

JICA Tsukuba's challenge: exploring vegetable marketing training methods

In developing countries, information on techniques to increase productivity of agriculture is limited. In addition, even though production is expected to meet market needs for increasing incomes, one cannot say that there is sufficient effort to nurture extension workers who can provide sufficient and appropriate levels of support to farmers. It is urgent to nurture human resources that can play a leading role in agricultural development. With this background, a marketing method module was added to the Group Training Course on Vegetable Cultivation Technology for Small Scale Farmers at JICA Tsukuba. The year of 2013 is the first year of the marketing method module and we would like to introduce the progress here.

We explained that Japan's vegetable cultivation technologies are based on market needs, and aim to increase business sustainability by providing product which responds to the needs of various customers with different demands. In addition to promoting vegetable cultivation technologies for different families of vegetables, the marketing method module included a field survey at a large scale supermarket to find out the reality of vegetable sales at retail points. This field survey aimed to show examples of how appropriate technologies have been developed directly responding to market needs.



Survey on vegetable sales

Participants conducted visits to farmers from April as they planted cabbage, potato and tomato. In these visits, they learned vegetable cultivation techniques on farms, and enhanced their understanding on how agricultural cooperatives work – how their shipping section keeps vegetables fresh, and how they promote sales and marketing. Then, we conducted visits to a public wholesale market, which is a major distribution point. In this visit the participants increased their understanding of the functions and roles of public markets in relation to distribution of goods to consumers, and on health and hygiene inspections to ensure safety and security of product. The participants also visited roadside farmers' markets which are one of the existing sales channels, learning about various sales promotion methods (product lines, pricing, packaging and display methods).



Kobe city's public wholesale market

The training course was designed to enable participants to learn how to understand market needs, product distribution, price setting methods, sales and farming business management methods. With regards to

marketing, it is possible to communicate basic points through lectures and visits, however for participants who have little experience with actually cultivating and selling vegetables, what we teach tends to remain theoretical. Therefore we also conducted a "direct sales practical session" providing the participants either the opportunity to learn from first-hand experiences.

Items sold at the direct sales market were cabbage, potato, onion, sweet corn and tomato, which were all produced by the participants. The sales were conducted in late June. Participants calculated the production cost, and determined direct sales price conforming with the price trends at the public market. They measured the weight of vegetables and packaged them in sales units. Furthermore, in order to promote sales, they created vegetable exhibits and information displays that explained the features of the vegetables. They prepared sales talks about the vegetables they cultivated for customers, creating a memo based on their advanced research on cultivation and cooking methods, rehearsing the talks in advance.

Many comments were heard from the participants after the direct sales session: "I could understand the consumers' view point about seeking safe vegetables." "My main duty at work is research and testing, but I felt that it was very important to understand consumer needs when developing vegetable production technologies that lead to producers' benefits." "Calculation of production costs and a method for determining sales prices are very useful for my work."



Attracting customers by wearing red polo shirt to promote tomato

At the end, we introduced marketing related activities that are currently under way in developing countries through JICA technical cooperation program. We asked the participants to analyze the case studies using the 4P framework (Product, Place, Price and Promotion) which is a key marketing concept. Through these activities, the participants could deepen their understanding on information collection and sales promotion activities that should be conducted before and after production, and development of vegetable cultivation technologies that respond to their own country's market needs to increase farmers' incomes. We hope that this will enable the participants to be able to utilize the 4P view points in their work in a balanced fashion and to take a leading role in guiding the farmers in their daily work.



Analysis of project cases using the 4P framework

(By Hasegawa, November 2013)

From the frontline of environmental education <Part 5>

KEEP Association

KEEP (Kiyosato Education Experiment Project) Association

The KEEP Association started its environmental education activities in 1983. Currently, it runs the Yamane (Japanese dormice, *Glirulus japonicus*) Museum and Yatsugatake Nature Center, which offers a variety of nature programs at the St Francis Discovery Center, and nurtures guides and leaders at the Forester's School.

As the Green Entrance to the Woods

The Yatsugatake Nature Center offers many displays and program to enable the visitors to learn about Yatsugatake's nature and culture while having fun. The center is aiming to be literarily the "Green Entrance to the Woods" so that visitors are instantly interested in forests. In addition to this introduction role, the center has stepped up its capacity to offer a variety of paid residential programs such as the Yamane School, the Forest Therapy course, and the Enjoy Forest Weekend Patrol.

Collaboration with Private Companies and Schools

Apart from these various programs, the KEEP Association can sometimes also provide tailor-made programs for specific companies and schools. Such collaborative programs with private companies are often an integral part of their employee volunteer program or part of their Corporate Social Responsibility (CSR) or employee training. Collaborative programs for schools are largely part of their nature studies or outdoor schools.

An important point with this kind of collaborative program is to develop a program based on clear objectives that are thoroughly discussed and agreed through an initial meeting. Moreover, it is also important to increase impact of the programs by close post-program follow-up, and by linking the program with actual actions. They sometimes deliver lectures at school as post-program study.

