CEE bankwatch network

Jordan's modern mirage

Reporting from the Red Sea - Dead Sea Conveyance project

April 2015

Author:
Manana Kochladze, Green Alternative, Georgia

Acknowledgements:
David Hoffman, CEE Bankwatch Network, Czech Republic
Yazan Juper, Phoenix Centre, Jordan
Olexi Pasyuk, National Ecological Centre of Ukraine
Markus Trilling, CEE Bankwatch Network, Belgium

This publication has been produced with the financial assistance of the European Union. The content of this publication is the sole responsibility of CEE Bankwatch Network and can under no circumstances be regarded as reflecting the position of the European Union.

Introduction

In November 2014 CEE Bankwatch Network visited Jordan to explore issues surrounding the Red Sea - Dead Sea Conveyance project. The aim of the mission was to understand better the problems, concerns and hopes of local communities living along the route of the project, and identify the risks and benefits of the project through interviews with specialists having knowledge of its development.

The mission was organised with the support of the Phoenix centre for social and economic rights in Amman and included a trip through the Jordan River valley and the Dead Sea, and interviews with farmers and citizens in the vicinity. The second day continued along the proposed routing of the Red Sea Dead Sea Conveyance, including visits to the World Heritage Site Wadi Mujib, and the settlements of al Mazra, Ghor Safi, Finan, Gharandal, Rahma, Qatar and Aqaba. Meetings were also held in Amman with experts and the environmental group EcoPeace, who has followed developments around the project from its inception.

Project history and development

For more than 150 years, different people have for different reasons studied the idea of bringing water from the Red Sea to the Dead Sea. For our purposes, we begin with the modern incarnation pursued by the World Bank under the auspices of Jordan, Israel and the Palestinian Authority. The stated goals of the project are to halt the decline of the Dead Sea and to save it from environmental damage, to desalinate water and produce affordable energy for all three countries, creating a symbol of peace through a tripartite cooperation (World Bank, 2005).

An early version of the project from the 1990s included a water intake on the Red Sea at the northern tip of the Gulf of Aqaba (Harza, 1998). Under that plan, the water would be pumped into a 180 kilometre open channel or pipeline through the Wadi Araba on the Jordanian side, the Dana Nature Reserve and the inhabited agricultural areas of Ghor al-Safi and Ghor Fifa, before reaching the south end of the Dead Sea. A desalination plant would be built near the shore of the Dead Sea with an annual production capacity of 850 cubic megametres of drinking water. The byproduct (brine and brackish water from desalination) would be discharged into the Dead Sea at a rate of 2.3 Mm3 per day. A hydroelectric generator would use the natural 400 metre drop in elevation between the two seas to provide the energy needed for the initial pumping, the hydrostatic desalination of the Red Sea water, as well as 100 megawatts of surplus energy. Two thirds of the water would then be transported to Amman and the remaining third to Israel. Two operational phases were planned: a filling phase over 20 years to raise the water level from -420 to -400 meters, then a stable phase where the sea level would be maintained at the desired level with desalination and

power generation plants operating below their maximum capacity. The bank estimated project costs at USD 11 billion over twenty years.

Aqaba Tiberian Agreement

On 9 December 2013, representatives from the governments of Jordan, Palestine and Israeli signed a memorandum of understanding ('the Washington agreement') for the first phase of 'Red Sea-Dead-Sea canal' project. Under the memorandum, 30 million cubic metres of water produced by the project will be sent to Aqaba, while 50 million cubic metres will be sold to Israel in return for releasing nearly 50 million cubic metres of drinking water annually from the Tiberias reservoir at a cost of JD 0.27 per cubic meter. Palestine will receive 30 million cubic metres of water from the Israeli national water carrier Mekorot to help alleviate the water crisis in the West Bank. Palestine had requested the construction of a large water tank north of the Dead Sea in the area of Ain al Fashkha, but Israel rejected the request.

Project description

According to the Jordanian government, the first phase is to be implemented in accordance with the World Bank's economic and environmental studies, which recommended that a pilot project be commissioned by the project's three stakeholders before any significant developments are undertaken. As per its estimates, Jordan will receive during this phase 100 million cubic metres of water annually. A 250-kilometer pipeline will be constructed to transfer water from the Red Sea in the Gulf of Aqaba through the Wadi Araba, where a desalination plant (run on a build-operate-transfer basis) will be built to treat water. The desalinated water will go south to the town of Aqaba, while salt water will be pumped into the Dead Sea. The plant is expected to have the capacity to desalinate 200 million cubic metres annually. The project will cost the Jordanian government around USD 980 million and it plans to start tendering in the beginning of 2015. Jordan will rely on the World Bank for part of the project's cost, with the rest to be paid from private companies.

