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Institutional Analysis of Water Governance in Pakistan

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Abstract: *Pakistan is said to be at the brink of being a water-scarce country current per capita water availability is 1090 m3 per year. This point to the water governance issues in Pakistan. Given these problems, a debate among scholars and policymakers is what governance model should Pakistan adopt to manage its water resources effectively. A few of them are a proponent of privatization of water, while others argue that traditional warabandi can still be an effective way to manage the water if certain loopholes in the system can be addressed. In this paper, we discuss both models and analysis with institutional theories of (water) property rights and relations, state authority, and neoliberalism to analyze the pros and cons of both models. In conclusion, we enlist the problems that persist in both models and provide recommendations for better governance of water in Pakistan.*

Key Words: Institutional Analysis, Water Governance, Pakistan

Introduction

Pakistan is an agricultural country and allocates 90% of its water resources to agriculture. Agriculture is the second largest sector, accounting for over 21 percent of GDP, absorbing 45 percent of the country's total labor force. Nearly 62 percent of the country's population resides in rural areas and is directly or indirectly linked with agriculture for their livelihood (Ministry of Agriculture 2009-10) and provide 40% of export shares (Bengali 2009). For agriculture production, Pakistan heavily depends upon the Indus River and its tributaries. The management and governance of Indus hence become one of the major concern for Pakistan since its inception on the World map in 1947. Since 1947, Pakistan has constructed 3 gigantic dams, 17 barrages, and numerous headways and canals on the Indus River to fetch water too much of its barren land for agriculture. Currently, 04 mega projects of dams and numerous other projects are underway with the funding of China under the China-Pak Economic Corridor (CPEC).

According to World Bank, Pakistan becomes the water-stressed country with 1700 cubic meter per capita per year in 2000 (the government says Pakistan reached these figures in 1992). In 2002, these figures declined to 1500 m^3. Currently, Pakistan is at the brink of water scarcity, as water availability is 1090 m^3 per year and will decline to below1000 m^3 by 2025-35 (Briscoe and Qamar 2006). The water scarcity in Pakistan is linked with both natural and man-made causes. Pakistani river systems depend upon the melting of ice in the Himalayas and monsoon rains. Climate change has a huge impact on Himalayan glaciers, causing frequent floods, but once the ice melts, there will be less amount of water coming from the mountains (IMF 2015; Kugelman and Hathaway 2009 and Briscoe and Qamar 2006). The second major source of water is rainfall. Pakistan receives 255mm of annual rainfall, which is although sufficient, but due to climate change, annual rainfall has become uneven, causing flooding sometimes and completely dry other times (Salma et al. 2012). The man-made causes are the population increase putting the burden on water usage, water conflict with India as Pakistan shares many rivers with India exacerbating the water situations (Qureshi 2017). Inside Pakistan, water governance issues linked with old colonial infrastructure causing salinity, silt deposits, and seepage losses which has increased significantly. Not only this, but the environmental degradation of the river ecosystem, especially Indus Delta and mangrove forests, is enormous (Bengali 2009).

With the recent water scarcity issues, two major schools of thoughts contest over the governance of the Indus river in Pakistan. The first school of thought is technocentric pleading for engineering solutions to construct big reservoirs like dams and to initiate mega infrastructural projects. Civil bureaucracy strongly supports this school of thought backed by the World Bank and IMF (Mulk 2009). The second school of thought argues for socio-centric indigenous ways to water governance backed by

