

# Red Sea-Dead Sea Water Conveyance Study Program

## Question and Answer Sheet

(Updated 13 December 2011)

### 1. What is the Red Sea-Dead Sea Study Program?

Response: In a jointly signed letter to the World Bank dated May 9, 2005, the Beneficiary Parties (the State of Israel, the Hashemite Kingdom of Jordan and the Palestinian Authority) requested the World Bank to undertake a Study Program to investigate the feasibility of reversing the environmental degradation of the Dead Sea by transferring water from the Red Sea.

The Study Program also aims at fostering regional cooperation.

The three Beneficiary Parties have articulated a shared vision of the Study Program, centered on:

- Saving the Dead Sea from environmental degradation;
- Desalinating water and generating energy at affordable prices; and
- Building a symbol of peace and cooperation in the Middle East.

In response to this request, the World Bank agreed to coordinate donor financing and manage the implementation of the Study Program. The Study Program involves the preparation of five interrelated studies: (i) a Feasibility Study; (ii) an Environmental and Social Assessment; (iii) a Study of Alternatives (which examines other options available to the Beneficiary Parties to address the degradation of the Dead Sea and the production of additional potable water by means other than the identified water conveyance option); (iv) a Red Sea Modeling Study; and (v) a Dead Sea Modeling Study. The Terms of Reference for each of the studies were collaboratively drafted by the Beneficiary Parties. Detailed information on the Study Program, including records of consultations to date, is available on the Study Program website: [www.worldbank.org/rds](http://www.worldbank.org/rds).

A map showing the identified water conveyance prepared by the Feasibility Study consultants is attached. The identified option incorporates three possible routings, one by pipeline and two by tunnel.

### 2. When will the studies be made available to the public?

Response: The draft final reports on the Study Program should be available on the website early in 2012. These draft final reports will be the basis for public consultations in the Region (see also No. 3 below). The Executive Summaries of the draft final Feasibility Study, the draft final Environmental and Social Assessment Study and the draft final Study of Alternatives will be available on the website in Arabic, English and Hebrew.

As of this writing, the draft final Red Sea Modeling Study and the draft final Dead Sea Modeling Study are already available on the website.

The reports can also be sent electronically upon request as they become available.

**3. What happens after the studies are posted to the website?**

Response: After the studies are posted on the website, there will be a period for submission of written comments complemented by a public consultation process. The Beneficiary Parties will carry out six public consultation meetings in Israel, Jordan and the Palestinian Authority. The draft final studies will be publically accessible for at least four weeks before the public consultations take place. The objective of the public consultations is to receive feedback and suggestions from stakeholders on the draft results and preliminary findings of the Study Program. These comments will then be taken into account in the final reports.

**4. What happens after the studies are finalized?**

Response: After the studies are finalized, it is anticipated that the Beneficiary Parties will examine the studies as a comprehensive package of information, including no action and alternative options, and then decide on whether or not to move forward with their shared vision.

**5. At this stage, what technical information have the studies given us?**

Response: Although the studies are not yet finalized, we are able to draw a few preliminary conclusions, including:

- the large scale conveyance of sea water from the Red Sea to the Dead Sea is technically possible, either using a tunnel or buried pipelines;
- a conveyance project could deliver large amounts of desalinated water using conventional processes;
- the estimated cost of a full scale conveyance project, including the supply pipes to urban centers, would be over US\$10 billion;
- mixing sea water and/or desalination brine with the Dead Sea water entails risks, and especially when the amounts exceed 300 million cubic meters per year;
- a conveyance project would also pose environmental and social impacts, mostly during construction. Through the various studies, these impacts have been evaluated in terms of alternatives and measures to mitigate, manage and monitor such impacts.

It is important to note that in the event of the Beneficiary Parties deciding to go ahead with the identified water conveyance as examined in the Study Program, there would have to be further environmental and social assessments, project specific technical studies and evaluations, the conduct of project-level public consultations and the disclosure of project-specific information. Therefore the five Study Program reports, while useful to inform any future work, cannot be considered exhaustive or conclusive for the purposes of any future plans and construction.

