

# Agenda for the Republic: Interlinking of rivers

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Currently much is being talked and written about inter-linking of Indian rivers. The antecedents of the concept are not generally known either to the public, politicians or engineers of our time.

This “modern” concept dates back at least 120 years to 1881, when Sir Arthur Cotton, that extraordinary engineer-economist, formulated a comprehensive sub-continental plan for the formation of a national water grid.

He was born on 15th May 1803 and died on 14th July 1899, aged 97. He is worshipped in the Godavari and Krishna Deltas. Sir Arthur’s Plan involved navigation as well as irrigation; storage as well as river training.

His list of potential projects was exhaustive. All these projects were identified by him in 1881 and he estimated the total cost of his Plan, with 20% pre-operative costs, at 50 million pounds sterling (equivalent to 50 crores of rupees). His Plan would have provided nearly 4300 miles of navigable canals and 13 million acres of irrigation.

Sir Arthur was a sophisticated economist and, in the 1850s, was the first to use cost-benefit analysis to justify the irrigation and navigation projects planned by him. He took into account not only the net income but also the indirect benefits of the projects, used discount rates to compare costs and returns over different periods and recognized those benefits which were then, as now, impossible to quantify.

Speaking about Madras Presidency, his vision was clear: “As respects water transit, the whole Presidency is perfectly capable of first-class water transit on all the important lines, and this almost everywhere, in combination with irrigation.” Yet his vision was not restricted to the Presidency he served so well: “The Coast canal from Bengal, by Cape Comorin to Karwar on the Western Coast, is all perfectly practicable at quite an insignificant cost.

The main lines across the Peninsula from Madras through the heart of the Carnatic to Ponany, and from the same city by Nellore through the Ceded District to Karwar and that up the Godavari and Wurda, and by the line of the Tapti to Surat, are also all perfectly practicable at small cost compared to their effect.”

“From these, thousands of miles of branch canals may be led so as to fully open this populous country. Further, a contour line may be led from the Cauveri near Seringapatnam, through Mysore, the Ceded districts, and Hyderabad, to the Godavari, in the heart of the upper country, thus putting the whole of the interior, by means of the east and west canals and rivers and the coast canals, in effective communication with the ports of both coasts, and with Calcutta and the plains of the Ganges and the Punjab.”

Many of the older engineers in South India are aware of his Plan. The concept of the inter-basin transfers, of navigation along the coasts and across the peninsular are uniquely Sir Arthur’s and to him must go the full credit of drawing up a master plan for India more than a hundred years before the idea re-surfaced.

Sir Arthur's Plan also took into account irrigation of a vast extent of land – 13 million acres - and not restricted to navigation alone. He realized that the two were complementary and need not and should not be separated.

The British recoiled at the cost of the Cotton Plan though their investment in Indian railways cost the country much more – by 1881 it ran at 25 million pounds a year. The NDA Government took up the interlinking issue in 2000 but not much progress has been made under its successors. After ten years, the Supreme Court has ordered its implementation! Cotton Plan revived? Or do we have to wait for a Second Republic?

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