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The Peece Water Pipeline and innovative hydro diplomacy

Is Turkey's "Peace Water Pipeline Project" Worthwhile to be Considered Again ?

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ABSTRACT

After completion of the water pipeline project to Cyprus in 2017, bulk water transfer projects to the Middle East has drown some more attention than before.Although implementation of the Red-Dead Sea Project hasn't progressed well, the Project has been considered as an alternative for bulk water transfer in the region

About 32 years ago in 1986 ,late Turkish President Turgut Özal had proposed a "Peace Water Pipeline Project" for the Midddle East water problems. The Project has drawn considerable attention and caused both negative and positive reactions.Political Feasibility and financing of the project had been argued more than it's technical feasibility.

Preliminary studies on the project were initiated in 1986 .The ultimate aim of the Project was much beyond of the supplying some water to the countries. The Project proposal mainly aimed to create a process of confidence building and a cooperation environment on water that will help to contrubute to the stability and security of the region

During past 32 years after the Peace Water Pipeline Project proposed , water demand has increased ,while the water management has been worse under the political and climatological effects in the region.

As many areas in the Middle East, Jordan is struggling with scarcity of rainfall, diminishing of water resources and increase in population . It is not ceratin yet if the current water management strategies and the suggested Red Sea- Dead Sea project will be enough to solve this problem.Therefore among the other new water resources alternatives , Turkey's Peace Pipeline Project proposal can be worthwile to be considered again with different lenght and route .

The Original Project would divert the water from Seyhan and Ceyhan Rivers ,both national rivers of Turkey ,to the Arab Countries in the Middle East. Daily water transfer capacity of the Project was 6 MCM that is only a small part of mean total daily flows of the rivers after Turkey's use .

The water would deliver through the peace pipeline is not intented to replace,but rather supplement current water supplies in the countries served.The Project had an estimated cost of US $ 20 billion about three decades ago.

In this article ,focusing on Jordan water problems, what risks and challenges associated in the region any alternative water transfer option and regional innovative hydro diplomacy is investigated.

Keywords: Peace Pipeline Project,Middle East,

1.INTRODUCTION

About 32 years ago in 1986 ,Turkish Prime Minister Turgut Özal had proposed a "Peace Pipeline" Project for the Midddle East Water Problems. The Project has drawn considerable attention and caused both negative and positive reactions.Political Feasibility and financing of the Project had been argued more than it's Technical Feasibility.

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The concept of transfering water from Turkey to the Midle East, to promote regional peace and economic development in the Middle East has been a constant in Turkish foreign policy since the late President Turgut Özal in 1986 proposed an extensive 'Peace Water Pipeline'.

This was a $ 21 billion project to bring vast quantities of water from the Seyhan and Ceyhan Rivers via two pipelines to supply the major cities in Syria, Jordan, and the Arab Gulf states. The pipelines could convey 10 million cubic meters of water every day, which was estimated as sufficient to meet the needs of 15 million persons. The original Turkish proposal also envisioned making some of this water available to Israel(9).

However, when some Arab states objected, Ankara modified its proposal, saying that Israeli participation would have to be deferred until after the conclusion of peace treaties between Israel and its Arab neighbors.It should be noted that unlike the Tigris and Euphrates, the Ceyhan and Seyhan rivers originate and flow entirely within the sovereign territory of Turkey before emptying into the Mediterranean Sea. The pipeline idea was rejected by the oil-rich Gulf states, which Turkey hoped would finance the giant project.(9).

The Saudis contended that desalination was a cheaper solution, since they could fuel flash distillation desalination plants with surplus gas produced.

The Original Project

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The water would deliver through the peace pipeline is not intented to replace,but rather supplement current water supplies in the countries served.The Project has an estimated cost of US $ 20 billion .It foresees the use of local materials and labour in each country on the route of the water transfer line .

