A Memorandum to the Prime Minister of India

LINKING OF RIVERS: NEED FOR RECONSIDERATION

Introductory The idea of the `linking of rivers', dormant for a long time, has acquired new prominence now, particularly in the context of the acute form that the Cauvery dispute took in the course of the year 2002, as well as the drought that afflicted several parts of the country in that year. In response to a public interest writ petition, the Supreme Court has desired that the project for the linking of the rivers of India be accelerated. The Prime Minister has announced the setting up of a task force to consider the modalities of implementing the project, and declared that it would be taken up "on a war footing". The Leader of the Opposition in the Lok Sabha has welcomed this undertaking.

The project has been the subject of much reporting and comment in the media in recent months. It has been presented by the Govt as a major initiative and the definitive answer to the future water problems of the country, and it has been so hailed by some. However, some others have expressed apprehensions. We, the signatories to this memorandum, feel that this decision is fraught with serious consequences, and that the Govt should carefully reconsider it before proceeding further. Without commenting on the Supreme Court's observations in this case, we shall set forth our reasons for urging a reconsideration of the decision by the Govt.

Outline of Proposal Our understanding of the project, derived partly from the Report (Sept 1999) of the National Commission for Integrated Water Resources Development Plan (NCIWRDP) and partly from presentations currently being made by govt agencies, is briefly outlined here for confirmation or correction.

Without going into the history of the idea of the linking of rivers of India, we note that the 'Ganga-Cauvery Link' proposal mooted by Dr. K.L.Rao and the 'Garland Canal' idea put forward by Captain Dinshaw Dastur were examined and found impractical, the former on the grounds of the very large financial and energy costs involved, and the latter because it was technically unsound; and that the proposal now taken up is based on the work that the National Water Development Agency has been doing during the last two decades after its establishment in 1982 in pursuance of the `National Water Perspectives' brought out by the Ministry of Irrigation in 1980. There are two main components in it, namely the Himalayan Rivers component and the Peninsular Rivers component. The Himalayan component envisages a number of links, including some within the Ganga system (Kosi-Ghagra, Gandak-Ganga, Ghagra-Yamuna, Sarda-Yamuna, etc); some between neighbouring rivers in the Brahmaputra system (Manas-Sankosh-Teesta); a couple between those two systems (Teesta-Ganga, and an alternative Brahmaputra-Ganga link); one long link from Sarda to Sabarmati through the Yamuna and Rajasthan; one from the Ganga to Subernarekha *via* Damodar and then on to Mahanadi; and a few others. The general idea is to transfer waters from `surplus' eastern rivers to `deficit' central, western and southern regions. The Peninsular Rivers component again involves a number of links, of which the most important would be those connecting Mahanadi, Godavari, Krishna, Pennar and Cauvery. The idea is to transfer the surpluses estimated to exist in the Mahanadi and the Godavari to the deficit southern basins (Cauvery, Vaigai). Other links in the Peninsular component would include Ken-Betwa, Parbati-Kalisindh-Chambal, Par-Tapi-Narmada, Damanganga-Pinjal, etc. Another idea is the partial diversion of certain rivers flowing into the Arabian Sea eastwards to link with rivers flowing into the Bay of Bengal (Bedti - Varda, Netravati – Hemavati, Pamba – Achankovil – Vaippar).

Mandate of the Task Force We note that the Task Force has been asked to examine not the soundness or viability of this project but the modalities of its implementation. Three main difficulties have been recognized: the formidable challenge presented by the accelerated time-frame indicated by the Supreme Court; the magnitude of the financial resources needed (roughly and tentatively estimated at Rs 560000 crores); and the problem of bringing about the necessary political consensus on the transfers involved. The Task Force appears to be concentrating on these three tasks at present. However, there are some prior questions that need to be asked: Why has this project been proposed? How did it emerge? How does it fit in with the national planning process? Is it necessary and feasible, and is it likely to be beneficial on the whole? As these questions seem beyond the mandate of the Task Force, we propose to raise them here.

