

AAINews

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Lessons From a Tiny Plot of Farmland

Today is the day of the long-awaited autumn harvest. Look at all the smiles and the bunches of groundnuts! We had a rich harvest of groundnuts! The pleasure of harvest is common all over the world, in developing and developed countries, and for young and old. Such pleasure can be fully enjoyed even on such a tiny farm as ours in the middle of Tokyo.

AAI is renting a plot of public farmland some 15 minute's cycle ride from the office. The area covered by the plot is only 30 m². Why does the company rent a farm? For the sake of self-sufficiency? No. To contribute to the company's sales by marketing vegetables? No way! There are different reasons. Although AAI is involved in projects related to agriculture, the staff members have few occasions throughout the year to go into the field and actually work with soil. Then can AAI still be called an agricultural consulting firm? Is desk work all that AAI does? This feeling was one motivating factor behind the establishment of our farm. A second reason is to practice the production of food by ourselves and not to forget the meaningfulness, laboriousness and importance of growing vegetables and cereals throughout the year no matter how small the scale of the operation. The third reason is that by having a working field we hope that we can try out and think of many new things there. These ideas had been in our mind for a long time, and with a call, "Let's move our own hands first," we started working on this tiny farm.



The primary concept of this farm of ours is "Achieving biological diversity without plowing, chemical fertilizers and pesticides through organic farming." Thus we tried a sort of permaculture to start with. Or to be more precise, the farm was first very loosely managed partly due to the difficulty of looking after the farm on a daily basis. "Loose" here means rough weeding above the ground without rooting out. This is done for the purpose of increasing the ratio of green coverage, preventing soil erosion and inviting insects. Have you ever heard of the word "bio-pore"? Tube-shaped hollows created by organisms, such as earthworms and the space left after the death/decomposition of plant roots, are called bio-pores. With a no-plowing cultivation approach they do not get destroyed and can extend underground deeper than plowing machines can reach. It is thought that bio-pores play important roles such as increasing the ventilation and drainage capacities of the soil and helping new roots grow deep. Experiment on permaculture and mixed planting even as small as 30 m², is not that easy. In Japan, with its moist and temperate climate, the period from spring to autumn is a constant battle with weeds, while at the same time worrying about adjacent neighboring farms. Our hopes of harvesting vegetables in the first summer, though, were dashed. With the exception of sorghum, okra, cow peas and groundnuts, the other vegetables such as tomatoes, eggplants, zucchinis, pumpkins and corn etc. ended up in disaster. Plants are very honest. Without sufficient soil preparation it is natural that the farm cannot yield a good harvest. We could be proud of the larger green coverage and the number of insects compared to other farm plots, but, this said, we had to spend day after day rough weeding and preventing insect damage.

While working on this tiny plot of farmland, many thoughts come to mind; the problem of cereal import/export and the policy of curtailing paddy fields; Japan's low food self-sufficiency; the Westernization of our food



culture; organic farming, etc. For the past six months what has the farm given to us? What can we learn and conclude from the work at the farm? How should we make use of and present the lessons taught by the farm? For some it might sound like an exaggeration, but this "tiny farm" is a very meaningful plot. From this farm we are trying to harvest something more than just vegetables. But, more than any other reason, is it also possible that working on the farm is more fun than working at a desk in the office? I wonder what we can expect for the next winter harvest. Will we be able to verify the bio-pore functions?

(By Fuyuki Kojima in Tokyo, October 1999)

Partnerships between ODA and NGOs: for more effective international cooperation (2)

Part 2: Japan and NGOs

Japan's ODA has long adopted the approach of tied loans and other loan assistance, partly due to the post-war compensation. As a result, in developing countries ODA has been utilized mainly for building large-scale infrastructure such as dams, roads and bridges. However, with the growing criticisms of the negative impacts such as environmental degradation and the expansion of the rich/poor gap caused by such forms of ODA, recently the role of NGOs as developmental organizations has been drawing attention. In 1989, the Ministry of Foreign Affairs (MoFA) started the "Subsidy System for NGO Projects" and the "Grant Assistance for Grassroots Projects" and in 1999 ODA mid-term policy paper, support for and collaboration with NGOs are given importance. In 1995 JICA issued the "Research Report on Collaboration between JICA and NGOs in International Cooperation". JICA's "Community Empower Program" started in FY1998 and its "Partnership Program with NGOs" started in FY1999 also indicating the increasing expectations being held out for NGOs.

