

## *Mini-Series: Efficient Use of Water Resources in Arid Land*

### **Part 1: Introduction of water-saving irrigation in Syria**

The 21<sup>st</sup> century has been dubbed the “century of water”. At the beginning of such a century, I got a chance to be involved in activities to consider the future technical assistance in promotion of water-saving irrigation in Syria. For about one year from autumn 1996 AAINews carried a series of articles on farming and irrigation in arid land (from the viewpoint of sustainability). In this series the importance of the traditional farming schemes, problems of modern irrigation development, the future direction of arid land agriculture etc. were considered, with reports on the reality of water harvesting, oasis farming and rain fed farming. Subsequently, partly due to the recent abnormal climatic events worldwide, the importance of water-saving farming is becoming more crucial in many parts of the world. In this new mini-series, we would like to report on efficient use of water resources in arid regions and provide the latest information from various places.

Across Syria the amount of available fresh water from all sources, such as springs, wells and rivers, is decreasing drastically. On the other hand, demand for water is rising sharply, as the per capita demand increases and the country becomes more industrialized. Furthermore the population is increasing at an average rate of 3.5% a year and people’s lifestyles are also going through changes. As a result most of the water systems in the country are experiencing definite water shortages. Therefore, it has become a highly crucial task to introduce water-saving irrigation technology in order to save water in the agricultural sector, which is using up nearly 90% of water in the country, and to allow other sectors to use more water. The government of Syria is trying to set up various types of legislation to encourage water-saving farming. Some legislation is directly related to modernization of the traditional irrigation methods, while some other prescribe rules related to improvement of the agricultural finance system, the establishment of a domestic production system of irrigation materials, the digging of new wells and so forth. Modernization of irrigation systems is also being promoted through research and PR activities under the Irrigation Directorate of the Ministry of Agriculture and Agrarian Reform. Moreover, international organizations and other donors are supporting such activities as water resources development, modernization of irrigation systems, utilization of treated water etc.

However, the legislation is not proving effective in reality so far, due to the insufficient penal regulations etc. Also, the research and PR activities have not produced such positive results as had been expected. In order to realize the modernization of irrigation systems, it is necessary to take a holistic approach, which considers both the natural and social conditions of the targeted locality. It is particularly important to reduce the amount of water use in irrigation, and at this moment such water saving should be limited to the areas with relatively abundant water resources. Modernization of irrigation systems in the areas where there is already a water shortage often does not result in water saving. In such cases, modern irrigation facilities tend to be used only as the last resort to lead the already limited amount of water across the entire field. In addition, the unclear economic rationality is also a major restrictive factor for ordinary farmers to introduce modern irrigation facilities. In this situation, what is needed to be done from now on it seems, is first to classify regions based on various indicators such as climatic conditions, water resources availability, land ownership and major crops in the locality, and then to analyze the priorities and feasibility of water saving in the differently classified regions according to such criteria as possibility of water use, anticipated effects of water saving and profitability etc. And specific modernization plans should be drawn up based on the result of such analysis.



Farm deserted due to depletion of water resources



Pilot farming with various irrigation methods



Cotton farming with newly introduced drip irrigation