**6. How have the concerns of communities affected by a possible conveyance project been addressed in the Study Program?**

Response: Since the Study Program started in May 2006, the Beneficiary Parties have carried out national consultations with concerned stakeholders in August 2007, July 2008 and June 2010. Several hundred people attended these consultations. Concerns of communities were noted and recorded in all meetings. A detailed summary of responses to these concerns is posted to the Study Program website. In addition to these consultations, during the preparation of the Environmental and Social Assessment Study, approximately another 50 informational meetings were carried out in the region with the public, local governments, educational institutions, businesses, and local community groups. Finally, another round of

national consultations will take place in 2012. We anticipate that those consultations will take place in Amman, Aqaba, Eilat, Jerusalem, Ramallah and Jericho.

**7. Has the Study Program taken into account Palestinian rights regarding the Dead Sea?**

Response: The Study Program does not address this issue directly because its Terms of Reference are confined to technical issues. The Palestinian Authority, representing Palestinian interests regarding the Dead Sea, is one of the three Beneficiary Parties that drafted the Terms of Reference.

**8. How does the Study Program relate to the wider challenges of sustainable access to water in the region?**

Response: Sustainable access to water in the region is an inherent component of the Beneficiaries' shared vision. Given that the Feasibility Study states that municipal water consumption in Jordan for 2007 was 231 million cubic meters, the feasibility of an 850 million cubic meter per year desalination plant sited at the southern end of the Dead Sea was examined. A plant this size would substantially address this accessibility issue.

**9. Why has the Study Program assumed that the best solution to the Dead Sea problems is through conveyance of sea water from the Red Sea? What about restoration of the Jordan River or other options?**

Response: This sea water conveyance from the Red Sea is the identified option to address the problem under the Study Program, but there are many other options examined under the Study of Alternatives, including the option to restore the Jordan River and of course the option to take no action. The Study Program has most definitely not assumed that the best solution to the Dead Sea problems is the conveyance of sea water from the Red Sea.

**10. There have been reports that a potential project will include a series of lakes and channels, accompanied by extensive development for tourism in Wadi Araba. Have the environmental and social impacts of this type of activity been examined by the Study Program?**

Response: There are no real estate or tourism components in this trilateral initiative. The Study Program managed by the World Bank on behalf of the three Beneficiary Parties consists only of a pipeline or tunnel.

The Study Program is distinct and separate from other schemes currently under discussion by some of the governments interested in the Dead Sea. Among these are:

- The Jordan National Red Sea Project, an activity under consideration by the Hashemite Kingdom of Jordan. (<http://www.jordantimes.com/?news=16799>) or (<http://www.jrsp-jordan.com/>); and
- Another unilateral scheme, to be located in Israel and called the "Red Sea-Dead Sea Canal" which, according to a public news report, also includes extensive real estate and tourism development. (<http://www.haaretz.com/news/billionaire-yitzhak-tshuva-unveils-detailed-plans-for-red-sea-dead-sea-canal-1.245913>).

