

Chapter 5: Initiatives of SHEP and SHEP UP

- Capacity development of small-scale farmers¹ for increased responsiveness to market needs

Jiro Aikawa²

1. Background Leading to A Market-oriented Approach

According to the World Development Report 2008, the poverty rate among farmers is affected by access to market, along with other factors such as climate. The Report features improvement in market access and promotion of market participation by small-scale farmers as important poverty reduction measures. To realize these, the Report called for measures to improve farming techniques, sustained water and soil management, improvement in public extension services, capacity development of human resources, and infrastructure development.

Governments and development partners are realizing that group marketing, rather than individual marketing by small-scale farmers, encourages market participation. A hurdle discouraging farmers' participation in the market is the information gap between the marketers and farmers. These market players have abundant information about product supply and demand – information many small-scale farmers don't have access to.

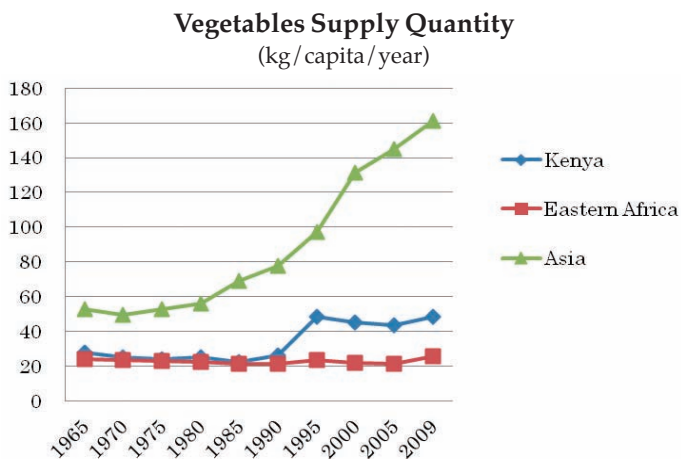
Supply of and demand for horticultural products tend to increase with economic growth. Kenya's GDP has grown more than other African

1. The term "small-scale farmers" as used in this chapter refers to farmers with a farmland ownership of less than 2 hectares following the term's usage in Kenya. In the projects that will be discussed in the chapter, the average area of farmland owned by the target small-scale farmers and dedicated exclusively to horticultural crops was less than 0.4 hectares.

2. I would like to thank Ms. Etsuko Ikeda and Ms. Fumie Saijo of OPC as well as Ms. Hiromi Ikeda of HANDS for the data for the tables and figures for this report. Mr. Naoki Hashimoto, Ms. Harue Kitajima and Mr. Mitsuhiro Kato, JICA experts of the SHEP UP, contributed to the paper by providing the author with a variety of information. I would like to take this opportunity to thank them.

countries, and likewise the supply of vegetables has grown more rapidly than in other East African countries, a trend comparable to the vegetable supply trend in Asia since the 1990s (see Figure 1). The recent increase in demand for horticultural products in Africa seems to have been due to the diversification of food consumption brought about by the economic growth and increasing middle-income consumers.

Figure 1. Change in supply of vegetables in Asia, Eastern Africa, and Kenya



However, farmers have certain problems: compared to grain production, horticulture is labor-intensive, requiring finer techniques and bigger inputs, e.g., seed, fertilizer and pesticides, though its land profitability is high if properly managed. The selling prices of horticultural products are affected by market fluctuations because of low storability. On the other hand, horticulture is important not only as a means of developing cash crops, but also as a means to improve people's nutritional condition.

Thus, some African countries stress the need for converting from the subsistence-oriented approach into more commercially oriented agriculture. For example, Kenya has formulated a policy for "modern and competitive agriculture based on innovation and commercial thinking" in its "Agricultural Sector Development Strategy (ASDS) (2010-2020)", aimed to "strengthen competitiveness of agricultural products and business, improve productivity and promote commercialization." In addition, the policy of the Ministry of

Agriculture of Kenya advocates “Farming as Business”. Among the various challenges in improving small-scale farmers’ market access, their *capacity development* (discussed in the subsequent sections) is an important factor.

2. Overview of SHEP and SHEP UP

Background for the implementation of the projects

Horticulture is a promising sub-sector of Kenya because of the country’s favorable environment. According to data from the Horticultural Crops Development Authority in Kenya, the sector has achieved an average annual growth rate of 20% since the 2000s.

However, the producers, and particularly small-scale farmers, who produce more than 60% of horticultural products traded in the country, are facing problems: weak organizations, low production, limited marketing channels, unstable selling prices, and underdeveloped production infrastructure, so their income remains low (Dolan 2010).

In order to improve the situation, the Kenyan Government conceived the idea of a project to address these challenges, and requested the Government of Japan to implement a technical cooperation project aimed at strengthening the organizational management capacity of small-scale farmers. Thus, the “Smallholder Horticulture Empowerment Project” (SHEP) was launched in November 2006.

Overall, the SHEP has been successful, doubling the income of targeted small-scale farmers through activities such as market surveys by farmers, strategic selection of crops to plant, development of action plans by farmers’ groups, and technical assistance.

Encouraged by the effectiveness of the project’s model, the Kenyan Ministry of Agriculture set up the “Smallholder Horticulture Empowerment and Promotion Unit” (SHEP Unit). The objective was to support small-scale horticulture farmers using the SHEP project model. In support, Japan, through JICA, has been implementing a five-year technical cooperation project: “Smallholder Horticulture Empowerment and Promotion Unit Project” (known as SHEP UP³), since 2010. This

3. The initiatives and outcome of the SHEP and SHEP UP were presented in the Camp David Accountability Report of the G8 held at Camp David in 2012.

project aims at the organizational development and capacity development of the SHEP Unit.

