OPEN ACCESS

1st World Sustainability Forum
1-30 November 2011

www.wsforum.org

Article

Can Better Governance Alone Solve Water Management Related Problems?

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Received: / Accepted: / Published:

Abstract: Since early 1990's the water management problems has been identified as outcome of the inappropriate governance rather than lack of the technological or technical solutions. Therefore, solutions has been shaped by this believe and concept. IWRM have emerged as a mainstream concept to solve the water management problems of the planet earth. Although, supported by many international organizations specially crafted to support the IWRM its implementation and results has been hesitantly limited. Both, at national and local levels of the water resources management dissemination of the new concept brought acceptance of the terms such as stakeholder participation, public role, transparency of decision making, etc. The water user's participation concepts in the water sector have been a cornerstone of the IWRM implementation in most of the countries around the world. Genuine efforts of the national water agencies, strongly supported by international agencies have been helpless in many cases to address simple needs of the population- an equal access to the acceptable quality water resources. Why so? There are quite few reasons of the limited performance of the governance reforms in water sector: (i) governance reforms alone cannot solve water management problems, (ii) governance forms are different in different socio-political contexts of the different countries, ignorance of these differences has been one central reason of low performance, (iii) governance could become important aspect only if awareness is built among both water managers and water users, (iv) governance cannot be imported or "blue print" approach is not successful. The critical assessment of the IWRM implementation in different countries has been quite a comprehensive and varies on their findings on reasons of the failures. However, mostly

underlining reasons has been identified as lack of ownership, participation, supportive environment, etc. However, without technological solutions and technical infrastructure, tools and equipment have also an important role on how IWRM will be implemented. Implementation of the good governance, water user's participation and better decision making are merely possible in the poor, inadequate infrastructure with outdated water distribution systems. Therefore, one cannot ignore the role of the techno-technical situation in the water resources management and these indictors will shape state of the water governance in the water management. Different players (water managers, water users, state organizations, private business, etc.,) will apply different 'water control' mechanisms under different techno-technological situation. In this paper authors will try to present other important reason for the failure of the IWRM implementation in developing countries-technical and technological state of the water infrastructure.

Keywords: governance; IWRM; water management; technical-technological solutions

1. Introduction

Importance of the governance in water resources management became worldwide recognized issue since early 1990's. Kaufman *et al* (2000) present the *governance* as rules, institutions and related legal system which determines how societies or countries are ruled [1]. *Good governance* refers effective and just state which is elected and accountable to the citizens. Good governance is responsive, participatory, transparent, equitable, accountable, consensus oriented, effective and efficient and directed toward strategic vision. The good governance is synonymous of the democracy and rule of the law. The water governance is most promoted concept on water resources management, Rogers and Hall (2003) describes water governance as 'the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society' [2]. Other description of the water governance by DFID (2007) is water governance 'encompassing all the mechanisms, processes, relationships and institutions through which citizens and groups articulate their interests and exercise their rights and obligations' [3]. The water governance is a democratic way of water resources management and therefore it is representation of various interests and the role of politics are important components in governance dynamics [3]. The main principles of "good water governance is participation, transparency and accountability which have to ensure that policies and decisions on water are responsive to citizens [4].

The water governance has become a centerpiece of high level political agenda of the last decade, e.g., in year 2000 Hague Ministerial Declaration called for governing water wisely through good governance which means involvement of the public and the stakeholders in the management of water resources. In 2001 Bonn Freshwater Conference, ministries have proposed that each country should take appropriate measures for ensuring good governance of water. United Nations Millennium Assembly in 2000 urged to stop unsustainable exploitation of water resources and to develop water management strategies for the regional, national and local levels on improving water governance [5]. The centerpiece of IWRM concept is also good governance [6]. Since Dublin Conference, principles of