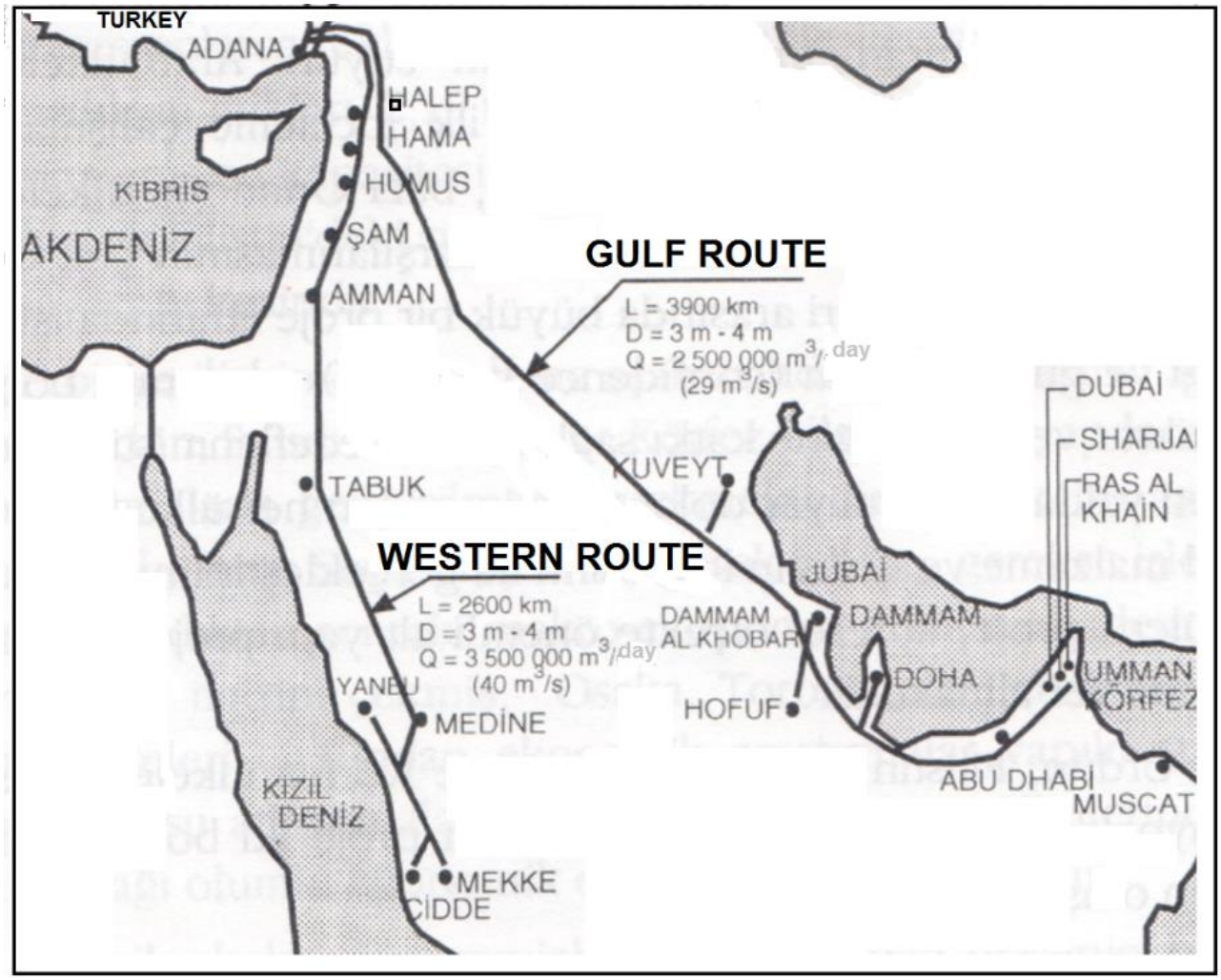

Figure 1. Peace Water Project (10)

The Project consists of two pipelines (Figure 1).

- The first one called the Western Line has a lenght of 2,650 km.and a Daily water capacity of 3,5 MCM.The western line ends up in Mecca via Hama,Homus,Damascus,Amman,Yanbo and Medine. According to preliminary studies made about 30 years ago the cost of 1 cubic meter of water is US $ 0,84
- The Eastern or Gulf Line extends,after Syria and Jordan to Kuwait,Bahrain,qatar and the United Arab Emirates.It is longer than the first one with a total lenght of 3,900 km.In the preliminery study ,the Daily capacity and the unit cost of water was determined as 2,5 MCM and US $ 1,07 respectively.The total investment cost of the Eastern Line is US$ 12 Billion.

In sum, technical and economic feasibility of the Project was accepted by many experts 32 years ago.In regard to political feasibility ,it had been generally argued that realization of this project would be difficult due to lack of confidence and trust among the countries over the pipeline route.

Figure 2.Shorter Eastern Line

An Alternative Proposal: Shorter Eastern Line to The Hashemite Kingdom of Jordan

Since the whole project has a rather high investment cost, better to propose that instead of extending the line to Saudi Arabia and the Gulf Countries ,the terminal point could be Jordan where the problem of water shortage has emerged seriously since last 30 years.

This would also reduce cost by having a shorter line .In this case the yearly water transfer capacity will be 2,19 BCM, which is 1,6 times greater than the average annual streamflow of the Jordan River. It means that this Project could play an important role in closing the water budget deficit of Jordan.