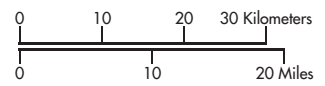
# RED SEA – DEAD SEA WATER CONVEYANCE STUDY PROGRAM PIPELINE AND TUNNEL OPTIONS

## INFRASTRUCTURE:



- HYDROPOWER PLANT
- RESERVOIR
- INTAKE AND PUMPING STATION
- DESALINATION PLANT
- DISCHARGE DIFFUSER

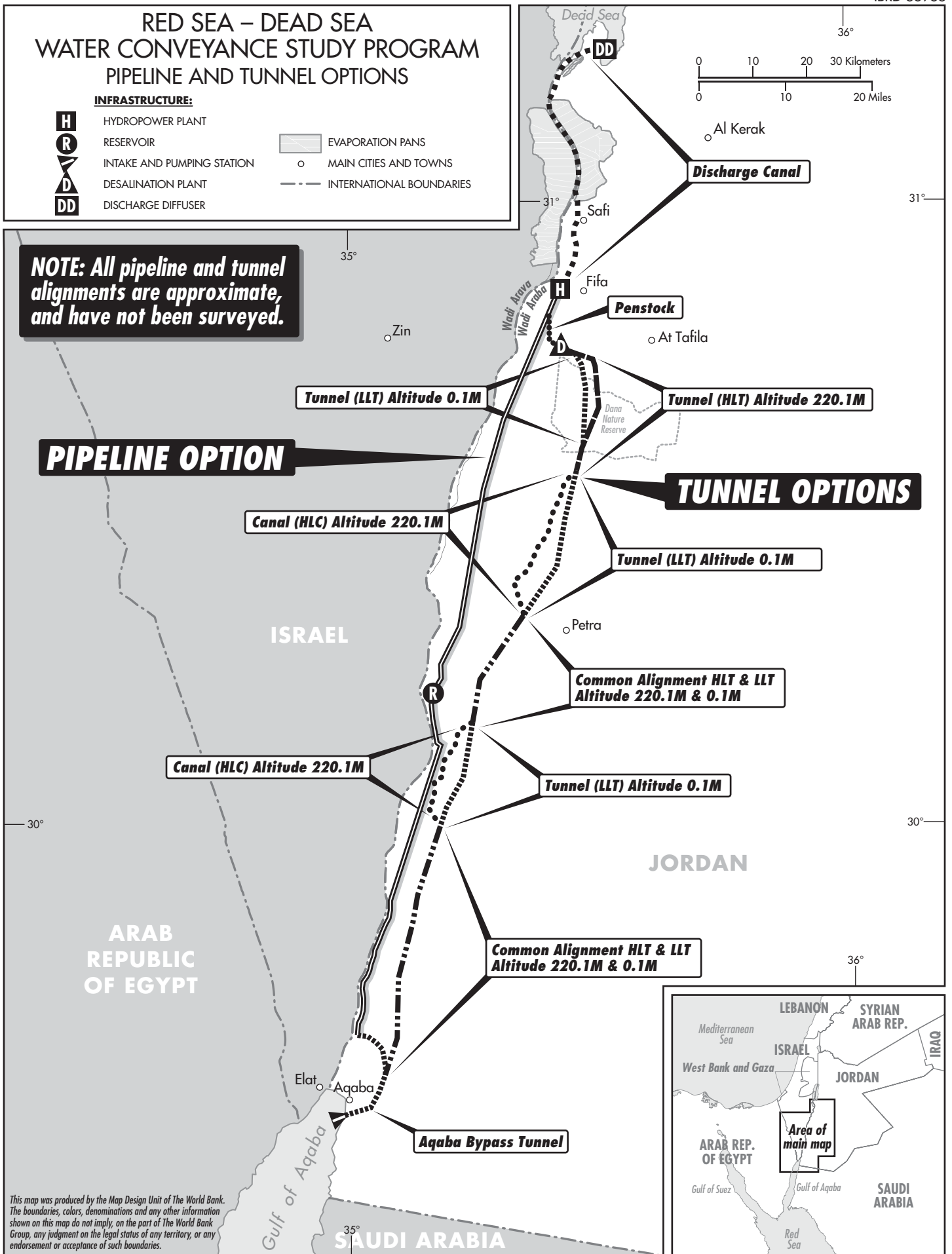
- EVAPORATION PANS
- MAIN CITIES AND TOWNS
- INTERNATIONAL BOUNDARIES



**NOTE: All pipeline and tunnel alignments are approximate, and have not been surveyed.**

**PIPELINE OPTION**

**TUNNEL OPTIONS**



*This map was produced by the Map Design Unit of The World Bank. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.*