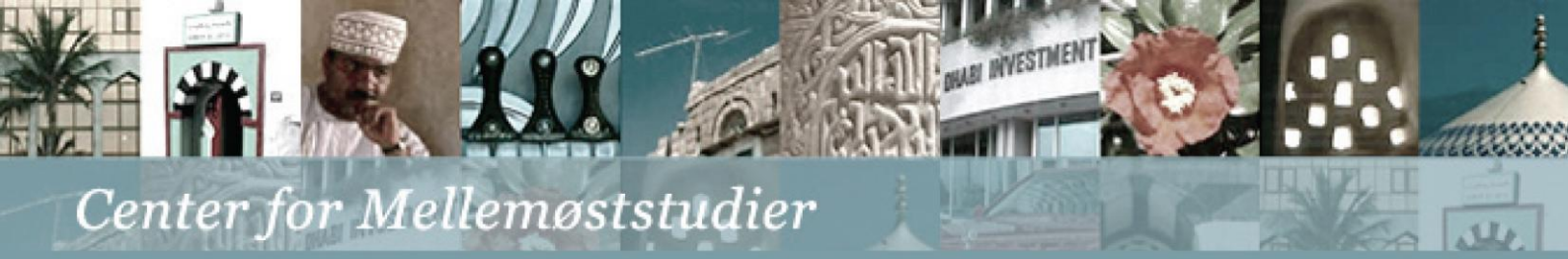

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Is Good Water Governance Possible in a Rentier State?

The Case of Jordan

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For the past four decades, Jordan, as many Middle East countries, has faced a water shortage. Despite the severe water scarcity, good governance of water remains unresolved. Water as a resource was dealt with as a "honey pot" thus motivating rapacious behavior, especially by profit-seeking water user groups. The consequence is and will be an escalating water deficit (ca. 379 million cubic meters – MCM - or 31% of the available water amount in 2020). The government deals with water as a common good and an economic commodity which means they focus on solutions on the supply side and to a lesser extent the demand side which proves to be problematic. This paper discusses the water problems in Jordan and the obstacles hindering the application of national water policies.

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Due to the structure of the rentier state, production is not considered as a source of wealth (Hafez, 2009, 465). Traditional types of production such as rain-fed farming and animal keeping have been neglected since the 1950s. Nowadays, Jordan is fully dependant on food imports.

Furthermore, land in Jordan is considered a commodity rather than a "resource". Large areas have become the subject of trade and speculation in the last 50 years. The state enables land circulation through expanding borders of the build–up areas with the emergence of scattered settlements as the outcome, and as these settlements also have to be provided with water this adds unexpected costs as well as an increase of water losses.

Instead of the mentioned production types, rain-fed farming and animal keeping new forms of irrigated agriculture (cash crops) emerged in the Jordan valley as well as in the eastern highlands causing severe water shortage the past 30 years. External rent granted to the state in form of cereals served as antithesis to production.

The focus on the water demand side to change the consumer behavior of the country remains insufficient due to the "rentier state" character on one hand and the consequences of the political economy of the country on the other.

In the following paper, the dimension of water shortage in Jordan will be analyzed within the framework of the theory of the "rentier state" and the political economy of Jordan. Furthermore, the role of the state in forming the behavior of the society, i.e. creating the so called "rent seeking mentality", will be discussed.

Water resources in Jordan

The limit of 500 m3/capita/year as absolute scarcity set by almost all researchers is misleading. To set water limit means that creativity and adaptive capacity of people is totally ignored and leads more or less to pessimistic behavior. Therefore, the institutional approach which considers water as a resource with a set of capabilities of the society is more convenient. Shuval (2007) for instance, estimated the "Minimum Water Requirement (MWR)" by 125 CM/cap/yr. With this amount people can achieve their hygienic and economic needs.

The annual average rainfall in Jordan for the period 1937/38 – 1996/97 was about 8.5 billion CM and varies from 3.9 billion CM in the driest years to 17.797 billion CM in the wettest years (Water Authority, 1997: 114). 91.4% of the Jordanian area receives less that 200 mm annually and the semi-humid area with more than 500 mm occupies just 1.1%.

However, generally speaking, the most severe problem Jordan is facing concerning water consists of evaporation. Its rate exceeds 92% of the whole rainfall. What is left to flow in wadis and rivers as flood flows (2.5% or 693 MCM) and recharge to groundwater (5.5%) is very limited (Al-Labadi and Abu Mushrif 1994: 211).