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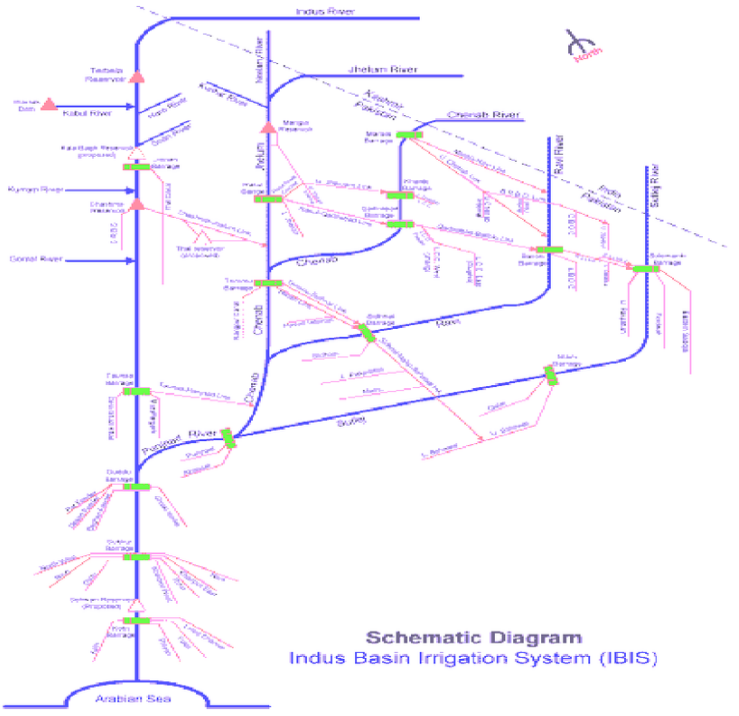
civil society (Bengali 2003 and 2009). In this paper, I will analyze both schools of thought within the institutional frameworks of property relations, state authority, and neoliberalism to understand the dynamics of water governance in Pakistan., I argue how, however, both models of governance are different, but in fact, are the two sides of the same coin. Looking at the socio-political structure of Pakistan, either model would concentrate the power to powerful groups, marginalizing the powerless.

Indus Irrigation System



Source: Ali, Ul Hasan, and Khan 2009

Model – I Scientific Engineering Solutions to water Governance Issues

Bureaucrats and engineers strongly support model 1 backed by the World Bank and IMF (Mulk 2009). They view water as a scarce resource that will deplete if not properly managed. The management of water, for them, is possible through market mechanisms of pricing the water use, especially in agriculture as agriculture use almost 90% of water resource in Pakistan, but taxed least of all the sectors in Pakistan (privatization of water); increasing the storage capacity (dams), enhancement of water (irrigation) infrastructure; decentralization of water distribution; and use of modern technology in monitoring and distribution of water (Kugelman and Hathaway 2009; Mulk 2009; Briscoe and Qamar 2005). The market mechanism, according to them, would create a competitive environment which will increase the efficiency of the overall system, would protect the consumers (who will pay), and "ensures high quality, low cost and universal access to service" (World Bank's Views in Bengali 2009).

Model – II Socio-Centric solutions to water Governance

Civil society backs the second model. According to this model, water is not only a resource rather entangled within the socio-cultural and politico-economic system of the country and cannot be treated in isolation (Bengali 2003 and 2009 and Ercelawn 2003). They criticize model one that it will benefit the rich and marginalizes the poor. The socio-centric approach argues for a more comprehensive water policy and management plan. They argue for the capacity development of farmers, educational workshops ensuring sustainable use of water, stress on efficiency of water conveyance, creating agro-ecological zones, and distribution of water accordingly to identify water-saving systems, and discouraging water-intensive crops like sugar using indigenous water distribution mechanisms (ibid).

Background

The water governance issues are older than in Pakistan. Pakistan took birth as a separate nation-state from the British Colonial government in 1947, after the partition of the sub-continent (Bose and Jalal 2004). British government started the first mega infrastructural project on the Indus River in Sindh in 1932, the Sukkur Barrage, channelling water to millions of acres of barren land (Haines 2013). For the colonial government, the Sukkur barrage was to generate revenue through taxes and increase agricultural production. To do so, the colonial government needed manpower who can cultivate the new arable land, which either was not sufficient in Sindh during the period or/and most of the Sindhi people were not willing to move to new cultivatable land. The solution for the colonial government was to bring manpower from outside Sindh, from Punjab and NWFP (Haines 2013). This changed the demography of Sindh, and later water sharing issues emerged not only as a water governance problem but as a politico-ethnic problem, especially in postcolonial Pakistan (Haines 2013).

