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MAKING REFORM HAPPEN IN WATER POLICY: Reflections from a practitioner*

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This paper is intended to help frame and stimulate the debate at the OECD Global Forum on Environment: Making Water Reform Happen on the role water reforms play in improving lives and how their design and implementation can be improved. The paper first describes the yawning gaps in various perspectives of water reform. It then draws on some country experiences to tease out some tentative "lessons", which national leaders might draw on to see what has worked and what has not. Finally, the paper closes with some suggestions on ways to close the gap between rhetoric and performance to make water development and management an effective tool for improving well-being in developing countries.

*The views expressed herein are those of the author and do not necessarily reflect the views of the OECD or its member countries.

ABSTRACT:

This paper is intended to help frame and stimulate an OECD debate on what role water reforms play in improving lives, and on how to improve the design and implementation of water reforms. In drafting the paper I tried to respect the maxim of a perceptive boss who once told me, “if you want to stimulate debate, don’t say anything with which a reasonable person cannot disagree”. I have followed this advice in writing this paper!

The first section describes the yawning gaps in perspectives on water reform -- between thinkers and practitioners; between the rich and developing worlds; and between technocrats and politicians – and the implications for organisations like the OECD who provide advice on policy reforms.

The second section draws on some country experiences, to tease out some tentative “lessons” which national leaders might draw on to see what works and what does not.

The paper closes with some suggestions on ways for closing the gap between rhetoric and performance, and for making water development and management an effective tool for improving well-being in developing countries.

PREAMBLE: THE PERSPECTIVE I BRING

In my forty years of work on water, it has been my privilege to sit on both the “ideas” and “practice” sides of the water fence.

On the “ideas” side of the fence, I was trained as a civil engineer at the University of Cape Town in the 1960s, and did my graduate work in environmental engineering and economics at Harvard in the 1970s. I did research on water and health in the Cholera Research Laboratory in Bangladesh in the 1970s, and taught water engineering at the University of North Carolina for five years in the 1980s. I worked in the “ideas departments” of the World Bank for 10 of the last 25 years and am now on the faculty of Harvard University.

On the practical side of the fence I worked for the Department of Water Affairs in South Africa in the late 1960s, lived in a village in Bangladesh in the mid-1970s and worked as a planner-cum-plumber in Samora Machel’s government in Mozambique in the late 1970s. In my twenty-five years at the World Bank I worked on operations jobs in many countries. For 10 years I was the Senior Water Advisor in the Bank. In my last six years in the Bank I lived in Delhi and Brasilia (where I was the Country Director for Brazil, the biggest hard-loan borrower from the Bank). I currently have an active portfolio of practical work, with the Governments of Brazil, Australia and Pakistan, the Asian Development Bank, the International Finance Corporation and some private companies.

PART 1: THE DEEP DIVIDES BETWEEN (SEVERAL) “TWO CULTURES” AND THE PITFALLS FOR GLOBAL DISCUSSIONS OF WATER REFORM

In 1959 CP Snow wrote of how the breakdown of communication between the “two cultures” of modern society — the sciences and the humanities — was a major hindrance to solving the world’s problems. This section explores three such unhealthy bifurcations in the world of water policy: between thinkers and practitioners; between the rich and developing worlds; and between technocrats and politicians. The paper outlines the nature and consequences of these differences, and suggests some steps towards a healthier integration.

Bifurcation 1: Between thinkers and do-ers

A wise observer of the practice of water diplomacy was once asked how research in conflict resolution affected actual negotiations. “Ah”, he replied, “you have to understand that researchers don’t practice and practitioners don’t read”. Is it really this bad? My experience suggests that it is.

To take just one example, for my sins, in a recent three-month period I ended up attending four water conferences. The first was the annual meeting of the communities and agencies who work together on the Mississippi River Commission. The second was the main annual meeting of the international hydropower

community. The third was the biannual global meeting of water utility professionals. At each of these events, practitioners discussed real issues and how to solve them. At none of these meetings were there significant numbers of academics, researchers, NGOs, aid agencies or members of the press. The fourth meeting was the annual Stockholm Water Week, thick with academics, NGOs, aid agencies and the press. Talk of “paradigm shifts” abounded, mostly by those with little dirt under their fingers, and few scars to show from real-world engagement.