Activities of SHEP

The SHEP project was implemented for three years from November 2006 and covered areas from the western and central part of Kenya: the counties of Bungoma (Western Province), Kisii (Nyanza Province), Nyandarua (Central Province) and Trans-Nzoia (Rift Valley Province), chosen because of the widespread poverty therein despite their high potential for horticulture cultivation. The Kenyan organizations responsible for the project were the Horticulture Division under the Ministry of Agriculture, and the Horticultural Crops Development Authority.

The project aimed at developing the capacity of smallholder horticulture farmer groups and verify if it actually brought about the net income increase of the members of the smallholder horticulture farmer groups supported by the project.

The initial step of the project was to sensitize the stakeholders to the project's idea and familiarize them with the market-oriented approach (the SHEP approach). To do so, the project organized "Sensitization Workshops," where briefings were given to the participants, including ministerial officials, provincial, district and divisional staff, extension officers, and targeted farmers.

Next was to survey the condition of the horticultural production of the area as well as the farmers' capacities. The survey collected data on horticultural crop production,⁴ production techniques,⁵ and the farmers' groups' capacity as an organization.⁶ This survey provided data for the project and an opportunity for the farmers to be better acquainted with their own farming and for the groups to understand their current status. Secondly, the project organized opportunities where the model farmers' groups and stakeholders related to horticulture could meet in the "FABLIST Forum: Farm Business Linkage Stakeholder Forum." The

4. Such as on cultivation area, yields, production costs, sales prices, and income by crop planted in the previous year.

5. This covered various aspects of production techniques being used by the farmers.

6. This measured the current level of organizations, using Group Empowerment Indicators (GEIs), which allows the evaluation of organizational capacity in terms of leadership, cooperation among members, and gender structure.

stakeholder participants included suppliers (seed, fertilizer and agro-chemical and agricultural equipment companies), agro-processing companies, financial institutions, agricultural research institutes, retail lenders, government agencies and NGOs. Each of them displayed products and provided information. The farmers' group representatives and extension officers visited the booths to hold business talks and understand the horticulture market environment. Stakeholders were provided with profiles of the participating farmers' groups⁷ and vice versa. This was intended to facilitate exchange and interaction among the participants.

After the forum, the project held a "Joint Extension Staff and Farmers Dual (2) Gender Training" (JEF2G Training) targeted at the representatives from model farmers' groups and extension officers. Since women were responsible for about 70% of the farming activities, the same number of men and women were to be invited from the model farmers' groups. The program mainly focused on training comprising modules such as market survey, crop selection, problem analysis and gender awareness training.

After the training, "Group Exercises" were held to put into practice the lessons learned. These group exercises consisted of performing a market survey led by the farmers' representatives who had taken part in the training with the assistance of an extension officer. Based on the survey results, the participants selected what crops to produce, and formulated an action plan for marketing them at reasonable, profitable prices.

Subsequently, the project organized the "Facilitators' Training for Farmers' Demand-Driven Extension" to provide extension officers with the knowledge and techniques needed to support the model farmers' groups in putting into practice the action plans.

The training even contained modules on road maintenance using sand bag technology: it was included because the participators had to know how to maintain roads, which often deteriorate during the rainy season. Implementation of road maintenance was positioned as part of the project outcome, and thus it was encouraged as a village-wide activity involving local communities led by the model farmers' groups.

In this manner, capacity building of extension officers was performed through demand-driven technical training to meet the needs of the farmers' groups.

7. The data included the name of the group, location, number of farmer members, contact information, cultivation items, yields, income, all collected from the Baseline Survey.

After the training, the trained extension officers began teaching the techniques learnt to the model farmers' groups to help them materialize their action plans. This was done through "In-field Training," allowing the farmers to acquire the knowledge and techniques needed for the production of the crops selected.

Taking nearly a year, the activities were implemented in two periods, dividing the farmers' groups in the 4 target counties into two groups of 42 and 80. The number of farmers of each group ranged between 15 and 50, with the average being 24. The project monitored the status of production and cultivation technique of horticultural crops of the model farmers' groups in a manner similar to the baseline survey.

Activities of SHEP UP

The SHEP Unit supports small-scale horticulture farmers through activities developed in the SHEP. JICA has been supporting the SHEP Unit since its establishment with a project called SHEP UP.

Activities developed in the SHEP are now being implemented in the country's 8 provinces in 4 cycles, with 2 provinces being covered per year. In each province, the activities cover 10 districts. These districts were selected based on the scores they got on the submitted proposals. Each district had five target farmers' groups.⁸ To promote the replication of the SHEP approach, the project envisaged that the district staff would implement activities on their own, using the resources of the district and provide support for other farmers' groups, and by working together with the SHEP Unit.

Two new practices have been introduced since the implementation of the SHEP UP. One had to do with the selection of the target districts. Before, they were selected by the central government on certain criteria without involving district staff. Since the SHEP UP, however, a new system was introduced whereby interested districts must submit a proposal to the Provincial Director of Agriculture. The proposals were evaluated by the SHEP UP in accordance with criteria including the interest and motivation of district staff, depth of understanding of the SHEP approach, and the district's horticultural cultivation potential. The final

8. This seemingly small number of farmer's groups per district is due to the size of each district being reduced through the country's administrative reform.

selection decision was made by the Selection Committee in the Provincial Agricultural Office.

The second new practice was the “Organizers’ Training on the Basic SHEP Approach,” aimed at the staff of the selected districts. It is mainly intended to provide training on the SHEP Approach planning and implementation of the activities, and the development of a work plan and budget for the continuous implementation of the activities. As part of the training, district staff visited high-performing model farmers’ groups. On the final day of training, the participants took the “Examination on the Basic SHEP Approach.”

While there has been no fundamental change in the structure of activities developed by the SHEP, the contents have been revised on-site. By the end of 2012, around 460 farmers’ groups have taken part in the project in 60 districts and 6 provinces.

The table below shows a summary of the SHEP and SHEP UP.