Sudden Emergence The project appears to have suddenly emerged into prominence. If the Govt had been contemplating a monumental project of this kind, there would have been some indications. There were none. The Ninth Plan made no reference to it. Even the Tenth Plan (which lays special emphasis on water and wishes to be regarded as a `Water Plan') refers to many important approaches, policies, programmatic initiatives, and so on, but says nothing about any river-linking project. The Prime Minister's important Address to the National Water Resources Council (1 April 2002) did not mention it. It seems clear that the Govt were not seriously thinking of any river-linking project. The NWDA's proposals were non-starters for various reasons. The Govt's own initial submissions to the Supreme Court were very cautious and lukewarm. The Supreme Court's direction (if its observations can be so regarded) and the Govt's enthusiastic response to it

have changed all that. A project that was not on the anvil has suddenly become the most important undertaking of the Govt. This seems to us to be a bypassing of the planning process.

National Commission's Observations Not very long ago the high-level National Commission for Integrated Water Resources Development Plan (NCIWRDP), the first national commission on water, set up in 1996, submitted its Report (September 1999). Its Terms of Reference specifically included `Inter-Basin Transfers' as an item. It reviewed the NWDA's studies. It did not discuss the proposed Himalayan links in detail because the data are classified as confidential, but did observe that the costs involved and the environmental problems would be enormous; that the further expansion of irrigation in the desert areas of Rajasthan would need examination from all angles; that the NWDA's Himalayan component would require more detailed study; and that the actual implementation was unlikely to be undertaken in the immediate coming decades. On the Peninsular component, after a careful examination of the water balances of the various basins, the Commission observed: "Thus there seems to be no imperative necessity for massive water transfers. The assessed needs of the basins could be met from full development and efficient utilization of intra-basin resources except in the case of Cauvery and Vaigai basins. Therefore, it is felt that limited water transfer from Godavari at Ichampalli and Polavaram towards the south would take care of the deficit in Cauvery and Vaigai basins….Though surplus is available in Mahanadi also, the transfer from that river would require much longer link and is in any case not required for the immediate future…." (The Commission then takes note of some uncertainties that may affect the above judgment and says that further studies as to the future possibilities of inter-basin transfers need to be continued.) The decision to embark on this massive project "on a war footing" seems difficult to understand in the light of those observations of the National Commission.

Rationale of Project However, there is now a project, and we must consider its rationale. The project is claimed to be the answer to the country's problems of recurring floods and drought in different areas; the generation of hydroelectric power is also put forward as a justification.

Neither flood control nor hydroelectric power calls for a linking of rivers. In the case of hydroelectric power, the usual practice is to postulate a `potential' in some rivers or areas (for instance, Narmada, Brahmaputra, the North-east of India, Nepal) and propose large projects (Sardar Sarovar, Dihang, Subansiri, Tipaimukh, Karnali, Pancheswar, and so on) to exploit that potential. Each such project will have to be looked at carefully, but what needs to be noted in the present context is that while the need for hydroelectric power may lead to the formulation of particular projects in specific locations, it would not by itself take us to the idea of linking rivers. (Incidentally, the linking of rivers or inter-basin transfers would in the generality of cases *require* much energy – normally in excess of what the project might generate – but in this case we are told that the project will be a net generator of large quantities of power: a figure of 30000 MW has been mentioned. That strains our credulity and will need careful examination with reference to each link.)

Similarly, the problem of recurring floods in certain rivers or areas may lead (rightly or wrongly) to the formulation of specific projects with flood control as one of the objectives (or a primary objective) – for instance, the DVC projects, a high dam on the Kosi, and so on - and will not by itself call for a linking of rivers. It must also be noted that opinion on flood control has changed over the years. It is now generally recognized that big dams play only a modest role in flood-moderation; that even in those projects (not many) where flood cushions have been built in, that cushion tends to get eaten into partly by excessive silting and partly by the more powerful demands of irrigation and power-generation; that considerations of the safety of structures sometimes necessitate the release of waters causing `man-made' floods downstream; that by and large, the old notion of `flood control' has to change to the newer ideas of learning to live with floods and minimizing damage; and that this requires a relatively greater reliance on non-structural than on structural measures. By now, this has almost become conventional wisdom. Even if all the river-linking proposals are implemented, the contribution that this will make to the mitigation of the flood problem will not be substantial. Dr. Bharat Singh, a doyen among engineers and the former Vice-Chancellor of the Rourkee University, has observed: "Any water resources engineer will immediately discard inter-linking of rivers as a flood control measure".