The boxes below show the brief outlines of NGO support schemes of the MoFA and JICA. It can be seen that there are some difference with the schemes adopted by CIDA (Canada) and USAID (USA). In the case of CIDA and USAID, the relationship between these organizations and NGOs is meant to be as "partners", that is they are on equal terms in both the planning and implementation of projects. By dividing the funding responsibilities of projects the official development agencies and NGOs retain equal position, and NGOs can express their originality in their development activities. On the other hand, schemes adopted by agencies in Japan do not facilitate divided funding responsibilities in one project and it cannot be said that official development agencies and NGOs enjoy an equal relationship as partners. Also, unlike the case of Japan, CIDA and USAID allow NGOs of their own countries to work with local NGOs in host developing countries. This is an effective and meaningful way of doing it in that Canadian or US NGOs would ensure high level performance of project implementation as expected by the official agencies, and that people in Canada or the US would have opportunities to contact and work with people in developing countries. This leads to capacity building of domestic (Canadian / US) NGOs and of local NGOs in aid recipient countries.

Collaboration between Japan's ODA and NGOs has only recently started, and there are a number of things we can learn from abroad. However, it is a great step forward that new schemes involving both Japanese and local NGOs can directly participate in ODA activities, on top of the previously existing system of providing research and technology for the governments of developing nations. The implementation of such new schemes is not so easy and there will be a lot of difficulties encountered. However, if effective development activities can be achieved with ideal levels of collaboration between official aid agencies and NGOs, impact on the future aid activities for developing countries would be very significant. Given the mounting criticism of ODA, much effort has to be made in order to realize ideal aid activities.

MoFA

***Subsidy System for NGO Projects (FY1989-):**

Financial support for Japanese NGOs' development aid activities. Up to a half of development aid funds can be subsidized. Activity areas eligible for this scheme include rural development, human resource development, women's self-support, health and hygiene. JPY1.2 billion / FY1997 (supporting 116 NGOs, 224 projects) ***Grant Assistance for Grassroots Projects (FY1989-):** Direct financial support from Japanese embassies abroad for small-scale projects undertaken by local authorities, research and medical institutes or NGOs in developing countries. Japanese NGOs that are continuously working in developing countries can also be supported under this scheme. JPY 5 billion / FY1997

***Insurance and support scheme for international volunteers (FY1994-):** Insurance subsidy scheme for volunteers working abroad in case of natural disaster or accident. This in part acts as support for NGOs.

***NGO / MoFA Consultative Committee (FY 1996-):** A forum to discuss NGO support strategies, ODA basic policy, ODA reform etc. various ODA-related issues.

JICA

***Community Empowerment Program (FY1998-):** Aimed at improving welfare at the grassroots level. Model projects of community-oriented activities through local NGOs are implemented by JICA local offices. Activity areas are in the field of social development, including: community development; support for senior citizens, disabled citizens and children; health and hygiene improvement; promotion of women's self-support; improvement of living environment; human resource development; and promotion of local industries. JPY500 million for FY1998 (supporting 30 projects).

***Partnership Program with NGOs (FY1999-):** Part commission of project activities to NGOs, universities, local governments or think tanks. The project has to be more than one year in duration but no more than three, and applications are invited either through public advertisement or public announcements. Activity areas include: issues of social development as above; issues in the field of environmental support including plantation, pollution, environmental conservation; issues in the field of intellectual support including support in transitional economy, policy development, legal development, organizations & systems establishment, professional training. FY1999 budget JPY 200 million (supporting eight projects).

