



Reference Materials for Effective Agricultural Extension

FEBRUARY 2022

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Preface

In JICA's cooperation projects regarding agricultural extension, its dispatched experts transferred experience in Japan's agricultural extension to local extension staff and farmers while adopting techniques that conform with the actual conditions of the country. Some of the techniques encouraged through the projects were welcomed by local farmers, whereas others were not adopted or were adopted but discontinued after the project.

Whether or not the recommended techniques are welcomed and used by the farmers depends on whether the techniques are right for the society, economy and environment of the country/region. In addition, the extension approach and techniques are also a major factor. In Japan, the Agricultural Extension Research Society of Japan has accumulated information related to agricultural extension projects in Japan, but not much research has been done with a focus on the extension approach and techniques in developing countries. Consequently, it is thought to be rare that dispatched JICA experts have experience in systematic learning of agricultural extension as a discipline.

While irrigation development is supported by academic theory of agricultural civil engineering and other disciplines, which provides a certain universality of intervention methods, agricultural extension cooperation projects have been planned and implemented solely based on the rule of thumb, trial and error, and ingenuities of the experts and personnel. Regarding the extension approaches that have been developed through the past projects, the information has not been sufficiently accumulated, systematized or shared. What extension approach to adopt has been considered from scratch for each project. In other words, JICA had tacit knowledge of extension, but not explicit knowledge that would form the axis of thinking.

Of course, there is no all-purpose approach/technique that can be used and is useful in every country/region and under any circumstances. However, in order to carry out effective and efficient agricultural extension projects, it is

necessary to construct a framework for basic analysis to examine extension and create approaches that can serve as a model. By doing this, we will be able to relativize various approaches and make well-grounded constructive discussions rather than arguments based on personal impressions. The resulting cooperation projects will be welcomed and adopted by local people.

The SHEP Approach is introduced in this material is based on experience gained in a rice cultivation project on the Kilimanjaro Region, Tanzania, in which Japan had been involved for a long time and over 100 JICA experts worked in total. While activities with consideration for farmers' motivation are a key concept of the SHEP approach, this concept had been already adopted in Tanzania before the technical cooperation project in Kenya, through which the approach was developed.

Considering that agricultural extension in Japan aimed to develop "proactive farmers," it is not that many cooperation projects did not consider farmers' motivation. However, how to raise farmers' motivation mostly remained tacit knowledge of individual experts. One of the values of the SHEP approach is making this into explicit knowledge. The SHEP approach is based on the Self-Determination Theory (motivation theory) of psychology and theory of information asymmetry of economics and it is systematized as the agricultural extension approach gains attention and approval in the international community because it has been made into explicit knowledge. The approach has been widely adopted and used beyond JICA projects by projects supported by other development partners, private companies and the governments of developing countries.

The SHEP approach is not an import from a foreign country or an invention that a particular individual conceived suddenly one day. This is an agricultural extension approach that gathers past efforts and wisdom of experts based on the history of JICA's technical corporation in agriculture and is organized as explicit knowledge.

This material introduces the trends in agricultural extension in Chapter 1 and the S-M-C-R-E model as a framework for analysis of agricultural extension in Chapter 2. Then in Chapter 3, an analysis using the framework of the S-M-C-R-E model clarifies what issues and lessons can be learned in the conventional cooperation in the agricultural extension area and what mechanism the SHEP approach has to address them.

I hope that this material will be helpful for people who are working vigorously toward high-quality agriculture cooperation.

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Contents

Preface Contents

Chapter 1 Overview of Agricultural Extension	1
1-1. General condition of agricultural/rural development.....	1
1-2. Trends and changes in agricultural extension.....	2
Chapter 2 S-M-C-R-E Model for Agricultural Extension.....	6
2-1. S-M-C-R-E Model for Agricultural Extension.....	6
2-2. Cases lacking attention to S-M-C-R-E.....	9
Chapter 3 Toward Effective Agricultural Extension Projects – Introduction of the SHEP Approach.....	13
3-1. Characteristics of the SHEP Approach.....	13
3-2. Initiatives, designs and tips of the SHEP Approach.....	16

Attachments

- Attachment 1. Exercise: S-M-C-R-E Analysis Using a Fictional Case
- Attachment 2. The SHEP Approach Q&A
- Attachment 3. Case Examples of the SHEP Approach

Chapter 1 Overview of Agricultural Extension

1-1. General condition of agricultural/rural development

Approximately 842 million people around the world face a crisis of starvation, malnutrition and poverty, and the chronically hungry population began to increase in 2014. Approximately 80% of the poor and starving people are living in rural areas of developing countries and 63% of the poor living with 1.90 dollars or less per day are engaged in agriculture. Many of these farmers are either low-paid farm workers or small-scale family-run or privately-run farmers. Because the number of these smallholder farmers accounts for 90% (500 million households) of all farmers, helping them make a living is essential for food security through stable food production and supply (FAO 2020, Swanson 2008). Looking at population increase, it is predicted that the world population will exceed 9 billion in 2050 and food demand will increase 1.7 fold from the 2010 level. We will face a new challenge to support the population consuming more food – and higher quality and healthier food. In addition, negative impacts on the environment, including problems caused by climate change and expanded deterioration of land and water resources, show that the highly intensive agriculture system has reached its limit (FAO 2020).

In light of the situation, the governments of various countries and international donors have recognized the importance of support for small-scale family-run farmers in recent years, and are trying to find more effective ways for improvement of rural life at the household level and sustainable natural resource management. For a renewed recognition of the significance of the role of family farming, the United Nations (UN) set the period from 2019 to 2028 as the “Decade of Family Farming” at the 2017 UN General Assembly and is calling for promotion of measures for and sharing of knowledge on family farming that plays a major role in food security and poverty/hunger eradication (FAO and IFAD 2019). Securing food supply while at the same time improving the livelihoods of smallholder farmers who are running a family farm, in particular, is widely recognized as a pressing issue.