As regards drought, we have the answers already. Rajendra Singh has shown in Alwar District in Rajasthan that rainwater-harvesting can be practised successfully even in low-rainfall areas. Earlier, Anna Hazare had brought about a transformation through water-harvesting (along with other measures) in Ralegan Siddhi (which is also a low-rainfall area). The Madhya Pradesh Govt has initiated large Statewide programmes of water-harvesting and conservation. In the water-scarce parts of Gujarat, some good NGOs have remarkable achievements in this regard to their credit. Dhan Foundation has been doing good work in the southern States. The large numbers of tanks in Tamil Nadu, Karnataka and Andhra Pradesh were remarkable water-management systems that have gone into decline, and efforts are on to restore and rehabilitate them. Similar efforts are also needed, and are in progress, in respect of other traditional systems

such as ahars and pynes in Bihar, johads in Rajasthan, and so on.

In brief, the primary answer to drought has to be local; it is only thereafter, and in some very unpromising places, that the bringing in of some external water may need to be considered. Besides, the river-linking project, if implemented, will take water only to a small part of the arid or drought-prone areas; large parts of such areas will remain unserved and will have to meet their needs through the local augmentation of water availability. It was in recognition of the importance of such local, community-led initiatives of rainwater-harvesting and watershed-development that the Prime Minister strongly urged the promotion of such initiatives on a nationwide basis in his Address to the National Water Resources Council on 1 April 2002.

(Incidentally, the project as now outlined essentially envisages the addition of waters to certain existing rivers. The additional waters will thus go to areas that are already being served to some extent by that river or by a canal from a reservoir on that river. How will this benefit the uplands and plateaux that are unserved by the existing rivers or are drastically water-short? A glance at the two maps showing the proposed links does not provide a clear answer to this question. However, it is being claimed that irrigation will be extended to additional areas. This may well be true in the sense that areas unreached earlier in the vicinity of a river or within the command area of a project may now receive some irrigation, but will the waters reach the country's drylands?)

A further point to be kept in mind is that it is not primarily drinking water needs but the large demands of irrigation that lead to proposals for long-distance water transfers, though the waters so transferred may also be used to meet drinking water requirements. Water transfers for irrigation may be proposed either for providing additional water to areas already under irrigation or for extending irrigation to arid or `rainfed' areas. In both cases, difficult questions arise.

In irrigated areas (for instance, the Cauvery basin), the question is whether large demands for additional irrigation water should be unquestioningly accepted and met through supply-side solutions such as large dams or inter-basin transfers, or a serious attempt made to improve water-use efficiency in irrigated agriculture, get more value out of a given quantum of water, reduce the water-demand, and minimize the need for supply-side projects. In the context of the prevailing low efficiency of water-conveyance in canal systems and water-use in irrigated agriculture, bringing in more water from another basin would really amount to the provision of more water for being wasted. It would also mean that there would be no motivation at all for changing cropping patterns and shifting from water-intensive crops to crops that need less water; on the contrary, the tendency to grow water-consuming crops would receive strong encouragement. (It may be added that cropping patterns and water-use practices that lead to or aggravate water-scarcity are often the results of Govt policies relating to agriculture and water, and what is called for is the rectification of those policies rather than the importation of water.)

In arid or drought-prone areas, the introduction of irrigated agriculture of a kind appropriate to wet areas may be unwise. `Development' in arid areas should perhaps take other, less water-intensive forms. The slogan of `making the desert bloom' is not necessarily a sound one. It can be argued that the Rajasthan Canal project was not a good idea but a misconceived one. These are difficult but important questions that need careful consideration.

In both irrigated and rainfed areas, the bringing in of external water may also have other secondary consequences: the need to bring in farmers from elsewhere and the resulting social tensions (as in Rajasthan); increased incidence of conditions of water-logging and salinity (a concomitant of irrigated agriculture in many places); the possibility of the repetition of the `Green Revolution' patterns of agricultural development and the related phenomena of monoculture, loss of bio-diversity (disappearance of indigenous varieties of seeds of plants and grains), the problems arising from chemical fertilizers and pesticides, the loss of micro-nutrients from soils, and the replacement of healthy indigenous varieties of foodcrops by high-yielding, commercially viable, but nutritionally deficient crops; social inequities of diverse kinds; and so on. These are not unavoidable consequences, but they are dangers that have to be kept in mind.