Table 1. Smallholder Horticulture Empowerment Project (SHEP) and Smallholder Horticulture Empowerment and Promotion Unit Project (SHEP UP)

	SHEP	SHEP UP
Period	November 2006 ~ November 2009 (3 years + a follow-up period of 4 months)	March 2010 ~ May 2015 (five years)
Target area	22 districts (4 provinces), mainly in Western Kenya	80 districts across Kenya (basically 10 districts each from 8 provinces)
Target farmers	About 2,500 (122 groups)	About 20,000 (640~800 groups)
Implementation institutions	SHEP team composed of 6 dedicated staff assigned from the Ministry of Agriculture and the Horticultural Crops Development Authority	SHEP UNIT (12 dedicated staff assigned by the Ministry of Agriculture and the Horticultural Crops Development Authority) of Horticulture Division, Directorate of Crops Management of the Ministry of Agriculture
Overall goal	Improved livelihoods of smallholder horticulture farmers in the target districts	Livelihood of horticulture smallholders in implementing districts is improved.
Project goal	Developed capacity of the smallholder horticulture farmers' groups supported by the Projects.	Effective support system for horticulture smallholders nationwide is established.
Outcome	<ol style="list-style-type: none"> 1. Target groups (smallholder horticulture farmers' groups) gain bargaining power in marketing their produce. 2. Target groups increase the production of better quality crops. 3. Target groups develop capacity to improve rural infrastructure for production and transportation. 	<ol style="list-style-type: none"> 1. The SHEP Approach is adopted by the Unit and become ready for implementation. 2. Farmers' groups' income from horticulture produce is improved. 3. The SHEP Approach is properly replicated by the implementing districts based on the Outcome 2. 4. Information Management System for the SHEP Approach is established.
Characteristics	Development and implementation of a series of approaches from organizing to productivity improvement for improving horticultural-related income of small-scale farmers.	Provision of support to the SHEP UNIT established by the Ministry of Agriculture of Kenya to spread the SHEP approach across the country.

3. Survey on Income from Horticulture in the SHEP

1) Method (baseline survey and periodical monitoring)

The project started with a baseline survey targeted at 3,623⁹ individual farmers belonging to 154 farmers' groups in the target counties. It was conducted in May and June 2007, 7 months after the launch of the project. The survey was intended to obtain data on a sampling basis to understand the current condition of the areas at the beginning of the project, where most of the farmers were engaged in horticulture as their primary farming activity. The survey items included cultivation area, yield, selling prices and costs of horticultural products grown in the previous year as well as income from them. The survey was conducted by the district staff in the target areas and they were assisted by their project counterparts.

The final monitoring was carried out in October 2009 just before the termination of the SHEP project period. The survey covered a total of 2,177 individual small-scale farmers belonging to 114 of the 122 model farmers' groups from which data could be obtained in a similar manner to the baseline survey. About 80% of the 114 farmers' groups, that is, just over 70% of the 2,177 farmers, had been covered in the baseline survey.¹⁰

2) Results

As shown in Table 2, the average per group horticulture-related net income of the 154 organizations that took part in the baseline survey was 536,257 Ksh, and the average per farmer net income of those who belonged to these groups was 22,642 Ksh. In October 2009, the average per group horticulture-related net income of the 114 organizations was 900,030 Ksh, showing a 67% increase over the baseline survey; while the average per-farmer net income was 47,131 Ksh, showing a 106% increase over the baseline survey. While income increased for both men and women, the gap between them fell from 31% at the time of the baseline survey to 15%¹¹ at final monitoring.¹²

9. In the Baseline Survey, farmers not belonging to the groups or farmers with poor activity results also took part. So, there is a difference in the total number of farmers before and after the survey. That is, the Baseline Survey data is an average including members of the model farmers' groups and non-model farmers' groups.

10. As some names were illegible, the number is approximate.

11. Husbands and wives cultivated and owned different farmland. Generally, husbands cultivated crops with high cashability and wives grew crops for subsistence.

12. A gender survey conducted after the start of the project revealed that many farmers had a separate household budget according to gender.

Table 2. Horticulture-related net income:
per farmers' group and per farmer (men and women) (Ksh¹)

	Farmers' Groups	Farming households	Men	Women
Baseline Survey (May and June 2007)	536,257 (154)*2	22,794 (3,623)	26,642 (1,940)	18,359 (1,683)
Final Monitoring (October 2009)	900,030 (114)	47,131 (2,177)	50,221 (1,111)	42,711 (1,066)
¹ Exchange rate as of January 2013 (1USD = 84.5Ksh) ² The numbers in parentheses shows the number of farmers' groups and that of farming households				

4. Essence of Success of the SHEP

Though incomplete in the absence of control groups, the simple analysis above indicates the likelihood that the SHEP has been useful in improving the net income of farmers who participated in the project. Based on that assumption, the following sections will try to identify the factors that may have been behind the performance of the farmers practicing the SHEP approach; they are: the introduction of market-oriented agriculture, improvement of farming efficiency, introduction of appropriate techniques, and the utilization of existing administrative structures.

1) Introduction of market-oriented agriculture

First and foremost, it was the introduction of market-oriented agriculture that seems to have been very effective in improving the net income of the farmers. The most fundamental change was observed in the farmers' mindset. With the project, the farmers' attitude toward marketing was transformed from passive to more positive, or from the one based on the mindset of "harvest (crops) first and then sell", to the one based on the mindset of "harvest (strategically) to sell." To nurture such attitudes, the project encouraged the farmers to conduct market surveys and problem analysis as well as to create action plans by themselves. To that end, the project encouraged the farmers, for example, to consult on their own such materials as "A Market Facilitator's Guide to Participatory Agro-enterprise Development"

(Ferris, et al. 2006) of the CIAT (The International Centre for Tropical Agriculture), rather than directly feeding them with periodical market information.

