

## DAMS AND TECHNOPOLITICS

**Ciprian Benjamin Benea**

*Department of International Business, Faculty of Economic Sciences, University of Oradea, Oradea, Romania*  
*c\_benea@yahoo.com*

**Abstract:** *The paper aims to help the reader to see in a different manner large infrastructure projects, and especially those which are aimed at controlling water. And dams are such a category of large projects which facilitate man's control over water. In most cases one's first visit to a large dam is only a touristic activity. And a lot of dams in the world are in fact touristic magnets; Hoover Dam alone, in US, brings yearly roughly one million tourists which are attracted and impressed by it. But as one is enmeshed in more and more studies connected to dams, and especially large dams, the touristic character of looking at dams' changes steady, and for good. In this moment one starts to see them as being living things, placed in the middle of a network which is influenced by them. It becomes an actor which assembles around it global politics, regional interactions, national desires, local communities, and all what is connected to that peculiar river basin in environmental area. As such, even large dams are about mathematic, numbers and calculations they are full of high politics influences, strong financial and technical interests and competing economic doctrines targeting economic development and social modernization. Both these processes are directly determined by electricity production, and the way it is produced. Dams work in this way globally, helping humankind to cover roughly 17% of its electricity needs. But dams connected to a newer concept – that of a whole river basin development – is more connected to modern vision of dams as means for controlling water and manipulating society. Big dams favour political centralization because of the special role electrical grids play in each state, while promoting in the same time modern farming methods using irrigation systems, stocking water for high demand periods which props up urbanization, and facilitating (in a lot of cases) modern transportation on dammed rivers. And they "travel" from different technological advanced centers towards less accomplished societies, with little care about environment, but with great care about political and financial interests. That it's better to see dams not only as touristic attractions, but as nodes in a very complex techno-political network.*

**Keywords:** *dams; development; technology; water.*

**JEL Classification:** *L94; O13; P18.*

The angle we are looking at the world and the way we see it are deeply influenced by our *ideas* and preconceptions; these could be in their turn culturally embedded and socially constructed. Anyway, technology influences the changing nature of seeing the world. Fears and desires both have their part in shaping these ideas. In this context, *technology* could appear at first sight an easy mean for grabbing the resources and for environment's control (or manipulation), for perceived established ends. A short but significant example here could be given the way mankind had perceived time and space before industrial revolution, after that, and especially after information technology revolution.

While technology has had as well an important say in water affairs, could we envision the way one look at the most important resource – water – through technological lens; and how the way a society manipulates water influences the shape that society takes? There was a hydraulic civilization (Wittfogel, 1957) labeled as such because its proclivity to control all society through controlling water, triggering the manifestation of totalitarian/despotic regimes, and their perpetuation. The technology of canals used for irrigation in ancient Mesopotamia and their control by a very small group of privileged persons, propped up the maintenance of oriental despotism. Top-down control upon canals morphed into a total control upon subjects; in this way the *technology* aimed at water control brought a peculiar king of *social* organization. Furthermore, the dexterous manner mankind used water for transportation in a peculiar geographical area ushered the appearance of first centralized political state in history, the ancient Egypt (Toynbee, 1979).

As Industrial Revolution had gotten momentum, complex economic, social, cultural, and political shifts manifested; all were swirled together, claiming the industrial production's expansion, rising population and of urbanization degree, and as a direct consequence, demand for food and water have unflagging risen, fully manifesting themselves, especially after the WW2.

But there are no comparable technical constructs to impound and manipulate water which are more complex than dams. Even that such works were undertaken in history in different places in the form of dikes or weirs (as in India, Mesopotamia, or Egypt), the calling up of a new era in which new types of dams captured the imagination of commoners, engineers, and political leadership around the world started with the decision to build Hoover Dam (called before Boulder Dam). The decision to build it should be looked from multiple angles. From American technical prowess point of view, this concrete structure spoke to the world – albeit silently – about the stepping into a new technological era, having America as spearhead. In the same time, Hoover dam's construction must be regarded in the context of Great Depression which had brought great havoc upon American economy. *Massive* investments made with Americans and American companies on US soil, aiming the unemployment abatement, as well as the American economy's preparation for a new development stage with modernization supported by electricity production, doubled by water impoundment in a great reservoir in order to promote modern agriculture patterns in the Western of the US were the key-notes of this taken decision.

The dam was completed in 1936, after 5 years of steady work but the techno-political networks which prompted its completion, especially the Bureau of Reclamation (established in 1902, as a sub-division of the Department of Interior) and the Tennessee Valley Authority (established in 1933) are still living entities. The first one reunites under its umbrella technical experts with background related to water development schemes, while the second is more of an institutional structure aiming at controlling water with specific ends connected to modernization.