the IWRM have been implemented world- wide by support of different international organizations and funding agencies. All of the projects and initiatives have had a centerpiece agenda- building better water governance in target area (country, basin, water system, watershed area, etc.). Despite critical review of the IWRM implementation [7,8,9] and water governance as whole there is still strong current of support within international development agencies and financial structures. UNDP's 2006 Human Development Report [10] describes water management problems as "The scarcity at the heart of the global water crisis is rooted in power, poverty and equality, not in physical availability". It is again about the water governance problem not a technical or technological problem. Recent meeting of world's leading institution on water management again stressed that "… the problem overall is a failure to make efficient and fair use of the water available in these river basins. This is ultimately a political challenge, not a resource concern"[11]. All in all, core of the water management problems lies with "bad governance" which is if improved could bring a better, just and equitable water management. However, quick look into the previous experience of the water governance reforms in many parts of the world brought at least mixed but mostly unsatisfactory outcomes. Author will not present a deep analysis of water governance reform analysis of the past. This paper will concentrate on three important questions that may partly describe unsatisfactory performance of the water governance reforms: (i) how water governance can succeed in non-democratic regimes, (ii) can citizens pay for the better water governance in poor economies and (iii) would/can only water governance improvements handle water problems. Main aim of the paper to shed a light on the problems related to the water governance concept and its implementation in developed and transition economies.

2. Materials and Methods

Main concepts behind this paper are transdiciplinarity and complex nature of social processes. The border concepts such as water control [12, 13] are the core of the conceptual framework. According to the water control concept, different players in domain of interactions apply different water control strategies (Figure 1).

Figure 1. Water control dimensions and means [13].

	Dimension	*Means*	*Research object*	*Research techniques*
WATER CONTROL	Physical control (technical)	By means of physical infrastructure or technology	Physical shape, type and state of irrigation and drainage system and technologies	Walk-through surveys Direct measurements surveys Expert interviews
	Organizational control (managerial)	By means of skill, authority, command or domination	Institutions, organizations, management	Institutional mapping and analysis surveys Participatory observation
	Socio-economic and political control	By means of law, policy, regulations, incentives, or force	Social and governance structure (local and higher scale levels)	Surveys Stakeholder workshops FTI activities

The "water control" concept describes interaction of the different "players" in water management although has strong governance aspects (rule of the engagement, institutions, power, etc.,) other

aspects of water management such as technical state of the infrastructure, technological tools, organizational skills does play an important role in shaping of water management decisions.

Author uses his 15 years experience on water management in Central Asia and Afghanistan as an asset to analyze the decision making structures on water management at the day to day basis. This helps to understand how water governance theories works in real context, how and why water reforms does not reach expected results in these conditions. Body of internationally referred publications has been useful source for the analysis and illustration of the arguments of the authors.

3. Results and Discussion

Water crisis is not any more distant future or issue of next decade. Fighting for water every day is actual part of the lives of the billions of people around the globe [14]. Almost 50% of the world's population has to fight with lack of water or floods every day. These are the only few water related problems world is facing, predictions of next few years or decades also not optimistic. More water scarcity or water related disasters have to come to make situation even worse [15]. What should be done and how humankind can overcome water management problems around the globe? In human history this question has been asked constantly by politicians, researchers and practitioners and community activists constantly. Most recently end of 20th century, concept of water governance, IWRM concepts have emerged as a response to the water problems. These concepts have been seen as panacea or "nirvana" concepts [16] to address all problems related to the water management. IWRM, water governance and other relevant concepts did very well describe deficiencies and formulated straightforward vision on improving of the water management. The international organizations have been established to promote, spread and support these concepts. At outset of each international conference or event special sessions has been devoted to discuss and support developments on water governance reforms around the globe. None of international funding agencies have accepted any proposal for funding if there was no mention of water governance. However, implementation of these concepts have yielded very different results, in most of the cases, in developing countries it has failed to address very important aspects of the water management: access to the water for most deprived and poor [17, 18, 19]. Only handful of countries in Asia-Pacific region, world's most populated region only handful countries have adopted policies towards improved water governance [20]. Why this happened and what are the main principle causes of failure? This is an important question when soon world's political leaders will get together review once more internationally agreed goals on Millennium Development, sustainable development and other environmental and development agenda. In the next sections three interlinked causes could be considered seriously based on the analysis of both empirical character and scholar studies are presented.