The groundwater in Jordan includes the renewable and nonrenewable sources. In 2007 the exploited amount was 504.45 MCM or 53.6% of the whole used water in Jordan. This is why more emphasis should be put on this resource.

Ground water is identified in 12 basins. Two of them belong to basins with non-renewable water (fossil water), the so-called *Qa' Disi*, which is shared with Saudi Arabia and Jafr.

In 1986 the first "land grabbing" in Jordan was initiated (Saudi Arabia started in 1980) mainly in the Disi basin, where 10.000 ha state-land have been leased for 25 years to 4 agro-companies to produce wheat and barley in the framework of "food security". The companies were allowed the abstraction up to 72 MCM yearly free of charge. On the other side of the Jordan-Saudi border, Saudi Arabia used the same groundwater aquifer to cultivate wheat and barley to become the sixth world's largest wheat exporting country (Elhadj, 2004, 4).

Shortly after 1986, the Jordanian Agro-businesses shifted to cultivate fruits and vegetables instead of cereals. Their influence, as economic elites, enabled them to breach the agreement signed with the government irrespective to any changes of the price of water.

As the government issued the Bylaw No 85 in the year 2002 to meter and price the groundwater wells, the companies refused to pay, referring to the signed agreement mentioned above. At the end of 2011 the contract with 3 companies ran out and the government refused to renew it. At present the Disi water project is underway to convey 100 MCM of the fossil ground water to Amman (325 km away). The government announced that the summer of 2013 will witness the end of the water shortage in the capital.

The new allocation of water from irrigation to domestic and industrial uses could be seen as rational and convenient. Immediately after the canceling of the water-use-contract with the three agro companies, the government announced the distribution of the same land (4000 ha) to the tribes' members to be cultivated on irrigation basis. The local communities in the area met the decision of the government with different reactions. The water exploitation of the Disi aquifer will continue but with new actors and maybe with out-dated methods. Thus, it is not the water policy but the clients that have been changed.

The water of Jafr basin has been used since the mid-sixties and caused tremendous environmental damage. There were 114 wells in function with a yield of 24.8 MCM in 2004. Other 28 wells have been closed after the rise of water salinity to the maximum. The over-abstraction in the Jafr aquifer exceeded the safe yield by 267%.

The case of Jafr presents a typical example of the behavior of the state and local tribes. 62 wells recorded in the Water Authority violate the laws. 45 % of them belong to one tribe.

The Azraq basin is another example of a catastrophic development. The safe yield is limited to 24 MCM. In 2004 about 59.3 MCM have been exploited which means an over pumping of 247%. The number of groundwater wells was said to be 484 (another 209 wells are closed) out of which 76.6 % are illegal (unlicensed). The oasis of Azraq with its attractiveness for internal and foreign tourism has been totally damaged and the younger generations are leaving the area for good..

In 2010, there were 3799 wells in Jordan. In 1997, the number was only 2240 which means that the overexploiting of groundwater continues. In 2010 alone, 886 new wells

were licensed. In addition, 409 wells are still illegal according to the Ministry for Water and Irrigation (MWI, 2011). These practices have triggered a chain of adverse impacts such as an increase of water and soil salinity, decrease of the land productivity and depopulation of some areas.

It is relevant to stress the fact that the safe yield of the groundwater in Jordan is about 409 MCM and the pumped volume amounted to 520.1 MCM in 2004. 53.6% of the pumped water was used for agriculture. Moreover, 7 basins out of 12 are o and have a negative water balance of minus149.621 MCM annually.

The recycled wastewater is considered another source of water in Jordan. The share of the population served by the sewage system was 65% in 2010; and in the same year, the treated wastewater reached ca. 111 MCM and made up just one third of the municipal used water and 18.8% of the irrigation water.

Water uses in Jordan

Agriculture and households consume 94% of the water in Jordan. The use of water in agriculture remains high, 63%, (Ministry of Water and Irrigation, 2008) despite the permanent discussion to allocate water inter- and intra-sectoral. The argument supporting a continuation is usually based on the agricultural industry's contribution to employment and to the GDP – despite the fact that the latter is as low as 2–3%.

