
 - Leader of Opposition
- Member Secretary-** Secretary Social Welfare

- Chairman-Members-**
- District Collector
 - Sarpanch's
 - NGO's/ Civil Society
 - Community Leaders
 - Special Exert Groups

QUESTIONNER ON GAZETTE

1. Effective abatement of pollution?
2. Conservation of river Ganga?
3. River basin approach?
4. Comprehensive planning and management?
5. Maintain minimum ecological flows?
6. Why only river Ganga, why not the entire Ganga river basin tributaries?
7. How the ecological flows related to water quality & environmental sustainable development?
8. Sub-section (1) and (3) of section 3 of the environment protection act –study.
9. Process to amendment the Gazette notification specifically Composition of Authority.
10. Section 4 of the Gazette notification gives power to take all such major & discharge functions as it deems necessary for effective abatement of pollution in conservation of river Ganga in keeping with the sustainable development, then why not the existing NGRBA has taken / till date? What majors & which function NGRBA has taken for effective abatement of pollution? Or conservation of river Ganga?
11. Don't you think that ongoing & proposed hydro electricity generation plan is against the conservation of river Ganga?
12. Whether there are any mechanism developed to supervise/ securitizes the projects ongoing into Ganga river basin mandatory requirement under NGRBA or not?
13. Section 4 to(a) is description about river basin management plan & regulation of activities , where as the present NGRBA authority has changed the river basin management plan into RBEMP. Why it is so, what is the legal authority behind it? How it has been changed. (IIT's where earlier asked to prepare GRBMP & latter on being changed to GRBEMP, what is the rationale behind it?
14. Aimed- to maintain water quality? Prevention? Control? An abatement of pollution.
15. Other major relevant to river ecology & management in the Ganga basin state.
16. As per section 4 (2) (b) minimum ecological flow is needed or mandatory. With the aim of ensuring water development. In their respect what majors have been taken the authority till date?
17. As per section 4 (2) (c) what are measures steps necessary for planning , financing & execution for abatement of pollution & environmentally sustainable river conservation have taken till date?
18. Presently what is the source of finance?
19. What is the present status of World Bank finance support to NGRBA?
20. Why do we need money from World Bank?
21. Has NGRBA look for alternative financial arrangement like creating PPP or let polluters pay or let stakeholders or the community collective responsibility or private utility?
22. Section 4 (2) (f) why not SPV is created till date?
23. What are the steps have been taken till date by NGRBA to fulfill its function & use its power as per section 4?
24. As per section 4 (2) (i) is there any directions issued under section 5 of this act?

25. What are the experiences of working of this Act with other central or state Act? Like is there any conflict or overlapping effect?
26. As per section 5 what are the regulations, rules are been created to regulate its own procedure for transacting its business including its meetings?
27. As per section 7 what are the mechanism have been involved? if not, why not involved till date for monitor of effective abatement of pollution & conservation of river Ganga & whether any direction under section 5 have been issued ?
28. As per section 7 , what would be or edge difference between monitoring by NGRBA & other agencies like CPCB,SPCB, CGWB and other similar monitoring body's?
29. As per section 8, how much corpus have been allotted to the authority the central government & what is the present financial status / details like expenditure on various needs?
30. As per section 9 MoEF is nodal ministry would it happen better if other ministry like MoUD or MoWR would happen the nodal ministry? Or authority should have been created as a constitution authority?
31. As per section 10, how many states have created SGRCA, till date? What are their achievements till date? How much money has been spent till date?
32. As per section 11, Integrated Basin Management plan phase is used and, whereas at other place Environment Management Plan, which is being asked to prepare by IIT'S &it some places GRBMP. What are the differences among these& what steps for comprehensive management of the river have been taken by the respective basin states?

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