In order to improve the livelihoods by increasing agricultural income, it is necessary even for smallholder farmers to increase profits by producing and supplying farm products that meet the market needs. An increase in agricultural production does not always lead to an increase in agricultural income. Many smallholder farmers are facing a situation in which their produce is neither selling well nor profitable. To address this situation, “market-oriented agriculture” that produces and sells farm products based on market needs is now adopted by donor’s projects and government policies.

1-2. Trends and changes in agricultural extension

In the latter half of the 20th century, the agricultural extension of developing countries mainly occurred through a top-down approach by the central government with the aim of overcoming a food crisis due to population increase. For this purpose, the governments promoted transfer of uniform new technologies developed by research institutes to improve productivity of staple grains. In the 1970s, about 70 countries adopted an extension approach called Training & Visit System (T&V) that was introduced by the World Bank for efficient technology transfer (Swanson 2008). T&V is an approach where extension staff with expertise teach farmers about new technologies according to a set program. The approach became a global trend of agricultural extension in the green revolution that started in the mid-1960s and had a certain effect on productivity improvement of staple grains through technical innovation (Swanson 2008).

However, when food security was guaranteed through globally increased production of staple grains in the 1980s, it caused serious problems, including increase in production costs due to massive application of chemical fertilizer and agricultural chemicals, expansion of income differences and environmental pollution, while food prices continued to fall. There were suggestions of a limitation of T&V, including an insufficient reflection of the farmers' intention, lack of flexible response to region-specific challenges, shortage in extension staff and unsustainability due to high costs (Swanson 2008).

In response to the criticism, extension approaches that stress the organization of farmers and participatory development appeared in the 1990s: one of these approaches is Farmer Field School (FFS) introduced by the Food and Agriculture Organizations (FAO). FFS is an approach that encourages active participation of farmers and emphasizes group learning, learning-by-doing and learning of farmers from each other. The provider of extension plays the role of facilitator rather than leader. FFS is expected not only to help farmers to learn techniques and gain knowledge but also to empower the farmers and communities. It is used in more than 90 countries even today (FAO 2016).

Starting from the 1990s, economic growth caused by urbanization and globalization expanded the middle classes, which diversified and increased consumer needs for food. Increased demand for high-value-added farm products required market competitiveness from agriculture, and encouraged initiatives that consider the food value chain also in developing countries. For agricultural extension by international organizations and donors, Farm Business School (FBS), where farmers learn not only production techniques but also about how to make their farming enterprises and overall farm operations profitable and able to respond to market demands, was developed and practiced as an evolved version of FFS, while the Value-chain Approach to produce higher-value added farm products and increase income attracted attention (FAO

2015). In addition, the development of effective and efficient agricultural extension systems in Public-Private Partnership (PPP) were promoted.

Today, support for developing countries is centered around the Sustainable Development Goals (SDGs) and agricultural extension has shifted to comprehensive services with a bottom-up approach with the involvement of diverse players, including the governments, private companies and NGOs (FAO and IFAD 2019). Under the Value-chain Approach, initiatives to support contract farming between farmers and private enterprises that are users of agricultural products are increasing. However, smallholder farmers that account for approximately 70% of the farmers of developing countries cannot shift to agriculture as a business and are left behind by market competition (FAO 2020). As the reasoning behind that would be a lack of projects to support agricultural extension, as well as the insufficiency to establish a practical approach toward market-oriented agriculture by farmers. Under the circumstances, expectations are rising in the international community for the SHEP approach, whose effect to promote market-oriented farming by farmers has been scientifically proven.

Figure 1 summarizes the changes and trends of agricultural extension by ages, while Figure 2 illustrates changes of the extension systems.

	World trend	Trend of agricultural extension	Agricultural extension approach
The 1970s	Green Revolution		
	Focus on national food security ✓ Introduction of high-yield varieties	Top-down from the central government ✓ Emphasis on the transfer of agricultural techniques	Training & Visit (T&V)
The 1980s	Fall in food prices Increased agricultural production costs Concern about environmental unsustainability	Limit of the top-down approach ✓ Farmers' intention is not reflected. ✓ Individual regional conditions are not addressed. ✓ High costs ✓ Shortage in extension staff ✓ Sustainability is not expected	
	Structural adjustment		
The 1990s	Urbanization/globalization ✓ Diversification of consumer needs ✓ Increased demand for high-value-added products ✓ Liberalization of the farm product markets ✓ Value chain analysis	Development approach with citizen participation ✓ Bottom-up approach (Farmer first, demand-driven) ✓ Focus on life quality improvement at the household level ✓ Shift to more comprehensive services ✓ Farmer to farmer extension	Farmers' Field School (FFS)
	The era where market competitiveness is highly recommended also for smallholder farmers	Decentralization Privatization/Public Private Partnership (PPP) Sustainable natural resource management Focus on the market	
The 2000s	Adoption of SDGs	Advocating food value chain Cooperation based on SDGs	Farm Business School (FBS)

Figure 1. Trends of agricultural extension and changes of major extension approaches (created by the authors)

Chapter 2 S-M-C-R-E Model for Agricultural Extension

2-1. S-M-C-R-E Model for Agricultural Extension

Extension is not mere diffusion as a phenomenon but intentional and systematic transfer to widely spread a thing or idea with a certain purpose (Suzuki 2006). According to E.M. Rogers, who specialized in the study of diffusion of innovations, extension refers to the process by which an innovation (innovative products/technologies, behavior pattern or information) is communicated through certain communication channels over time among the members of a social system. (Rogers,1962). He held up (1) Sender, (2) Message, (3) Channel, (4) Receiver, and (5) Effect as five key elements of the process and collectively called them the S-M-C-R-E Model.¹ Applied to agricultural extension, the model represents the flow from (1) agricultural researchers and extension staff as Sender up to (5) the development and modernization of agricultural production and rural life as Effect (Suzuki 2006). Figure 3 below applies the S-M-C-R-E model of diffusion to agricultural extension to illustrate the following process: People who diffuse technologies ((1) Sender) diffuse to (4) Receivers. what agricultural techniques ((2) Message), and how ((3) Channel) and with what development/changes ((5) Effect)

