

**“Fluid prejudice: Some (disputable and somewhat disjointed) observations on what global experience and changing national well-being might mean for the management of the Mississippi River”**

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**A: Preamble**

This is not a paper! Rather it is a set of disputable and disjointed thoughts jotted down at the invitation of the Nature Conservancy and the Mississippi River Commission to help stimulate debate at the St Louis meeting on management of the whole of the Mississippi River Basin.

**B: My fluid prejudices and how they arose**

The greatest of all chroniclers of the Mississippi, Mark Twain, observed that “the very ink on which all history is written is merely fluid prejudice”<sup>1</sup>. To understand the observations and assertions made in this essay, it is necessary to understand what I have done and seen in my life as a water professional.

I was born and raised in South Africa. After graduating from the University of Cape Town, I worked as an engineer in the Ministry of Water. South Africa is a country which, like many others, faces a major mismatch between its rainfall (most of which falls in a coastal belt) and its economic centers (originally built around gold and diamond mines in the interior). As a young engineer I worked on constructing a “water platform for economic growth” which would provide the growing economy with a secure supply of adequate water for industry, people and agriculture. In the process I also learned a lot about the close links between water and ethnic politics, about how access to influence conditioned what was built and who benefited.

In the mid-1970s I lived and worked on water and cholera in Bangladesh, learning about the often-diverging path between what is interesting (science) and what matters (implementation). I also learned about life without any infrastructure to cushion people from a capricious hydrology. And I learned to take with a grain of salt the claims of “the anointed”<sup>2</sup>, who opposed life-saving basic infrastructure in the name of the environment.

In the late 1970s I lived and worked as an engineer/activist in the government of the People’s Republic of Mozambique, learning first-hand about the consequences of poor infrastructure and weak

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<sup>1</sup> Mark Twain, Following the Equator, 1897.

<sup>2</sup> A term borrowed from Thomas Sowell’s 1996 book The Vision of the Anointed.

institutions, the consequences for water security and economic and social development and the devastating consequences of political choices which did not take realities into account.

For most of the last 30 years I worked in the World Bank, in operations, policy and management. For ten years I served as the Bank's senior water professional my job included: ensuring that our staff learned lessons from countries that were successful in water management; formulating a water strategy which was approved by the Bank's 180 member countries; and helping implement that strategy. My last job at the Bank was as Country Director for Brazil, where I had to engage with virtually all aspects of development with a sophisticated client, and where I was able to see the challenges of water as just one part of a broader canvass of development challenges.

I have also twice worked as an academic -- once at the University of North Carolina in the early 1980s and again for the past three years at Harvard where I work with bright young students and where I have been alarmed by how little they understand of how the basis for their privilege was built, and what is needed in water (and other parts of life) if their children are to have the same productive platform on which to stand.

Over the course of my career, I have worked extensively with the private sector, both in my years at the World Bank and subsequently as a member of business consortia and as a consultant.

Over the last year I have had some engagement with the Mississippi River Commission, as part of work done with Harvard faculty and students on assessing the lessons of experience from the management of large rivers in federal countries. In the process I read quite a bit on the Mississippi, and benefited greatly from several seminal books<sup>3</sup>. I also learn a lot from discussions with key past and current officials in the Mississippi River Commission (including General Michael Walsh, General John Peabody, General Gerry Galloway and Executive Director Stephen Gambrell), officials in state agencies (including Garrett Graves from the State of Louisiana), leaders from local levee boards (including Sykes Sturdivant), academics (including Mark Davis from Tulane University), environmental organizations (including Gretchen Benjamin of TNC) and officials from the US Army Corps of Engineers (including Jerome Delli Priscolli). I also learned a lot from Harvard students who worked on the Mississippi case study<sup>4</sup>

My much longer experience with other river basins around the world has left me dubious that anyone can grasp even the basics of these complex physical, cultural and political entities without decades of involvement. I realize that a little knowledge is a very dangerous thing, and offer some observations based on the little knowledge I have of the Mississippi knowing that I will miss more than I understand, and trusting that the reader will not attribute my misunderstandings to those who were kind enough to lead me down the first steps on the long road to understanding something of this river.