Nevertheless, water for agriculture in the last Water Strategy (2008 – 2022) remained unchanged. Such policy could reflect the nexus of the rentier state - elite's role and the political economy of Jordan. Powerful landowner in the eastern highlands and large farmers in the Jordan Valley resist restructuring of water allocation.

Jordan valley is considered the food basket of the country where billions of dollars have been invested. Water canals and dams are to be used to serve the state economy and the population. It is the region's specific climate that enables to meet the needs of the population and export and the importance of the Jordan Valley is increasing day by day through the leaps of food prices and the improving possibility to export winter vegetables to Russia and Eastern Europe. The past five years, Turkish export firms have joined the vegetable value chain and are forming an improvement of the opportunity of exporting agrarian products.

The irrigation with ground water in the eastern highlands is problematic. More than 44.000 ha land use 304 MCM. Investors in this area consist of rentier-elite, high ranking state employees, military officers and tribal figures. The past two years, the Ministry of Water and Irrigation (MWI) with support of the German Agency GIZ negotiate with owners of ground water wells concerning water amount and tariff without noteworthy success.

The ministry exempted the first 150.000 CM and asked for $0.035 per CM with reference to the increasing block rate system. However, the problem of illegal wells and those without meters add more difficulties.

The state is not in the position to activate laws against tribe leaders in the remote or former nomadic areas since water and land are state instruments to gain the loyalty and support of those people. The rent seeking mentality of the people would not ac-

cept the water regulation of the state. This kind of relationship accelerates the current situation of water shortage and leaves its future uncertain.

It seems that there is a remarkable correlation between former nomads of the desert (Hafez, 2009, 460) and the perception of water as a common good. It is not only the groundwater of the eastern highlands that has become subject of rapacious behavior but even drinking water in the networks. Such behavior is referred to the statement of the prophet Mohamed "*People share three things, water, grass and fire*". It means that the people consider water as public good and take the right to use it for granted. Based on this understanding, a country like Saudi Arabia does not charge the population for the cost of the water they use at all.

Farmers in the Jordan Valley pay around 10% of the water costs; households pay 50%. Only in the tourism sector the full costs are paid.

The laxity of the government and the lack of proper regulations have led to the loss or to so-called water quantities that are "not accounted for". The unaccounted for water volume reached 55% in the household sector and 60% in agriculture.

Final remarks

To overcome or mitigate the water shortage in Jordan, different regulations have been launched. In 2008, the "Royal Water Committee" headed by Prince Faisal (a brother of the Monarch) was founded to set a new water strategy for the country. The committee includes government officials from different ministries including the Ministry for Water and Irrigation (MWI) and technocrats. The last water strategy covering the period between 2008-2022 was the first achievement of the committee.

In order to secure flexibility and to price water according to reasonable standards, the government privatized water in Amman, Aqaba and in Irbid. The Water Authority of Jordan (WAJ), one of the MWI authorities, contracted a French Company, Lema, in 1999 to manage water in Amman for 4 years. In 2007, a national company, *Miyahuna* (a publicly owned national company), took over Lema's role. This has resulted in some achievements in reducing water loss and better distribution. However, privatization does not mean new governance forms. The mentioned companies are public and do not cooperate or share decision-making with private communities, civil societies or NGOs.

The Jordan Valley Authority (responsible for land and water in the Jordan Rift Valley) in cooperation with the German Agency for International Cooperation (GIZ), organized the farmers in "water users' associations". There are 21 associations that cover 40% of all farmers of the valley.

Association members are trained to distribute water within a time table, collect fees and water costs and to deal with treated waste water in a proper way. The Jordan Valley Authority accepted to hand over some of its responsibilities to avoid the farmers' critique of ineffectiveness, mismanagement and inequality (the World Bank, 2009, 21). In the field of

groundwater, as mentioned earlier, the influence of the tribes within the power structure of the state, their so-called 'pre-state tribal capture of booty' behavior and the lax of the government's regulations is one of the main impediments to sufficient governance.

The former GTZ (now GIZ) in Jordan launched, in cooperation with other Jordanian NGOs, an ongoing initiative called "Water Wise Women Initiative (WWWI)" in 2007 to involve women in Jordan in water issues. The WWWI program aims at raising awareness among women concerning efficient water usage. Women are organized to form nationwide networks and to multiply their training capacities. Water protection, saving and re-use of gray water are some of the goals. Among other things, women are being trained to function as plumbers so as to service other housewives.