Human Resource Development Program

In addition to the implementation of these environmental education programs, the KEEP Association works to nurture future leaders who can conduct the programs. The "leaders" are categorized in three types, namely an actor (interpreter), a script writer (planner) and a producer (project manager), and training is conducted in participatory workshop format.

Further to the leader training, in order to nurture future leaders, the KEEP Association also accepts interns, fostering human resource development through one-year On the Job Training (OJT).

Interpretation to Communicate

A KEEP Association's nature observation outing is not a passive session whereby they teach the name of observed species to participants, saying "This bird's name is XXX." Rather the outings aim to create opportunities to learn about the wonder of nature and how to strengthen association with nature, through first hand experiences fully stimulating and utilizing the five senses of participants. By doing this, the outings provide the participants with a trigger/an impetus for concrete actions to tackle environmental issues by gaining awareness of the issues and identifying entry points for solving them.

Therefore, the interpreters are expected to be able to plant a strong message in the participants' minds through the outing experience, responding empathetically to their discoveries and excitement. For this, the interpreters cannot be simply nature guides. What is required is for the interpreters to have good communication skills to be able to connect between nature and people and between individuals. The KEEP Association is working towards nurturing such interpreters through its operations.

"It is not half so important to 'know' as to 'feel'."
(From *The Sense of Wonder*)



Entrance to the Yatsugatake Nature Center



Guided walk to learn about forests



Training course on nature interpretation

Water saving irrigation extension tools in Syria <Part 5>

In part 4 of this series, we introduced the irrigation notebook as a tool for farmers to understand the conditions of their farmlands. In this part we will discuss the digital irrigation note, which is the next version of the irrigation notebook. The digital irrigation note is an IT program which allows automatic computer compilation and calculation of the information and records that were entered in the irrigation notebooks. It can also conduct simple farm business analysis, generating graphs.

As discussed in the previous part of the series, it is essential for farmers to keep records in the irrigation notebooks, in order for them to achieve water saving irrigation in agriculture by themselves. However, daily recording in the irrigation notebooks is not necessarily easy for farmers to continue, as it is monotonous work and difficult to see the immediate benefits. Therefore trying to incentivize farmers to diligently record information in the irrigation notebooks was always our major challenge. Our conclusion was to encourage farmers to become genuinely interested in using the notebooks. For this we thought it would be important to let the farmers immediately know the progress achieved by using the notebooks. This led to the development of the digital irrigation note using computers.

The digital irrigation note is a program using spreadsheet software. By entering records from the irrigation notebook, it can automatically calculate irrigation water amounts and fertilizer amounts, and farmers can instantly check these in graphs. Moreover, by entering specifications such as crops, regions, and irrigation methods, the program can generate monthly recommended irrigation water amounts and the correct duration of irrigation. By inputting soil analysis results, fertilizer amounts recommended officially by the Syrian Ministry of Agriculture are automatically calculated. Furthermore, if you enter harvest amounts and production costs, benefit of the cultivation is generated

which is similar to the analyzing sheet in the irrigation notebook.

The ultimate aim of the digital irrigation note is for farmers themselves to use it. However few farmers had a personal computer and could use it in those days. Therefore, as an initial step, we decided to distribute the digital irrigation notes to extension workers for them to enter information from farmers' irrigation notebooks. Extension workers and farmers formed a pair and worked jointly on recording information in the notebooks. In this way, the extension workers could continuously monitor the conditions of the farms, and could provide appropriate advice to the farmers based on information from the digital irrigation notes including the duration of irrigation.

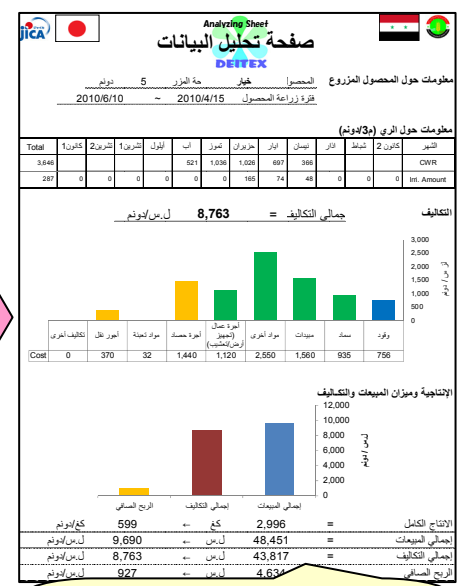
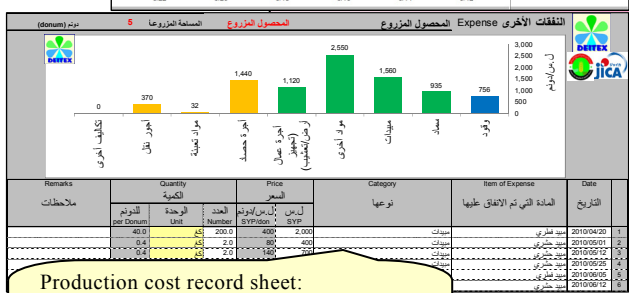
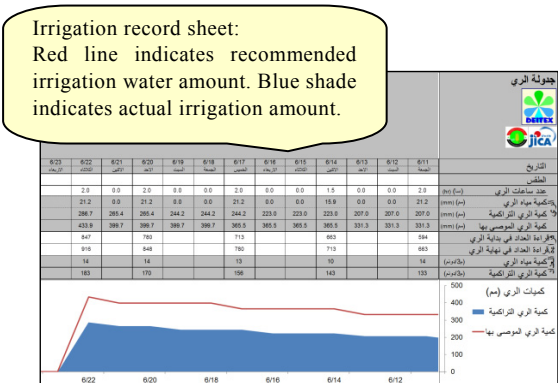
In the beginning, these activities only targeted our project's demonstration farmers. However it was a hopeful and fun project with some extension workers taking an initiative to expand the number of target farmers, and with some farmers coming forward asking to use the digital irrigation notes.