Especially, the market survey was found quite instrumental in helping the farmers. According to the final evaluation report prepared at the end of the SHEP, 56% of 276 farmers and 70% of 40 extension staff responded that they found the market survey important as a technique to help increase income (JICA 2012). Actually, the market survey received the highest evaluation score among the 15 training contents evaluated by the respondents. The market survey enabled the target farmers to know what crops are selling best, how prices fluctuate by season and how much of their products of what quality can be marketed at what timing. Through market surveys, farmers also became acquainted with multiple buyers to deal with. Based on such knowledge, farmers started to select crops that they believed would yield greater profits and to decide when to produce them. In other words, they were now able to visualize potential buyers and expected profits when they start sowing. Being able to negotiate with multiple buyers, their position in relation to them also strengthened, and they became more organized, once they realized that collective marketing works to their advantage. There were cases where some groups of farmers, though unsuccessful at their initial attempts, eventually succeeded in increasing income through market surveys and cultivation of adequate crops. All this indicates that the introduction of market-oriented agriculture played a significant role in increasing the farmers' income.

2) Improvement in farming efficiency: an effective approach to gender and use

The SHEP emphasized gender-related activities, and at its initial stage, the project devised plans for gender-related activities.¹³ The project not only provided training opportunities to women who were responsible for more than 70% of horticultural work, but also encouraged men (husbands) who still had the upper hand in the household to understand the role of women in farming. That is, explanations with illustrations were provided to men about gender consideration and code of conduct that would benefit all the family members. In both the SHEP and SHEP UP, as part of gender-related activities, the project performed a series of awareness-enhancing exercises that included the introduction of a daily

13. This job was facilitated by Japanese short-term gender experts.

activity calendar and a list of gender-based division of labor in horticulture, and an analysis of access to and control of resources by gender. In order to overcome gender-related obstacles for increasing income, the project also encouraged the farmers' groups to develop their gender action plans. By providing training on family budgeting, the project also emphasized the importance for the husbands and wives to have talks about domestic finance. This helped the farmers to save money necessary for the next season such as fertilizer and seeds, and contributed significantly to their horticulture production.

According to the evaluation at the end of the SHEP, 40% of 276 farmers who responded to the questionnaire found gender-related activities as having contributed to the increase in production and income, giving it third place among the 15 training contents in terms of importance. The gender-related activities encouraged husbands, who used to be farm managers, and wives, who used to be laborers, to become management partners, and contributed to a fairer division of household labor among them leading to efficient farming (JICA 2012).

3) Introduction of appropriate techniques

Various techniques were introduced in the project. They were simple and applicable, using materials easily available to the farmers. In fact, in Kenya, a country where they have reached a certain level of technological know-how at the research station, the issue was not how to develop new technologies, but how to validate existing technologies from the farmers' perspective and put them to practical use. Based on this understanding, the project focused on the introduction of techniques that were "immediately usable the moment they were learned," such as the technique for correct planting using twine. The guidance on these techniques was provided jointly by Kenyan experts with abundant experience in horticulture-related guidance and Japanese experts who could provide advice from an outsider's point of view. Even when introducing technologies quite new to the farmers, the project made sure that they would be applicable with the materials and techniques already existing locally; such technologies included road maintenance using sand bags ("*Do-no*,"), fermented organic manure ("*BOKASHI*"), and easy-to-handle weeding tools.

In both projects, the policy was never to force the use of specific techniques from outside but to inspire the farmers to be motivated into

introducing new techniques before they are taught about the technologies. With this policy, the project saw steady introduction of new techniques by the motivated farmers, which resulted in the increase of crop yield. As shown in Tables 3 and 4, the yield of horticultural crops increased; for example, tomatoes in Bungoma County registered a 396% increase, and onions in Kisii County a 596% increase. The crop yield increased in other areas as well (Kitajima et al. 2011). These increases in yield significantly contributed to income increases for farmers.

Table 3 Change in yield by unit area in three key crops in Bungoma County

Item	April 2007 (kg/10a)	October 2009 (kg/10a)	Rate of Increase	(No. farmers' groups/total no. of farmers' groups) ³
Tomato	1,157.1 (±53.7) ⁴	4,577.0 (±429.9)	296%	17/30
Kale	876.1 (±16.5)	3,212.9 (±256.9)	267%	11/30
Onion	671.0 (±19.0)	799.9 (±170.0)	19%	9/30

³Number of farmers' groups that selected the above items as priority crops after the market survey.

⁴Mean ± standard error

Table 4 Change in yield by unit area in three key crops in Kisii County

Item	April 2007 (kg/10a)	October 2009 (kg/10a)	Rate of Increase	(No. of farmers' groups/total no. of farmers' groups)
Tomato	1,451.2 (±32.0) ⁶	4,250.0 (±333.7)	193%	16/31
Traditional Vegetable ⁵	607.6 (±2.8)	1,716.1 (±135.2)	183%	8/31
Onion	418.7 (±13.1)	2,189.5 (±380.1)	424%	6/31

⁵ Leafy vegetable called Black Nightshade.

⁶Mean ± standard error

4) Utilization of existing administrative structure (establishment of SHEP Unit)

Both projects were designed to fully take advantage of the country's existing administrative structure for extension services. This project's

architecture was chosen on the obvious assumption that the activities introduced by the projects would continue after the end of the project. By adding nothing new and complicated to the existing routines, this structure helped local administrators to continue pursuing their activities. At the time of the start of SHEP (2006), the flow of extension services consisted, from top to bottom, of the Ministry of Agriculture, Provincial Office of Agriculture, District Agricultural Office, Divisional Agricultural Office and frontline extension officers. The roles of each of these actors in the project were determined so that the project activities may not deviate from their respective day-to-day responsibilities.