The participation of local communities and NGOs in water conservation and distribution lacks a judicial framework. Once the donors stop their aid or shift their interests; running projects collapse. Furthermore, water user groups in the Jordan valley have no say with regard to the amounts of water allocated to farms. The government pays them for carrying out defined work tasks limited to administering the scheduled water distribution and collecting the assigned tariff. The whole process could be considered as subcontracting. Also, it is worth mentioning that the new involvement of farmers in the irrigation issues is confined to the largest irrigation project, namely the Jordan Valley.

Conclusion

Water scarcity in Jordan, as well as in many countries in the Middle East, is framed in naturalistic terms. Internal water policies still focus on the water supply side as the solution to water problem and launching costly water projects to meet water demands.

Undoubtedly, a shift to demand management where social resources are distributed in accordance with natural resource scarcity would be the preferred solution. However, such a strategy requires societal engagement and promotion of adaptive water governance based on participation of all involved actors which, unfortunately, is opposed by massive state centralization and current power structures.

References

Abdel Khaleq, R.A., 2008 Water Demand management in Jordan. *www.semide.net/200806*

Barham, N., 1986: Agro-ecological boundary of wheat farming in Jordan. In: Dirasat, Vol. 13, No. 8, p. 61 - 72 (in Arabic).

Braunstein, J., 2007. Trading the rain: should the world's fresh water resources be an internationally traded commodity? In: C. Lipchin et al (eds), Integrated water resources management and security in the Middle East, 269 – 284.

Brooks, D. B., 2007. Fresh water in the Middle East and NorthAfrica – source of conflict/base for cooperation. In: C. Lipchin et al (eds), Integrated water resources management and security in the Middle East, 33 – 64.

El-Naqa, A. and Al-Shayeb A., 2009. Water Resour Manage, 23, 2379 -2394.

El-Naser, H., and Elias, Z.,(1993): Jordan's water sector – water use, conservation, utilization and management in Jordan. In: ESCWA, symposium on water use and conservation, 28 Nov. –2 Dec., 1993, Amman.

Faruqui, N. et al (eds) 2001. Water management in Islam. Ottawa.

Hafez, Z., 2009. The culture of rent, factionalism, and corruption: a political economy of rent in the Arab World. Contemporary Arab Affairs, Vol.2, No.3, 458 – 480.

Ferragina, E. and Greco, F., 2008. The Disi project: an internal/external analysis. Water International, Vol.33, No.4, 451 – 463.

Hefney, M., 2006. Actualizing water ethics in the regional context of the Arab world. In: G. Dura et al (eds). Management of international and accidental water pollution, 277 – 310.

Hoekstra,A.Y. and Chapagain, A.K., 2007. Water footprints of nations: Water use by people as function of their consumption pattern. Water Resour Manage, 21, 35 – 48.

Labadi, M., and Abu Mishrif, J., (1994): Water harvesting in Jordan: existing and potential systems. In: FAO: Water harvesting for improved agricultural production. Proceedings of the FAO expert consultation, Cairo, Egypt, 21 –25, November 1993.

Ministry of water and irrigation (different years). Annual reports, Amman

Qadir, M. et al 2010. Wastewater production, treatment, and irrigation in Middle East and North Africa.Irrig Drainage Syst, 37 – 51.

Shuval, H. 2007. 'Virtual water' in the water resource management of the arid Middle East. In: H. Shuval and H. Dweik (eds), Water resources in the Middle East – Israel-Palestinian water issues – from conflict to cooperation. Berlin and Heidelberg.

Tamas, P. 2003. Water resource scarcity and conflict: Review of application indicaors and systems of reference. UNESCO, technical Documents in Hydrology, no 21.

Udluft, P.: EI-Naser, H., 1992. Some aspects of 1110dernalternatives andprinciples of water resources use. *Proceedings of Jordan's Water Resources and Their Future Potential Symposium:* Garber, A.: Salameh, E.(Eds.), October 27-28, 1991; Amman, Jordan.

Woertz, E., 2011. Arab food, water, and the big land grab that wasn't. Journal of World Affairs, Vol. XVIII, Issue 1, 119 – 132. World Bank, 2009. Arab Countries Regional Report,

Zeitoun, M. et al, 2012. Water demand management in Yemen and Jordan: addressing power and interests. The Geographical Journal, Vol. 178, No. 1 , pp. 54 – 66.