Subject to all those caveats, the idea of taking water from `surplus' to `deficit' basins may seem *prima facie* a good one. That indeed is the principal driving force behind the project, and that is also what gives it its popular appeal in water-scarce States. However, there are many serious difficulties with that plausible proposition, which need to be noted.

Some Difficulties

Gigantism / Altering Nature

To start with, there is the fundamental objection, not to the idea of `inter-basin transfer' *per se* (though that aspect does need consideration), but to the grandiose nature – the gigantism - of the undertaking. This will be a massive intervention in nature, an ambitious attempt to alter nature. That it is to be compressed into a short span of time may aggravate the intervention but that is a secondary point, the main one being that it amounts to nothing less than the redrawing of the geography of the country. It appears to us that this is a severe case of

technological hubris of a kind that (we thought) had been discredited and was a thing of the past.

Criticisms of gigantism are sometimes responded to with the answer that no gigantism is intended; that the project will proceed carefully and slowly, in a piecemeal manner, from the minor and relatively less problematic links to the more difficult and ambitious ones. Is such a careful, exploratory, step-by-step approach in fact intended? This seems inconsistent with what we have been seeing and hearing in recent months: the Supreme Court's desire that the project be accelerated and the time-frame compressed; the Prime Minister's announcement that the project will be taken up on a war-footing; the setting up of a Task Force; the references to the order of investments involved; the publicity surrounding the project; and so on. It appears that the Govt wants to make dramatic announcements, and at the same time claim that it is adopting a slow, careful, modest, exploratory approach. The general impression in the country is certainly that a massive project has been undertaken. If that is not the case, the Govt should make the position clear.

Strange Idea

There is in fact an oddity about the proposition that we have tended not to notice. One can understand if the planners start from an identification of the needs of particular areas, proceed through a consideration of options and alternatives, and finally arrive at a decision to link two or more rivers as the only or the best option in a given case. Instead, the present project *starts* with the proposition that the rivers of India must be linked, and then proceeds to consider possibilities of storages, links, transfers, etc. What is the basis for that *a priori* proposition (even if it is an old one)? How did we arrive at this strange idea that all the rivers of India – or the major ones – must be linked? The analogy sometimes put forward with the linking of highways or with a national power grid is inapt and misleading. Human creations or productions such as highways or power can be manipulated by humans. That does not necessarily apply to rivers. Rivers are not human artefacts; they are not pipelines to be cut, turned around, welded and re-joined. They are natural phenomena, integral components of ecological systems, and inextricable parts of the cultural, social, economic, spiritual lives of the communities concerned. (So too are related features, both natural and manmade, such as lakes, wetlands, tanks, beels, ahars and pynes, and so on.)

Serious Consequences

The project is potentially fraught with serious consequences. It will necessarily involve dams, reservoirs, diversion of waters, canal systems, and so on. By now there is adequate knowledge of what all this entails: violent disturbance of pristine areas and of the lives of (tribal) communities living there, disruption of the habitats and movement routes of wildlife, loss of bio-diversity (flora and fauna), changes in river morphology and water quality (arising from the stilling of flowing waters), submergence of forests and agricultural lands, changes in the micro-climate, public health consequences, displacement of people and their livestock and the related problems of resettlement and rehabilitation, reduction of downstream flows, the consequent alteration of the river regime (reduction of the capacity of the river to cope with pollutants and regenerate itself; reduction in nutrient content in downstream flows; diminution of groundwater-recharging, reduction in freshwater outflows into the sea), and the impacts of these on aquatic life, riparian communities and their livelihoods such as agriculture or boat-plying, and on estuarine conditions (including estuarine fish populations) and possible salinity incursions); and so on. These impacts and consequences have been observed in many projects, and will need to be studied carefully in the case of each of the proposed links.

(Incidentally, much harm has been done in the past by the tendency to regard only water abstracted from the stream as `used' and water flowing in the stream and particularly into the sea as `wasted'. To minds so conditioned the fact that floods occur in some areas and drought is experienced elsewhere immediately suggests that water must be transferred from the former to the latter places. Behind this lies an ignorance of the multiple purposes served by flowing water - even floods - and the importance of water flowing into the sea, and a failure to recognize the consequences of a diversion of flows. Rivers must flow if silt is to move and nutrients are to reach the plains, the deltaic region, and mangrove areas such as the Sunderbans. Such flows and nutrients also enter the coastal waters and contribute to the increase of marine wealth, whether it be shoals of fish or algae and other organisms which hold the key to the future nutritional, medicinal and other needs of our country and even of humanity at large. Before diverting waters and reducing downstream flows we must make sure that the alluvial deltas will not die, forcing the migration of populations and causing distress in the coming generations. Rivers must have enough water to support riverports, inland navigation and riverine fauna and flora, and to check the incursion of salinity in coastal areas. The concept that no water is to be allowed to "go waste" into the sea needs to be seriously challenged on hydrological and meteorological grounds.)