In the SHEP, however, the project team was established as a special unit for the project made up of Japanese experts and full-time staff assigned from the Ministry of Agriculture. Just before the completion of the SHEP, the “SHEP Unit” or the “Smallholder Horticulture Empowerment and Promotion Unit” was established at the Ministry of Agriculture of Kenya. The mandate of the Unit is to support small-scale farmers across the country using the SHEP approach. The Unit will continue the project after the end of JICA’s involvement.

5. Philosophy behind the SHEP Approach

Use and application of the motivation theory

The basic concept behind the SHEP approach is the motivation theory. By applying it, the projects introduced a mechanism in which the roles and responsibilities of the different actors (from the Ministry of Agriculture at the top down to the farmers) are clarified, and to allow each of the actors to spontaneously undertake actions. This mechanism is consistent with the discussion going on in the international arena in recent years about ownership and capacity development.

The structure of the project activities has been based on the motivation theory of Deci et al. (1995) in order to guarantee that the project activities will continue and expand with increasing creativity, moving toward the achievement of the ultimate goal. Deci classified motivation into intrinsic motivation and extrinsic motivation and concluded that intrinsically motivated activities are sustainable. Amabile (1996) argued that while extrinsic motivation deprives people of creativity, intrinsic motivation leads to creativity.

In projects like SHEP, external actors like project staff and Japanese experts have no choice but to start by providing the people they work with with extrinsic motivation. Thus, assuming the arguments of Deci and Amable to be correct, the critical question was how to start with the provision of extrinsic motivation and shift to a situation where the targeted actors become intrinsically motivated and keep up their own creativity. To that end, the projects incorporated a variety of measures for each activity to encourage the smooth transition to intrinsic motivation. In the process, the following motivating factors were used: (1) self-determination: self-determination easily encourages subsequent development of ownership; (2) affinity motivation: creation of a mutual relationship encourages positive actions; (3) sense of achievement and feeling of competence: the sense of achievement that one feels after spontaneously solving a problem, and the feeling of competence that one feels when recognized by others when contributing to the continuation and further development of actions. It often happens that when an intrinsically motivated person receives an excessive reward from outside, the reward becomes his/her objective and the intrinsic motivation decreases (this is called the undermining effect). The project carefully planned its activities in such a way that the participants' intrinsic motivation would not be adversely affected; for example, material inputs were limited only to those cases where they were absolutely needed, like in the demonstration of technologies.

In this manner, the project's approach is based on the motivation theory and it was intended and designed so that an activity causes changes in a stakeholder's mind and behavior, and a chain of such changes will eventually make him/her intrinsically motivated. This transition of stakeholders from being extrinsically motivated to intrinsically motivated does not only contribute to the attainment of the project goal, but also to the securing of the sustainability of activities after the end of the project. Intrinsically motivated stakeholders, including the farmers and those who support them, will be able to tap their potential to the fullest, and to pursue their activities with creativity.

Design of activities in logical sequences

Having the motivation theory as its conceptual base, the project's activities were designed such that the individual activities form a clear and firmly connected chain of achievements and subsequent steps; in other words, the activities are sequenced so that once a participant

completes an activity, he/she is expected to have reached a certain level, based on which he/she will be facing a next activity step. Broadly, this consists of two steps. In the first step, a project participant is provided with an opportunity to raise his/her awareness. Such opportunities included, for farmers, for example, a match-making forum for stakeholders involved in the horticulture industry; the opportunity of conducting a market survey by farmers' groups itself constituted an opportunity to enhance their awareness of the outside world; and activities related to different gender-based roles in the household mentioned above also provided an opportunity.

The second step was for the participants to work out, based on enhanced awareness, a plan of action for improving the current situation and implement the plan. The project participants got assistance from the project in their plan-making and implementation of such plans. Through this series of events, including awareness building, planning of actions and their implementation, participants' capabilities were gradually strengthened (JICA 2012).

To make sure that this kind of sequence happens, SHEP and SHEP UP projects instituted a detailed work procedure that leaves no logical gaps between the individual activities or outcomes. For example, a farmer is presented with a visible goal such as an increase in his/her profit through the sale of horticultural crops. He/she will then be encouraged to steadily go forward by taking the steps to achieve the goal. Further, they were enabled to envision how, when and where their own crops will be traded through the match-making forum and market surveys. The project visibly displayed the steps to follow for achieving such goals, and provided the farmers with the necessary skills in taking such steps.

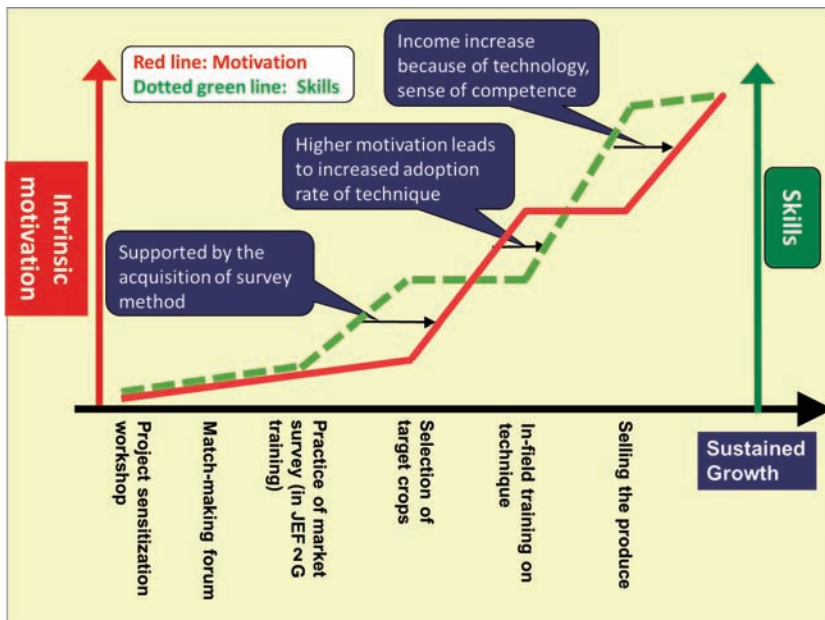
Using this kind of mechanism, overall, the projects provided the farmers both with the motivation and necessary skills to realize their targets. And that kind of steady support for farmers through the project was made possible by designing the activities in a sequence where the steps are logically connected with one another, as will be explained in the next section.