Pakistan inherited the agricultural infrastructure from the colonial government, along with the railway network. The territories which later would become part of Pakistan, lacking any industry Pakistan could inherit from the colonial government, postcolonial Pakistan ostensibly focused on agricultural development by constructing two dams from (1956 to 1970s) and agricultural infrastructure (Majeed 2015). Other than generating revenue through taxes and increasing GDP, the infrastructural projects also symbolized the state authority and nation-building in postcolonial Pakistan (Haines 2013; see Akhter 2015 how this nation-building project failed). A very colonial mindset. Pakistan invested heavily in mega infrastructural projects on the above logic, mostly foreign-funded through the 1950s and continues to present (Mulk 2009). Although megaprojects increased Pakistan's revenue many folds and appropriated state authority in almost every corner of the country producing subjects of the state, it also increased the problems of water governance. The problems of salinity, seepage, waterlogging and silt deposits. In the 1990s, to face these problems, Pakistan started series of mega drainage project called Left Bank Outfall Drain (LBOD) and Right Bank Outfall Drain (RBOD) that would take the extra agricultural and drainage water to drain into the Arabian Sea with foreign funding.

Recently, Water and Power Development Authority (WAPDA) vision 2025 shows Pakistan still heavily favors megaprojects with foreign funding as Pakistan is going to build five dams, three "mega-canal", five hydropower facilities, and two drainage projects by 2025. In the following pages, I will analyze both models – scientific engineering and socio-centric – within the framework of property rights and relations, state authority, and neoliberalism. Through this, I will show how both models, in fact, are two sides of the same coin. Both models support the power class and have loopholes that are exploited by the power class leaving the poor and marginalized class more vulnerable.

Water: Property Rights and Relations

Property rights and relations are complex and fluid terms located within the local socio-political system. Property relations are complexly tied with the notion of access and rights. Ribot & Peluso (2003) defined access as "the ability to derive benefits from things", but access to resources is complicated and diverse based on legality (customary law, or modern law). The legality of access has issues of coercion as legal access is granted by law, customs and conventions, which are the production of power relations manipulating the process. The terms property, access, legitimacy, legal, ownership, and rights are although looks all-encompassing in understanding the relations of property. But in the real world, they are so fluid and vulnerable to change at various political, legal, and cultural moments that it is hard to define them. Indeed, there is a "process" that connects these various terms with each other defining what they are and what they are not and ultimately defining property and property relationship. (Ribot and Peluso 2003 and Sikor & Lund 2009). At the heart of the process lies the "power dynamics" as the various examples of Ghana and Romania illustrated by Sikor and Lund (2009).

Pakistan does not have elaborated water rights (Kamal 2009). In Pakistan, water rights are tied with land rights, which are the derivation of the colonial period. During colonization, after early canal-building by the colonial government, the Canal and Drainage Act (1873) defined the water governance in Indus Basin in Pakistan. Danish Mustafa (2001) argues that the act, in fact, was less to govern the water or give water rights to users but meant more towards the control over the population, as well as winning the loyalties of landlords. These landlords also served the colonial government to expand colonial rule through the colonization and were awarded *Jagirs* (land property), which they still hold (Mustafa 2001; Bose and Jalal 2004). To say, through this act, the state virtually has all the rights over water, not the individuals. This form of water governance is still enforced, although with little to no variations. The colonial water distribution system was known as *warabandi* (Rotational system). The

warabandi is a continuous rotation system in which each irrigated land piece will receive water on a rotation basis that usually lasts seven days. The duration of the turn is in proportion to the size of the farmer's holdings. During the turn, the farmer is entitled to all the water flowing in the watercourse. There are two forms of the system. "One, the *'pacca'* (official) *warabandi* system, a weekly rotation is fixed by the canal officer for each farmer at the joint request and by agreement of the cultivators. This becomes binding on all shareholders and cannot thereafter be altered. Under the *'kacha'* (temporary) *warabandi* system, the turns for each farmer are agreed upon by all shareholders and the Irrigation Department does not interfere unless a complaint is lodged" (Khepar, Gulati, Yadav, and Brar 2000).

