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INTEGRATED WATER RESOURCES AND RIVER BASIN MANAGEMENT IN INDIA - INSTITUTIONAL & POLICY ISSUES

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Mankind has been blessed with several bounteous natural resources, and water is one among them. The source of life on Earth is WATER and the human body consists of about 70% of WATER only in the shape of fluids. If the fluids in the human body diminishes by 10% the risk of Death will be hanging on the person. From this we can understand the importance of Water in Human Life. The world's population is nearly 6 billion in 2002 and is growing by about 80 million people each year. India's population is about 100 crores + and the population growth rate is around 1.9% per year and about 19 million people are added each year to India's population.

A country is said to experience "Water Stress", when water supplies below 1700 cubic meters per person. Once, if a country experiences WATER SCARCITY, we can expect chronic shortage of fresh water which will threaten food production, hinder economic development and damage the ecosystem. By the year 2025, about 48 countries with more than 2.8 billion people, will be effected by "Water Stress" or scarcity and this population is about 35% of the world population. The following table will show the Water Resources of India for your information:

NATIONAL WATER RESOURCES AT A GLANCE

SL NO.	PARTICULARS	QUANTITY
1.	Annual perception volume (including snow fall)	4000 Cubic Kilometres
2.	Average annual potential flow in rivers	1869 Cubic Kilometres
3.	Estimated utilizable water resources a. Surface Water Resources – 690 Cub. Km b. Ground Water Resources – 432 Cub. Km	1122 Cubic Kilometres
4.	Per capita water availability (2002)	1967 Cubic Metres

(source: Times Agriculture – June 2003)

These figures will remind every one of us about the importance of WATER in the years to come. Hence, there is definitely a need to think and plan about WATER Management.

In India, the major sources of Water are rivers flowing across the country (Surface Water), ground water and the annual rain fall. It is high time for the policy makers and the Governments to give a serious consideration for the Integrated water resource Management of the waters available with us and evolve the policies necessary for a proper management of the WATER.

WATER AND THE CONSTITUTION OF INDIA:

According to the provisions under entry 17 in the State list, Entry 56 in the Union list and Article 262 of Constitution of India, WATER is delt by both State and Central Governments.

Entry 17 in the States list runs as "WATER that is to say, water supplies Irrigation & Canals, Drainage, and embankments, water storage and Water power, subject to the provisions of entry 56 of list I".

This provision clearly indicates that the states can exercise their power subject to Central Government acceptance.

Entry 56, in the Union list runs as follows:

"Regulation and development of Inter-State rivers and River Valleys to the extent to which such regulation and development under the control of the Union is decided by Parliament by law to be expedient in the public interest."

But, so far the Parliament has not made any effort to use the powers under entry 56 of the union list, and thereby the States are enjoying power as per Entry 17 of the States list of the Constitution of India.

According to Article 262 of the Constitution of India, i) Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or Control of the Waters of any Inter – State river or river valley, ii) Notwithstanding any thing in the constitution, Parliament may by law provide that, neither the supreme court nor any other court shall exercise jurisdiction in respect of any such dispute or complaint as is referred in clause i) above.

From the above, it stands to reason that the legislative competence of a State Government under entry 17 of the State List, must be exercised in such a manner as not to prejudice the interests of other states and create a water dispute within the meaning of Article 262 of the constitution of India.

In addition to the above, there is now a 3rd tier in the constitutional structure, as per the 73rd and 74th Amendments carried out to the constitutions. Under this the local Governments are to Manage the affairs related Drinking Water, Watershed Development, Sanitation and Water Management in their respective Jurisdiction.

Under the 42 Amendment of 1976 to the constitution of India, references were made for the protection of the Environment, Forests and wild life through Article 48A and 51A.

In light of the above provisions as existing in the constitution of India, we feel that the WATER Management at different levels became a complex issue and is certainly creating confusion. It could be seen that there is no legal reference to the WATER as a basic essential component of Life and thereby a basic human and animal right. Also, age old Traditional WATER harvesting and WATER Managements followed by the communities were not reflected in our constitutions.

National Water Resources Council was established by a resolution of the Government of India without a statutory backing. The council is headed by the Prime Minister of India as Chairman, the Union Minister for water resources will be the Vice-Chairman, all the Chief Ministers of the States and several Central Ministers as members. The million dollar question would be whether this NWRC will be able to manage the affairs of water management at various levels without a statutory backing ?

