

## Past Technical Assistance for the Gulf States and Future Challenges (2)

### Part 2: Demonstration experiment by the Desert Development Institute, Japan

In 1971, the Desert Development Institute, Japan was established with the aim of conserving the global environment, with particular regard to the prevention of desertification and the promotion of methods of greening the desert. In those days, a large quantity of asphalt was produced by the process of oil refining, and the laying of underground AMB (Asphalt Moisture Barrier) was developed as a means of effective utilization of excess asphalt. The AMB was recognized for achieving a great improvement in desert agriculture by making it possible to conserve irrigation water and by preventing salt rising from underground. A demonstration experiment of the AMB started in Al Ain, UAE.

In the first four years the experiment proved that using AMB efficiently kept irrigation water in the soil and significantly increased crop yield. This experimental farm was later transferred to the local government authorities, however, salt contained in irrigation water started to accumulate in the soil. This prevented the agricultural practice being sustainable. Agricultural research inherently takes a long time, especially in arid zones with severe climatic fluctuations. This is even more the case regarding research into salt accumulation which originally requires a long-term period of continuous observation. When the AMB experimental farm was operated under Japanese supervision there was also another experimental farm set up by the French Oil Corporation. Their compound was equipped with tennis courts and a swimming pool which showed their determination to make their assistance a long-term priority. By contrast, the Japanese assistance looked somehow “kamikaze”-like.

In order to scientifically elucidate the effectiveness of the AMB, the Japanese project had a laboratory. In those days there were no other facilities in Al Ain to analyze soil and water and there were many requests for analysis from various people such as Spanish and Italian afforestation teams. The laboratory was also in charge of analysis in the joint experiment with a compost factory which was newly established in Abu Dhabi. Presently, the laboratory has expanded and new analytical equipment has been installed. It plays an important role as the analysis center in the government’s agricultural bureau. This is the most important effect brought by the project.

The lesson learned from this project is the importance of an attitude that develops technologies in the countries concerned according to local needs, rather than by applying technologies developed in the assisting countries. The Gulf States possess severe climatic conditions that are shared by developing nations which are affected by desertification. However, these Gulf States are generally affluent and can offer desirable conditions for researchers to engage in their work over the long term. In the future, attention should be given to those projects that are only possible to execute in such environments as those found in the Gulf States.