6. Internal and Behavioral Changes in Activities of the SHEP and SHEP UP

This section will look at how the individual activities of the projects helped, step by step, the cycle mentioned above: enhancing awareness and motivation, and acquiring skills to realize the goals. Detailed information is shown in the Appendix.

Figure 2 is a diagrammatic illustration of the development of farmers' intrinsic motivation and skills. The thick red line shows the enhanced intrinsic motivation formed in farmers by the series of activities described in the table in the Appendix, and the green dotted line, the change in their skills level. Initially, the progress of both the levels of intrinsic motivation and improvement in skills was slow, in the period from the Sensitization Workshop through FABLIST Forum (match-making) to the market survey practice in the JEF2G Training. Then, farmers' skills improve significantly when they conducted the market survey. Subsequently, farmers' intrinsic motivation was significantly enhanced when they determined, on their own, the target crops to produce based on the result of the market survey they had conducted. This, in turn, increased awareness and motivated the farmers to more thoroughly learn techniques in the In-field Training. When the farmers succeed in marketing their products, this successful experience further promoted their sense of competence, leading to even more enhanced intrinsic motivation. Thus, the whole process can be described as an interaction between enhanced intrinsic motivation and increased skills levels complementing and reinforcing each other, leading to sustained growth.

Figure 2. Relationship between farmers' motivation and skills in the SHEP Approach



7. The enabling Conditions for the SHEP Approach and Future Challenges

There are several conditions that enabled the SHEP approach to produce encouraging results.

First, the role of the Ministry of Agriculture of Kenya was significant in the success of the SHEP and the effective promotion of the SHEP UP activities. The Ministry of Agriculture of Kenya understood, up-front, that the key to success was the improvement of the abilities of the farmers and the staff of the Ministry. It was fully aware that it takes a certain amount of time for people's capacity to develop, including intrinsic motivation, and that any hasty and/or excessive provision of material incentives such as agricultural materials and equipment may actually hamper such intrinsic motivation/capacity development.

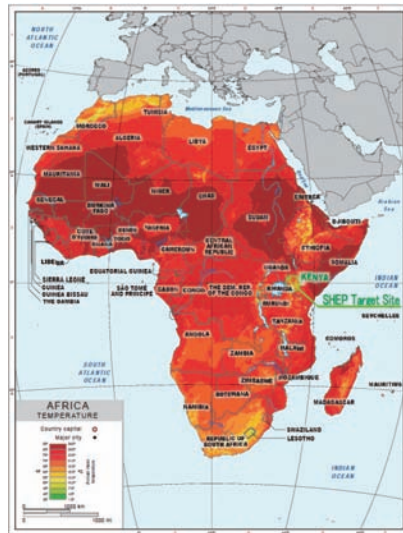
One lesson from this experience is that it is necessary for the government

to distinguish what to do or not to do. The government must have a clear vision on the roles to be played by the administration and farmers (private sector), to achieve long-term sustainable development. After all, agricultural support is a form of industrial support. For it to be effective, the administration must have a deep understanding how commercial agriculture works.

The SHEP approach, which has been successful so far in Kenya, may not always be successful in other conditions. Several factors seem to have worked behind the SHEP's performance. In the first place, in terms of natural conditions, the target areas were suitable for horticultural cultivation with respect to rainfall, sunshine, temperature and soil conditions (Figure 3 and Figure 4). Obviously, this approach would not have achieved the same results in more adverse conditions.

Figure 3. Precipitation in Africa and SHEP target areas

Figure 4. Temperature in Africa and SHEP target areas



Socio-economically, the target area had a high population density compared with other parts of Kenya or other African countries (Figure 5 and Table 5). A high population density means high intra-regional consumption, providing the buyers, brokers and processors with an advantage. It also made public extension services efficient. High population density allowed buyers, brokers and processors to purchase

products in bulk, and the administration to efficiently provide training opportunities to a large number of farmers. The number and quality of existing horticulture-related private enterprises, including brokers, is also an important factor to help drive the approach. In Kenya, which has a long horticultural industry history and high potential, private enterprises are conducting business to varying degrees, and that has helped the SHEP approach achieve its objectives.

Figure 5. Population density in Africa and the SHEP target areas



Table 5. Population density of Kenya and the SHEP target areas

Population Density	
Target areas of SHEP	367.9
Kenya	66.4

Kenya National Bureau of Statistics (August 2010) '2009 Kenya Population and Housing Census'

Any project intending to develop horticulture using the activities similar to those of the SHEP must consider the external conditions mentioned above and adjust the activities in accordance with the situation of the target country / region.

Although it is important to take into consideration the varieties of external conditions under which projects are implemented, it is possible to apply the gist of the SHEP approach to any project, not necessarily on horticulture but on other crops and for other purposes like irrigation management; the series of activities shown above or a part of them and the underlying philosophy are applicable to a wide range of projects. For example, in a small-scale irrigation project, the project might select target

counties for small-scale development, using the proposal system used for the selection of districts implementing the SHEP UP. This process would ensure that the selected counties will be willing to manage the facility voluntarily after their initial development.