RIVER BOARDS ACT 1956:

The Indian Parliament has enacted the River Boards act 1956 under entry 56 of list I, to promote Integrated and optimum development of waters flowing through the Inter State Rivers and River Valleys. According to the Act, the Boards are having no powers for implementation of their advises i.e., to say the Boards remain as advisory Boards only. Later the Act was amended to provide River Basin organization for each major River Basin in the country.

INTER – STATE WATER DISPUTES ACT - 1956:

The Act provides a right to the Central Government for setting up of Tribunals for the adjudication of water disputes between the States.

EXPERIENCES:

The experiences in case of RAVI – BEAS case, involving Punjab and Haryana States, the Interim order given by the Cauvery Tribunal in 1991 generated further disputes between KARNATAKA and TAMILNADU, clearly indicates the following:

- i. There are enormous delays in the establishment of a Tribunal, conducting the proceedings by the Tribunal, giving the Award, the process of further references and supplementary clarifications or orders, and finally the notification of the award by the Central Government.

- ii. Adjudication is an unsatisfactory way of dealing with a water dispute and a negotiated settlement between the parties would be definitely a superior and workable model.

The Sarkaria commission have gone through the difficulties experienced and suggested certain amendments fixing time limit for each step of a Tribunal which were enacted as amendments to the Inter State Water Disputes Act 2002 and we can hope that the future Tribunals will be able to deliver the awards in a more meaningful manner. But the implementation part will still remain with the concerned State Governments.

FINANCIAL ASPECTS:

The 1st Prime Minister of India Sri Jawaharlal Nehru called the Irrigation Projects as "Modern Temples" and gave the utmost importance for their construction and funds were made available through the 5 year plans. Initially, the funds used to be around 22.50% of the plan outlays and to day it has come down to just 6.5%

The projects which were commenced in 1950's are yet to be completed. Also, there are several projects which were commenced by various State Governments and due to paucity of funds remains as on-going projects for a long period.

SUGGESTIONS:

1. The Inter – State river water management should be undertaken by the Central Government, if need be by a statutory means, and supported by a River Board comprising the Technical Experts and Stakeholders of the States concerned. The River Board must have the powers to implement the decision / advise given by them.
2. The states must restrict themselves to monitor and manage the water allocated and received by them through Inter State River authorities with formation of a Mechanism at every level with Technical experts as well as stake holders as partners.
3. The Traditional practices followed by the communities and International law on Water issues are to be respected and implemented in an effective manner.
4. The participation of the Stakeholders right from investigation of project till the completion of the project will go a long way in the subsequent Water Management under the project.
5. The authorities / boards proposed to be created at various level should be free political clout and backed by statutory provision.
6. The on-going projects which are half-way through are to be completed by the Central Government in a time frame of say 5 years. So that the increasing population do not suffer for want of food grains and Nutritional security.

Table 1. Growing Water Shortages
Population Size and Growth and Renewable Freshwater Availability in Water-Short Countries, 1995 and 2025