Jordan expects that the plan will create 400 - 500 job opportunities for local residents, and help

Tomatoe plants in the fertile Wadi Arabia

tackle the water shortage that increases by 7 per cent annually.

Transparency in the Red Sea-Dead Sea Conveyance project

For a project being promoted as the solution to prosperity and peace, transparency and access to information do not appear to be priorities. The Washington Agreement signed in December 2013, is not publicly available.

As for project documentation, the World Bank provides only "Executive Summaries for the Feasibility Study and the Environmental and Social Assessment. The English version of the Study of Alternatives is the full report, while the Arabic and Hebrew versions are the Executive Summaries." According to the bank site, "The full report of the Feasibility Study and the Environmental and Social Assessment (in English only), are very large and with the annexes and run over 1000 pages. These full reports are available upon written request to the World Bank and will be sent by courier on a CD. In some cases, the full report will not be as up to date as the Executive Summaries. However, after the public consultations are completed the final executive summaries and final full report will be 100% consistent." However, an official request for additional information CEE Bankwatch Network received no response from the bank.

Palestinian CSOs have also expressed dissatisfaction with a lack of transparency both on the part of the World Bank and the Palestinian authorities. In October 2013, Palestinian organisations with expertise in the water sector voiced opposition to the project, as they did not understand why the Palestinian Water Authority ignored and excluded CSOs from consultations and decisions and surprised them with the new Aqaba-Tiberias agreement.

During the November 2014 field visit, farmers working on the land only seemed to have a vague understanding about the project – either they heard about it through television or media reports, in discussions with local authorities or during visits from the Ministry of agriculture. But concrete information about dates, names and the like was not forthcoming. Farmers did not recall any consultation meetings, for those whom we interviewed in Ghor Fifa. They explained that in 2009 or 2010, seminars organised by the Ministry of agriculture included discussions about the project and the benefits that it may bring to the further development of their farms.

The popular belief among those with whom we spoke is that the Red Sea - Dead Sea Conveyance project would be implemented in the form of an open canal from which people could access desalinated water for irrigation. As such, the farmers we interviewed viewed the project as important. In the Jordan valley near the Dead Sea farmers hope that industry will use desalinated water so that the farmers can use the spring waters from the mountains. Two pairs of farmers in Ghor Saif remember that in 2009 or 2010 there was seminars related to the Red Sea Dead Sea. They say that the project promoters believe it will increase the green space along the valley. But the promoters do not distribute any printed materials or detailed maps to show where the project route will be.

Bankwatch visited a pumping station belonging to the national center for agricultural research and extension in Ramha near Aqaba. The director of the station did not have any official information about the project, but he stressed that during his last visit to Aqaba, the Prime minister stressed the importance of the project and spoke about a distribution schemes for gray water and brine. It is expected that the government will soon start construction of a major desalination plant in Rishe.

The challenges of agricultural development

According to the farmers we interviewed, beginning in 1985 Jordan's King Abdula Hussein began to develop the Jordan valley region agriculturally. The enhancement of the agriculture sector is typically associated with the improvement of living standards for Jordanian farmers and the promotion of Jordanian products in regional and global agricultural areas. The King Abdullah II Fund for Development (KAFD) established several pioneering agricultural projects in different areas around the country. These projects contributed to the provision of jobs for farmers in impoverished areas, and trained them on novel farming technologies to improve the quality and acceptability of Jordanian agricultural products.

Farmer interviewed in Wadi Arabia

sector towards a domestically-oriented sector.

Bankwatch visited the fields still occupied by banana plantations near the Jordan River. According to the local farmers, while interactions with local authorities is problematic, continuing to farm bananas is the only way to survive because a feasible market exists in nearby Saudi Arabia. For crops like tomatoes and potatoes that are sold in Amman's central market, a fair price is not available. One farmer north of Bethany who asked to remain anonymous confirmed that they steal electricity in order to pump and desalinate water. He also claimed that each year there is less and less rainfall and situation with access to irrigation water is more problematic.