There are a number of examples of actual agricultural development that support the validity of the SHEP approach. In Japan, for example, the role of advanced farmers and agricultural cooperatives was significant in developing clusters of producers to meet the market needs. And generally, it seems that for a business to succeed there should be a proper relationship between the state and the private sector including farmers. Such cases of productive collaboration between the state and the private sector could be used as a reference for the implementation of the SHEP. The SHEP UP activities are currently being scaled-up across the country. They are also expanding across national boundaries: the personnel who have been trained and qualified in the SHEP and SHEP UP would assist other African countries as experts. In addition, interested parties in African countries could be invited to Kenya for field visits and training.

8. Summary and Conclusion

The SHEP and SHEP UP are good cases highlighting the importance of capacity development of stakeholders, including small-scale farmers, in improving the market access of small-scale farmers in Africa. The projects helped the farmers to improve their situation by encouraging them to do various activities including their own market survey. The projects also bridged the gap between market-related personnel and farmers, which brought about benefits to both parties: market-related personnel became able to buy products that met their standards at an appropriate time, and farmers to obtain profits by supplying such products. In the process, farmers were supported by the administration. Overall, the project was an attempt to comprehensively address the issues facing horticultural farmers in Kenya. The project helped the farmers acquire the habit of securing the marketability of the products before starting to grow a crop, which was a necessary undertaking for them in view of the low storability of horticultural crops. The project also introduced gender-related activities, which also significantly contributed to the improvement in their farming methods. The SHEP and SHEP UP started with the premise that horticultural

farming is an *industry*, no matter how small the scale of the market as a whole or the farming of individual farmers. Based on that premise, the projects developed a series of activities to encourage the farmers to develop behavior to respond to the needs of the market, using it both as the starting point of their strategy as well as their ultimate goal.

As mentioned earlier, many African countries are encouraging their farmers to transform their current subsistence-oriented agriculture into a more commercially-oriented venture. However, small-scale farmers in Africa did not know how to achieve it, though they had been conducting farming as a business unit based on rational decision making. The project filled this gap. A remark by the District Agricultural Officer in the SHEP UP accurately describes the characteristics and effects of the initiatives of the project: "Although the philosophy of 'Farming as Business' had been repeatedly stated by the Ministry, we did not know what we could do about it. The SHEP UP, however, has taught us how to implement it at the field level."

Since the 1990s, many donors have been providing support for value chain development. Their support had tended to focus on the downstream part of the supply chain from production through to sales, or the portion close to post-harvest processing and sales. By contrast, the SHEP and SHEP UP provided support to small-scale farmers with every step from production through to sales, covering various aspects of the activities in ways that are adoptable by the farmers.

In doing so, the project always put the farmers at the center in designing its activities and refining its methods. "Does it move the people?" – this was the question that was repeatedly asked all through the project. From this perspective, and referring to the motivation theory, the project designed its activities in sequences of steps firmly connected with one another by causal relations and logic. This "people-centered" perspective has been applied to all activities. For example, when choosing a technology to recommend to farmers, the project thoroughly examined its desirability from the farmers' point of view: in terms of their merits, contribution to income gains, and technical sustainability.¹⁴

14. One reason why this perspective could be uncompromisingly applied may have been the business model of JICA's technical cooperation that emphasizes interaction and joint work among people. In this case, it was the interaction among farmers, Kenyan administrators and Japanese experts that made the "people-centered" approach possible.

However, one may say that in essence there is nothing new in the activities and approaches established in the SHEP and SHEP UP: for example, the importance of capacity development through enhanced motivation had long been emphasized as an essential component of technical cooperation; logically coherent project structure is an ABC of development project design. It was perhaps the combination of these basics that made the SHEP successful in helping small-scale horticultural farmers to double their income, and the SHEP UP be adopted as an authorized administrative mechanism.

A combination of existing knowledge can sometimes create something new. Take, for example, the “iPhone” and “iPod” of Apple Inc. It is said that the materials and technologies used in these new gadgets were not newly invented by Apple Inc. or Steve Jobs (Kitani 2012). They have, however, achieved great success by combining existing materials and technologies, and anticipating the needs of the times. In an interview, Steve Jobs said that an innovation does not necessarily mean inventing a new thing or new technology, but it comes about by transforming a combination of existing technologies and ideas into a new technology, a product or a service (Gallo 2011). In the same vein, probably, the secret of the success of the SHEP and SHEP UP lies in the fact that it combined the concept of capacity development, which is the basic premise of Japanese technical cooperation, with careful planning of activities based on the firm logical sequence of activities and the motivation theory.

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Appendix (See Section 6)
Internal Change and Behavioral Change in each activity of SHEP and SHEP UP

	Activity	Internal change	Behavioral change
1) Project Sensitization Workshop	The first of the activities in the project was called "Project Sensitization Workshops." Its aim was to make sure that stakeholders at all levels, from governmental officials to farmers, understand the ideas of the project, its activities, and their responsibilities. This workshop brought forth changes of various sorts in the participants (stakeholders) of the project.	The stakeholders (participants) of the project came to feel close to the project, and their sense of commitment to the project activities was elevated because they were able to understand what actions they have to take, and to envision the road ahead to success. People in administration, on their part, understood that the project was not a separate enterprise unrelated to the Ministry's normal activity. The farmers' group representatives were proud of having been selected as the groups' representatives.	By learning the necessary skills for the project, such as for drafting a proposal, governmental officials became ready to implement their job (activities) with a sense of ownership and skill. Extension officers and farmers' group representatives shared the information obtained in the Sensitization Workshop with other farmer members of the model farmers' groups.
2) Selection of implementing district	For the selection of districts to be covered in the project, a system was introduced to select the implementing districts based on a set of criteria: the level of the understanding of their roles and responsibilities as well as their motivation to carry out the SHEP Approach and activities. In the process, the agricultural potential of the districts was also taken into consideration.	The Provincial Directors of Agriculture (PDA) came to feel a stronger sense of responsibility for the project, by taking the role of selecting the implementing districts. The District Agricultural Officers (DAOs) of the selected districts felt proud of their district having been selected for the project, and their motivation regarding activities was enhanced.	The Provincial Offices of Agriculture became more active in providing support for district-level activities. The District Agricultural Officers also became more active in engaging themselves in various activities such as the determination of model farmers' groups.
3) Organizers' Training of the Basic SHEP Approach	Training was given to district staff on the concept of the SHEP Approach and on the series of activities from preparation to implementation.	District staff came to feel more confident in their ability to implement the project activities, as they deepened their understanding of the training content. They also became more motivated toward the project activities. When they passed the examination and received the certificate of completion, they had a stronger sense of self-competence.	District staff understood their roles and acquired the techniques to allow them to smoothly implement the activities.

