

INWRDAM -Empowers Regional Training workshop
On participatory integrated water Resources Management.
Beirut –Lebanon –12-17 February 2005
Syria Arab Republic

Background:

- The area of the Syrian Arab Republic is 185000 km².
- It is classified as a semi- arid region, Al-Badia in Syria is about 55% form total area, while the rainfall in it is less than 200mm.
- The population is about 17million
- The major water resources in Syria are its allocation from international shared water of Euphrate and Tigris rivers.
- The major uses: drink water –irrigated agriculture –industry and tourism.
- The most important difficulties which face water resources management are summarized as following:
 - difficulty in using a modern irrigation technique in previous projects that is for a high cost of the irrigation equipments and using this technique is very important in most region while the irrigated plants is the most consumption of water.
- The farness between water resources and the region which need water.
- The increasing in population and decreasing in water resources.
- All water resources are related to Ministry of Irrigation (General institutions, directorates of water Basin) which are related to Ministry.
- The water consumption sectors are :
 - Ministry of Housing.
 - Ministry of Industry.
 - Ministry of Agriculture.
 - Ministry of Tourism.
 - And other sectors.
- Treatment of Sewage water is function of Ministry of Housing while now it is establishing a new treatment station in major Cities.

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INWRDAM-Empowers Regional Training-Workshop on Participatory integrated water Resources Management Local case study in Syrian Arab Republic

Location and climate:

-The ancient historical AL-Russafa city is located south of Euphrate river (25 KM) but now it is about a small sperated villages which grow up during the last two decades where the people there practice the irrigated agriculture activities.

-The climate of east Mediterramean Sea controls the study region. So, its rainfall is relativety little, and the average of the rainfall is 180mm, the rate of evaporation is high about (1600 - 1800) mm.

Infrastructure:

General Roads relate Al-Mansora city which is located on Euphrate sides, the ancient Al-Russafa, and the villages which are located on the roads sides, besides of a group of agriculbure roads.

-Electricity supplies villages and some farms while the most of farms use diesel to generate the nessary power for pumping the water from wells.

-Elementary schools in large villages.

-Dispensary, sanitary and veterinary centers.

-Guidance units for animals and agriculture.

-There are 398 exploitation wells their depth is about (80-110) m to irrigate the crops of wheat and cotton.

-Water resources management is by ministry of irrigation (the directorate of al-Badia basin) in cooperation with ministry of Agriculture.

Results of previous studies before establish Al-baath dam

-**Geology:** In the study region there are quaternary deposits (Q) including all periods (Q1-Q2-Q3-Q4) besides of neogene (N).

-**Tectonic:** The study region is located north of Palmyra tectonic uplift, it considers as apart of Euphrate river depression.

-Mediate the study region Al-Russafa fault in the direction of north-south with many sub-faults most of them directed in south-west-north –east.

The hydro geological conditions

-During (1961-1970) there was a drawdown in ground water levels in Russafa region because of increase consumption.

-After establishing Euphorate dam and the fullness of the reservoir in (1973-1976).

The decrease in levels continues in Al –Russafa region without any change in general salinity of water.

-The results of hydro geological survey in (1984-1985) indicate the continues decreasing in ground water levels, and the movement of the ground water generally is from south to north in direction to Euphrate river.

- The total consumptions in the hydrology basin of AL-Russafa was 9.425m.m^3 during (1984) this consumption led to continues decreasing in water level and the total salinity still (5-7) g/l.

Present situation after fullness of the reservoir of AL-Baath dam

- AL-Baath reservoir is located in north of AL-Russafa city 25 Km

- The maximum storage level of the reservoir is 256.3 m.

- The storage began in 1987 and after the fullness of the reservoir, the investment of the irrigated agriculture is developed that due to the following detailed studies:

- The statistical agriculture hydro geological survey of the region.

- Preparing space imagery scale 1/50000.

- Interpretation the space imagery to clarify the tectonical situation.

- Execute some Vertical Electrical Sounding studies (V-E-S)...

- Drill five peizometric wells to control the changing levels of ground water.

- Monitoring a group of farmer's wells by using G.P.S station and measuring their levels and chemical analysis to the wells water.

- Monitoring the irrigated area and the consumption water during two agriculture seasons (2002-2003) (2003-2004).

- Through the comparison of the new results and the previous once

we achieve the following **Results:**

I- Classifying the aquifers by geophysical survey.

II- Establishing a local tectonical map

- III- Define the ground water movement in the region.
- IV- Preparing local total salt content map.
- V- Changing in water level during the irrigation seasons
- VI- Irrigated areas during every season (2002-2003) , (2003-2004) were:
 8660h wheat, consumed (33-35) m.m³
 1800h cotton, consumed (25.2) m.m³
 The total discharge: **34+25=59 m.m³/year**
- VII- Assessment:

	1984-1985	2002-2003
Water discharge	9.425	59
Water level	Drawdown	Semi-constant
Total salt content g/l	5-7	3-4

Abstract:

In the study region there is an additional supply form leakage of the reservoir of Al-Baath dam through the major and secondary tectonic range. Its fresh water led to improve the ground water quality which was before the fullness of the reservoir dam.

- In spite of the great consumption of AL- Russafa basin the groundwater level is semi-stability and this is another sign of existing new supply which acquainted the study region.

- These aspects may be led to change in hydraulic slope of the ground water which was before establishing the dam.

-The present situation leads to follow a special methology to manage the investment in the region. This depends on annual controlling results and the annual, preiodical correspondence between the two Ministers of Irrigation and Agriculture and farmers associations.

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