



Interlinking of Indian Rivers: The Pros and Cons and Environmental Concerns

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On April 3rd, 2009, Dr. Kaggere Lokesh spoke at Connecticut College's Water Scarcity and Conflict Conference about his knowledge and research regarding the possibility of interlinking the Indian rivers. His lecture included the positive and negative results of this project, if it is completed. This paper is a summary of his lecture and a general look at water scarcity in India.

As the world's population continues to grow at a fast rate, the demand for the basic human needs will also increase. The Earth is already in a state of environmental stress, upon which these necessities that are in high demand continue to build. At the top of the list of demands is fresh water. Water allows for agriculture and industrial activities to take place, and without water those productions are next in line to go. As the demand for water is ever increasing, water scarcity is becoming more and more prominent across the world.

India, one of the fastest developing countries in the world, is presently in high water scarcity danger. It is the sixth largest country, currently has the second highest human population, and holds the record for receiving the highest rainfall in the world. So why is there a water scarcity issue? Even though there is an abundance of water annually, varying precipitation patterns and mismanagement of water leads to the majority of it being wasted. To improve on this issue and possibly solve it, the idea of interlinking the Indian rivers was revived and set into motion in October of 2002 by the Supreme Court of India. A committee was assembled and a period of twelve to fifteen years was set for the project's completion. However, the physical elements of this project have not yet been started due to the environmental damage that the completion of this project poses.

The beneficial aspects of this large project are many. Along with the goal of improving the living conditions in India are many other possible positive gains such as improvement and development in the Indian economy, food security, and a continuous water supply resulting in satisfaction of agricultural and industrial water demands in both rural and urban regions. Infrastructural benefits consist of the development of water flow and navigation, the creation of new jobs as a result of the construction of canals, dams, and reservoirs, etc. Other benefits include expanding the agricultural sector with an increase in land for irrigation, drought mitigation and the possibility of a hydro-power plant.

Completing this type of project makes a lot of sense in terms of the benefits. However, there are just as many negative aspects, all of which are ecologically damaging. Among these negative aspects are land acquisition, daunting total project costs, the disturbance of natural river course, function and drainage leading to the occasional submergence of agricultural land, population displacement and flooding due to the construction of dams and canals. The flooding of agricultural lands will degrade the soil's fertility, accelerating the process of desertification. This

project may also have negative effects on the o-zone layer due to the release of nitrogen compounds and methane from increased agricultural activities. Other environmental concerns that this project poses are de-forestation, toxic and hazardous pollution due to construction and transportation, aquatic and land wildlife displacement, disturbance of the natural cycles of aquatic flora and fauna, and destruction of natural landscaping. The cost of this long-term project is estimated to be over \$200 billion which would be a huge undertaking for the Indian government to fund. Possible solutions to this problem have led to the idea of privatization funds. This however may jeopardize other people's water rights. Positive draws to the daunting cost are the long-term proposed benefits of the project.

On a political level, conflicts among India's states and neighboring countries such as Nepal, Bhutan and Bangladesh need to be settled. In order for this project to move forward, there needs to be transparency on existing political issues, which already happen to be caused by water-related conflicts. Not only does there need to be transparency at the national level, but it needs to take place on the international level as well. Lastly, the time that it will take to complete this project is also a daunting factor. It is estimated that by 2025, India will officially be a water starved country if steps are not made now to prevent that from happening.

Alternative ideas have been proposed that work towards solving this water scarcity problem at a much more affordable cost. These alternatives also will produce less ecological damage and may be just as effective and efficient. They include improvement and revision of existing techniques, conventional water-harvesting techniques, decentralization of local rainwater harvesting, increasing and improving the efficiency of irrigation and waste management systems, and recharging groundwater. These alternatives may be the better route to take because they can be completed now, as opposed to 10 years from now. Time is an important factor that should take precedence. Since the plan to interlink the Indian rivers has not undergone any major initiations since 2002, national and international water scarcity may be beyond repair by the time it is completed. It is projected that this project will take about thirty years. It has already been about 10 years and there have been no major advancements.

After stating the pros and cons of this huge undertaking, I believe that in the long-run, interlinking the Indian rivers may be the better option to take in opposition to the smaller alternatives. However, in order for it to be a positive completion, additional scientific and ecological precautions should be considered. The preservation of the environment is going to be the factor that should take precedence over everything else in the development of this project, because it is going to be transformed in a big way. Another big factor is funding. None of the costs should be privatized in order to secure water rights for all of the people benefiting from this endeavor. Since this conflict goes beyond national boundaries, it should be entirely government funded. On the national and international level, this project should be open to public participation, encouraging debate and analysis since the people will be the beneficiaries of this mission.

Disregarding whether India goes through with the completion of this huge project or resorts to smaller alternatives, change needs to happen soon. Change is inevitable in this day and age and with the ever-growing pressures of global warming and increasing human populations, the water scarcity issues are not going to improve on their own. It is the attitude and approach that humans

take toward dealing with change that determines positive results. Specifically in India, change must take place in order for there to be an improvement in water scarcity, and the overall living conditions. However, a change this big is hard to manage. This project may be just what India and the rest of the world needs in order to become more aware of how the environment is negatively changing. India's water scarcity conflict can be an example for the rest of the world to look at and can be one to learn from. In order for there to be available clean water sources for current and future generations, change needs to take place now.

References:

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2009. http://planningcommission.nic.in/reports/genrep/bkpap2020/10_bg2020.pdf

Possible web sites for further information:

Alarming Scarcity of Water in India - <http://www.ias.ac.in/cursci/oct102007/932.pdf>

India's National River-Linking Project - <http://nrlp.iwmi.org/main/Default.asp>

Overcoming Water Scarcity - http://www.unicef.org/india/wes_2832.htm

Water Policy and Action Plan for India 2020: An Alternative -

http://planningcommission.nic.in/reports/genrep/bkpap2020/10_bg2020.pdf

Additional Resources (contributed by Sturgis Sobin '10):

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http://news.bbc.co.uk/2/hi/south_asia/3050485.stm.

Infrastructure Proposal. Chapter 8 Section VII in Tenth Five Year Plan. *Irrigation, Flood control, and Command Area Development*.

http://planningcommission.nic.in/plans/planrel/fiveyr/10th/volume2/v2_ch8_1.pdf

India's Water Resource Portal—http://india.gov.in/sectors/water_resources/index.php

India's Ministry of Water Resources—<http://mowr.gov.in/>

India's Central Ground Water Board—<http://cgwb.gov.in/index.htm>

India's Water Infrastructure Proposal in National Five Year Plan (2002-2007)—

http://planningcommission.nic.in/plans/planrel/fiveyr/10th/volume2/v2_ch8_1.pdf