4) Baseline Survey	A survey was conducted to assess the current status of the model farmers' groups and their individual members.	Extension officers became aware of the needs for the implementation of the Baseline Survey. Model farmers' groups and farmer members became aware of the farming status and current problems facing their groups.	Extension officers acquired the ability to collect exact data and put the data into practical use. Farmer members acquired the skills to keep a written record about their farming. Model farmers' groups made efforts to improve their group in accordance with the Group Empowerment Indicators (GEIs).
5) Match-making Forum (Farm-Business Linkage Stakeholder Forum)	An opportunity to exchange business information was provided. The participants were: representatives of model farmers' groups (two males and two females), extension officers in charge of the model farmers' groups, and stakeholders related to the area's horticultural industry.	The farmers' representatives were proud of having been selected. Participating farmers and extension officers became aware that agriculture, and especially horticulture, is a business with a lot of potential, and came to have more positive prospects about their future.	The model farmers' group representatives shared the information obtained in the forum with other members of the groups. The model farmers' groups started to get in contact with businesses and they became able to obtain more market information. They acquired bargaining power by gaining a greater understanding of the buyers' services and the products handled by them. Their business opportunities expanded by having more buyers to deal with.
6) Joint Extension Staff and Farmers Dual (2) Gender Training	This was training focused on market survey and action plan making. Participants were one male and one female representative of each model farmers' group as well as an extension officer in charge of the group.	The model farmers' group representatives were proud of having been selected. The farmers and extension officers had an opportunity to get to know one another by receiving training together, while feeling peer-pressures from other farmers' groups and districts. Through exercises during the training, they became aware of the challenges they were facing and felt confident of their abilities to overcome them.	Participants acquired skills for a number of activities, especially skills for the implementation of market surveys and action plan making. The model farmers' group representatives and extension officers taught the skills acquired during the training to other members of the model farmers' groups. Extension officers actively visited and provided guidance to model farmers' groups.
7) Gender-related training	This comprised of training focused on the awareness enhancement of such issues as the gender-based division of labor, access to and control of resources, and roles in daily activities by gender, done in a workshop style. Also, a gender action plan was developed for solving gender-related problems for increasing income from horticulture. And household financial management training was conducted in order for husbands and wives to jointly manage household earnings.	Farmers became aware of gender disparities in households through enlightenment training and understood that they were being an obstacle for the increase in horticulture income. In addition, they became conscious of the importance of the concept of household budgeting and management. Extension officers recognized the importance of gender-related training.	Farmers implemented their gender action plan aimed at improving horticulture income. Also, farmers started to manage their household budget through collaboration of husband and wife. Extension officers became aware of the importance of gender-related training and imparted such skills onto other farmers' groups.

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<p>8) Market surveys and action plan making by farmers' groups</p>	<p>After completion of the JEF2C Training of 6), each model farmers' group undertook a market survey, selected target crops and made action plans with support from an extension officer.</p>	<p>Model farmers' groups felt enhanced motivation by having determined the target crops by themselves. The sense of ownership was heightened by having developed their own action plan. They came to have a clearer image of achieving an income increase by envisioning the goal of marketing their crops at an appropriate price. Extension officers recognized the usefulness of this method by having observed the farmers practice the series of activities.</p>	<p>Model farmers' groups acquired the ability to implement a series of actions and implement activities in accordance with the action plan. Extension officers also provided support in accordance with the action plan.</p>
<p>9) Training of extension officers (Facilitators' Training for Farmers' Demand-Driven Extension)</p>	<p>Based on the action plan prepared by model farmers' groups, training was provided to extension officers focused on the techniques to produce target crops that satisfy market needs, and specific techniques required by model farmers' groups. Readily usable extension materials ("KAMISHIBAI") were distributed on site.</p>	<p>Extension officers became confident in providing support to farmers and their sense of competence was enhanced.</p>	<p>Extension officers acquired the basic techniques for horticultural production as well as specific techniques and knowledge that were needed by farmers. Moreover, they trained model farmers' groups using the distributed extension materials. In addition, they actively undertook in-field training sessions for model farmers' groups.</p>
<p>10) In-field Training</p>	<p>Extension officers provided guidance to model farmers' groups on the techniques they acquired in 9) in line with the action plan.</p>	<p>Farmers, having learned techniques to solve the problems they were facing, felt their needs were satisfied. In addition, farmers came to have a stronger sense of trust toward the extension officers. Extension officers had a sense of competence through being appreciated by the farmers who participated in the training.</p>	<p>Farmers learned techniques to solve their problems and put them into practice. Extension officers became more active in implementing their extension work, using the abilities they have acquired to lead training.</p>
<p>11) Selling the produce</p>	<p>Farmers, either individually or collectively through their farmers' groups, sold their products using the sales channels they had become acquainted with.</p>	<p>Farmers felt satisfied at having been able to sell their products at a reasonable price, and their sense of self-competence increased, leading to further enhancement of motivation. Even those who could not earn as much income as they wanted took the result as a challenge that could be overcome because they had developed decision making skills and a sense of ownership.</p>	<p>Model farmers' groups that achieved successful results continued to practice with similar activities while constantly improving them. Less successful model farmers' groups, too, continued their activities, learning from their experiences.</p>