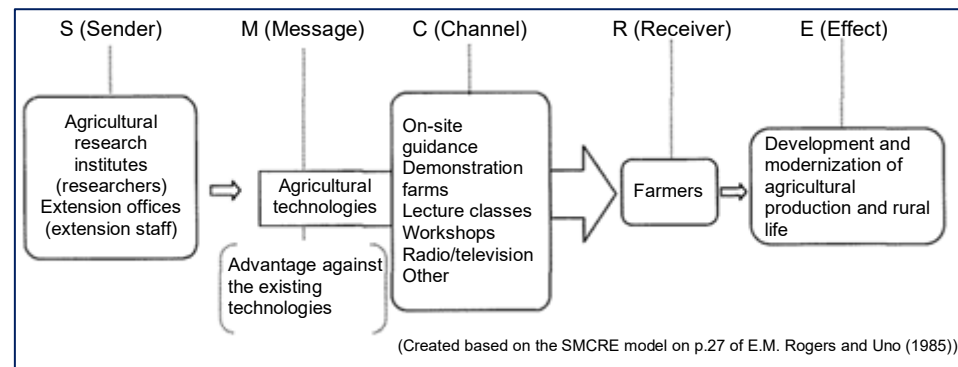


Figure 3. S-M-C-R-E Model of Agricultural Extension, SUZUKI Shun (2010) Discussions on Agricultural Development and Extension, Journal of Agriculture Science 54, Tokyo University of Agriculture

¹ E.M. Rogers showed the process of diffusion of innovation by adding E to the 5W1H communication model that was advocated by H. Laswell in 1948. Suzuki applied this S-M-C-R-E model to agriculture sector and created Figure 3 (Suzuki 2006).

JICA makes efforts toward sustainable effects of technical cooperation by supporting not only development of the technical capacities of the beneficiaries but also improvement of their core capacities of coping ability including willingness, management and leadership. For this purpose, focusing on (2) Message of the S-M-C-R-E Model, we incorporated technical capacity and core capacity in the “agricultural technology” of Figure 3, thinking that it is important to strengthen hard and soft skills essential for agricultural management. Figure 4 illustrates this idea.

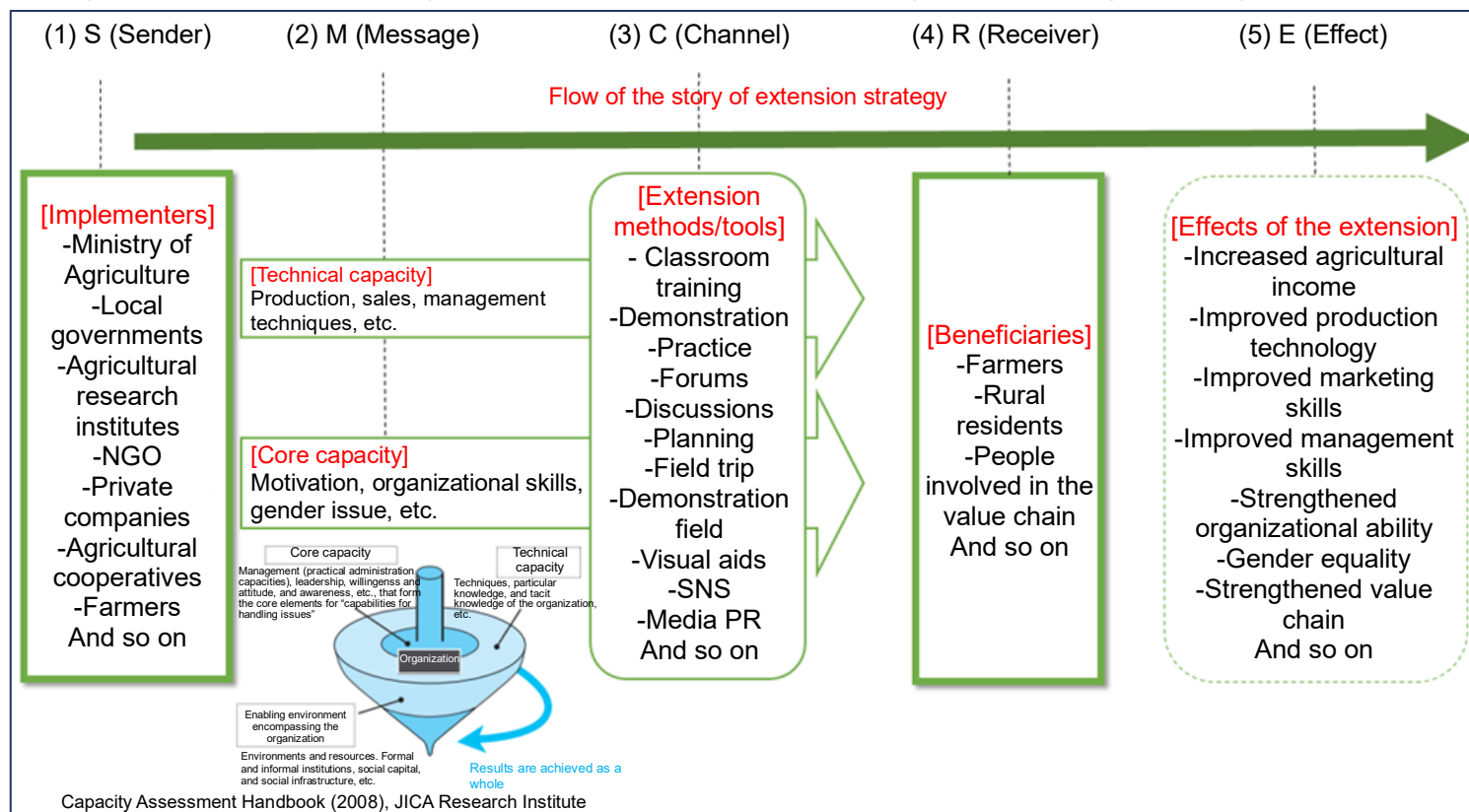


Figure 4 S-M-C-R-E Model of JICA Agricultural Projects (created by SHUTO Kumiko, IMG Inc.)