It has been argued that similar projects have been undertaken elsewhere without catastrophic consequences, but that is a questionable statement. Water-resource projects are part of the kind of `development' that the world has been pursuing, which has in fact had many catastrophic consequences. But

leaving that aside and confining ourselves to projects on rivers, it is well-known that old-style planning in the former Soviet Union led to the diversion of two rivers that were flowing into the Aral Sea, resulting in the virtual death of that sea. That is now recognized as a great environmental disaster, perhaps the greatest ever, and desperate attempts are being made to reverse it. With the `linking of rivers' project we may be headed for other unforeseen disasters and may discover this too late. A degree of caution seems warranted before the Govt embarks on this enterprise. (It may be added that there is a move in some countries away from the past history of interference with the natural flows of rivers towards a restoration of the original flows to some extent.)

Those who advocate caution are apt to be accused of timidity and exhorted to look at China, which has embarked on the massive Three Gorges Project. That is not necessarily a good project; the disasters that it will bring will be seen in the future. The opposition to Three Gorges in China is muted because dissent is not easy in that country. Those who are envious of China's ability to `get things done' must reflect on how far they are prepared to go in emulating that system.

Announcement in Advance of Examination and Clearance

This is a `concept' that consists of some twenty or thirty projects. For each project, some small and some big, a proper feasibility study will have to be prepared as an inter-disciplinary exercise, fully internalizing economic, social, sociological, human, environmental and other aspects *ab initio.* Thereafter, the projects will have to be examined and evaluated, again in an inter-disciplinary manner, and cleared by the appropriate agencies. Thorough Environmental Impact Assessments, comprehensive Cost-Benefit Analyses covering direct and indirect financial, economic, environmental, ecological, social and human costs and benefits (quantifying these wherever possible), qualitative assessments of non-quantifiable considerations, and based on these, rigorous investment appraisals, will need to be undertaken. We do not know what the outcome of that process will be: all projects may pass the test; all may fail; or some may survive a stringent scrutiny while others may not. In advance of that process, a project has been announced and expectations raised in the general public. The presumption is that the project or projects will be found acceptable and cleared. We fear that this may reduce the whole process of examination, evaluation and clearance to a mere formality, a mockery. With the conclusions already presumed and announced at the highest level, it seems difficult to believe that the Govtal agencies concerned (the CWC, the Technical Advisory Committee, the Ministry of Environment and Forests and its Committees, the Task Force that has now been set up) will be able to undertake a serious and objective examination. The pressure on them to be `positive' will be very great.

Incidentally, we are told that NWDA has prepared feasibility studies for some five or six links, and that these have been "ratified by engineers, sociologists and economists". If indeed there are feasibility studies of some of the proposed links, we would strongly urge that they should be put into the public domain for engineers, geographers, environmentalists, economists, agronomists, soil scientists, sociologists, social anthropologists, financial analysts, and others outside the Govt to examine and offer their comments. This massive undertaking is too important a matter to be left entirely to the internal processes of the Govt.

Cutting Across Basins

As hinted earlier, there is some difficulty with the very idea of `inter-basin transfers'. These generally involve the carrying of water across the natural barrier between basins (which is what makes them basins) by lifting, or by tunnelling through, or by a long circuitous routing around the mountains if such a possibility exists in a given case. Rivers or streams may also have to be crossed in some cases. All this may mean heavy capital investments and continuing energy costs in operation. Such apprehensions have been sought to be set at rest with the explanation that the flows will be largely by gravity with lifts (not exceeding 120 metres) at a few selected points, and that the need for a transfer of water through natural barriers will be obviated. We wonder whether a number of river systems (basins) can be linked largely by gravity with a few modest lifts and some command-area adjustments, obviating the need to cross natural barriers. Perhaps this will be possible in some cases, but the feasibility of such an approach in all cases seems *prima facie* doubtful. This, like the claim referred to earlier that the project will be a net generator of large quantities of electricity, needs to be looked at very carefully, case by case.