Even they are directly connected to technical matters the political component in their rear cannot be concealed. Both – but especially the Bureau of Reclamation – become means for promoting technological acumen in other countries, but especially in the Third World countries.

In this way *dams* become the equivalent of modernization, and as the clouds of the Cold War gathered they have steady come closer to geopolitical calculus, and they became inseparable. Here it is noteworthy to bring attention upon American culture: every society regard technological progress with care and it has been sought

assiduously by each state; probably more so than in other nation-state, a broad range of American society (political and economic elites, opinion leaders, and commoners) have perceived technological skilfulness as a cornerstone of national identity (Sneddon, 2015). The *idea* of technology aimed at water manipulation and water resource development – having as a focal point the *dam* – clotted in a unique way around American faith in technology's power to improve welfare (Adas, 2009). What is important when speaking about dams and technopolitics is that during the period following the WW2's cessation, national culture and politics of the most powerful country overlapped in a unique manner over the international environment, characterized by a Cold War initiated between the center of liberty (Washington) and the center of justice (Moscow). American unwavering belief in technology as an essential mankind's mean for its life bettering made Washington to look at economic aid and especially at *technical assistance* in a special way, in order to contain communism's expansion towards Third World countries, as they were in disarray, underdeveloped, and as they struggled to shake their old dependency on their ex-parent states. These states scattered in Asia, Africa, and Latin America/Caribbean were in a delicate position, and the message of social justice could have charmed and orient their populace towards revolutions, helping Moscow in attaining its aim of global changing.

In this context Washington launched its Four Point Program in 1949 directed to developing countries as an instrument of technical assistance; in his inaugural speech, President Truman stated that "we must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas... The United States is pre-eminent among nations in the development of industrial and scientific techniques", while "our imponderable resources in technical knowledge are constantly growing and are inexhaustible" (Department of State Bulletin, 1949: 123).

This message is the synthesis for understanding that dams have been no more simple technical achievements; they have morphed in key-stones located in the center of the network connecting *world* politics, *state* politics because dams help in spreading their ideologies and attaining in this way foreign policies goals, *regional* politics, *companies* (especially in engineering, consultancy areas), financial institutions, constructor companies on the one hand. Efforts to support American hegemonic ambitions created an admixture involving the "frontier" character of American economy, promoting expanding markets in developing nations, its ideological/cultural expression (the ethos of consumer-citizen), and of course the "protective-paternalistic" dreams of modernizing the Third World under the column of development (Agnew, 2005). Western lifestyles induced by technological assistance would have followed to prop up global American influence; as dams play a crucial role in energy production and water storage for irrigating a modern agriculture and as development is directly linked to energy production, while development leads to democracy (Ingelhart and Welzel, 2009), it is easy to synthesize that dams have morphed in technopolitical instruments with a crucial modernizing role and a great geopolitical component.

On the other hand, in developing states, dams have been regarded as instruments to vindicate political leadership's legitimacy, and a proof of their enrolment towards development and modernization. Although numerous dams constructed in the African, Asian, and Latin American regions are not among the world's gigantic impoundments, in some countries, these constructions are the largest public works

in those nations' history, as are Kossou Dam in Ivory Coast, Peligre Dam in Haiti, and Mt. Coffee Dam in Liberia (Sneddon, 2015).

As Hecht (2011) put it, technopolitics – materialized in dams – played critical roles in mediating the political and economic relations between powerful and weaker states, inciting numerous social and ecological transformations.

In this context of global ideological, political, economic struggles, and pressures posed by capital one must never neglect that large dams worked sometimes in the opposite direction, bringing wreak huge social and ecological clutter on some rivers and riparian communities. Projects such as Cahora Bassa Dam (in Mozambique on Zambezi River) denotes the connections between the technopolitical calculations materialized in large dams and the networks of the emergent new colonialism, brutal labor exploitation, geopolitical intrigues, economic *non-performance*, and violence directed at disenfranchised peasants, and unique and peculiar ecosystems (Isaacman and Isaacman, 2013). It is an example of how technopolitics creates imagined geographies, which have nothing to do with development or modernization, but with narrow geo/political gains for a scanty number of privileged people.

Having this negative examples, and other which were brought to world public opinion attention through the World Commission on Dams' work (2000) does not mean that technopolitical network swirling around large dams (and large infrastructure projects, generally) is fading away; on the contrary, Mozambican government, ignoring and muting the legacies of Cahora Bassa is currently seeking financing for an even larger project on the same river, the Mphanda Nkuwa Dam project (Sneddon, 2015). It is the best proof of the lucrative business involved by large dams' construction (and sometimes of corruption connected to it) and how stout character has the network reuniting governments, corporations, international financial institutions – that are the most vocal proponents of large dams and hydropower. One can see that present day technopolitical conditions are as active as ever for an acceleration of dams' building, and transforming rivers. Ignoring these old and extensive networks and the power that large dams knock together put ecological movements only on forefront news, but their manoeuvrable capacity is quite limited. Furthermore, dams – because of energy networks and industrial food production they sustain – favour political centralization upon decentralization.