Usually *warabandi* system works like: Main canal → Branch canal → distributary →Minor channel → sub-minor → watercourse → land (Khan 2009)

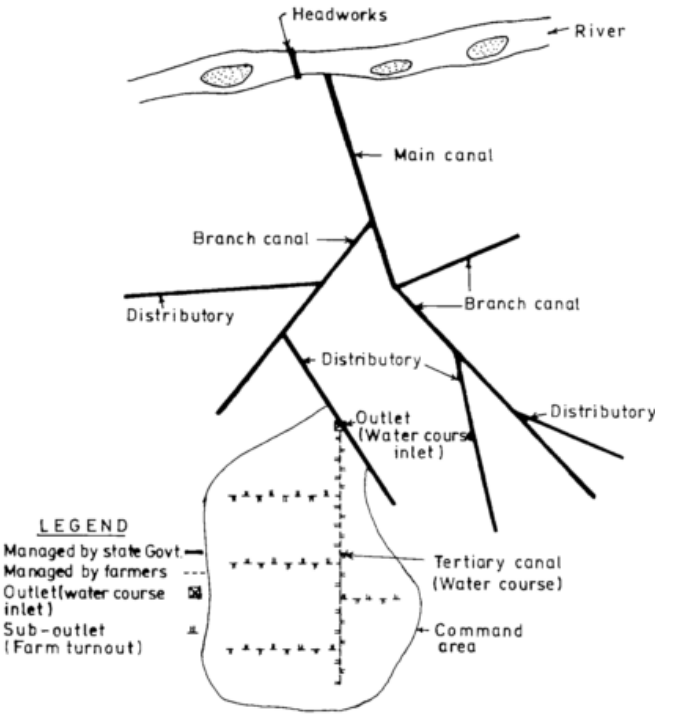


Fig. 1 Typical distribution system

Source: Khepkar, Gulati, Yadav, Brar 2000.

The system, in fact, does not give any rights over the water to individuals; rather, land rights are important to ensure how much water a person will receive. The system has many drawbacks; the major is that the person who has landed at the tail end of the system usually receive less amount of water than the system can provide due to water losses due to seepage and water theft (Mustafa 2001, and 2002).

Model I

The proponents of the model I criticize the *warabandi* water distribution system as old, fascist, and vulnerable (Mulk 2009). They argue that in the past if the system worked at any level is due to less population and plentiful water resources. Today, an increase in population and decrease in water resources has made the *warabandi* system questionable to provide enough water resources to farmers. Without water rights, the model I argues, access to water is not possible, and that reduces the production of the system. Moreover, they also argue that the political system, where landlords almost enjoy the political powers, exploit the *warabandi* system. They divert the channels in their fields and block the water flow. While most of the farmers do not have the power to fight the system, but they cannot take refuge in the legal system of the state because of the lack of proper water rights. The

situation exacerbates for the landless farmers or the farmers without land entitlements like widows (Kamal 2009).

In the above scenario, the proponents of Model I argues that the market mechanism is the only solution to the problems. As the market works on laws, every person, irrespective of his financial or political position, will receive the water if the person is legally part of the system (Briscoe and Qamar 2005; and World Bank cited in Bengali 2009). Moreover, water privatization will also enhance the system capabilities through monitoring mechanisms that will ensure less or no water losses. This system will conserve water use, and ultimately water usage becomes more efficient (Briscoe and Qamar 2005). The proponent of the model I also argue that because currently, water users pay little to no taxes on water usage, they are irresponsible towards water use or say they do not value water is a scarce resource. The privatization of water, and when the users will pay for the water they use, will produce value among the users (Briscoe and Qamar 2005). While the revenue generated due to taxation can be used to update the water infrastructure and governance of water.

Model II

The proponents of model II argue that the *warabani* system is a pro-poor system where almost every farmer receives a share of water. Although they acknowledge the loop holes of the *warabandi* system like seepage, water theft, or power politics, but they are of the view that they can be fixed without market mechanisms (Bengali 2003 and 2009). *Warabandi* system in one way or other still supports the poor, as most of the time every farmer produces the yield. Privatization will marginalize the poor; farmers who cannot pay will receive no water, and will ultimately indebted. They argue to fix the loop holes of *warabandi* system through monitoring, and by establishing community based organizations rather than privatization.