Intra-Basin and Inter-Basin

The Constitution talks about inter-State rivers but makes no reference to inter-basin transfers. It neither permits nor prohibits them. Leaving that question aside, it appears to us – subject to correction - that such transfers can be made only with the consent of the States concerned. There are two points here.

The first is that we have not so far been able to persuade States *within* a basin to share river waters (e.g., the Cauvery Dispute); instead of resolving such *intra-basin* disputes through the better, more economical and more cooperative management of the resources of the basin, should we try to bring water from another and more distant basin? Further, despite some talk of integrated, holistic planning for a basin, the idea has made no headway because of strong

resistance from the States. It seems to us that we should reach the stage of basin-planning first before talking about inter-basin transfers.

Secondly, even if we assume that the conflict *within* a `water-short' river-basin will be eased by the importation of external water, such an effort may initiate new conflicts *between* basins. The project has already led to strong objections from several States. The NWDA's assessment that surpluses are available in the Mahanadi and Godavari basins (accepted by the NCIWRDP) is not shared by the Orissa and AP Govts. There is irony in the proposition that the answer to the difficulty of persuading Karnataka and Tamil Nadu (co-riparian States) to share Cauvery waters equitably lies in the even more difficult course of persuading Orissa to spare Mahanadi waters for non-riparian States! There is also considerable opposition to the idea of the eastward diversion of west-flowing rivers. It may be argued that we should not allow ourselves to be deterred by such political difficulties, but is it really necessary to generate several new inter-State conflicts?

We are aware that efforts are now being made to bring about a political consensus on the river-linking project. We hope that this is not being looked at as a matter of political bargaining or *quid pro quo* or compromises or inducements. Any short-term 'political consensus' brought about through such means may not be sustainable in the long run. What is needed is a genuine harmonization of long-term interests, needs and concerns.

Some International and National Implications

In so far as some of the links in the Himalayan component are dependent on dams in Nepal or transfers from Manas, Sankosh and Brahmaputra, Nepal, Bhutan and Bangladesh will need to be consulted. We have no doubt that the Govt is aware of this. (Any major diversion from the Brahmaputra seems unlikely and we do not propose to discuss this further except to say that the sensitivities of the North-eastern States must be kept in mind. It seems hardly necessary to add one more element of discord in an already difficult situation.)

A link between the Himalayan and Peninsular components seems envisaged (Ganga-Damodar-Subarnarekha-Mahanadi). Bangladesh is likely to view this with apprehensions and raise objections. Under the India-Bangladesh Treaty of December 1996 on the sharing of Ganga waters, India has undertaken to protect the flows arriving at Farakka, which is the sharing point. Bangladesh may contend (rightly or wrongly) that a diversion of waters from the Ganga to other rivers will not be consistent with that undertaking. Besides, it is a proposition accepted by both India and Bangladesh that the Ganga is water-short in the lean season and needs to be `augmented', though the two sides have different notions on the means of augmentation: that is a debatable proposition, but if it is in fact true, there seems to be no scope for diversion from the Ganga. India may argue that only the flood flows of the Ganga will be stored and diverted, and that the lean season flows (which are what Bangladesh is concerned with under the Treaty) will not be affected; but Bangladesh might say that if the flood flows can be stored, the stored waters should be used for the augmentation of the lean season flows of the Ganga itself for being shared at Farakka, and not diverted to other rivers. Within India, Bihar has already a strong sense of grievance that its interests in respect of the waters of the Ganga system have not been given due consideration; and West Bengal has only reluctantly agreed to the large allocations to Bangladesh under the Ganga Treaty and has been pressing the needs of Calcutta Port. Neither State will look kindly upon any diversion of Ganga waters.

In the preceding paragraph, attention was drawn to the difficulties that would need to be dealt with *if* waters are to be transferred from the Ganga. However, it was recently stated by a senior official of the Ministry of Water Resources that "at no point would waters of the Ganga be transferred to any of the Himalayan or Peninsular rivers." If no transfers are envisaged, there is nothing more to be said. However, speaking subject to correction, the proposals of the NWDA did seem to include some transfers from the Himalayan rivers westwards and southwards. It is that kind of expectation that gives the project its popular appeal, particularly in the south. If such transfers are not in fact intended, the Ministry should make that clear to all.