On the other hand the preliminary survey related to the project needs additional studies in details considering new science and technological development that will certainly reduce the preliminery investment cost as well as operational cost.

Jordanian Current Water Challenge

Jordan is an almost unlocked,3th poorest in water resources, semi-dry arid and climatic zone country . It's precipitation range differs from 40 to 600 mm annually and 92% of rainfall evaporates annually(7).

According to Project titled "Management of Water Resources Programme" and **commissioned by** German Federal Ministry for Economic Cooperation and Development (BMZ):"With only 60 cubic metres of renewable water resources available annually per capita, Jordan is among the most water-scarce nations in the world." (1). In the project brochure(1) the following information has also be given about current water situation in Jordan

."*The country is already confronting the effects of climate change and its resources are expected to diminish even further. At the same time, Jordan's population is continuing to increase and the country has also received more than 655,000 refugees since the beginning of the crisis in Syria. Factors such as these have resulted in the systematic overuse of its water resources for many years. Today the nation's capital, Amman, relies for its water supply on groundwater resources drawn from the Disi fossil water aquifer, located some 300 kilometres to the south at the border with Saudi Arabia. If the nature and the extent of water usage are not reversed soon, the water security of Jordan's population will be at serious risk*."(1).

In addition to hydrological drought ,most of the major water resources are shared with neighbouring countries, leading to additional challenges as conditions of water scarcity increase in Jordan.The increase in the number of refugees from Syria and Iraq who live in refugee camps, has led to a sharp increase in the extra water supply and wastewater problems.

In 2013, the Ministry of Water and Irrigation (MWI) estimated annual water availability at 892 million cubic metres (MCM) that about 79% of this is from renewable freshwater sources, including about 239 MCM or 28% from surface water (of which 50 MCM comes from Israel under the 1994 peace treaty agreement) and about 433 MCM or 51% from renewable groundwater. The remaining amount comes from non-renewable aquifer (fossil) groundwater (about 75 MCM or 9%) and treated wastewater (about 102 MCM or 12 %)