In al Mazra and Ghor Safi, farmers receive water on schedule from the Jordan valley authority. In some cases, the control and support from the state is more visible, especially where vegetables like potatoes and tomatoes are grown. This is may be the reason that one such farmer argued that growing bananas is not an option because it requires more water than other crops. Opposite from the fields near the Jordan River, drip irrigation systems are visible, decreasing water discharge. However, farmers in al Maseru and Gor Safi complain that the water they used before for agriculture is now being diverted to meet increased urbanisation and industrialisation in Amman, and it has consequences in terms of the provision of water from the authorities.

Back at the national centre for agricultural research and extension in Rahma, the director stressed that because rainfall has decreased in recent years, Aqaba is more dependent on underground water resources. According to Jordan's Second National Communication report, rising temperatures will lead to even more water scarcity, with an increased prevalence of extreme weather events like flash floods during winter and heat waves during the summer. Therefore the center is looking into scenarios better adapted to climate change, like the substitution of agricultural species that consume less water. Such an agenda has included work with locals on water scarcity issues through trainings and consultations with farmers, piloting agricultural projects and building installations for water conservation like rain harvesting.

Environmental concerns

Children of Syrian refugees, at camp north of Bethany

composition. This includes changes in water salinity, massive formation of gypsum, formation of volatile toxic compounds, change in water evaporation rates, changes in the composition of bacteria and algae, which inhabit the sea surface, chemical changes in the rocks which surround the water, and loss of unique health benefits that account for much of the tourist attraction to the Dead Sea area.' Palestinian groups argue that the resultant brine after desalination will be contaminated by chemicals and water, thus decreasing the therapeutic character of Dead Sea water.

Another key problem identified by the groups is the damage to the aquifer in the Wadi Araba due to the contamination of groundwater with water from the Red Sea. The alluvial deposits in Wadi Araba contain important supplies of fresh water. In the event that the pipeline ruptures (as might happen in the case of an earthquake), these aquifers will be irreparably damaged. This can have fatal consequences to both the agriculture and the ecosystem of the Araba. Israeli environmental groups also opposed the plan to dredge an open canal through the earthquake-prone Arava Valley, where the mixing of seawater with the groundwater that feeds the region's agriculture poses an existential threat to the livelihoods of local farmers

EcoPeace and a number of other other Palestinian and Israeli environmental groups underline the importance of sustainable management both of the Jordan River and the Dead Sea, particularly in light of the impacts of agriculture and mineral extraction.

In order 'to preserve the Dead Sea, it is necessary to rescue the Jordan River first, because the Jordan River used to be the main water supply source for the Dead Sea but nowadays the water flow is almost dried out according to the experts'. Palestinian groups add that the most important steps to ensure the sustainable management of the Jordan river include ensuring the flow of the water from Lake Tiberia to the Jordan river, the sustainable management of the Dead Sea by all three State on the basis of equality and preserving its natural, historic and religious significance. Israeli environmentalists consider that major problem to be the 'lack of adequate developmental strategies for the Dead Sea. We have to be cautious in this regard. Jordanians and Israelis completely overuse resources, regardless of the environmental risks entailed. Jordanians- Palestinians- Israelis have not sat together in order to plan for the risks facing the Dead Sea and the priority developmental issues for the Sea."

Economic and social feasibility

The World Bank study claims that the canal is feasible if implemented in full. Such costs range upwards of USD 10 billion. The bank could move forward if there was USD 5 billion in international grants and if Jordan can raise USD 2.5 billion for the associated water infrastructure delivery costs to Amman. Only if these two conditions are met will the private sector then invest the remaining USD 2.6 billion needed for the construction of the desalination plants.

This estimate includes expenses for the intake works, pumping station, main water conveyance (tunnel and steel pipes), desalination facilities, hydropower plants, restitution canal, connection to the transmission grid, project management, establishment of necessary institutional structures as well as the water transmission to Jordan, Israel, and Palestine. In addition, operation and maintenance costs add up to about USD 400 million per year, increasing to about USD 660 million by 2060.

Despite claims of economic feasibility, EcoPeace argues that if the project study "ignores the fact that a cubic meter of water from this project would cost up to USD 2.7 in Jordan; an impossible expense for Jordanians to pay, [sic] that will lead to riots in the streets. Similarly, for Israelis and Palestinians, the water from this project will cost USD 1.8 per cubic meter, more than triple the cost of desalination at the Mediterranean."