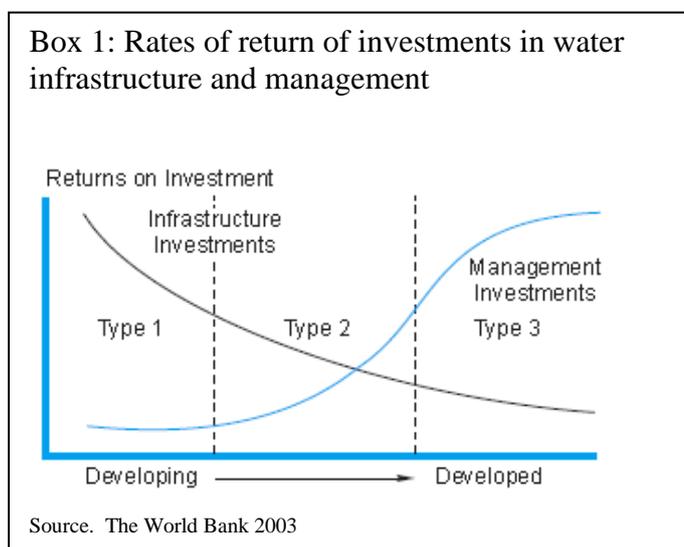
The point is that there was little in common between meetings of practitioners, on the one hand, and “big thinkers” on the other. An observer from another planet who was listening in would have assumed that two completely different subjects were being discussed.

Bifurcation 2: Between the rich and developing worlds

Challenges of water management vary widely by time and place.

With respect to time, a fine recent book by Harvard historian David Blackbourn¹ on the role of water in the evolution of the German state, documents the recurring pattern of challenge/response, followed by new challenge/new response and so on, for hundreds of years. Blackbourn also documents the way in which each succeeding generation takes the achievements of the past generation for granted and wonders how their predecessors could have been so stupid as to not have dealt with the “new” generation of challenges! “The state of art (of water management) is always provisional” he states, something that engineers and environmentalists are equally poor at understanding.

In many ways the development process is this temporal process on a different axis. The challenges of, say, an Australia or California today (where there are over 6000 cubic meters of water storage per person), are quite different from those of, say, Ethiopia and Pakistan (where there are 30 and 100 cubic meters of storage per capita). When we were developing the World Bank’s Water Strategy² our Chinese colleagues brought this to our attention graphically in the form of Figure 1 below.



The implication is clear – sound policy must be contextual. For example, the yield from an additional unit of storage, like most things in life, is subject to diminishing marginal returns. Thus the demand for “no more dams” surely makes sense in a Colorado or Murray River where existing dams can store over a thousand days of

¹ Blackbourn, D. (2006), *The Conquest of Nature: Water, Landscape and the Making of Modern Germany*, Jonathon Cape.

² The World Bank (2003), *Water Resources Sector Strategy, Strategic Directions for World Bank Engagement*, Washington DC, 168 pages.

average river flow, but just as surely makes little sense in an Indus where existing dams can store just 30 days of flow and the country lurches from drought to flood and back again³.

The problem, of course, arises when people who are living in one context make decisions which are imposed in people in a quite different context, and when the ones making the decisions can get away with a non-contextual perspective. This is the great moral hazard which infects the development business (and many debates on water reform).

In many ways the apotheosis of this moral hazard is the definition by “the international community” of the Millennium Development Goals as the lodestone for development. The vision of the MDGs is an egalitarian society in which the social needs of all are met. Which is fine. Except that the only means known for achieving such an end – economic growth and the infrastructure and other underpinnings of such growth – are not part of the MDGs. There is nothing in the MDGs on transportation, energy, agriculture, industry. In short, this “developed by the rich countries in New York” agenda advocates a path to development that no currently-rich or currently-developing country has taken. It is not followed by China, India or Brazil, but is imposed on poor aid-dependent countries.