<i>Country</i>	<i>Population 1995 (millions)</i>	<i>Water Per Capita 1995^a</i>	<i>Population 2025 (millions)</i>	<i>Water Per Capita 2025^a</i>	<i>TFR 1998</i>	<i>% Growth Rate 1998</i>
<i>Water Scarcity in 1995 and/or 2025</i>						
<i>Algeria</i>	28.1	527	47.3	313	4.4	2.4
<i>Bahrain</i>	0.6	161	0.9	104	3.2	2.0
<i>Barbados</i>	0.3	192	0.3	169	1.7	0.5
<i>Burundi</i>	6.1	594	12.3	292	6.6	2.5
<i>Cape Verde</i>	0.4	777	0.7	442	5.3	2.9
<i>Comoros</i>	0.6	1,667	1.3	760	5.1	2.7
<i>Cyprus</i>	0.7	1,208	1.0	947	2.1	0.7
<i>Egypt</i>	62.1	936	95.8	607	3.6	2.2
<i>Ethiopia</i>	56.4	1,950	136.3	807	7.0	2.5
<i>Haiti</i>	7.1	1,544	12.5	879	4.8	2.1
<i>Iran</i>	68.4	1,719	128.3	916	3.0	1.8
<i>Israel</i>	5.5	389	8.0	270	2.9	1.5
<i>Jordan</i>	5.4	318	11.9	144	4.4	2.5
<i>Kenya</i>	27.2	1,112	50.2	602	4.5	2.0
<i>Kuwait</i>	1.7	95	2.9	55	3.2	2.3
<i>Libya</i>	5.4	111	12.9	47	6.3	3.7
<i>Malawi</i>	9.7	1,933	20.4	917	5.9	1.7
<i>Malta</i>	0.4	82	0.4	71	2.1	0.6
<i>Morocco</i>	26.5	1,131	39.9	751	3.3	1.8
<i>Oman</i>	2.2	874	6.5	295	7.1	3.9
<i>Qatar</i>	0.5	91	0.8	64	4.1	1.7
<i>Rwanda</i>	5.2	1,215	13.0	485	6.0	2.1
<i>Saudi Arabia</i>	18.3	249	42.4	107	6.4	3.1
<i>Singapore</i>	3.3	180	4.2	142	1.7	1.1
<i>Somalia</i>	9.5	1,422	23.7	570	7.0	3.2
<i>South Africa</i>	41.5	1,206	71.6	698	3.3	1.6

<i>Tunisia</i>	9.0	434	13.5	288	3.2	1.9
<i>United Arab Emirates</i>	2.2	902	3.3	604	4.9	2.2
<i>Yemen</i>	15.0	346	39.6	131	7.3	3.3
<i>Water Stress in 1995 and/or 2025</i>						
<i>Afghanistan</i>	19.7	2,543	45.3	<i>1,105</i>	6.1	2.5
<i>Belgium</i>	10.1	<i>1,234</i>	10.3	<i>1,217</i>	1.6	0.1
<i>Burkina Faso</i>	10.5	2,672	23.5	<i>1,194</i>	6.9	2.9
<i>Eritrea</i>	3.2	2,775	6.5	<i>1,353</i>	6.1	3.0
<i>Ghana</i>	17.3	3,068	36.3	<i>1,464</i>	5.5	2.9
<i>India</i>	929.0	2,244	1,330.2	<i>1,567</i>	3.4	1.9
<i>Lebanon</i>	3.0	1,854	4.4	<i>1,261</i>	2.3	1.6
<i>Lesotho</i>	2.0	2,565	4.0	<i>1,290</i>	4.3	2.1
<i>Mauritius</i>	1.1	1,970	1.5	<i>1,485</i>	2.0	1.0
<i>Niger</i>	9.2	3,552	22.4	<i>1,452</i>	7.4	3.4
<i>Nigeria</i>	111.7	2,506	238.4	<i>1,175</i>	6.5	3.0
<i>Peru</i>	23.5	<i>1,700</i>	35.5	<i>1,126</i>	3.5	2.2
<i>Poland</i>	38.6	<i>1,458</i>	40.0	<i>1,406</i>	1.6	0.1
<i>South Korea</i>	44.9	<i>1,472</i>	52.5	<i>1,258</i>	1.7	1.0
<i>Tanzania</i>	30.7	2,964	62.4	<i>1,425</i>	5.7	2.5
<i>Togo</i>	4.1	2,938	8.8	<i>1,370</i>	6.8	3.6
<i>Uganda</i>	19.7	3,352	45.0	<i>1,467</i>	6.9	2.7
<i>United Kingdom</i>	58.1	<i>1,222</i>	59.5	<i>1,193</i>	1.7	0.2
<i>Zimbabwe</i>	11.2	<i>1,787</i>	19.3	<i>1,034</i>	4.4	1.5

Water-stressed countries are those with annual water resources of between 1,000 and 1,700 cubic meters per person, shown in italic. Countries suffering from water scarcity are those with annual supplies of less than 1,000 cubic meters per person, shown in dark type.

TFR = Total Fertility Rate

In cubic meters per year

Source: Gardner-Outlaw & Engelman, Sustaining water, easing scarcity: A second update, Washington, D.C., Population Action International, 1997 (69). Gardner-Outlaw and Engelman base their calculations on UN Population Division population estimates. The growth rate and TFR data come from: Population Reference Bureau, World Population Data Sheet, 1998, Washington, D.C., 1998.

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