State Authority

In the authoritarian as well as other forms of government, the source of authority lies outside itself; authority is not about coercion; rather, it is a method to condition human freedom where reality and authority blend to become one (Arendt 1961). Development in this regard remained one of the keys outside source in the postcolonial nation-state, especially in South Asia, where development comes as a form of redemption (Nandy 1994), and state authority made this redemption an everyday reality. Development becomes an instrument for the postcolonial state to authorize the state authority wherever deemed necessary. The discipling of society along the lines of development serves many functions, especially to create a national identity and to legitimize the state authority (Shastri 2001). Arendt argues, "If authority is to be defined at all, then, it must be in contradistinction to both coercion by force and persuasion through arguments" (Arendt 1961: 02) because the use of coercion or persuasion means authority is compromised. Hence, authority precludes coercion and persuasion.

Pakistan, since its birth in 1947, after the division of the Indian subcontinent by British colonial powers, faced two major problems. First, to create a national identity in ethnically divided provinces which are now part of Pakistan, and to legitimize state authority. Development became a key answer to both the problems; the new nation-state of Pakistan was and still facing. Daniel Haines (2013) argues that in 1932 when the colonial government constructed a gigantic agricultural project over the Indus River, the Sukkur Barrage, they promoted it as a symbol of power and legitimacy of colonial authority. Postcolonial Pakistan followed the colonial legacy of development as a tool to legitimize state authority (94-95). The postcolonial state of Pakistan created a national identity to claim state authority ostensibly along with the development discourse (Markus 2011 and Haines 2013). The construction of Mangala Dam (1967), and Tarbella Dam (1974) in the upper riparian area, and barrages – Ghulam Muhammad Barrage (1955) and Guddu Barrage (1962) – in Sindh to give an example provide a key insight into the importance of large projects to store water. The barrages served and were exploited by the Pakistani state as a tangible symbol of power and authority.

Model I

For Pakistan, the mega projects always remained a tool to disseminate state authority and to legitimize her power. The mega, as stated above, during the early period of her independence, served the purpose. Later in the 1990s, with emerging problems of drainage, salinity, and waterlogging, mega infrastructural projects like Salinity Control and Reclamation Project (SCARP) Left Bank Outfall Drain, and Right Bank Outfall Drain, and recently Sindh Irrigated Agricultural Enhancement Project (SIAEP) served symbolically to legitimize state authority. World Bank-funded these projects and costs multibillion dollars. Although, studies suggest these projects were not successful, especially LBOD and

RBOD (Brohi 2003). The question for state authority is not whether projects failed or successes. State legitimizes her authority by producing discursive narratives of will and capacity to carry on huge projects like above irrespective of success or failure. These tangible symbols, of failure and success, a paradox, but state works through paradoxes (Agamben 1995), provide a rationale of state authority from the above that only state can negotiate with international financial institutions and has the capacity to initiate mega development projects. The successful projects create a legitimize the state authority, while the failed project is an opportunity for the state, a problem that now the only state can fix. Water governance projects in Pakistan always remained a source of state authority.

Model II

I argue that the socio-centric model also provides a space for state authority to disseminate itself where deemed necessary by calibrating the social structure of the society. The Pakistani political system is feudalistic, especially in Sindh, where more than 75% of parliamentarians are feudal. The feudal since colonization has a very strong hold on the structure of society, especially the agricultural structure of the society (Haines 2013). In postcolonial Pakistan, feudal by actively participating in democratic politics have their share of power with the military and bureaucracy (Siddiqa 2007). The nexus of feudal, military, and bureaucracy controls the power system in Pakistan (Siddiqa 2007, and Alavi 1972). Although, the sociocentric model does not enlist what does it mean by a "comprehensive" irrigation policy. What I take or understand by the comprehensive policy is a pro-poor or a policy that brings water into the fields of the marginalized farmers. Within the above political structure, any socio-centric model is, in fact, an extension of state authority in the forms of so-called reforms. For example, 1972 land reforms, which were hailed as "socialist reforms", in fact, brought the land under the control of powerful landlords, rather than benefiting the poor. Under such conditions, any sociocentric approach to water governance without changing the socio-political structure of the society will do no good. In fact, it will provide an opportunity to powerful class as well as to state authority to recalibrate their relations with the resources, following past examples (Haines 2013).