Bifurcation 3: Between technocrats and advocates, on the one hand, and politicians on the other

Manifestation #1: Different views of evaluation tools

Technocrats (with the OECD one of the high temples for such perspectives!) believe in an evolving set of “neutral” tools such as cost-effectiveness analysis, cost-benefit analysis and “evidence-based” policy making. A review of the history of these ideas in the water sector⁴ gives some pause for thought. Consider the case of methods for assessing large water infrastructure in the United States. The great transforming water works – including Hoover Dam, TVA, Grand Coulee – were all driven by expansive political visions of regional integration and development. In the late 1950s, after the great civil works of the US were built, economists at the Office of Management and Budget (OMB) developed guidelines for the assessment of such large projects, using cost-benefit analysis. The interaction between the Congress and the OMB is illuminating⁵. On the critical issue of indirect effects of such projects, the economists argued that under assumptions of full employment and mobility of factors of production, indirect benefits or “multipliers” should not be included. Politicians were aghast – “but that is why they were built” they argued. The politicians demanded (in vain) that the OMB look back and tell them which of America’s great civil works would ever have passed the OMB’s new test. (In the intervening period planning in the US has passed from the era of “scientific rationale” and “economic rationale” to what the historian of the US Army Corps of Engineers calls “planning by constraints”⁶).

The current generation in rich countries (living off the wealth and services provided by infrastructure developed under the model of the early 20th century), now believes that it has discovered a new and eternal truth, and that the “planning by constraints” model should be adopted by all countries. (In the US, for example, one of the binding constraints is the Endangered Species Act, which makes the building of any infrastructure very difficult⁷ and has been and can be invoked to stop virtually any large water project, no matter what the social and economic returns of that project). And if countries do not want to adopt this approach to project decision making, then “the anointed”⁸ ensure that the rules of institutions like the World Bank are made such that developing countries have to comply in order to receive assistance.

³ Briscoe, J. and Qamar, U. (2007), *Pakistan’s Water Economy: Running Dry*, Oxford University Press.

⁴ Briscoe J. (2008), “How Theory Practice Politics and Time Affect Views on the Indirect Economic Impact of Water Infrastructure”, pages 351-362 in *The Indirect Economic Impact of Dams*, edited by Bhatia, R., Cestti, R., Scatasta, M. and RPS Malik, Academic Foundation and The World Bank, New Delhi.

⁵ United States Congress, “Discussion of Budget Bureau Circular A-47 and the Related Power Partnership Principle”, Hearings before the Committee of Interior and Insular Affairs, March 15 and 30, 1955, 96 pages.

⁶ Reuss, M. (2003), “Federal Water Resources Planning,” Office of History, U.S. Army Corps of Engineers.

⁷ For example, *Water War in the Klamath Basin: Macho Law, Combat Biology, and Dirty Politics*, by Holly D. Doremus and A. Dan Tarlock, refers to the Endangered Species Act as “the nuclear option”.

⁸ Adopting the terminology of Thomas Sowell in: *The Vision of the Anointed: Self-Congratulation as a Basis for Social Policy*, Basic Books, NY 1996.

A personal observation on this transformation: as the World Bank Country Director for Brazil I had to chair dozens of decision meetings on Bank-financed projects. In not one of these meetings was there a discussion of economic rates of return of the project – all discussion was taken up by whether the project could survive the numerous safeguard policies (most of which are environmental and social) which had been passed in recent decades. This was “planning by constraint” at work!

There have been two responses to this change. The first is that countries which have alternatives walk: a China or a Brazil would not think of subjecting itself to these strictures when it comes to large water projects. And it leaves (or left, for the situation is changing, as we will discuss later) poor countries with no alternative but to give up on many high-priority infrastructure projects and to undergo endless reviews on those which do go ahead. (The two flagship engagements by the World Bank in constructing large hydro projects in recent years – Nam Theun 2 in Laos and Bujagali in Uganda – each took well over a decade between the start of preparation and construction).

As the now-rich countries sink into economic decline there are growing concerns about the costs of not being able to do anything in rich countries (and nostalgia for “the good old days, when we could build an Erie Canal and Hoover Dam”⁹). But what does it mean for developing countries?

Political leaders in developing countries welcome quantitative decision-making tools (such as OMB style cost-benefit analysis) as aids to making decisions, but not as substitutes for the exercise of political judgement. There are two reasons for this. First, they are aware that the current set of tools applied by rich countries was not used at comparable periods in the rich countries. Second, they believe that there are many factors that legitimately need to be taken into account and which cannot be handled by these tools.

So we have a paradoxical parting of the ways. The countries which have developed rapidly in recent decades make limited use of these tools (but have done quite well). But the tools are used extensively by aid agencies in poor countries (who have not done very well), and are frequently used to steer poor countries away from investments in infrastructure towards social investments.