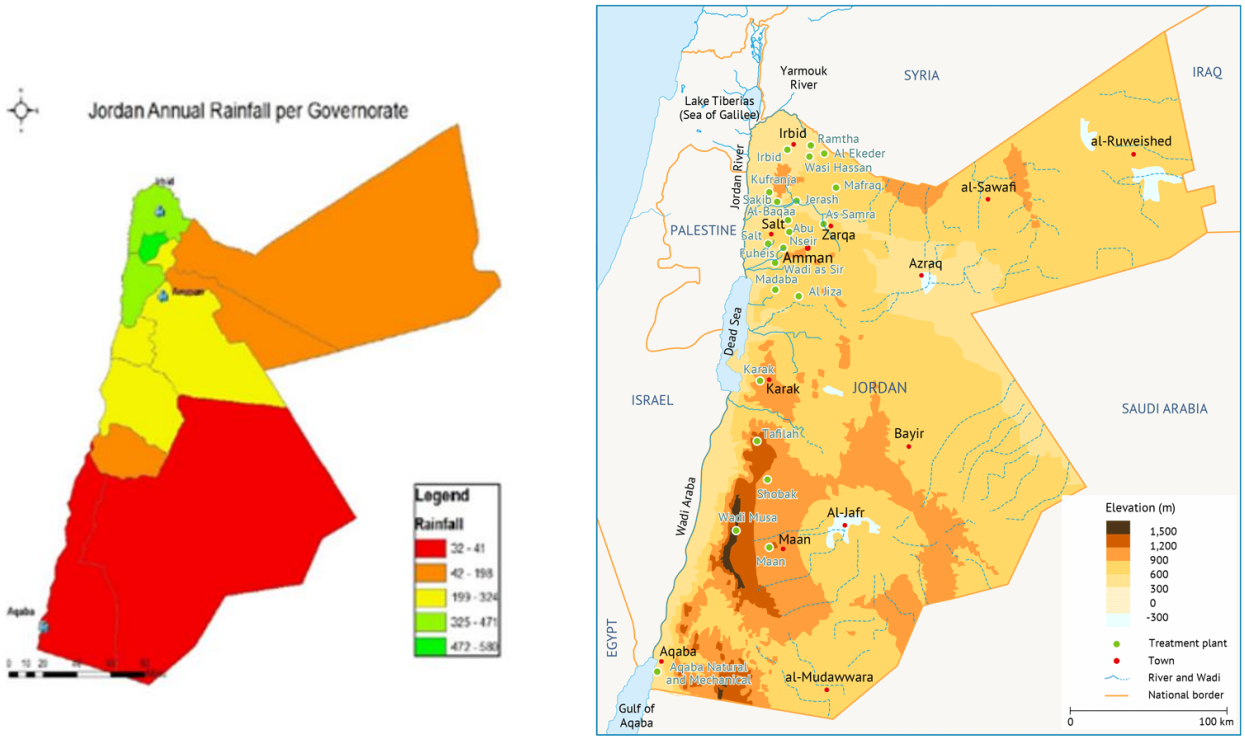

Figure 3.Jordan Annual Rainfall Precipitation and Rivers

Jordan was interested in the Project

Since Peace Water Project's initial presentation to public opinion and the parties concerned, it had received several political responses. While Jordan displayed,in general,a receptive attitude,Syria and Saudi Arabia adopted a negative one .
In early 1990's ,the Jordanian Ambassador to the UN ,AdnanAbu Adeh stressed the importance of receiving water from Turkey through such a Project and Dr.Jawad al Anani,the Head of Center of Economic and Technical Studies in Amman declared his organization's support for the Project (9).

What has changed for the project implementation since last 32 years

In fact, economic studies of the Project had been undertaken by the Universities of Osaka,Toronto and Pensilvania.These studies had underlined the positive impact of such a Project on development of the Middle East Countries.

