

Dead Sea - PIPELINE

SHEET 6

RED SEA DEAD SEA PIPELINE - IMPACTS AND ISSUES

Economic | Ecological | Environmental | Social

Its water level has been dropping at a rate of one metre per year. Today the shore lies nearly half a kilometre away, across dry sand, and long abandoned restaurants and hotels litter the shoreline left to the elements and vandals. Graffiti is scrawled over a fresco showing what used to be the mighty Jordan river — the source of the Dead Sea — and its tributaries, including the Yarmouk, originating in Syria.

Israel, Jordan and the Palestinian Authority, which all share the Dead Sea's shoreline, are now trying to halt the decline with the ambitious, long-discussed and controversial \$1.1bn "Red-Dead" project: to divert water from the Red Sea, turn some of it into drinking water and pipe the rest north into the Dead Sea. The pipeline will start at Aqaba, the Jordanian port, where a desalination plant will be built. It will run through Jordan, generating hydroelectric power from its final stretch when it plunges several hundred metres below sea level into the Dead Sea, the world's lowest land elevation.

Freshwater from Aqaba will be bought by Israel's southern Arava region; Jordan will buy Israeli water from the Sea of Galilee; and the Palestinian Authority will buy water from an Israeli desalination plant as part of a water swap. (Pumping it north from Aqaba would be too expensive.)

According to environmentalists, about two-thirds of the drop in the Dead Sea's water level is due to the companies and farms that divert water from the Jordan river in Israel, Jordan and Syria. The remaining 30-40 per cent is caused by the large mining companies in Israel and Jordan that steer its southern waters into evaporation ponds to make potash and bromine. The Dead Sea has lost more than a third of its surface over the past two decades.

"The demise of the Dead Sea is not caused by climate change," says Gideon Bromberg, Israeli director of EcoPeace Middle East, a regional non-governmental group which also includes Jordanian and Palestinian environmentalists. He squarely blames the governments of Israel, Jordan and Syria.

Large sinkholes have appeared along the Dead Sea's shores, which officials and environmentalists link to the drop in water levels; in Ein Gedi, Israel, the highway that runs along the shore has been diverted to avoid



them. On the Jordanian side, hotels have built staircases and elevators to convey tourists down to the receding shoreline.

“Jordan is very committed to the Red-Dead project, and we think it is a very important strategic project for us,” says a Jordanian official involved in the project, who asked not to be named. “It is to counter one of the biggest challenges that we are facing when it comes to water shortage.” Jordan has one of the world’s worst water problems, ranking 173rd in terms of renewable internal freshwater per capita, according to the World Bank, only slightly better than Israel.

Compounding its desert climate and meagre natural endowments of water, primarily from aquifers, Jordan’s water purification and delivery infrastructure has had inadequate investment by the government, which faces multiple and competing demands from a swelling population.

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In November 2016 Jordan announced that five global consortiums had pre-qualified for a first-phase tender in the first quarter of 2017. Construction is due to begin in 2018, officials say, and the project will be in commission by 2021.

Plans to pump water into the Dead Sea have been discussed for more than a century, but always delayed due to cost concerns, geopolitical ructions or worries about the environment. Planners’ priorities have shifted as they pondered what they wanted from a desert waterway — power, water, neighbourly relations, leaving a mark on the landscape or, more recently, simply arresting the alarming drop in the Dead Sea’s level.

Israeli, Jordanian and US officials have championed the project as a vehicle for economic co-operation in a region where, despite the 1994 peace treaty, widespread animosity toward Israel exists. (An agreement by Jordan to buy \$10bn of Israeli natural gas over 15 years has generated street and parliamentary protests.)

While the desalination and water purification and transfer portion of the scheme will be a “Build-Operate-Transfer” project designed to finance itself, the conveyance system piping water north to the Dead Sea will not pay its way. Israel and Jordan are looking for \$400m in grants and loans on favourable terms to underwrite the project, and say they are making progress.

An Israeli official says that the US, EU, Japan and Italy have pledged money towards the project, and further commitments will firm up as donors finalise their due diligence. “I am sure there will be more pledging,” says Oded Fixler, deputy director-general at the Israel Water Authority.



Environmentalists have warned that the project will replenish only a fraction of the water the Dead Sea is losing every year, so levels will continue dropping. They also say that because the Red Sea and Dead Sea have different chemical compositions, there is a risk that the water in the latter could turn from its trademark blue to a milky white. This would in turn endanger tourism, they say. “We are calling on our governments and the international community to at least study alternatives of how to dispose of the brine, and not assume dumping it in the Dead Sea is the only option,” says Mr Bromberg.

The most effective way of diminishing the Dead Sea’s shrinkage, he says, would be to sharply reduce the diversion of water from the Jordan river and to give the mining companies greater incentives to invest in less water-intensive technology.

Jordanian and Israeli officials insist that the environmental concerns are being taken seriously, including in a study by the European Investment Bank now under way. They say the project will be closely monitored, especially when the discharge begins replenishing the Dead Sea’s water levels. When and if this happens, Israelis, Palestinians and Jordanians will welcome the revival of their natural wonder, even if it comes too late for the Lido hotel.

Although substantial profits are expected from this project to improve water supply, energy production, agro-industry and tourism, the initial investment is a real obstacle. The project’s budget is estimated at \$ 5 billion plus \$ 5 million annual operating costs for 10 years. Foreign investors may not be willing to finance such a project in an unstable regional context that is perceived as being risky. From an environmental point of view, the Dead Sea is a complex and fragile ecosystem and the biological characteristics of the water (stratification, evaporation rate and its chemical composition) will be affected by the introduction of significant amounts of water with a lower rate of salinity. These changes could lead to deposits of gypsum, algal blooms and microorganisms. In addition, there is a potential risk of groundwater contamination in the Wadi Araba due to leakage from the salt water pipeline, especially since the canal would pass through an active fault line that poses the threat of seismic activity. The canal would also obstruct the Wadi Araba wildlife corridor since it would pass through several nature reserves. The final criticism is that there is only one project under consideration; one route that would require massive infrastructure, whereas the alternatives (a canal from the Mediterranean or from the Euphrates) have all been rejected.