Poor countries are well aware of this, and greatly welcome more pragmatic appraisal methodology and financial assistance from the BRICs (and especially China) as a way out.

Manifestation #2: How technocrats and politicians differ in setting priorities

Technocrats are well known for complaining that short-sighted, corrupt politicians are what inhibit the adoption of the technocrats’ excellent ideas. Some (this author, included) would argue that politicians bridle at technocratic (and often single-issue driven) approaches in large part because politicians have to take into account a much more complex world. Although there are many politicians who are scoundrels, my experience is that there are many who are good at understanding the priorities of their electorate, who set reasonable priorities and who focus on getting results. Even for those who do not agree with this rather panglossian interpretation, the simple fact is that unless reforms are perceived by politicians as furthering their goals, the reforms will simply not be implemented.

And bad as this disconnect is for technocrats, it is even worse when it comes to the single issue NGOs who play such a major role in setting the development agenda which emanates from rich-country institutions.

Implications (warnings!) for the OECD:

There are several implications of this analysis for the OECD itself, for OECD countries and for the multilateral agencies in which OECD countries have such a strong voice.

⁹ e.g. Friedman, T.L. and Mandelbaum, M. (2011), *That Used to Be Us: How America Fell Behind in the World It Invented and How We Can Come Back*, Farrar, Straus and Giroux; and Krugman, P., “The End of the Tunnel”, *New York Times*, October 7, 2010.

- Warning #1: Beware of the voices of “the anointed” who know how others should live, even if they do not live that way themselves. What is needed is to give greater voice to people from developing countries, and especially developing countries that have made large recent gains in reducing poverty. Happily this is now starting to happen, albeit haltingly, as a result of the change in the centre of gravity in the world economy.
- Warning #2: Beware of voices who have not practiced, and give much greater weight to voices of those who have actually made things happen.
- Warning #3: Beware of “one note sambas”, such as single-issue NGOs and sector specialists. Give greater voice to political leaders who are accountable (even if imperfectly, as in all countries, to all of their citizens) had to find sequenced, prioritised paths to improving the lives of their people.
- Warning #4: Beware of “new paradigms” (such as the MDGs) which purport to describe paths to happiness that no one has ever followed, and give greater weight to the tried and tested (and imperfect) path that has been followed by countries that have escaped poverty in the distant and near past.

PART 2: SOME “RULES FOR WATER REFORMERS”

The first part of this paper reflected on some of the “lessons” for how multinational organisations like the OECD might better help in the important task for water reform. The second part of the paper focuses on the country level and attempts to sketch some “rules for water reformers”.¹⁰ There are many dimensions to water reforms. Experience suggests that the most difficult and contentious area of water reform is “treating water as an economic good”. This section focuses on this particular aspect of water reform, as an illustration of how to approach the broader topic of overall water reform.

Rule #1: There must be a demand for reform

The first requirement for reform is that there must be a demand for reform. Unless the shoe pinches, reform is unlikely to take place. Stresses due to declining water quality motivated the sanitary revolution in the United Kingdom (“India is revolting and the Thames stinks” was the cry in 1857), and the initiation of the iconic river basin management experience (the Ruhr in Germany in the early part of the twentieth century). Stresses due to scarcity have underlain the major advances in the definition and management of water rights, in Spain for centuries, in the Western United States starting in the 19th century.

Less “natural” but no less important are stresses which arise when there are disconnects between the principles which govern scarce resource allocation in an economy, on the one hand, and rigid water use practices on the other. It is this “stress” which has led to the major water reforms in Australia and Chile in recent decades. The essence of these approaches has been to align the water economy with the broader principles of the overriding National Competition Policy. The central tool is tradable water rights, with the implicit incentives for scarce water to be applied where the value-added is greatest. Current experience in Australia, where 70% reductions in water allocations in the Murray-Darling Basin have had very little economic impact, is an acid test of the robustness of such instruments.

The temptation is to see tools like tradable water rights as a universal solution. The track record shows that application of this approach has worked well primarily when there is a demand from a broader, market-oriented reform process (with Australia and Chile being outstanding cases) for “drilling down” such reforms into the water sector.