3.1. Can Good Governance Take Place in non Democratic Societies?

Core ideas of water governance and IWRM build upon on democratic nature of the societies: transparent decision making, public participation, inclusive institutions and pro-poor policies. Therefore, it is important pre-condition for the successful water governance interventions, regions or countries where water sector reforms are carried out states must be a democratic. Otherwise, the reform will not produce expected results, e.g., in Central Asia, after 15 years of attempts to replace

state-centric, technocratic water management resulted only minor re-shuffling or name change for water agencies [21, 22]. Almost, similar results earlier have been reported from Pakistan [23] and other South Asian countries [24, 25]. In Afghanistan, where century's old community managed irrigation systems, most of the rules now are determined by rural "elites" [26, 27]. Therefore, in non-democratic, state-centric and autocratic regimes good water governance is not possible. Attempts to build sectoral (water) democracy and good governance was failed previously and likely do the same in future.

3.2. Importance of the Technical and Technological Aspects of Water Management

Most of the international funding agencies have ignored that the technical component of the water management interventions are equally important as governance package of reforms. The World Bank has decreased during 1990-2000 technical interventions in its portfolio few times [28]. The promotion of the water sector reforms has been only governance, IWRM oriented. The same time, research progress on application of high-tech and information technologies (Geographical Information Systems, modeling, etc.,) in to the water sector has been great. However, technical interventions into the water sector have been unacceptably slow. Attempts to bring into the agenda improving, upgrading of water infrastructure has been criticized as an attempt to recover "hydraulic mission"- conquering nature. In water sector infrastructure to deliver, distribute and measure water plays an important role. Without such infrastructure good water governance cannot be implemented. All good intentions and decisions are not implementable in outdated, ruined water infrastructure. Since, 1990's Water Users Associations has been formed in Central Asia. However, they failed to bring equal water distribution among its members, mainly because they have not been able to implement decisions taken collectively mainly due to dilapidated and old water infrastructure [29, 30].

3.3. Is Water Governance Reforms "free of charge"?

The better water governance is costly adventure for the poor water users, societies and countries. Although, water sector reforms do results less financial, budgetary burden to the state treasuries, it actually brings more costs for the water users. De-centralized, user-participation modes of water management, irrigation management transfer have brought financial obligations for the water users. Supporting inclusive, transparent water governance structures does require financial support. In states where governments are not democratic such support should come from the water users, who in most of the cases are poor. The water users unions, established as pilot testing of the better governance for centralized canal management in Central Asia has been functioning only due to the project funding [29].

4. Discussions and Conclusions

Setting the appropriate policies, measures and directions for improving water management around the globe is a big task even for the leading experts and institutions. Therefore, author does not claim any breakthrough approach towards new water policies or ideas. Above analysis shows that governance improvements alone can't help to overcome problems of the water resources management.. Better governance brought changes in state of the world's water resources, improved quality and access to the water resources for many people around the world. However, there have not been

breakthrough changes in water management in most parts of the world, especially in developing word. In one hand, many of the national water sector reforms consist of only technical measures and infrastructure projects and in other hand most of the internationally supported activities target only governance improvements. It is important to consider framework conditions in the country while water sector reform interventions are prepared/proposed.

Acknowledgments

Author is indebted to Dr. Peter Mollinga, whose comments and suggestion in the early stages of the paper preparation.

Conflict of Interest

The author declares no conflict of interest.

References and Notes

1. Kaufmann, D.; Kray, A.; Mastruzzi, M. Governance matters VIII: aggregate and individual governance indicators, 1996–2008. In *Policy Research Working Paper Series*, *No. 4978*; Work Bank: Washington, DC, USA, 2009.
2. Rogers, P.; Hall, A. *Effective Water Governance*; TEC Background Papers No. 7; Global Water Partnership: Stockholm, Sweden, 2003.
3. Department for International Development. *Eliminating World Poverty: Making Governance Work for the Poor*; DFID: London, UK, 2006.
4. The World Bank. *World Development Report 1996: from Plan to Market*; Oxford University Press: New York, NY, USA, 1996.
5. UNDP Water Governance Facility. Available online: http://www.watergovernance.org/aboutwatergovernance/whatiswatergovernance.html (accessed on 15 November 2009).
6. Global Water Partnership (GWP).2011. Social Equity and IWRM - New Background Paper by the GWP Technical Committee
7. Biswas, Asit K.(2008) 'Integrated Water Resources Management: Is It Working?', International Journal of Water Resources Development, 24: 1, 5 — 22
8. Biswas, A. K. (2001) Water policies in the developing world, International Journal of Water Resources Development, 17(4), pp. 489–499.
9. Biswas, A. K. (2006) Challenging Prevailing Wisdoms: 2006 Stockholm Water Prize Laureate Lecture (Stockholm: Stockholm International Water Institute). Available at www.thirdworldcentre.org
10. UNDP.2006. Human Development Report 2006: Beyond scarcity: Power, poverty and the global water crisis
11. CGIAR Challenge Programme on Water and Food.2011. Major River Basins Have Enough Water to Sustainably Double Food Production in the Coming Decades. http://sn.im/basins
12. Mollinga, P.P. Water, politics and development. Framing a political sociology of water resources management. *Water Alternatives* 2008, *1*, 7-23.