(i) S: Who are Senders?

Senders are implementers of agricultural extension. In many JICA agricultural projects, Senders are the counterparts (C/Ps) of the partner country, which include the ministry of agriculture, local governments and agricultural research institutes. In the case of farmer-to-farmer extension, farmers play the role of Sender. In addition to government agencies and NGOs, private businesses have been working as Sender in some cases in recent years.

(ii) M: What is Message?

Message refers to anything communicated to the receiver when agricultural extension is implemented. Generally, production, marketing and management techniques (e.g. good seeds, cultivation techniques, marketing and accounting) fall under this concept. In JICA's concept of capacity development, capacity is broadly divided into technical capacity, including knowledge and skills, and core capacity to independently resolve issues by using technical capacity. These capacities, together with a wider perspective of looking at the enabling environment surrounding the organization, can lead to positive outcomes and solutions of problems. Applying this concept to agricultural extension, through Message we can improve technical capacity, including production/marketing/technical techniques, and core capacity, including willingness, attitude, management and leadership.

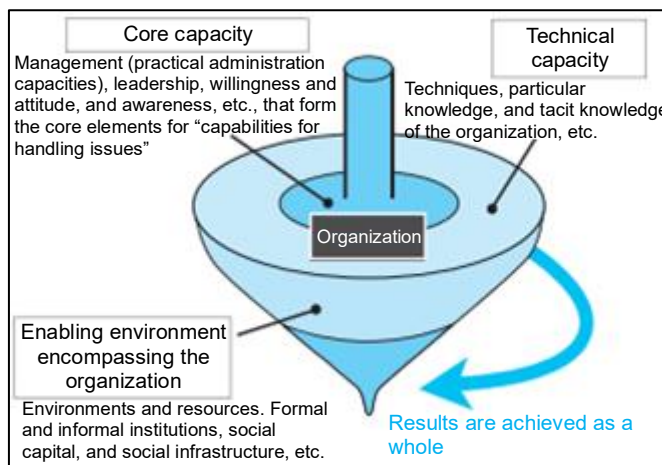


Figure 5 Basic Model via the Characteristics of Capacity (JICA Research Institute 2008)

(iii) C: What is Channel?

Channel refers to the extension methods and tools that are used to convey the message of (ii) to Receivers. In JICA agricultural projects, the term means classroom training, practice, forums, visual teaching materials, etc.

(iv) R: Who are Receivers?

Receivers refer to beneficiaries of agricultural extension services: farmers and residents in rural areas, for example.

(v) E: What does Effect mean?

Effect refers to desirable results of agricultural extension. In JICA projects, improvement of agricultural techniques, improvement of farming skills, development and strengthening of agricultural extension system, capacity improvement of C/P, improvement of agricultural productivity, yield and income, strengthening of agricultural extension organization are often set as effect.

2-2. Cases lacking attention to S-M-C-R-E

The key to a successful agricultural extension project is attention to each element of S-M-C-R-E as an important factor of agricultural extension and develop designs and tips to make each element work effectively in the process of extension. However, there is no end to agricultural extension projects failing to achieve the planned outcomes due to insufficient attention to S-M-C-R-E. This section introduces factors of failures as analyzed for each element of S-M-C-R-E.

(i) S: Cases lacking attention to or design for the C/P sender (Ministry of Agriculture, local governments, etc.)

Sharing of goals and visions	Because the implementers of the agricultural extension (central government, field extension staff, etc.) did not understand the goal of the project and the path leading to the goal, the intention of the experts were not shared in the field.
Capacity of the extension staff	Due to insufficient capacity (knowledge, techniques, facilitation ability, knowhow, attitude/motivation to the work, etc.) of C/P (mostly extension staff), the message was not adequately communicated to the farmers.

Implementation system/budget of the C/P organization	Because the C/P organization did not secure extension staff or a budget (travel expense, overtime payment, etc.) sufficiently, activities were not implemented as planned.
Collaboration with stakeholders	As a result of not considering the need to involve stakeholders (private businesses, NGOs, agricultural cooperatives, etc.) the number of beneficiary farmers of the agricultural extension was limited.

(ii) M: Cases lacking attention to or design for Message (capacity development)

Sharing goals and visions	Because the goal of the project and the path leading to the goal were not shared with the farmers, they participated in the project passively without understanding the goal and meaning of the activities. In addition, due to insufficient explanation of the role and responsibilities of the farmers, their active participation was not obtained and they came to have doubt and frustration about each activities.
Building core capacity	Due to the lack of activities to build core capacity, including farmers' motivation and awareness change, their initiative was not established and their behaviors were not changed.
Lack of market orientation	Because the activities were focused on production technology, unit crop and yield were improved but the farmers' income did not increase due to the lack of a selling venue, low selling prices, increase in production cost and other problems.
Gender consideration	In spite of the important roles played by women in farming, due to the lack of gender consideration to encourage women's participation in the project, only male farmers participated in the activities and the message was not reflected in farming activities.

(iii) C: Cases lacking attention to and design for Channel (training, practice, demonstration fields, visual aids, etc.)

