DROUGHT – THE SITUATION IN JORDAN

- "Our Water situation forms a strategic challenge that cannot be ignored. We have to balance between drinking water needs and industrial and irrigation water requirements. Drinking water remains the most essential and the highest priority issue ".

H.M. King Abdullah II
November 7, 1999

SITUATION OF JORDAN

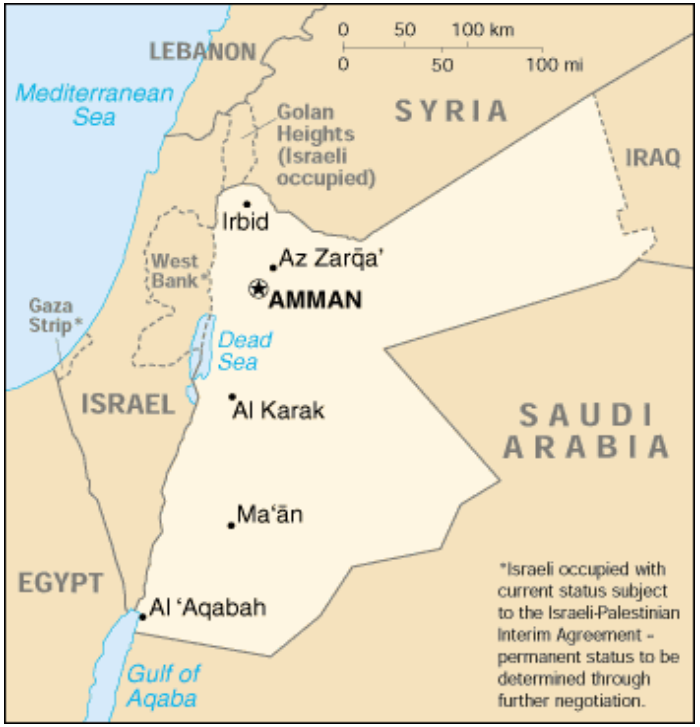
Jordan is a semi-arid country located in the east of the Mediterranean. Bordered by Syria to the north, Saudi Arabia to the south. Iraq and Saudi Arabia to the east' and Palestine and Israel to the west.

Area: 89.400 Km2

Population: 6.530million (2013)

GDP: 1,670 USD

Pop. growth: 2.84%



Physiography

Jordan can be divided into three distinct regions:

1. **The Jordan Rift Valley (JRV)** is part of the Great Rift Valley; JRV runs from Lake Tiberias to the Gulf of Aqaba. The Jordan Valley is part of the JRV (Lake Taberias-Dead Sea).

2. **The Plateau** consists of the mountains and the upland plains with an elevation ranging from 300m to 1200m. Average annual precipitation is 300mm.

3. **The Steppe area and the desert** represents about 90% of the country. Rainfall ranges from 35 mm to 200 mm

SOME FACTS

4% of Jordan can be cultivated using water from rainfall

76,000 hectares are irrigated in Jordan

Jordan is considered among few countries of the world with limited water sources. The per capita share of water is less than 170 m3/c/day. The share will drop to less than 100 m3/c/day in 25 years from now when the population is doubled. The agricultural sector will be the most affected sector in the country.

The Jordanian water sector continues to supply water and wastewater services to citizens despite all the challenges and obstacles which confront it.

Jordan has serious problems due to:

a)shortage of water resources

b) influx of refugees of different nationalities since 1948

However despite this, Jordan supplies 98% of its population through its water network and the ratio of people benefitting from wastewater projects has risen to more than 60%, a ratio which is expected to increase. As a result, Jordan is ranked among the wide-water-served countries despite all the difficulties.

Jordan has prepared a water strategy which considers sector priorities and includes a road map for this sector where work will be carried out in accordance with a 10-year investment plan.

The strategy includes:
a) Management and protection of water resources,
b) The raising of citizen awareness regarding the rationalisation of water consumption,
c) Tariffs,
d) Water loss management,
e) The application of new methods and high technology.
f) The creation of a platform in which citizens share decision making (water issues) and raise level of their awareness on harmful impacts of illegal usage of water and the violation of laws, regulations and legislation.

Different projects are already underway. Currently the MWI is working hard to implement the Jordanian Red-Dead sea Project.

It is worth mentioning that the MWI has managed to benefit from each drop of the conventional and unconventional water resources available. Treated wastewater becomes an important water resource to be used directly or indirectly in irrigation in accordance with scientific criteria determined by the FAO.

Responsibility of water services is a critical issue that needs to benefit from world-wide experience related to this area.

A number of water projects in this respect are being currently implemented with a cost exceeding 500,000 million dollar such as:

The Millennium project,

The rehabilitation of networks in addition to wastewater projects as in (Amman southern project), (Karak and Adnaneyeh) (Shallaleh and Northern Ghors).

Several water and wastewater projects are prepared to be financed from the GCC fund so as to improve provision of these services to citizens all over Jordan.

Water Supply and Requirements (MCM/year)

Year	Total requirements	Total Supply	Deficit
1998	1205	898	-307
2005	1321	1042	-279
2010	1436	1250	-186
2015	1536	1283	-254
2020	1647	1287	-360

Meeting Water Deficit

The growing deficit of water in Jordan is serious problem. Decision makers and policy planners should consider several options to alleviate the problem such as:

1. **Demand management option including**: improving irrigation efficiency and reducing municipal water losses; Deficit irrigation; adopting rational cropping pattern.
2. **Securing additional water supply**: Desalination of water for M & I, water importation, enhancing water supply in form of water harvesting and artificial recharge.
3. **Reuse of reclaimed wastewater**: This requires good water treatment to a level acceptable for unrestricted irrigation.

Drought Measures

The frequent occurrence of drought especially during recent years has put many constraints on irrigated agriculture in the Jordan Valley. The JVA has taken certain management practices and measures to ease the problem

Long Term Measures

1. Increase the volume and number of storage facilities by constructing new dams and enlarging the capacities of existing ones.
2. Plan for a dynamic cropping pattern by limiting the area of perennial crops and fruit trees to less than 30% to allow flexible cropping pattern during drought years.
3. Encourage the introduction of water saving technology like the use of micro-irrigation, and protected agriculture.
4. Augment water resources through the use of treated wastewater and ground water during drought years.

Thank you