13. Abdullaev, I. and P.P. Mollinga. 2010. The Socio-Technical Aspects of Water Management: Emerging Trends at Grass Roots Level in Uzbekistan. Water, 2 (1): 85-100
14. International Water Management Institute (IWMI). 2011. *IWMI Annual report 2010.* Colombo, Sri Lanka: International Water Management Institute (IWMI). 28p.
15. IPCC.2007. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007.M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
16. Moll, F. Nirvana concepts, storylines and policy models: Insights from the water sector. *Water Alternatives* **2008**, *1*, 131-156.
17. Ballabh, V. (2002) Emerging water crisis and political economy of irrigation reforms in India. Paper prepared for workshop on *Asian Irrigation in Transition. Responding to challenges ahead*. April 22-23, Asian Institute of Technology, Bangkok, Thailand
18. Byrnes, K. (1992) *Water Users Associations in World Bank-Assisted Irrigation Projects in Pakistan.* World Bank Technical Paper Number 173. Washington, D.C. USA
19. Mollinga, P. (2001) *Power in motion: a critical assessment of canal irrigation reform, with a focus on India*. Indian PIM Working Paper /Monograph Series No. 1. New Delhi: Indian Network on Participatory Irrigation Management.
20. UN-WATER/WWAP (2006) Second United Nations World Water Development Report: Water, a Shared Responsibility.
21. Sehring, J. The politics of water institutional reform in neopatrimonial states. A comparative analysis of Kyrgyzstan and Tajikistan. Wiesbaden. **2009.** Pp.23.
22. Yalcin, R.; Mollinga, P. Institutional Transformation in Uzbekistan's agricultural and water resources administration: the creation of New Bureaucracy. ZEF Working Paper 22.Center for Development Studies, Bonn University, Germany, **2007**, 40pp.
23. Ul Hassan M. 2011. Analyzing Governance reforms in irrigation: Central, South and West Asian experience. Irrig. and Drain. 60: 151–162 (2011)
24. Shashidharan, E. (2000) Civil society organizations and irrigation management in Gujarat, India. In *Water for food and rural development. Approaches and initiatives in South Asia,* ed. P. Mollinga, pp. 247-265. New Delhi: Sage Publications
25. Parthasarathy, R. (2000) Participatory Irrigation Management Programme in Gujarat: institutional and financial issues. *Economic and Political Weekly* XXXV (35) & (36): 3147-3154
26. Abdullaev, I., and Usman Shah. 2011. Community Water Management in Northern Afghanistan: social fabric and management performance. International Journal of Environmental Sciences. Special Issue on Afghanistan. June, 123-128
27. Abdullaev, I., Mollinga, P., Mielke, K., Shah, U., Steege, B., Schetter, C., and Monsees, J. 2009. Water, War and Reconstruction: Irrigation Management in the Kunduz region, Afghanistan. In: M. Arsel and M. Spoor (Eds.). The Last Drop? Water, Security and Sustainable Development in Central Eurasia. Routledge.
28. World Bank.2004. Water Resources Sector Strategy: Strategic Directions for World Bank Engagement. 88 pages

29. Abdullaev, I., Kazbekov, J., Jumaboev, K., and Manthritilake. H. 2009. Adoption of integrated water resources management principles and its impacts: lessons from Ferghana Valley. *Water International.* Vol. 34, No. 2, June 2009, 1–12
30. Abdullayev, I., Kazbekov, J., Manthritilake, H., Jumaboev, K. 2009. Participatory water management at the main canal: A case from South Ferghana canal in Uzbekistan. Journal of *Agricultural water management*, Volume 96, Issue 2, February 2009: 317-329

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