Providing guidance to extension workers on how to use the digital irrigation note



Explaining printed record results to farmers



Analyzing sheet: Profits are calculated based on the harvest and production cost.

Reports on activities of ex-participants from Central America <Part 3>

As the third report on activities of ex-participants from Central America, in this chapter, we would like to report on 4 ex-participants whom we visited in Nicaragua.

Mr. Leonel Pineda Reyes - Participated in the Vegetable Cultivation Technology Course II in 2006

Leonel was a research staff at the Farming Technology Institute of Nicaragua (INTA). In the training course in Japan, he conducted a research focusing on potato. He was very enthusiastic about implementing his action plan after returning to his country. However due to a major reduction of the budget for the institute, it became difficult to even maintain his core duties let alone implement the action plan. He became fed up with the situation and left INTA at the end of 2007, and joined an agricultural material company. He really liked his research job and was very unhappy to change the job that time, however, he has been using what he learned in Japan in his current job. His current job is to provide technical support when the company sells materials and equipment to farmers. He said his advice related to fertilizer application design based on soil analysis, cultivation management and pest and disease control is often based on what he had learned in Japan.

In his case, although he has changed his position from the government to the private sector, we could feel that his experiences in Japan are contributing towards agricultural development in Nicaragua.

That day, he invited me for dinner at his house. He showed me the photos from the time of his training in Japan and talked about his memories. His children greeted me in Japanese falteringly and courteously. I could feel that he and his family really like Japan.



Leonel and his family loving Japan: The son said he would love to go to Japan some day and twinkled his eyes.

National Autonomous University of Nicaragua – Leon (UNAN-Leon)

We accepted three participants – Mr. Miguel Barcenas Lanzas, Mr. Jorge Luis Rostran Molina and Mr. Adrian Catin Chiong – from this university during the period 2007-2009. They are teachers and field practice coordinators at the agricultural ecology research section and teach around 150 students.

They have been utilizing experiences from the training in Japan and cooperatively conduct experiments and research activities. They developed an original Kuntan (rice husk charcoal) maker and steam soil sterilizer, in conducting banker plants and training/pruning trials, and other varietal experiments.

They remarked that varied Common Experiments were a particularly good experience for them in the training

curriculum in Japan. Because they conduct research activity and also teach students at the university, it is important to establish experiment design properly, evaluate results exactly, and to transfer them to the students in an appropriate way. They could gain new viewpoints through the experience of Common and Individual Experiments in Japan.

What they are focusing their energy on is experiments with tomato seedlings. In their area, it was common for farmers to plant tomato seedlings in the main farm at the stage of three true leaves development however, they noticed that already grown large seedlings with the first flower are planted in the main farm in Japan. They are expecting to expand the growing period by using large seedlings. Already, they have started preparing media for raising seedlings, however, have not found appropriate plastic nursery pots for nurturing large seedlings in Nicaragua. They are trying plastic wrap which is used for fruit seedlings, however, it isn't able to keep sufficient soil for root balls formation. One challenge for them is to find a nursery pot substitute. In order to prevent ex-participants stopping their activities because of small obstacles like this, it is necessary to establish a system to continue supporting ex-participants after their return to their own countries.

In the university environment where research and education activities can be conducted simultaneously, it seems possible to actively and effectively utilize the experiences in the training in Japan. In addition, the ultimate beneficiaries of their activities are young people who will be working in agriculture in Nicaragua and related field. Therefore, the ripple effects of their activities are considered significant. Furthermore, in the case of UNAN-Leon, the three ex-participants have been collaborating to utilize experiences gained during training in Japan, which have been leading to notable achievements. This case indicates to us that it is effective to deliberately accept several participants from the same workplace or in related organizations within a training scheme with a view to effectively internalizing training achievements in their own work after returning to their jobs.



Kuntan was produced in the drum. Kuntan is used mixed with planting soil.

Soil is put into the blue drum. Water is boiled in the black drum in front and steam is sent to the blue drum via a pipe. The innovation of the three ex-participants in UNAN is remarkable.