Neoliberalism

The term neoliberalism is polysemic and means many things depending on the context used. But the variability still has certain overlaps. Ganti (2014), while surveying the literature on neoliberalism, has categorized it into four main referents: 1. "it means a set of economic reform policies [...] which are concerned with the deregulation of the economy, the liberalization of trade and industry, and the privatization of state-owned enterprises" 2, which recalibrate the different political roles for labor, capital, and the state with tremendous economic, social, and political implications; 3.an ideology that values market exchange as an ethic in itself, capable of acting as a guide to all human action and substituting for all previously held ethical beliefs; and 4. a mode of governance that embraces the idea of the self-regulating free market, with its associated values of competition and self-interest, as the model for the effective and efficient government (Ganti 2014). The four referents, in fact, allow saying that neoliberalism at once is an economical, social, political, and cultural project while recalibrating the whole life according to market mechanisms. Harvey (2003 and 2007) point toward the economic dimension of neoliberalism, which is also a political project to discontinue the past with present and future. He argues, like modernity which radically breaks [present] with the past (Harvey 2003), neoliberalism takes the modernity project ahead not only to destruct "prior intuitional frameworks [...] but also of divisions of labor, social relations, welfare provisions, technological mixes, ways of life, attachments to the land, habits of the heart, ways of thought, and the like" (Harvey 2007). That neoliberalism does by "maximization of entrepreneurial freedoms within an institutional framework characterized by private property rights, individual liberty, unencumbered markets, and free trade" (22).

On the other hand, Comaroff and Comaroff (2000) looks into the cultural dimensions of neoliberalism. The "occult economies" as they called is a culture and ethics of life that believes that "it is possible to produce wealth almost by magic" (cited in Hilgers 2011: 353). Occult economies comprise of a set of techniques and practices that defy explanation and practical reasoning by mobilizing, consciously or not, "magical" means to obtain material resources without effort [...] engenders practices seeking to soothe the ontological anxiety linked to the expansion of neoliberal capitalism. (Comaroff and Comaroff 2003 cited in Hilgers 2011). These occult economies rely on restructuring not only the economic order of the society but also by disseminating the everyday form of life that renders the neoliberalism way of life. The objective is to destroy the past [traditional] and to make the new [neoliberal] way of life (Comaroff and Comaroff 1999).

In Pakistan, neoliberal reforms started in the 1980s during the rule of military dictator General Zia but took off under the guidance of IMF in the late 80s during the democratic government of the Pakistan

People Party (PPP) (Brown 2016 and Ahmed and Khan 2009). Since then, Pakistan largely relied on IMF and World Bank economic grants. Today, the collective foreign loans Pakistan indebted exceeds 26 billion rupees that are almost 75% to Pakistan's GDP (State Bank of Pakistan).

We have only 3 articles uploaded over there). Under huge debt, Pakistan cannot do other than taking dictation of IMF and World Bank, which is visible throughout neoliberal reforms of privatization of state institutions since the 1990s and 2000 (Ahmed and Khasn 2009). Currently, 39 state organizations are on the list of privatizations. The narrative of privatization in Pakistan coincides with minimization of state role and to recast nonpolitical and nonideological solution to her problems.

Model – I

Model, I, without a doubt, is to spread neoliberalism in Pakistan. In fact, it is taking over the whole society. Backed by the World Bank and IMF internationally, and by the bureaucracy, and water expert nationally. The Water and Power Development Authority (WAPDA) vision 2025 accentuate this thought. According to vision, Pakistan is going to build five dams, three "mega-canal", five hydropower facilities, and two drainage projects by 2025 (see also Kugelman 2009: 17). To achieve vision 2015, finance is one of the major constraints. The proposed plan is to obtain loans from international institutions like World Bank and IMF for big dams, and more recently, from China under CPEC, the multibillion-dollar project. For other projects like infrastructural development, water distribution, and allocation to the agriculture sector as well as for drinking, the state is preferring a public-private partnership. A country that is already indebted up to 75% of its GDP to international institutions is seeking more funds from international organizations (State Bank of Pakistan 2018). This heavy reliance of Pakistan on IMF and World Bank, especially in the water and agriculture sector, today compelling Pakistan to open her borders to neoliberal trades, and privatization of state institutions is a move towards neoliberal trade. Currently, 39 state organizations are on the list of privatizations. The narrative of privatization in Pakistan coincides with minimization of state role and to recast nonpolitical and nonideological solution to her problems.