If we looked at the evolution of dams construction during the Cold War (especially until 1975), we could note the revolutionary character of this activity. As a consequence of technopolitical networks connected to dams' building assembled during the Cold War, there was a global revolution regarding river control, as there are already over 50000 large dams built in the world. World's rivers are not the same as they were a century before. What the world is now facing is the second dams' revolution. As these dams were technical instruments aimed at creating geopolitical influences during the Cold War (used both by Moscow and Washington in their geopolitical contention for global influence), the new dams serve geoeconomic ends more. As Beijing (and Chinese financial and engineering corporations) are in searching for access to raw materials in different underdeveloped countries, Chinese expertise searches for “exporting” dams in other countries. And China has a vast experience in water manipulation (since ancient times it struggled to control the Yellow River) and in dams' building (over half of the world largest dams are located in China).

As ecological claiming for a cheap and green energy which has as nodal point water and dams could provide gains in fighting climate changes, this new ideology could

be attired by Chinese economic and political interests in Beijing's fight on geoeconomic arena.

As dams are about high technical skills, they belong to actions taken in humankind civilization field, but as they are promoted by peculiar ideologies and sustain peculiar ideas, they are connected to political decision, and this political rotted activity is connected to cultural field. At first sight, their technical component makes them ready for an easy global traveling and transposition, but the way this expansion takes places is influenced by international context, by political struggles and financial interests, by various models of economic development, by policies adopted (or imposed/suggested by outsiders) in countries which envisage schemes and programs of water development, and by the peculiarities of the river to be dammed and the geological, hydrological, social and environmental features of the chosen site for impounding the river.

Furthermore, as politics is the both the art and science of ruling men; and because *water* is involved directly or indirectly in all human activities, the way water is mastered has to do with high politics. This is much more important when a river crosses international borders, because any action taken by upper riparian state/states related to that river's impoundment would negatively influence the way other downstream co-riparian states could use that river's water for their present and especially future needs. In this case we face a very complex situation because technopolitics is linked to hydropolitics. Large dams become leaving things, being technological objects constituted through the amassment of knowledge, capital and power (Sneddon, 2015). They reside at the intersection of complex networks of changed hydrologies, technical prowess, financial circuits, political desires, displaced communities, and hegemonic ideologies; as Sneddon puts it (2015), perhaps "no other technological object has the ability to capture and enrol within its orbit as many biophysical, technological, political, economic, and ideological processes and things as large dams do".

As dams have specificities making them a central "actor" in the history of development practice during last roughly 8 decades, they could be regarded as living things, because, as specified by Latour (2005), they act in the sense of having effects on a myriad of both human and non-human processes that are independent of their creators/constructors' intentions and design.

## Conclusion

Synthetically, dams are visible examples of how *civilization* and *culture* work in tandem; a dam is the result of both, *cool calculation* and *hot politics*. There are two inseparable elements: one of them is technology, the other one is politics. Hence this technopolitical angle of looking at dams.

## References

1. Adas, M. (2009) *Dominance by Design: Technological Imperatives and America's Civilizing Mission*, 1-st edition, Harvard University Press, Cambridge MA.
2. Agnew, J. (2005) *Hegemony: The New Shape Of Global Power*, Temple University Press, Philadelphia.
3. Hecht, G. (ed.) (2011) *Entangled Geographies. Empire and Technopolitics in the Global Cold War*, MIT Press, Cambridge.

4. Ingelhart, R. and Welzel, C. (2009), "How Development Leads to Democracy. What We Know About Modernization", *Foreign Affairs*, Vol. 88, No. 2, March/April, pp. 33-48.
5. Isaacman, A. F. and Isaacman, B. S. (2013) *Dams, Displacement, and the Delusion of Development. Cahora Bassa and Its Legacies in Mozambique, 1965-2007*, Ohio University Press, Athens, Ohio.
6. Latour, B. (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford University Press, Oxford.
7. Sneddon, C. (2015) *Concrete Revolution. Large Dams, Cold War Geopolitics, and the US Bureau of Reclamation*, Chicago University Press, Chicago and London.
8. Toynbee, A. J. (1979) *Orașele în mișcare*, Editura Politică, București.
9. Wittfogel, K. A. (1957) *Oriental Despotism: A Comparative Study of Total Power*, Yale University Press, New Haven and London.
10. \*\*\* *Department of State Bulletin* (1949, January 30), p. 123.
11. \*\*\* *Dams and Development. a New Framework for Decision-Making* (2000) The Report of the World Commission on Dams, Earthscan, London and Sterling, VA