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<sup>3</sup> Robert Harrison' Alluvial Empire, 1961, John Barry's, Rising Tide (1998), Charles Camillo and Matthew Percy's Upon their Shoulders (2004) and Charles Camillo's Divine Providence (2012)

<sup>4</sup> William Niebling and Sara Katz of Harvard Law School, Jonathan Baker of the Kennedy School, Kim Smet of the School of Engineering and Applied Science and Laila Kasuri of Harvard College

## **B: My reading of the lessons of water management around the world, in the US and on the Mississippi**

A wise boss once exhorted me to “avoid platitudes at all cost – it is only worth making arguments with which a reasonable person can disagree”. In no domain is the resort to platitudes more frequent than water, where ideas which have a core truth – such as “integrated water resources management”, “sustainability” and “involvement of stakeholders” – become vacuous statements subject to little critical review. The intention of this paper is to outline, in my experience, what has actually worked (and what has not) and take a stab at making some suggestions which can be of practical use as those with responsibility move forward in managing the Mississippi.

### **Observation 1: Beware of hydrocentrism**

Former Prime Minister Tony Blair, commenting on Gordon Brown, notes<sup>5</sup>: *“The single hardest thing for a practicing politician to understand is that most people, most of the time, don’t give politics a first thought all day long. Or if they do, it is with a sigh or harrumph or a raising of the eyebrows, before they go back to worrying about the kids, the parents, the mortgage, the boss, their friends, their weight, their health, sex and rock ‘n roll”.*

Those of us – probably most at the St. Louis conference – whose life’s work is water, frequently succumb to a similar form of professional narcissism. We assert, often with the shrillness and indignation which is characteristic of our age, that water must be managed according to hydrological principles. We give water a political primacy which it does not in reality, have. And when the management of water does not place in accord with our water-centric principles we denounce the shortcomings and venality of bureaucrats and politicians.

If we step back a bit we see that water is, in fact, just one of dozens of priority issues – some of greater immediate importance -- which have to be taken into account when governments develop the rules of the game and instruments which govern water management. The imperative, then, is to search for ways in which water management can be made to fit with political realities, and legal and administrative and territorial frameworks, not to bemoan the ways in which those realities and frameworks do not fit a self-centered view of water. This usually means that the art of water management is one of the art of the possible – of principled opportunism, of being satisfied with fifth- and sixth-best, of not making the best the enemy of the good.

### **Observation 2: Initiate reforms only when there is a powerful need and demonstrated demand for change**

Those whose nose is close to the water grindstone often advocate reforms because practices do not conform to universal ideal forms of water management. Experience, however, shows that professional concerns are never a primary mover. In the case of the Mississippi the river is massively important to real interests in different ways at different places in the basin, all of which must be taken into account in defining processes and policy options. An effective change will take place only when a sufficient

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<sup>5</sup> Tony Blair, *A Journey: My Political Life*, Knopf, NY 2010, p 70.

number of major interested parties perceive the need for change, and participate in the elaboration of options which will preserve or enhance their interests.

**Observation 3: Water reform is a dialectic, not mechanical process**

In his great book on the 400-year history of water and the German state<sup>6</sup>, Harvard historian David Blackbourn describes the cycle of challenge-and-response, new-challenge-and-new-response over 400 years in Prussia. For the purposes of our discussion of the Mississippi, there are several conclusions which are germane.

First, all water management solutions are, in Blackbourn's terms, "provisional". That is, a particular set of hard (infrastructure) and soft (institutions) arise to deal with problems which society wants to solve at a particular time.

Second, the process is dialectical, not mechanical. That is, there is no straight line from "bad" to "good" management, but rather a process of perceived challenge and response, followed by new perceptions of challenge and new responses.