Rule #2: Water is special -- dealing with the “exceptionalism syndrome”

Water is a good with special properties -- it is the basis of life itself, it is not produced, it is unitary, it is fugitive. These particular attributes have long made water “special”, in symbolic, religious, and legal terms. It is no

¹⁰ For a fuller treatment of this theme, see Briscoe, J. (1997), “Managing water as an economic good: Rules for reformers”, *Water Supply*, Vol 15, No 4.

wonder, therefore, that there is much scepticism and concern about the effects of reforms which purport to treat water as an economic good.

A growing body of experience with market-based solutions to water management show that few of the “doomsday” concerns materialise. Agriculture has not ended (but modernised and thrived in a new form, as illustrated in the Australian experience described above); the environment has not been destroyed (but often enhanced due to greater efficiency and the defining of more explicit environmental rights). And commercial management of water has turned out to be fully compatible with equity and sustainability, by reducing losses, by reducing subsidies to the rich and by using targeted subsidies which ensure that poor consumers both get access and are treated as paying customers. The Manila Water experience¹¹ is a graphic demonstration of these virtues.

A second aspect of the “exceptionalism syndrome” means taking a sceptical eye at hydro-centric views of the world. Existing institutional realities at the national, state and local level cannot be wished away by “organisation must be in accordance with the river basin”. Successful inter-jurisdictional water management efforts virtually always take administrative realities as a given and then “work around these” to find second-bests. Every successful water treaty (between countries and between states in federal countries) are successful because they did not wish away “boundaries that do not respect hydrology”, but took political and territorial realities as a given and found second-bests which were consistent with these administrative realities.

Rule #3: Tailor the reforms to the reality of the problem

While there are clear and universal principles (such as the Dublin Principles, which advocate management at the lowest appropriate level, the holistic management of water and treating water as an economic good) on what constitutes effective water management, the details of what can and should be done are enormously variable. It is obvious that context -- historical, cultural, legal, institutional, political, economic and hydrologic -- matter a great deal, and that the particulars of appropriate solutions require careful and ongoing adaptation to particular circumstances. The slogan must be “principled pragmatism” – general principles do apply, but these have to be adapted to widely varying natural and economic circumstances and need to adapt as societies develop and capabilities and values change.

Rule #4: Walk on both legs

Processes like Integrated Water Resources Management exercise great appeal to academics and technocrats. But common citizens want results – they want water reforms to lead to more wealth, greater security (food, energy and physical) and better health. Such outcomes almost always come from the intelligent deployment of both infrastructure and institutions. The “reform now and then invest later” mantra of aid agencies has achieved very little because it creates an artificial separation between infrastructure and institutions. It is striking, for instance, that almost all the notable water treaties of the world have come about because the treaties are needed for the building of infrastructure that generates wealth and security. To cite just two of many examples, the Colorado Compact was motivated by the need to build Hoover Dam,¹² the building of Tarbela and Mangla were an integral part of the Indus Waters Treaty.¹³

Rule #5: Keep expectations reasonable and do not throw the baby out with the bathwater

Reform requires a complex mixture of impatience and patience. Impatience is required to make paradigm shifts, but then it must be realised that implementation is a very long-term process, which requires persistence, patience and adjustment. Experience in the most sophisticated settings shows that progress is measured in decades, not years. And as the example of Germany described earlier illustrates so well, reform is dialectical – there is no “final solution”, but solution of one problem leads to challenges at another, hopefully higher, level. The existence of a “higher level” set of challenges does not imply that earlier reforms failed. An interesting illustration of

¹¹ Kastrui Rangan, V., Wheeler, D., and Comeault, J. (2007), *Manila Water Company*, Harvard Business School Case Study.

¹² Hiltzik, M.A. (2010), *Colossus: Hoover Dam and the Making of the American Century*, Free Press.

¹³ Gulhati, ND. (1973), *Indus Waters Treaty: An Exercise in International Mediation*, Allied Publishers, Bombay.

misreading of history is the current, heated, policy debates on the Murray Darling in Australia. Many (including some prominent political and scientific figures) attribute the existence of environmental problems to “our institutions messed up”. An objective view¹⁴ would be that the recent decades of market-oriented reforms were a great success because they meant (a) that the terrible millennial drought had remarkably little economic impact and (b) that the effects of much more efficient and flexible water use were highly positive for the environment but that (c) this did not mean that every problem (environmental or social) was solved. The challenge there was (and is) to build on the successes of the past, not to dream that there is some illusory “final solution” which will solve everything for ever.