Pre-empting of Resources

We referred earlier to a bypassing of the planning process. This would also mean a pre-empting of resources, and a distraction of attention from the things that need to be done. Plan outlays are barely adequate even for the completion of projects already undertaken. One estimate – that of the NCIWRDP - of amounts needed for completing spill-over projects was Rs 70,000 crores in the Tenth Plan and Rs 110,000 crores in the Eleventh Plan (Report, 1999). That leaves no scope for new major projects, and necessitates a severe selectivity even in regard to the continuance of what are called `on-going projects'. From the Sixth Plan onwards the stress has been on consolidation rather than on new starts. Against that background, it seems strange to embark on a major river-linking undertaking. The rough figure mentioned in the Supreme Court in this context was Rs 560,000 crores. That figure will no doubt go up substantially in the course of actual implementation, but even if we ignore that point, the pre-empting of resources of this magnitude for this project will render the whole planning process meaningless. We may be wasting a good deal of time in pursuing this chimera, and distracting ourselves from

finding time and money for more modest, worthwhile and urgent activities, such as extensive water-harvesting all over the country (wherever feasible) and the onerous but important task of rehabilitation of tanks in the South and other similar traditional systems elsewhere. Even more important is effective demand management through improved efficiency and economy in water use, whether in agriculture or in industry or in domestic and municipal uses, so as to minimize the need for supply-side solutions. These ought to be our priorities, but none of this is likely to receive much attention, given the preoccupation with the gigantic river-linking project.

Incidentally, apart from the pre-empting of resources, the huge costs involved in the linking of rivers and long-distance water transfers will make the water at the receiving end very costly indeed. There is hardly any possibility of recovering even a fraction of those costs from the users, who will doubtless argue that this is infrastructure development and that the state must bear the cost. However, the possibility of private sector investment is also being explored, and the question arises whether the investors will be able (or should be allowed) to charge full commercial prices. The Enron case comes to mind. Moreover, the question of private sector investment also raises the issue of entrustment of control over natural resources into private (and perhaps even foreign or multinational) corporate hands. However, there is not enough information for a proper discussion of these aspects here.

Conclusion We must hope that the Task Force will consider not merely the `modalities' of the `linking of rivers' but also all the questions raised above. Any headlong rush in the pursuit of this chimera will be disastrous. Specifically, the following suggestions are placed before the Task Force and the Ministry:

- take people into confidence as to what the Govt plans to do; publish a White Paper;
- make the National Commission's Report (1999) as well as the various studies and pre-feasibility and feasibility reports of the NWDA widely and easily available to the public;
- hold hearings, invite comments; make the declared commitment to the principles of `people's participation' and `stakeholder consultation' real;
- hold discussions with knowledgeable people and institutions outside the Govt (economists, engineers, geographers, ecologists, sociologists, agricultural scientists, scholars and institutions concerned with water, agriculture, irrigation, and problems of rain-fed areas or arid zones, management specialists, development studies institutions, voluntary agencies and other civil society institutions, and so on), and pay serious attention to their questions and apprehensions;
- instead of starting from an *a priori* proposition about the linking of rivers, proceed from the water needs of each area, consider all the available options, and choose the best;
- focus on efficient, harmonious, sustainable intra-basin water management first before thinking of importing external water; reach the stage of basin-planning before considering inter-basin transfers;
- where a river-linking or long-distance water-transfer proposal seems *prima facie* worth considering, get a thorough, professional feasibility report prepared in a fully inter-disciplinary manner, internalizing not merely techno-economic but also environmental, human, social, equity, `gender' and other relevant aspects and concerns, and put it through a comprehensive, inter-disciplinary, rigorous and stringent process of detailed examination, appraisal and approval;
- let such a project or projects emerge from and be an integral part of the planning process, rather than be foisted on that process and pre-empt attention and resources from other necessary and urgent activities; & take up "on a war-footing" (in the Prime Minister's words) a national project of extensive, community-led rainwater-harvesting (wherever feasible) and watershed development, as also of the revival and re-activation of traditional systems of water harvesting, conservation and management (tanks, ahars and pynes, johads, etc), in pursuance of the Prime Minister's clarion call at the meeting of the NWRC on 1 April 2002.

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