Third, this Hegelian process is, Blackbourn notes, something which historians understand well, but technical people with more static, normative frames of reference (engineers, but today environmentalists, too) find difficult to grasp.

Fourth, implicit in the above is the reality that there is no "final solution", be it cast in engineering or environmental terms.

The history of the Mississippi shows these conclusions at work. Very schematically:

- the "original" challenge of navigation was addressed, brilliantly (through both infrastructure and institutions), and continues to confer great economic and social benefits on the United States to this day;
- the challenge of creating protected and productive agricultural land (described so eloquently in Robert Harrison's "the Alluvial Empire") was also achieved also with lasting economic and social value;
- after the great flood of 1927 the articulation of the "make way for the river" philosophy and the corresponding infrastructure (through the Mississippi Rivers and Tributaries project) and institutions (in the form of the Mississippi River Commission, and their articulation with the local levee boards, and in the form of the processes embedded in the MRT) was, again, an extraordinarily innovative and effective response (as documented in Camillo's "Divine Providence") to a massive social and economic challenge.

But as with every intervention in a hydrological system, there are reactions to every action, and each generation has to learn how to respond to a new set of challenges while not jettisoning the benefits

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<sup>6</sup> David Blackbourn, The Conquest of Nature, Norton, NY, 2007

derived from prior actions. In the case of the Mississippi the list is (at it probably always has been), long and sobering.

#### **Observation 4: Values are dependent on income and change over time**

As described earlier, during part of my tenure at the World Bank, I had responsibility for preparing a water policy for approval by the Executive Directors, who represent the 180 countries who own the Bank. The most basic challenge in articulating the policy was to resist the perception by the rich owners that their contemporary values represent a higher-level consciousness than the quite different values of poor countries<sup>7</sup>. Nowhere was this more evident than in discussions of dams, where rich countries who can store 1000 days of river flow tell poor countries who can store 30 days of flow that the poor countries should not store more water. “You must understand”, the Norwegian Minister of Development chided me “that Norway does not approve of the construction of dams”. “But, Madam, your country was built on a platform of cheap and clean hydropower. You use 80% of your hydro potential, and you want Ethiopia, which has developed 1% of its hydro capacity, to forego a similar opportunity to develop?”

More generally, it is evident that values provide the underpinning for policies and strategies and that values are highly dependent on income. Poor people and poor countries give a high priority to basic needs such as food and energy. Representative governments in countries at that level of development accordingly and correctly give highest priority to meeting those needs, usually in ways that now-rich countries followed when they were developing. At the other end of the spectrum, when countries are rich, basic needs (food, energy, jobs) tend to be taken for granted and other “higher-order” issues (such as the well-being of endangered species) become priorities. In other words, values tend to change as development takes place. In the past the focus of Mississippi River management was economic development and physical security, and institutions and infrastructure built for those purposes. More recently a rich population has given great weight to environmental values, and put in place a set of laws and procedures which prioritize the environment no matter what the associated cost to economic development and physical security.

But it is worth noting that this change, too, is not immutable. As noted by Andrew Revkin of the New York Times’ influential Dot Earth Blog<sup>8</sup>, “the public’s concern with ‘protecting the environment’ drops precipitously in hard economic times”. If economic hard times in the United States is a temporary phenomenon, this change would be of little relevance when thinking of management of the Mississippi River. But as it becomes evident that current economic difficulties in the US are likely to be persistent, these changed attitudes and values are going to clash with several of the laws and practices which became embedded in an era of wealth and abundance.

For example, the Endangered Species Act prioritizes conservation no matter what the importance of the species or the costs of preservation. And the ESA has come to be used, in the words of Dan Tarlock’s

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<sup>7</sup> A process described in detail in Chapter 13 “Back to the Future” of Sebastian Mallaby’s, *The World’s Banker*, 2006.