The World Bank's stance is worth noting. According to one of its media releases from 2013, "Israel and the Palestinian Authority are not eligible to borrow from the World Bank. Jordan is eligible to borrow from the World Bank. However, given Jordan's current fiscal situation, any such support would likely be prioritized for the social sectors, such as health and education. It would be assumed that the project would be fully dependent on Jordan's ability to raise around" So while defending the project as economically, socially and environmentally feasible, the World Bank studies fail to investigate the cause of the problems and propose a solution that would address the major causes

of the crisis at the Dead Sea: the massive diversion of water from the Jordan River and the overexploitation of its mineral resources.

Studying the alternatives

The major focus within the World Bank's alternatives study were on technical solutions like a water transfer option from the Mediterranean Sea, Turkey or the Euphrates and the Red Sea, rather than the more sensible solution to sustainably manage the Jordan river or focus on water conservation and restoration.

The bank however believes that alternatives proposed by NGOs for the sustainable management of the Jordan river are unfeasible. The bank said that while "Restoring the Lower Jordan River is a desirable goal with high environmental, historical and cultural values", it is not "economically or socially feasible at this time."

According to the World Bank's alternatives study "Full restoration of the water flow (of over 1,000 MCM/year) based on recycled water will become feasible in the long run, as the supply of potable water increases to meet the needs of the growing population." Further, the study dismisses even the notion that cooperation of all riparian countries is possible, "rehabilitate the Jordan River by drawing up and implementing policies which focus on achieving tangible results in the areas of domestic and agricultural water-demand management, water conservation and the management of sewage and agricultural and industrial effluents, and on ensuring that an adequate quantity of freshwater flows into the Lower Jordan River."

The alternatives study does not estimate neither costs of the rehabilitation of the Jordan river nor does it address the negative environmental impacts that the project may cause to the Dead sea.

Recommendations

With future of the Red-Dead canal project is unclear, the benefits of the project both for the environment and society cannot be properly gauged. As the project currently stands, achieving the goal of simultaneously providing drinking water and preserving the Dead Sea cannot be met in tandem. The people along the pipeline route have almost no information about the potential impacts of the project on their daily lives. In the majority of cases, there is a myth that the project will save the Dead sea and increase water supplies in their settlements.

It goes without saying that Jordan needs to address its water crisis and introduce stricter water management policies that would allow for a decrease in water losses both in the agricultural sector as well as in mineral production. The mission found that the most immediate step towards halting the impending shortage of water in the Jordan River Basin is for all of the countries in the basin to reduce their usage, thus decreasing demand.

Ecosystem restoration and infrastructure in general must be coupled with 'small' fixes, such as repairing leaky pipes, implementing conservation and efficiency during the management of the Jordan river, promoting sustainable agriculture practices and increasing transparency and communication between all end-users of shared water resources.

This is a grand challenge in a region with political and geographic complexities like the Dead Sea basin but a necessary one for its survival.