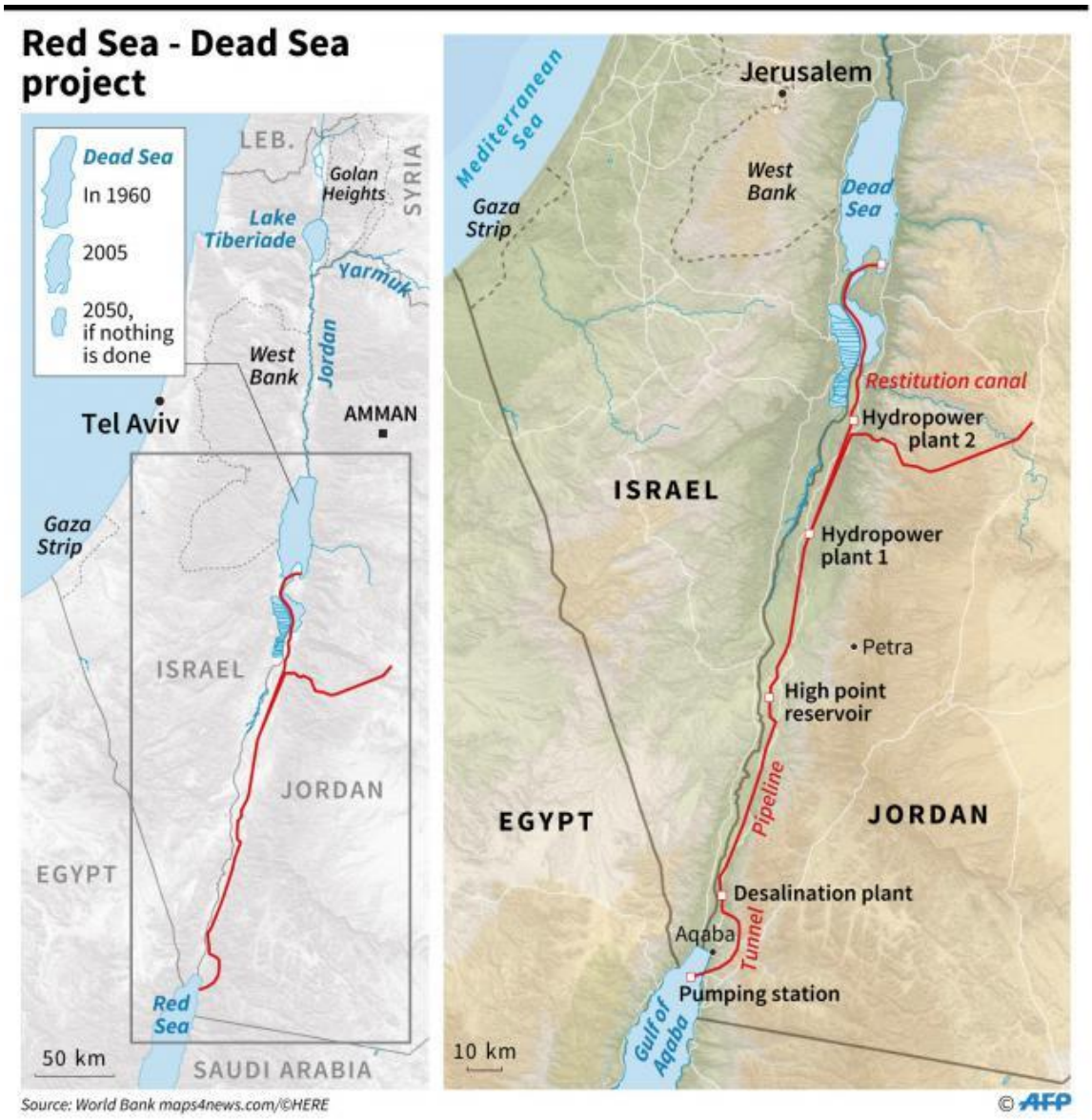

Figure 4 .Red-Dead Sea Project

Technical and economic feasibility of the Project had been accepted by many expert.But the Project had been generally argued in regard to it's political feasibility.
It is for sure that current political situation is worse and unstable than that of 1980's and early 2000's .Therefore we should realize that the political feasibility of the project has also lost weight.

But on the other hand we should also be aware of that more serious climate change effects on water resources has been experienced in the region since last 30 years . This created national

security therat agitating social flactuations in Syria[1] and Iraq. These emerging threats in the region may force the countries to collaborate on water management. Development a collaborative transboundary water management strategy is also important in order to maintain the regional peace and security.

On the other hand, climate change has already been effevtive on the Seyhan basin which peace water will be transferred. *A study carried out on "Changes and Trends in Precipitation and Air Temperature Values During the Period of 1970 and 2009 in the Seyhan Basin"(8) showed a* statistical significant increase trend in the series of annual temperatures and significant decrease in the series of the annual precipitation.

Results and Discussion

In contrast to the semi-arid climate and consequent scarcity of water that afflicts many of the countries of the Middle East, Turkey has been blessed with a relative abundance of water resources. The main problem for Turkey is the domestic one of distribution: How to bring this water to the rapidly growing cities and agricultural communities located at considerable distance from the river sources?

Turgut Özal's 1986 'Peace Water Pipeline' Project was a $ 21 billion project to bring water from the Seyhan and Ceyhan rivers via pipelines to cities in Syria, Jordan, and the Arab Gulf States.

A shorter pipeline from the Seyhan or Ceyhan rivers to Syria and Jordan has been estimated to cost $ 5 billion in 1986 . It is clear that this Project may become feasible following the technological development since 1986.

From the point of political feasibility the pipeline to Jordan requires a breakthrough in Syrian-Jordan and Israeli relations, including resolution of disputes over Jordan River headwaters and the Syrian Access to the Sea of Galilee (*Kinneret).*

In sum, technical and economic feasibility of the Project was accepted by many experts 32 years ago.In regard to political feasibility ,it had been generally argued that realization of this project would be difficult due to lack of confidence and trust among the countries over the pipeline route.

Considering these difficulties Jordan want to go ahead with Red-Dead Water Project despite Israel's withdrawal from the Project.The amount of water demand has increased over the years, mainly due to the significant increase in population (including refugees).Jordan is consuming more water than it can secure. Political, economic, ecological and internal pressure aggravate the problem. In order to meet the growing water demand the Government has drawn up a number of majör water development plans including desalination of seawater and brackish water.

In Jordan the parties recognize that their water resources are not sufficient to meet their needs. More water should be supplied for their use through various methods, including projects of regional and international cooperation.

Jordan is striving to balance the water deficit by utilizing new sources as well as by decreasing consumption.(12).When it is analysed,among the others this kind of bulk water transfer project seems to be the only solution to solve the water shortage problems in the long run.

While considering sustainable water resources managament for Jordan , among alternative options "Turkey's Shorter Peace Water Project " could be a regional innovative approach and a model for Regional Cooperation in the Development of Water Resources

Although it is not politically feasible now, but it is considered here to highlight regional collaborative approach need to draw attention to avoid dramatic consequences of the climate change effects on the stability of the Region.

[1] Syria had experienced three drought period since last 20 years.

The climatological and political uncertanities are real threeats about water management in the region This is rapidly shifting towards re-enforcing water into security policies in the region (Resecuritisation) .Only a high level comprhensive collaboration reduce a tendency towards greater securitisation .This requires an innovative hydro diplomacy.
What to do for an innovative hydro diplomacy in the region are as follows;

- Demonstrate political will to manage natural resources in jointly planned projects
- A Regional approach instead of classical one
- Win win method instead of zero sum
- High level economical integration
- The process must be a continuing one
- The activities should always be ongoing in order to keep up interest
- New activities should be initiated perodically with the participation of all parties concerned

Hopefully, in the context of future peace, there will be real collaboration among the countries of the region toward achieving the provision of safe and reliable water for future generations.

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Biography

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