The privatization in Pakistan is an "occult economy" in the name of 'debit return', following the policies of international institutions. Hence, for Pakistan, neoliberal reform is magical means to produce money to return the foreign debt and ostensibly align herself on the tracks of development. Houston (2017) argued that Dams are the infrastructure necessary for Pakistan to develop sustainably. Dams would solve all the problems in Pakistan (by producing electricity, hence industries would have an uninterpreted power supply and more water for agriculture) by generating enough revenue to pay off the foreign debt. But Pakistan needs more funds (debit) to construct any big dam. This is vicious circle Pakistan is entangled into: to return debit, Pakistan needs to increase the revenue, one way to do so is to construct big dams so as Pakistan must have enough energy in both agricultural and industrial sector to generate revenue, but to construct dams Pakistan need more money from international institutions like IMF and World Bank. That means more debit. A kind of paradox through which these occult economics (neoliberalism) work.

Aa far as public private partnership is concerned, the government of Pakistan argues that without private investment, she alone cannot develop new or upgrade the current infrastructure in any sector, especially water, which is essential for the agricultural economy of Pakistan. The report from the State Bank of Pakistan for the water infrastructure projects says,

Private sector involvement creates a scenario where there is an operator that is independent and has a strong incentive to make a profit. In the case of Pakistan, this will mean improving the collection of water charges, reducing theft and reducing line losses.

Although, report charts some of the problems of the private sector investment but report also says, "However, surveys and experiences of private involvement on Water and Sanitation have shown that people are willing to pay if the service is reliable and of a good quality". Already, many projects have been initiated with the funding of IMF and World Bank, like SIAPEP in Sindh with more than 20 million USD funding from World Bank in a partnership with Sindh Agricultural Department.

Model – II

The socio-centric model is opposite to neoliberalism which asks for a "comprehensive" pro-poor policy. They argue to move away from the "fetishization of water" (Bengali 2009) to understand water in a more socio-political context and stresses on conserving available water resources to indigenous technology-and management-intensive ecologically balanced approaches (Bengali 2009). Although, the socio-centric approach does not enlist the mechanisms of how to achieve a pro-poor system. Most of the time, they criticize privatization. Although, there are certain referents the approach refers towards. First,

In 1991 all provinces agreed on a certain water sharing system that led to the formation of the Indus River System Authority (IRSA) , which makes the calculation based on the availability of water, need of each province, and cultivation season that which province will receive what amount of water. The four provinces, which are ethnically diverse, before IRSA (in fact, after IRSA as well) contested over the share of water, especially Punjab (upper riparian province) and Sindh (lower riparian province), both are heavily agricultural provinces. After the formation of IRSA, a certain formula was formulated, and since then, water is shared accordingly. All provinces have their members in IRSA. But corruption and bad governance of IRSA has reduced it to only a "debating club, where provincial officials, loyal to their ethnic identities, try to rig the system in their own favor" (Khan 2008). The socio-centric approach asks to make IRSA more independent, powerful and to enhance its capacity for the good governance of water (Bengali 2003 and 2009).

The second important referent socio-centric approach argues for the enhancement of the traditional water system called *warabandi* (rotational system), which was developed during the colonial period. Although the socio-centric approach acknowledges the current issues in *warabandi* system, they argue that those problems can be fixed without privatization. They argue to enhance the capacities of farmers through irrigation educational system, to use modern technology against water losses and theft, and creating management system aligns with *warabandi* system, and to educate farmers to conserve water (Bengali 2003 and 2009).