<sup>8</sup> “Environmental Issues Slide in Poll of Public’s Concerns”, Andrew Revkin, *New York Times*, January 23, 2009.

landmark book on the Klamath Basin<sup>9</sup>, “the nuclear option” used by environmentalists to impose their values no matter what the economic costs. Similarly environmental impact assessments have often become an instrument less for assessing impact than for making transactions costs so high that development never takes place. Remarkably this is sometimes a tool employed by the government itself. In the Mekong Secretary Clinton recently offered grants<sup>10</sup> for environmental studies with the explicit objective of delaying a major dam project. More directly germane is the infamous case of the Yazoo Backwater Area Pumps Project, authorized 71 years ago to reduce backwater flooding in the Yazoo-Mississippi Delta during periods of high flow along the Mississippi and yet to be implemented because of a shifting set of federal approval processes, and most recently vetoed over strong local objections by the EPA.

The point here is not that environmental considerations are not important (which they evidently are in the Mississippi) or that there are not other villains contributing to gridlock. The point is that the legal and administrative framework put in place during a time when ever-growing economic prosperity was taken for granted and tradeoffs did not have to be considered is unlikely to be a framework appropriate for making complex decisions in a period of likely long-term national economic stagnation.

This perspective puts a particular burden on sensible environmental organizations who respect and know how to work with diverse local interests. My experience is that there are few such organizations, and that in this small group The Nature Conservancy is by far the most effective. But it is also my experience that even the most serious of such organizations (TNC included) will never take a position “against the movement” even when they share the concerns of overkill (as, I am told, is the case with the Yazoo Pump Project, for instance). This constitutes a challenge for an organization like TNC to rise to a new level and to have the courage to demand that new ways be found to balance environmental and human needs.

#### **Observation 5: Beware of moral hazards**

Moral hazard arises when an individual or institution does not bear the full consequences and responsibilities of its actions, and therefore has a tendency to act less carefully than it otherwise would, leaving another party to hold some responsibility for the consequences of those actions. Moral hazards abound in water management in general and in the Mississippi in particular.

First is the moral hazard arising when an agency like the EPA gives priority to concerns of constituencies with no presence in the basin and precludes local actions which are widely supported. This would appear to be the case of the Yazoo pumps.

Second is the problem which arises when benefits are entirely local but there is an effort to shift the costs to national taxpayers. This has long been the strategy of local actors in the Mississippi, who have managed to get almost all of the costs of river management infrastructure paid for by the Federal

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<sup>9</sup> Holly Doremus and Dan Tarlock, Water War in the Klamath Basin, 2008.

<sup>10</sup> “Clinton makes historic visit to Laos as US looks to expand its influence in China’s back yard”, The Washington Post, July 11, 2012.

Government on the logic that navigation and flood control benefits are public goods and therefore appropriately paid for by public sources. This argument is more defensible in some cases than in others. Again considering the case of the Yazoo pumps, it is difficult to argue that the benefits are not local and difficult, therefore to argue that all funding should be from a federal project like the MRT. Whatever the theoretical arguments, the practical reality is that in the future the current, severe constraints on the federal budget is likely to become chronic, and the match between benefits and financing of river works will necessarily have to change. We return to the issue of financing later.

Finally there are the pervasive governance problems in an increasingly indulgent, indignant and selfish society. In his seminal work on the logic of collective action and economic growth<sup>11</sup>, the economist Mancur Olson described how small, determined coalitions with common interests form lobby groups and influence policies in their favor. The benefits of these policies are concentrated among the few coalition members while the costs are diffused through the whole population. Olson showed how, with the passage of time, these “distributional coalitions” accumulate in greater and greater numbers and the nation falls into economic decline.

A couple of important examples of this changed national compliance environment were evident in the 2011 floods.