Rule #6: Nothing succeeds like success-- start where the chances of success are highest

Reforming water management systems is never easy. Early successes are vital in demonstrating that change is possible and in building a broader constituency for reform. Successful reforms have first attacked the relatively easy problems, achieved and advertised success, and then built on the momentum of success to address the more difficult problems. Again Australia is a case in point, starting with water trading within irrigation districts, then within states, then among states.

Rule # 7: Don't let the best become the enemy of the good

There is no such thing as the perfect water management system. Insisting on perfection is a recipe for inaction -- the best can become the enemy of the good. Again, a review of successful reforms shows that these are both principled and pragmatic. Second and third best solutions which can be implemented are far better than first-best solutions which cannot be implemented.

Rule # 8: Reforms must provide returns for the politicians who are willing to make the changes

The quality of governance varies widely. Yes, there are many politicians who meet the standard caricature. But over the course of my career I acquired a deep respect for the difficulty of the job of most political leaders and admiration of how many do their jobs seriously and effectively. I am well-aware that this is not a consensus position (to say the least) in the post-Watergate and now Twitter era in which all politicians are by definition self-serving, venal abusers of the public trust!¹⁵

For political leaders who have to strike many balances among competing groups and competing claims, single-issue advocates and evidence-based nit-pickers are of little. Political leaders need to hear arguments on merits from different quarters (including advocates and technocrats, but also the electorate), they need to make decisions without precise information, and they need to decide, necessarily in an intuitive way, what matters and what to prioritise. My experience is that technocrats and single-issue advocates play a negative role when they claim that decisions should be driven uniquely by the result of their “objective, evidence-based” analyses, and when they keep returning to their own priorities.

This lack of respect for multiple perspectives is compounded when the advocates do not live with the consequences of their advocacy. An illustrative case that I know well is the construction of hydropower plants in the Brazilian Amazon. President Lula, the hugely successful Brazilian president (called “the world’s most popular politician” by Barack Obama) considers the construction of these projects to be among the greatest of his achievements as President of Brazil.¹⁶ Since “dams” and “Amazon” are two of the great hot-button issues in the global environmental community, it was not surprising that there was opposition from the global “anointed”. As usual leaders of this opposition included celebrities like James Cameron and Sigourney Weaver who found parallels between their invented world in Avatar and their imagined Amazon. But what is more surprising is that this campaign also attracts politicians like Bill Clinton, who, without ever setting foot in the Amazon and without

¹⁴ Briscoe, J. (2011), Invited Submission into the Australian Senate Inquiry into provisions of the Water Act of 2007, http://www.aph.gov.au/Senate/committee/legcon_ctte/provisionswateract2007/submissions.htm.

¹⁵ See, for example, “As scorn for vote grows, protests surge around the world”, *New York Times*, Sept 27, 2011.

¹⁶ Silva, L. da, “Pronunciamento de despedida do presidente Lula” December 23, 2010, <http://www.youtube.com/watch?v=6sR88GCXvmM>.

asking why Lula might have championed such projects, has also joined the “stop the dams in the Amazon” bandwagon.¹⁷

A wise leader in development has observed that what separates countries who are advancing and those who are not is less the capacity to make the right choices, and more the capacity to implement what they decide to do. Accordingly, support is most effective when it helps develop practical plans for implementing choices, a capacity in shorter and shorter supply from the global aid establishment. (A couple of examples to provoke thought – compare Ghana and China. Whereas Ghana once produced large numbers of well-trained engineers, now the best and brightest want to become anthropologists and social scientists, because the aid business is such a big one in Ghana, and aid agencies want social scientists, not engineers. On the other hand all sixteen members of the Politbureau of the Communist Party of the Peoples’ Republic of China are engineers!).

Finally, political will is critical in implementation. In the words of Digvijay Singh, then Chief Minister of Madhya Pradesh, “good water policy must be good politics”.