Discussion

Pakistan is a very complex political system, while the water system is even more complex than the political system. The transnational flow of Indus and its tributaries create a vulnerable situation for Pakistan considering ideological issues with India. Through Indus Water Treat (1962), Pakistan receives her share of water from the rivers that flow through India into Pakistan. But from time to time, Pakistan blames India for stealing water of her share and recently approached the Permanent Court of Arbitration to protest against two hydropower projects being built by India in Jammu and Kashmir. Within Pakistan, the water distribution system among provinces from time to time creates a war of words among the provinces. Within the above context, the water governance issues in Pakistan is directly linked with Pakistan's survival, and water is a security issue for Pakistan (Mustafa 2008).

The water conflict in Pakistan is sorted by Water Apportionment Accord in 1991 that allocates the water share of each province based on supply and demand philosophy among provinces through a national authority called Indus River System Authority (IRSA). While, there are not any other legal, water right mechanisms to ensure who will receive how much water or who owns water. The lack of any defined water right policy creates vulnerabilities in the system, exploited by powerful class of Pakistan, especially landlords who also holds strong political positions.

The two models - market-based and socio-centric model – a contest over the water governance in Pakistan. I argue that both models within Pakistan's political, social structure are the two sides of the same coin. Both models, in one way or other, are structured around power dynamics; the only difference lies in one being from the above (privatization) and the other from the below (socio-centric). What is important for water governance in the current situation is the restructuring of the whole politico-social structure of the Pakistani society; otherwise, these both systems, in fact, are what Gadi (2003) called re-colonizing of Indus Basin Irrigation System. By now with the privatization of water does not happen because of strong feudal lords, who also hold a strong political position in Pakistan. They are exploiting the current system, enjoying the benefits of the loopholes of the system. Any change can reduce their hold on the system that is the reason most political leaders are against the privatization of water.

Moreover, the privatization, especially in the water sector, did not produce the results which can strengthen their case in Pakistan. For example, Ercelawn (2003) critically analyzed the privatization of water distribution in Karachi, the largest city of Pakistan. He argues that privatization is merely a conversion of a public monopoly into a private monopoly of water in Karachi (Ercelawn 2003). The terms and conditions of privatization also favors private firms and elite consumers. All assets of Karachi Water and Sewerage Board (KWSB) which is a government body that manages the water and sewerage in Karachi, will be handed over to a private firm, but the private firm will not inherit the current liabilities. Similarly, almost 300% will increase in the price of water, and the firm will collect the taxes. However, if the firm could not collect the required targets of tax, the firms are not responsible; rather government will collect the remaining taxes (Ercelawn 2003). In a similar vein, the LBOD and RBOD the multibillion and multiyear projects, could not produce the required results. From design problems to financial vulnerabilities, the projects created more problems than the solution (Brohi 2003). Similarly, another multibillion-dollar drainage project, Salinity Control and Rehabilitation Projects (SCARPs) failed due to inappropriate use of technology. The foreign consultants recommended the use of high capacity turbine

tubewell to pump from a depth of 150 to 200 feet to bring the water table lower than the plant root zones to reduce the salinity. Pakistan had not had the expertise to install the pumps, so an American firm was hired at a very high cost. Initially, iron pipes were used to pump the water, which got rusted in three years. Later fibre pipes were recommended. To meet the demand for fibre pipes, two new factories were set up in America. This, and some other issues, increased the cost to almost 300% to 9034 million rupees (Ahmed 2003).

Although model II does consider the current socio-political system of Pakistan but does not provide any mechanism to ensure how marginalized farmers can be streamlined so as they can receive the required water share.

Conclusion

In the paper, I tried to show how both models of water governance in Pakistan are vulnerable to exploitation by the power structure of the society. Although water scarcity and water governance issues in Pakistan are real, Pakistan does not consider all-encompassing mechanisms of water governance due to regional conflict with India, ethnic conflict between provinces in Pakistan, corruption, and current political structure. Although, World Bank and IMF have a strong hold on Pakistan, the powerful lobby of landlords who holds strong political positions create barriers towards any kind of neoliberal reforms, especially in the agricultural sector. As shown above, these landlords greatly enjoy the loopholes of the current system in their favor. On the other hand, the same system provides the state with an opportunity to exploit the system to spread the state authority through landlords as the colonial government did in the past.

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