Part of the genius of the post-1927 “make room for the river” approach was to (a) get broad agreement on where the impact of unavoidable flooding by backwaters or floodways would be least; (b) devising compensation methods whereby those who would be adversely affected by major floods would be compensated and/or protected from the more numerous smaller floods; and (c) regularly reminding those in the backwaters or floodways that the state or federal government had purchased options on their lands.

The Birds Point/New Madrid floodway was one of the key pieces of infrastructure, and the 200 families living in the floodway had long been compensated. But when it came time – in 2011 – to blast the levee and activate the floodway, the 200 families sought to change the contract. They were able to mobilize important political and judicial support for this. As described in Charles Camillo’s fine history of the 2011 flood, it took an extraordinarily sophisticated approach by the US Army Corps General (who did not tip his hand, and thus eventually mobilized the far larger number of people who would have been adversely affected by inaction) to ensure that the system operated as designed.

A second example is that of the operation of the flood control reservoirs on the Missouri River. These structures were built, and operating rules devised, so that they could mitigate the downstream effects of floods. Once created, however, the lakes became sources of recreation, and real estate values around the lakes rose. Those who created lake-side homes did not, of course, want reservoir levels to be drawn down in anticipation of possible floods, and over time were able to successfully prevent the

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<sup>11</sup> Mancur Olson, The Logic of Collective Action: Public Goods and the Theory of Groups (1965) and The Rise and Decline of Nations (1982)

operation of the dams in the way they were designed. Again a selfish, 'NIMBY'-ish culture has meant that the larger common interest has been sacrificed for smaller local interests.

A ray of hope was also evident in the 2011 floods, with the residents in the Atchafalaya and other lower floodways displaying a now-rare level of civic spirit, accepting that their lands were flooded in the way the system was designed.

It would appear that part of what described these disparate actions was the degree to which the devastating effects of major floods were incorporated into the culture of the communities (greater in the lower reaches of the river), and the degree to which the communities were engaged with the remarkable participatory processes of the MRC.

There would appear to be several consequences for the proposed expanded Mississippi River management effort. First, and this verges on a platitude, the greater the degree of community involvement, the greater the likelihood that there will be compliance with practices which improve public welfare. Second, is the reality that the river means very different things in different parts of the basin. In the lower basin the ever-present threat of devastating floods means that there are strong local institutions (such as the levee boards), and that sophisticated participatory processes (such as the MRC's 6 monthly public meetings on the riverboat) work very well. But in other parts of the basin the role of the river is quite different, and not nearly so primary. General John Peabody, who was head of the Ohio River Commission before assuming the presidency of the MRC, points out that the public riverboat meetings would never work on the Ohio, where the river does not play the same overt role in the neighboring communities.

#### **Observation 6: Beware of concepts which have not encountered practice**

In the development stage of the US economy, there was an intimate relationship between the practice of water management and academia. (In a parochial vein, two of the original commissioners on the MRC were professors at Harvard University!). In recent decades this productive relationship has become tenuous, first in the prestigious private universities and increasingly even in land grant universities. Today where there is academic interest in water management it is almost entirely driven by environmental concerns (including climate change) and very little by concerns with maintenance of the platform of water infrastructure and institutions<sup>12</sup>. This means that much of what comes out of academe is either hostile to, or irrelevant for, the huge practical issues faced by water managers (like the MRC). A major task facing managers of the Mississippi (and other rivers) is to identify a few willing academics to re-establish academic work which will focus on key issues such as "the water platform for economic well-being" and "water security", and incorporate key elements of environmental concern (including climate change) into such a framework. Harvard University has recently made a modest start – witness the recent project on engaging 30 students with practitioners in exploring the challenges of managing large rivers (including the Mississippi, Colorado, Indus, Murray Darling and Sao Francisco) in federal countries.