My experience as World Bank Country Director for Brazil was salutary in this regard. Every World Bank sector specialist could articulate a cogent argument for immediate reform in his or her sector. Good Presidents and Governors, however, focused on a much smaller set of priorities, and were prepared to use their political capital primarily on these. Instead of pushing dozens of “reform proposals” at political leaders, I did the opposite. I agreed with the Governors that we would work with them only on their two or three top priorities. This was hugely successful from the perspective of the governors, and in terms of outcome (with the time for moving from initiation to launching of projects cut by 60%), but it was the cause for a house revolt among the technocrats in the World Bank!

CONCLUDING REMARKS

The paper has a few simple and clear suggestions for those concerned with reforming water policy and practice.

For those who do not have to live with the consequences of the decisions they make (such as the OECD itself, and bilateral and multilateral aid agencies):

- Give less weight to the views of academics and more weight to practitioners;
- Give little weight to single-issue voices (such as most NGOs and sector specialists) and give more weight to political leaders who have to make complex choices;
- Give greater weight to those who have to live with the consequences of decisions than those who tell others what to do;
- Put the burden of proof on those who propose new paths which have never been followed before (like the MDGs) and give the benefit of doubt to those development ideas that have been followed in all rich and middle-income countries; and
- Help would-be reformers go and talk to their counterparts in countries where there have been successful reforms, and make sure these “study tours” include political leaders on both sides.

For leaders in developing countries who have to make hard choices, be very wary of solutions emanating from developed country think-tanks, universities and NGOs and aid agencies, and look long and hard at what has worked in water elsewhere and in other sectors in your own country. The “rules for reformers” outlined in part 2 of this paper might help. Put advocates and technocrats on tap, not on top!

¹⁷ Rapoza, K., “Ex-President Clinton Criticizes Hydroelectricity in Amazon”, *Forbes.com*, 27 March 2011.

BIBLIOGRAPHY

- Blackbourn, D. (2006), *The Conquest of Nature: Water, Landscape and the Making of Modern Germany*, Jonathon Cape.
- Briscoe, J. (1997), "Managing water as an economic good: Rules for reformers", *Water Supply*, Vol 15, No 4.
- Briscoe, J. and Qamar, U. (2007), *Pakistan's Water Economy: Running Dry*, Oxford University Press.
- Briscoe J. (2008), "How Theory Practice Politics and Time Affect Views on the Indirect Economic Impact of Water Infrastructure", pages 351-362 in *The Indirect Economic Impact of Dams*, Bhatia, R., Cestti, R., Scatasta, M. and RPS Malik (eds.), Academic Foundation and The World Bank, New Delhi.
- Briscoe, J. (2011), Invited Submission into the Australian Senate Inquiry into provisions of the Water Act of 2007, http://www.aph.gov.au/Senate/committee/legcon_cte/provisionswateract2007/submissions.htm.
- Doremus, H.D. and Tarlock, A.D. (2008), *Water War in the Klamath Basin: Macho Law, Combat Biology, and Dirty Politics*, Island Press.
- Friedman, T.L. and Mandelbaum, M. (2011), *That Used to Be Us: How America Fell Behind in the World It Invented and How We Can Come Back*, Farrar, Straus and Giroux, New York.
- Gulhati, ND. (1973), *Indus Waters Treaty: An Exercise in International Mediation*, Allied Publishers, Bombay.
- Hiltzik, M.A. (2010), *Colossus: Hoover Dam and the Making of the American Century*, Free Press.
- Kastrui Rangan, V., Wheeler, D., and Comeault, J. (2007), *Manila Water Company*, Harvard Business School Case Study.
- Krugman, P., "The End of the Tunnel", *New York Times*, October 7, 2010.
- Rapoza, K., "Ex-President Clinton Criticizes Hydroelectricity in Amazon", *Forbes.com*, 27 March 2011.
- Reuss, M. (2003), "Federal Water Resources Planning," Office of History, U.S. Army Corps of Engineers.
- Silva L. da, "Pronunciamento de despedida do presidente Lula" December 23, 2010, <http://www.youtube.com/watch?v=6sR88GCXvmM>.
- Sowell, T. (1996), *The Vision of the Anointed: Self-Congratulation as a Basis for Social Policy*, Basic Books, NY.
- The World Bank (2003), *Water Resources Sector Strategy, Strategic Directions for World Bank Engagement*, Washington DC.
- United States Congress, "Discussion of Budget Bureau Circular A-47 and the Related Power Partnership Principle", Hearings before the Committee of Interior and Insular Affairs, March 15 and 30, 1955.