***NGO Staff Training Project (FY1983-):** Training for NGO staff and those who are working in the field of development at the grassroots level.

***Consultative Committee and Mutual Training Session between NGOs and JICA (FY1998-):** Regular meeting as a forum for promoting mutual understanding and learning development assistance strategies from each other.

Part 2: The Demonstration Project of Large-Scale Desert Greening by PEC

This time we would like to focus on two parts of the above project which were reported in the last issue, namely (1) development of water treatment technology in Riyadh and (2) sewage treatment technology in Khafji. According to the Saudi Arabian Ministry of Planning, the annual water consumption of the entire country is estimated to be approximately 18 billion tons. Of this only 0.7 billion tons are supplied from desalination facilities which convert sea water into fresh water. Almost all the rest of water demand is met purely with ground water. However, with the increasing population and development of industries, serious problems have emerged in respect with the use of ground water, such as the depletion of water table and an increase in salinity of ground water. On the other hand, water from desalination plants costs \$3 per ton, which amounts to \$ 20 billion annually, for only 4% of the total water supply in the country. In addition to this, there are costs for transporting water from the coastal desalination facilities to inland cities. Given this situation, water recycling has come to draw attention as one efficient way of water utilization. Proper treatment and recycling of waste water in urban areas would bring about the same beneficial effect as developing new water resources. The waste water treatment process consists of two stages. The first stage, known as solid-liquid separation, consists of the removal of Suspended Solids (SS) and solid sedimentation. The second stage of treatment which removes organic substances by dissolution uses the digestive enzymes of microbes. In addition, there is a third stage of high-level treatment, which removes substances which cannot be completely removed in the first two stages treatments, such as nitrogen and phosphorus etc. They are removed by a coagulating sedimentation method, rapid filtration, and membrane separation.

In Riyadh an experimental plant is being constructed for such waste water treatment. Here at the first stage, waste water will be treated by aeration, waste removal by screening and a settling method that uses coagulation sedimentation to produce treated water (10-12 t/d). At the second treatment stage SS will be removed by activated sludge process, and Micro Filtration (MF) membranes. The third, high level stage of treatment is conducted using Nano Filtration (NF) membranes and low-pressure Reverse Osmosis (RO) membranes that are used in food processing. It is expected that with this experimental plant, appropriate filtering systems, the quality of treated water and various conditions for running such a waste water treatment plant can be studied.



Photo 1

On the other hand, at the sewage treatment plant in Khafji, waste water which has gone through the first treatment stage in a lagoon (3,000t/d, presently discharged into the sea) will be further treated at the second stage with the help of microbes, combining the technique of bio-module contact sedimentation technology with biological contact filtration technology (Photo 1). In addition, at the stage of high-level treatment, salt contained in the waste water is removed by the energy-efficient low-pressure RO filter which is used for desalination (Photo 2). The water thus treated (300t/d) is in turn supplied to the greening experiment plot as irrigation water. In Riyadh, research and development activities focus on the examination of the most appropriate operation technologies for each filtering technique, sanitation and economic evaluation of water treatment, etc. On the other hand, in Khafji, research and development activities focus on the improvement of quality of treated urban waste water by the second stage treatment using microbes, to the standard level required for irrigation water in Saudi Arabia. Also work focuses on the durability of RO filters and their cleansing method; measures against fluctuation in total dissolved salt (TDS) and load variation; development and experiments into treatment methods of water discharge from microbe treatment facilities and RO condensed waste water, etc.



Photo 2

At the PEC Gulf States Greening Seminar held at the Kuwait Institute for Scientific Research, the relationship between the issue of sewage water treatment and the particular Muslim concept of uncleanness was discussed. To sum up, the dominant view was that there would be no religious objection if the water is 'clean' from the hygienic point of view, after a thorough treatment including sterilization using chlorine. However, in UAE people dislike mist-form water sprinklers, and even with no scientific problems some psychological obstacles seem to remain.

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.



Radishes planted next to watercourses



French bean cultivation using coconut branch supports



Pakistani father and son working in the farm