Training materials	Because training materials were not developed with consideration to the level of farmers (literacy rate, technical level, etc.) and the extension staff (communication skills, technical level, etc.), the message was
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	not communicated to the farmers.
Supply-driven extension activities	Because the extension activities were one-way from the implementers, and the planning and the implementation lacked the perspective to think from the farmers point of view, the farmers had only a limited interest in the extension activities with a low rate of participation and technology adoption by them.
Timing/order of activities	The adoption rate of the recommended techniques was low due to the low awareness and motivation of the farmers regarding farming improvement. In addition, when their motivation to acquire techniques rose, workshop and other activities were not implemented in a timely manner. When a workshop was held, their motivation was low again.
Undermining effect	Because the project provided free agricultural materials, equipment and other things, a greater number of farmers participated in the project just for goods and pay, which resulted in a high dropout rate. Even worse, regarding community activities in which they used to participate without receiving material provision, they ceased to participate when material assistance was not provided.

(iv) R: Cases lacking attention to or design for the Receivers (farmers)

Capacity of the farmers	Due to insufficient understanding and consideration of the farmers' capacity (motivation, economic level, technical level, basic education, etc.) the recommended techniques were not adopted.
Farmer selection criteria	In the absence of clear selection criteria, farmers with varying motivation for participation and levels (economic situation, skills, basic education, etc.) participated in the project, which made it difficult to plan activities meeting the farmers' needs. As a result, the project failed to achieve its goals/outcome, including the adoption rate of the recommended techniques.
Project participants	Because only representatives of the farmer group participated in the activities and opportunities to participate were not given to other farmer members, interest in the project was low among general farmers and the message to be communicated did not spread to general farmers. Furthermore, the information gap widened

	in the farmer group and trouble occurred among the members.
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(v) E: Cases lacking attention to or design for Effect (improvement of farming income, production technologies, etc.)

Visualization of effects	Effects were not visualized due to a lack/absence of data regarding project outcome/effects before, during and after the implementation.
Manifestation of effects	Farmers did not adopt the techniques/skills they had acquired through the project, or ceased to use them after adopting them.
	Improvement of production techniques of the farmers increased yield and unit crop but not their farming income.
Internalization/ institutionalization	Because the existing agricultural extension system of the partner country was not considered, the outcome of the project activities was not reflected in the agricultural extension system/institution and the outcome did not develop independently.

Chapter 3 Toward Effective Agricultural Extension Projects – Introduction of the SHEP approach

3-1. Characteristics of the SHEP approach

Currently the SHEP approach is the only systematic and effective agricultural extension approach that is put into explicit knowledge in JICA. This material uses the SHEP approach as an agricultural extension method that provides a framework for examination and discussion toward effective agricultural extension projects. The SHEP approach pays attention to failure factors of agricultural extension described above and adopts designs and tips for effective demonstration of each element of S-M-C-R-E throughout the process of extension. SHEP is an abbreviation for Smallholder Horticulture Empowerment & Promotion, which aims to change the awareness of smallholder horticulture farmers from “grow and sell” to “grow to sell” and increase farmers’ income through improved farming and cultivation skills.

Many of the past agricultural projects including extension sufficiently considered the environment and motivation of the farmers who were receivers and reflected the results in the activities. However, some projects excessively focused on technical capacity, such as the transfer of techniques and knowledge but had limited attention to the building of core capacities, including changes in farmers' motivation and awareness. As a result, the farmers did not adopt the techniques for which guidance was provided. To address this problem, the tips and designs to raise farmers’ motivation are put into explicit knowledge, systematized and adopted throughout the SHEP approach based on the concept of “empowering and motivating people by effective activity designs and tips” supported by the Self-Determination Theory of psychology. According to the Self-Determination Theory, in order to help people to work with motivation, it is important to support their three psychological needs: autonomy, competence and relatedness.

- **Autonomy**
The need to feel in control of their own behaviors and goals
- **Competence**
The need to gain mastery of tasks and learn different skills.
- **Relatedness**
The need to experience a sense of belonging and attachment to other people

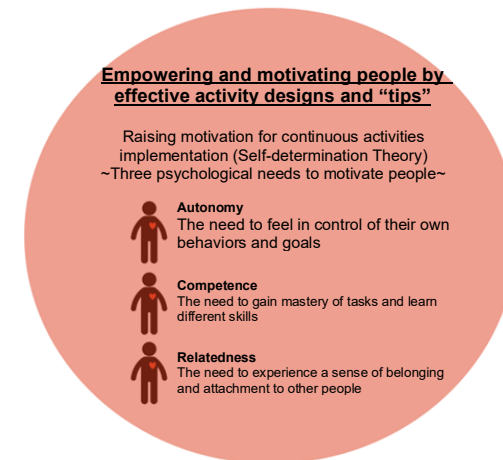


Figure 6. Self-Determination Theory (JICA 2018)

With the Self-Determination Theory of psychology in mind, the SHEP approach values the process of creating mechanisms for farmers to proactively think about and tackle issues and accumulate an “I did it!” sense of accomplishment and competence in the extension activities. The approach pays minute attention to supporting the three needs above, which includes developing relationships among farmers, between farmers and extension staff/market actors. Through this process, farmers develop spontaneous motivation to change their farming to the better.

The process of agricultural extension activities is divided into four steps: (i) Goals are shared with farmers, (ii) Farmers’ awareness is raised, (iii) Farmers make decisions and (iv) Farmers acquire skills (Figure 7). By constructing activities in this order, the farmers can understand their farming challenges and the potential of agriculture as a business, and increase their motivation to learn skills necessary for the improvement of farming. As a result, the adoption rate of the agricultural techniques will also rise. Step (ii) creating opportunities for awareness raising of farmers, in particular, enables the practice of agriculture based on the market needs (market-oriented agriculture) because the projects incorporate activities with a focus on the farmers’ awareness and learning through interaction with “Market.” It is important to flexibly customize specific activities of the four steps to suit the situation (staff, budget, etc.) of the agricultural extension system of the country/region and the local socioeconomic environment (market diversity, gender, etc.) while referring to the examples in Kenya, where the SHEP approach was first introduced. This enables effective and efficient extension activities founded on the local reality.