Foot notes

1. Pipeline from the Red Sea to the Dead Sea,Sawsan Ramahi, Middle East Monitor
2. JORDAN, INFRASTRUCTURE, PROJECTS, 2014, Economic and Commercial Section, Embassy of Belgium Beirut- Lebanon, http://www.invest-export.irisnet.be/documents/16349/1140680/2014+-+Infrastructure+projects+(Jordan).pdf/b04a72a9-81f1-48bd-aa1a-70910d187873
3. http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/EXTREDSEADEADSEA/0,,contentMDK:21841536~menuPK:5174651~pagePK:64168445~piPK:64168309~theSitePK:5174617,00.html
4. http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/EXTREDSEADEADSEA/0,,contentMDK:23338930~pagePK:64168445~piPK:64168309~theSitePK:5174617,00.html
5. According to the World Bank report report "Land in Aqaba is parcelized and owned by a variety of owners including public, institutional and privately held. The majority of land in the Wadi Araba and the Southern Ghors area is reportedly owned by government entities, including the Military and the JVA. There was a recent land distribution programme (whereby government held land is distributed to the local residents) but this has been reportedly suspended by the Government pending finalization of the routing and land requirements for the RSDSC."
6. https://www.google.com/url?q=https%3A%2F%2Ffoeme.wordpress.com%2F2012%2F07%2F29%2Fthe-tale-of-the-jordan-valley-why-we-must-protect-the-lower-jordan-river-and-the-dead-sea%2F&sa=D&sntz=1&usg=AFQjCNEbLa1Uh-sT9EHJu320bkwPW1nuCPw
7. RSDSCP study, Al Marsad, 2014
8. http://www.jpost.com/Israel/Enviromentalists-slam-World-Bank-over-Red-Dead-canal
9. New water balance calculation for the Dead Sea
10. http://www.ufz.de/index.php?en=33033
11. Red Sea – Dead Sea Canal and the Feasibility Study of the World Bank http://www.globalnature.org/bausteine.net/f/8005/RedSea-DeadSeaCanalandFeasibilityStudyoftheWorldBank.pdf?fd=2
12. Red Sea–Dead Sea Water Conveyance Study Program, Study of Alternatives http://siteresources.worldbank.org/INTREDSEADEADSEA/Resources/Study_of_Alternatives_Report_EN.pdf
13. IBID
14. IBID
15. http://www.waternet.be/jordan_river/shortage/IJfollow-up.htm
16. http://siteresources.worldbank.org/INTREDSEADEADSEA/Resources/Feasibility_Study_Report_Summary_EN.pdf
17. http://www.invest-export.irisnet.be/documents/16349/1140680/2014+-+Infrastructure+projects+(Jordan).pdf/b04a72a9-81f1-48bd-aa1a-70910d187873
18. http://ps.boell.org/en/2014/04/28/red-sea-dead-sea-canal-implications-palestine
19. http://www.invest-export.irisnet.be/documents/16349/1140680/2014+-+Infrastructure+projects+(Jordan).pdf/b04a72a9-81f1-48bd-aa1a-70910d187873
20. http://ps.boell.org/en/2014/04/28/red-sea-dead-sea-canal-implications-palestine
21. http://electronicintifada.net/content/how-historic-israel-jordan-water-deal-leaves-palestinians-high-and-dry/13139
22. http://ps.boell.org/en/2014/04/28/red-sea-dead-sea-canal-implications-palestine
23. http://www.kafd.jo/node/196
24. http://thescipub.com/PDF/ajessp.2009.58.68.pdf
25. Three die as flash floods sweep central, northern regions, by Hana Namrouqa | Nov 03, 201 http://jordantimes.com/three-die-as-flash-floods-sweep-central-northern-regions
26. http://siteresources.worldbank.org/INTREDSEADEADSEA/Resources/Q&A_English_Jan_2013.pdf
27. RSDSCP study, Al Marsad, 2014
28. http://www.youtube.com/watch?v=vL3ybLmK_DM Killing The Dead Sea - Jordan
29. http://www.greenprophet.com/2013/01/irresponsible-world-bank-says-red-dead-canal-feasible/
30. http://www.globalnature.org/36067/Home/Press/Press-Archives/resindex.aspx?newsid=1569&newsrefid=36067&row=0&newsrefaddcoid=&nafrom=&nato=

31. http://siteresources.worldbank.org/INTREDSEADEADSEA/Resources/Q&A_English_Jan_2013.pdf
32. Red Sea–Dead Sea Water Conveyance Study Program, Study of Alternatives http://siteresources.worldbank.org/INTREDSEADEADSEA/Resources/Study_of_Alternatives_Report_EN.pdf
33. Chapter 6 Jordan River Basin, INVENTORY OF SHARED WATER RESOURCES IN WESTERN ASIA, http://waterinventory.org/sites/waterinventory.org/files/chapters/chapter-06-jordan-river-basin-web.pdf
34. http://electronicintifada.net/content/how-historic-israel-jordan-water-deal-leaves-palestinians-high-and-dry/13139
35. http://digitalcommons.morris.umn.edu/cgi/viewcontent.cgi?article=1018&context=horizons
36. Sinkholes - natural depressions in the land's surface caused by the removal of underlying soil or bedrock by water. Varying in size from less than a metre to several hundred metres in diameter and depth, they swallow up whatever was resting on them previously.
37. Jordan:: How best to save the Dead Sea?,]http://www.irinnews.org/report/86137/jordan-how-best-to-save-the-dead-sea
38. http://jhom.com/topics/salt/deadsea.htm
39. Wadi Mujib World Heritage site, since 2011
40. The „Dead Sea" Project: Is a More Sustainable Water Management in the Dead Sea Basin Possible?
41. ftp://ftp.fao.org/agl/emailconf/wfe2005/Dead%20Sea_MedAqua.doc

CEE Bankwatch Network
Na Rozcesti 1434/6
Praha 9, 190 00
Czech Republic
E-mail: main@bankwatch.org

www.bankwatch.org