Mini-Series: Vegetable Cultivation in Oman (1)

Part 1: Vegetable farming in the Nejid

We will introduce some examples of vegetable farming in the Nejid area in southern Oman. Let us first provide a briefing on the climate in this region. The lowest average monthly temperature is 22.7°C which occurs in February and the highest is 32.0°C which occurs in August. The average relative humidity is 45%, while the difference between the highest and lowest humidity levels during a year is about 10%. The annual rainfall is 0 to 150mm and there is a great fluctuation in the rainfall as sometimes it does not rain at all during a whole year, while the annual evaporation level is very high; 4,200 mm per year. The natural climatic conditions here are very harsh, but despite this in the 1980s farming were started in this area by using ground water. According to a 1994 survey the number of farms in the Nejid was 155, of which 28 were engaged in pasture cultivation and the rest in vegetable and fruit cultivation. The total area under cultivation was 1,337ha (608ha for pasture and 729ha for vegetable and fruit).

The vegetable cultivation in this area can be classified in three types according to the different irrigation methods used. All the irrigation here utilizes ground water through pumps, but there are three types of irrigation method used in different farms, namely furrow irrigation, center-pivot irrigation, and drip irrigation. The most common system being used by farmers is furrow irrigation. The center-pivot irrigation method is adopted by those who used to be engaged in pasture cultivation but later switched to vegetable cultivation as the former requires large machines and a lot of manpower. The drip irrigation system is used by only a handful of farmers, as it requires a significant amount of initial investment when compared to furrow irrigation. However, considering the high irrigation-efficiency of the drip irrigation (about 85%), this method should be adopted by more farms in the future.

Let us now turn to the types of vegetables grown here. These are mostly common vegetables such as watermelon, melon, cucumber, tomato, okra, squash, eggplant, green and chili peppers, etc. The sowing seasons for these vegetables vary significantly. Watermelon, melon and squash are sown from late July to early September and from February to March of the following year. Cucumber and tomato are sown in October and November. Okra is sown in August, and eggplant, green and chili peppers are sown from September to October. If vegetables were sown in May or June the whole growing process would have to go through the hottest period of summer, which would result in poor harvests. The farmers' wholesale prices of the vegetables also vary depending on the season, but the rough figures would be about BZ700 per kilo (BZ100 = approx. JPY 30) for cucumber, which is relatively expensive as it is susceptible to pests and diseases, BZ200/kg for watermelon, melon, squash and eggplant, BZ100/kg or sometimes as cheap as BZ50/kg for tomato, and BZ500/kg for okra, green and chili peppers. Thus the vegetables are very cheap, and the prices are determined by weight irrespective of the quality. On the other hand, in supermarkets you can find high-quality vegetables imported from Europe, which are priced several times higher than the produce of Oman. Therefore, if the prices are determined according to the quality of the crops and superior produce can fetch better prices, the farmers will become more motivated to improve their cultivation techniques and their farming will develop further.

The main problems pertaining to the development of dry-land agriculture using ground water are salt accumulation and the depletion of ground water, and the Nejid is not free from such problems. On the other hand, here the sun light, which is crucial for crop cultivation, is in plentiful supply throughout the year. Therefore, if sustainable agricultural development is to be achieved in the Nejid region, more consideration should be given to tasks such as the assessment of the availability of usable water resources and the assessment of the size of areas suitable for proper development using available resources, as well as development and proliferation of cultivation methods which would enable the efficient utilization of the limited water resources and which would make the most of the plentiful sunshine in the region.
Mini-Series: Vegetable farming in Oman (2)

Part 2: Vegetable farming in Salalah

Salalah is the second largest city in Oman, located in the Dhofar region in the southern part of the country. Furthermore it is in one of the most traditional agricultural regions of the country, the other being the Batina coastal region. From July to September the area is blessed with regular rainfall brought by the monsoon, allowing the mountain range behind Salalah to store up water from the rain and mist. The water flows down underground, and is pumped up to be used for irrigation. The area is too wet to grow date palms, which are known as a speciality of Oman, but coconuts and bananas are grown here.

The farms here are multi-stories: under coconuts, bananas and papayas are grown while vegetables and pasturage are planted at the lowest level of the field. The vegetables grown here include cabbage, cauliflower, tomato, melon, watermelon, bitter gourds, cucumber, radish and French beans etc. Here people eat the leaves rather than the roots of radish, thus the root parts of radish grown here are much smaller than those found in Japan. In addition, the farming method in this traditional agricultural area is rather unique. For example, pruned coconut branches and leaves are reused as a mulch to prevent evaporation from the ground. They also serve as a mat for other fruits and vegetables which would be vulnerable to pests and blights if directly exposed to the ground. In addition, coconut branches stripped of leaves are used as supports for French beans. In order to make full use of irrigation water, vegetables are planted right next to the watercourses.

Let us move on now to the management aspect of the farms in this area. The farm laborers are immigrant workers from Pakistan, India and Bangladesh etc. The landowners are Oman nationals, but they are barely engaged in the actual farming themselves. The types of immigrant worker employment are:

1) Employed by the landowner with monthly payment (R.O.70-75 /m, R.O.1 = JPY 300)
2) Rent farmland (e.g. R.O. 120 / m for 5 acres)
3) Divide turnover from the farm between the landowner and laborers (on a 50:50 basis)

We visited farms run along the different management styles described above, and found that farms managed under styles 2) and 3) are far better treated and maintained. Under management styles 2) and 3), the laborers seem to work harder, as the productivity of their farm is directly linked to the laborers income. In one of the farms under management style 2) that we visited, a Pakistani farmer and his son were working on their rented 5-acre plot of land, out of which 4 acres were used for growing vegetables and 1 acre for growing bananas. The father and the son were working with intimate teamwork. Such a scene has become rare in today’s Japan where agriculture is mechanized and there is a consistent lack of successors.

However, in this area some problems are emerging recently, such as the frequent use of chemical fertilizers, the lowering quality of ground water due to over-pumping, lowering of the water table and mixing with sea water caused by modernized pasturage farming which uses center-pivot irrigation. One of the main causes of these problems may be attributed to the fact that most of the workers on the farms are foreigners. That is, they are interested in the present productivity and have very little awareness or concern over the future management of the land and little sense of crisis about the lowering quality of the irrigation water. Today there is a movement of so-called Omanisation, which tries to promote the employment of Oman nationals rather than foreign laborers, but such a policy has not reached to agricultural workers as yet. We hope that the day will come soon when people in Oman themselves will start working in their own farms.