STEP	Sample activities:
(1) Share goals with farmers	Selection target farmers groups Sensitization Workshop for farmers
(2) Farmers’ awareness is raised	Participatory baseline survey Market survey by farmers Stakeholder forum
(3) Farmers make decisions	Target crop selection Crop calendar making
(4) Farmers acquire skills	In-field training

Figure 7. Four Steps of the SHEP approach and Activity Examples (JICA 2018)

As described above, the SHEP approach emphasizes farmers' motivation to improve farming and their learning of skills for this purpose. Figure 8 below illustrates the interlinkage in the farmers' motivation and skill level when activities are carried out along the four steps. You can see that the farmers' motivation and new skills rise in a mutually related manner as the activities are implemented based on the four steps.

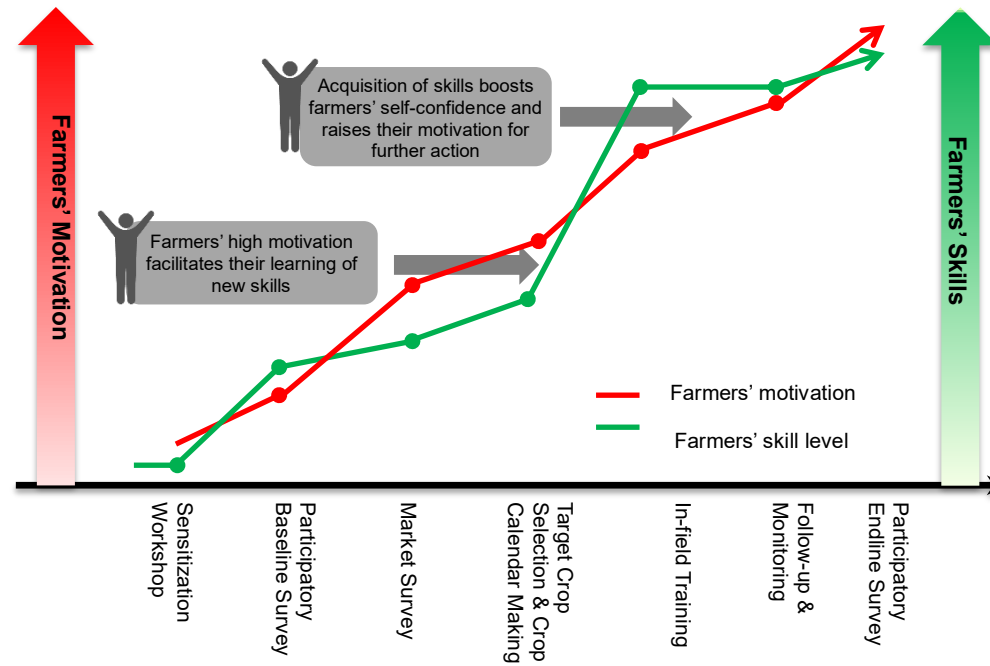


Figure 8 Interlinkage between motivation and skills development (JICA 2018)

For details and specific activities of the SHEP approach, see [SHEP reference materials](#) at the end.

3-2. Initiatives, designs and tips of the SHEP approach

This section introduces specific initiatives, designs and tips of the SHEP approach that are actually implemented to remove the failure factors based on the past cases lacking attention to or designs to S-M-C-R-E as mentioned in Chapter 2. Figure 9 below summarizes key initiatives and designs/mechanisms of the SHEP approach for each element of S-M-C-R-E of agricultural extension. Detailed explanation is provided in the table below based on the figure.