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<sup>12</sup> John Briscoe, "The practice and teaching of American water management in a changing world", Journal of Water Resources Planning and Management, Volume 136, Issue 4, pp. 409-411 (July/August 2010)

### **Observation 7: Avoid the rigidities which come from formalization**

Reflecting a broader phenomenon, recent decades have seen an inexorable increase in the number of water-related laws and regulations. The US Army Corps of Engineers' historian Martin Reuss<sup>13</sup> has described the resulting shrinkage of space for judgment, flexibility and professionalism as "planning by constraints". Other developed countries have seen similar processes. In the last several years I have been heavily involved in the Australian process, where decades of remarkable innovation driven by incentives and adaptation have run aground due to a process of legalization and rigidity<sup>14</sup>. One of the overwhelming conclusions of the recent Harvard conference on managing federal rivers was unanimity that resort to the courts should be a last, not first, resort in managing the inevitable conflicts between different stakeholders.

### **Observation 8: Financing matters, a lot**

Public financing in the United States faces grave challenges. It is clear that the future will be nothing like the past, for infrastructure in general and water infrastructure in particular. It is clear that there will never be another MRT project, and unlikely that federal funding for the remainder of the project will be forthcoming. This disappearance of the supply of public financing coexists with an inexorable rise in the requirements for maintaining and renewing existing assets. Regular, well-publicized campaigns by the American Society of Civil Engineers ("water infrastructure gets a D grade") make little impression.

This reality is of immediate and grave importance for the lower Mississippi where, prosaic as it is, the inability to finance the maintenance of existing infrastructure arguably constitutes the single greatest challenge in the lower basin.

To a partially-informed outsider it appears that the strategy – of the MRC and the levee boards – is simply to be more vociferous in demands for federal funding. Again to an outsider it seems to be time for a (very difficult) change. The federal funding for maintenance of the massive stock of flood and navigation infrastructure is not going to materialize, and it is therefore of high priority for the MRC (and the states and communities) to start exploring options. The guiding principle should be to develop a common understanding of the tradeoff between security and costs and then, with different assumed levels of federal contribution, to find out where the collective wishes to be on this curve. It is very unlikely that the states and communities will be able and willing to pay for the current level of security and therefore important to re-formulate policies and operating procedures that will provide the level of security that can and will be paid for.

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<sup>13</sup> Martin Reuss, "Federal Water Resource Planning", US Army Corps of Engineers

<sup>14</sup> Briscoe's invited submission to Australian Senate on Water Act of 2007 [http://aefweb.info/data/Briscoe\\_submission\\_to\\_senate\\_inquiry\\_on\\_Water\\_Act.pdf](http://aefweb.info/data/Briscoe_submission_to_senate_inquiry_on_Water_Act.pdf)

### **Observation 9: Instruments matter more than organization**

My experience with water management reforms is that far too much attention is given to organizational forms (“should there be a single basin agency”? ) and far too little on the instruments (both within and outside the water sector, including legal, financial and knowledge instruments ) which determine behavior. At this stage I would argue that an effort on the Mississippi should defer the question of organizational form (and have a strong bias in favour of building on existing organizations when the time comes) and focus heavily on outcomes and instruments.

### **Observation 10: It's implementation, stupid**

The last observation derives from an observation from the same wise boss who urged me to avoid platitudes! After decades of observation of processes of economic growth, he noted that what distinguished countries that progressed from those that stagnated was less policies than it was capacity to implement. As with so much in life, once achieved, implementation capacity is taken for granted and considered unimportant and uninteresting. (I could easily find dozens of Harvard students to work on climate change; I am sure I could not find one to work on implementation!) This complacency is a grave danger, for the people who live in the Mississippi basin and for the broader society. This reality is slowly entering public awareness – whereas Hoover Dam was, in recent decades, castigated as folly in a Cadillac Desert, opinion-makers like Tom Freedman and Paul Krugman now hold such works up as examples of what America could do in its glory years!

In this context the Mississippi basin is blessed, with some world-class agencies who have an extraordinary capacity to implement, both under normal and abnormal circumstances. Maintaining, strengthening and modernizing this capacity (which is different in different parts of the basin) is a priority of the highest order.