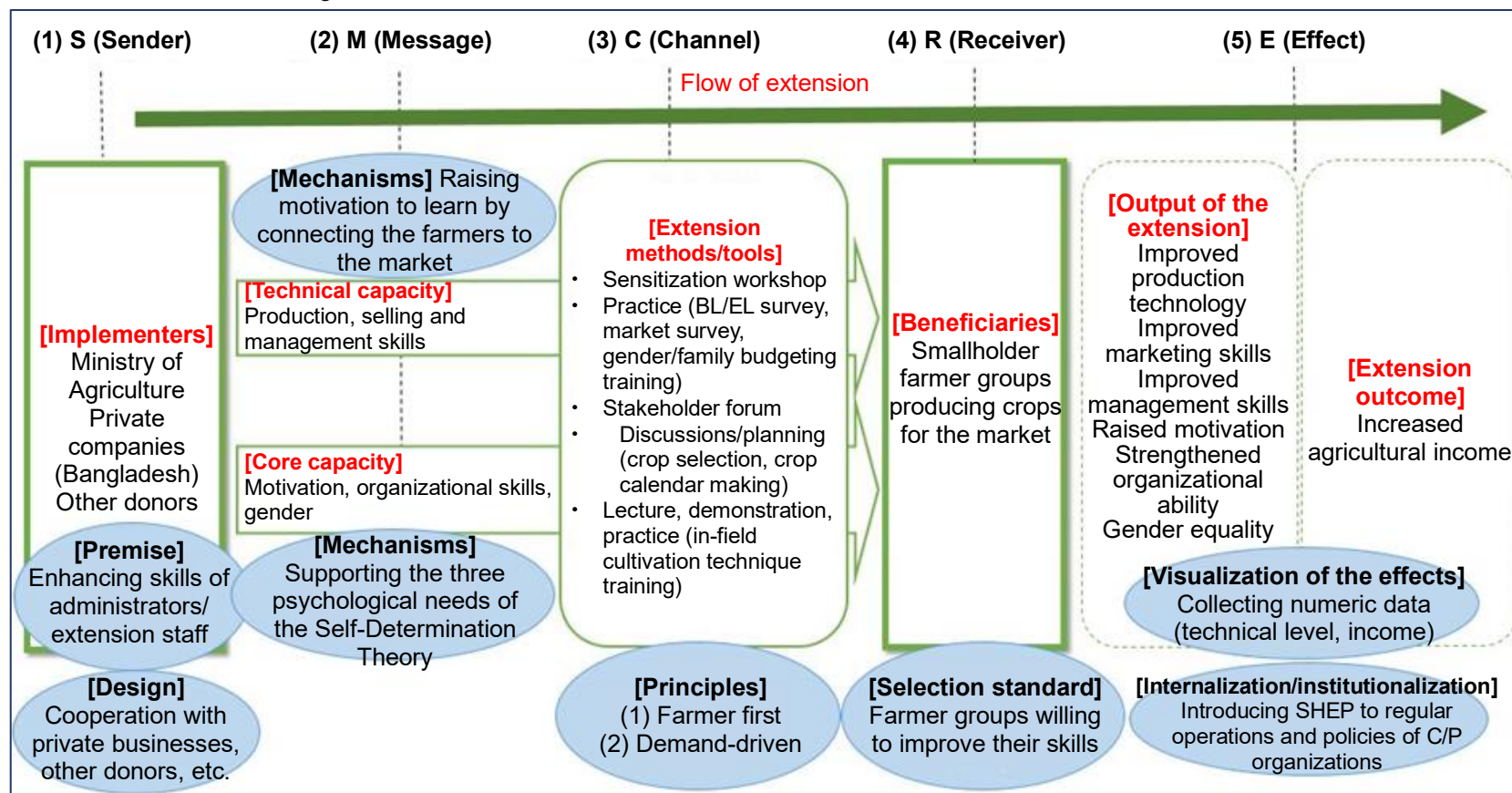


Figure 9 Initiatives and design/mechanisms in S-M-C-R-E of the SHEP approach (created by SHUTO Kumiko, IMG Inc.)

(i) S: SHEP initiatives and designs/tips for the Sender, mostly C/P (Ministry of Agriculture, local governments, etc.)

Failure factor	Failure case	SHEP activities (sample cases)	Designs/tips
<p>Sharing of goals and visions</p>	<p>Because the implementers of the agricultural extension (central government, field extension staff, etc.) did not understand the goal of the project and the path leading to the goal, the intention of the experts were not shared in the field.</p>	<ul style="list-style-type: none"> ➤ Sensitization workshop (project activity briefing) 	<ul style="list-style-type: none"> ➤ Communicating the concept, goals and activity plans of the project to all people involved in the agricultural extension mainly the C/Ps when starting the activities in order to ensure that the C/Ps share the vision of market-oriented agriculture and the path to its realization. ➤ Defining the roles and responsibilities of each person involved
<p>Capacity of the extension staff</p>	<p>Due to insufficient capacity (knowledge, skills, facilitation ability, knowhow, attitude/motivation regarding the work, etc.) of the C/Ps (mostly extension staff), the message was not adequately communicated to the farmers.</p>	<ul style="list-style-type: none"> ➤ Training to improve skills of the extension staff 	<ul style="list-style-type: none"> ➤ Implementing Training of Trainers (ToT) to improve skills of the extension staff before technical guidance for farmers ➤ ToT is based on the farmer needs (based on the market survey). Simple techniques easy to accept for farmers are adopted. ➤ Developing training materials

			(<i>kamishibai</i> [picture-card show], crop calendar, etc.) for the extension staff to provide easy-to-understand guidance with confidence
Implementation system/budget of the C/P organization	Because the C/P organization did not secure extension staff or a budget (travel expense, overtime payment, etc.) sufficiently, activities were not implemented as planned.	<ul style="list-style-type: none"> ➤ Selecting the prefecture for the activities based on proposal ➤ Promoting farmer-to-farmer extension ➤ Cooperation with other stakeholders 	<ul style="list-style-type: none"> ➤ Introducing a proposal-based method to the activity area selection and selecting the area based on the implementation system and intention of the C/P organization ➤ Guaranteeing ownership and smooth activity implementation by explaining the SHEP approach beforehand and selecting the area (prefecture, county, village) with the intention and system to carry out the project ➤ Sharing activity contents with the C/Ps beforehand and supporting activity implementation ➤ Addressing the shortage in extension staff and the budget by promoting farmer-to-farmer

			extension and cooperating with other stakeholders
Collaboration with stakeholders	As a result of not considering the need to involve stakeholders (private businesses, NGOs, agricultural cooperatives, etc.) the number of beneficiary farmers of the extension was limited.	<ul style="list-style-type: none"> ➤ Matching/stakeholder forums ➤ Collaboration with other donors and private companies <p>[Sample case]</p> <p>In Bangladesh, a private seed company is practicing the SHEP approach simultaneously achieving the two goals of better livelihoods for farmers and a sales increase of the company. Because farmers who experienced success by adopting the SHEP approach tend to invest in seeds and fertilizers to expand their business, it is advantageous for the seed company who can increase future sales by providing farmers with technical guidance. This is a win-win case because farmers can improve productivity by acquiring techniques.</p>	<ul style="list-style-type: none"> ➤ Providing opportunities for matching of horticulture market actors with the relevant farmer groups ➤ Cooperating with other stakeholders, including other donors, private businesses and NGOs, to expand SHEP implementers beyond C/P organizations. ➤ To address the shortage of extension staff, in particular, looking for other stakeholders and cooperating with them to make up for lacking resources.

(ii) M: SHEP initiatives and designs/tips for Message (capacity development)

Failure factor	Failure case	SHEP activities (sample cases)	Designs/tips
<p>Sharing of goals and visions</p>	<p>Because the goal of the project and the path leading to the goal were not shared with the farmers in a timely manner, they participated in the project passively without understanding activity purpose or significance. In addition, due to an insufficient explanation of the role and responsibilities of the farmers, their active participation was not obtained and they came to have doubt and frustration about each activity.</p>	<ul style="list-style-type: none"> ➤ Sensitization workshop (project activity briefing) 	<ul style="list-style-type: none"> ➤ Holding a sensitization workshop to communicate the SHEP concept to the farmers at an early stage in order to have the farmers understand that the SHEP project does not provide materials or financial assistance and that the farmers learn about and practice farming improvement by using their own capital. ➤ Whether or not to participate in the activities is decided by farmers after listening to the explanation.
<p>Building core capacity</p>	<p>Due to the lack of activities to build core capacity, including farmers' motivation and awareness, their ownership was not established and their behaviors were not changed.</p>	<ul style="list-style-type: none"> ➤ Matching/stakeholder forums ➤ Market survey by the farmers <p>[Sample case] In SHEP projects, before the market survey by farmers, extension staff visit the market to find businesses who will cooperate with the interview. In the</p>	<ul style="list-style-type: none"> ➤ Matching /stakeholder forums held at an early stage of the activities make the farmers recognize the market value and potential of horticulture crops, generates a market-oriented mindset and raises motivation. ➤ Farmers gain a new awareness by collecting market information on their own.

		<p>actual market survey, the extension staff step back and devote themselves to the role of a rear area supporter so that farmers can do interviews themselves. This preparation by the implementers is an important design to prevent farmers' failure in their first market survey. The "I did it!" sense of accomplishment raises their motivation.</p>	<ul style="list-style-type: none"> ➤ Supporting farmers' proactive activities, including direct talks with market actors, to satisfy their competence needs. ➤ Creating opportunities to meet market actors who may become their business partners in the future. ➤ C/Ps make advance preparations before the market survey in order to prevent failure by the farmers.
Lack of market orientation	<p>Because the activities were entirely dedicated to production technology, unit crop and yield were improved but the farmers' income did not increase due to the lack of sales contacts, low selling prices, increase in production cost and other problems.</p>	<ul style="list-style-type: none"> ➤ Matching/stakeholder forums ➤ Market survey by the farmers 	<ul style="list-style-type: none"> ➤ Providing opportunities/forums for matching of horticulture market actors with the target farmer groups ➤ Farmers secure buyers prior to the crop production through a market survey.
Gender consideration	<p>In spite of the important roles played by women in farming, due to the lack of gender consideration to encourage women's participation in the project, only male farmers participated in the activities and the message was not reflected in their farming activities.</p>	<ul style="list-style-type: none"> ➤ Gender awareness training ➤ Family budgeting training ➤ Selection of target farmers ➤ Submission of the agreement on the selection of farmer group participants in training 	<ul style="list-style-type: none"> ➤ Implementing activities to promote change in farmers' attitudes toward gender in the area of gender and household budget management ➤ Selection criteria of target farmers include the gender ratio. ➤ Calling for the selection of an equal number of male and female

		<p>[Sample case] Gender awareness and family budgeting training is implemented for farmer group members and their spouses. Training does not blame any gender but confirms that husbands and wives are important partners for the management and communicates the message that their cooperation in farm work and management to improve productivity will increase income.</p>	representatives and participation of couples in training sessions for farmers.
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(iii) C: SHEP initiatives and design/tips for Channel (training, practice, demonstration fields, visual aids, etc.)

Failure factor	Failure case	SHEP activities (sample cases))	Designs/tips
Training material development	Because training materials were not developed with consideration to the level of farmers (literacy rate, technical level, etc.) and the extension staff (communication skills, technical level, etc.), the message was not properly delivered to the farmers.	<p>➤ Development and introduction of extension contents (manuals for implementers, training materials, etc.)</p> <p>[Sample case] In Kenya, training materials easy to understand both for farmers and extension staff were developed by introducing <i>kamishibai</i> (picture-card show) in cultivation technique training:</p>	➤ Developing training materials easy to understand for farmers and easy to use for extension staff (<i>kamishibai</i> , crop calendar, etc.)

		<p>extension staff show illustrations and pictures on the front side of the cards, while communicating the information written on the back side. In Tanzania, when holding family budgeting training in an area with a low literacy rate, instead of writing letters/digits on paper, staff place pebbles or candies representing money on paper to help their understanding of the flow of money.</p>	
<p>Supply-driven extension activities</p>	<p>Because the extension activities were one-way from the implementers and the planning and implementation lacked the perspective to consider from the farmers' point of view, the farmers had only limited interest in the extension activities with a low rate of participation and technology adoption by the farmers.</p>	<ul style="list-style-type: none"> ➤ Needs survey ➤ Selection of target farmers ➤ Market survey by farmers ➤ Crop selection by farmers ➤ Farmers plan cultivation ➤ Cultivation technique training for farmers ➤ Follow-up of the activities by farmers 	<ul style="list-style-type: none"> ➤ Conducting a needs survey in the target area before starting activities ➤ Designing in-field training to acquire practical skills and knowledge for producing the target crops the farmers have chosen on their own initiative. ➤ Creating a mechanism for farmers to select, decide and practice in a series of activities in the project ➤ Grasping the state of practice after the farmer training and providing follow-up when there is a problem or need.

<p>Timing/order of activities</p>	<p>Adoption rate of the recommended techniques was low due to the low awareness and motivation regarding farming improvement of the farmers. In addition, when their motivation to acquire techniques grew, the next activities were not implemented in a timely manner. By the time the next activity was held, their motivation was low again.</p>	<p>➤ Implementing a series of activities of the SHEP approach</p> <p>[Sample case] In the SHEP activities, the farmers conduct a market survey, select crops to grow and plan cultivation in order to thoroughly understand the meaning and purpose of acquiring cultivation techniques and farming before technical guidance is provided. As a result, their motivation is high and their proficiency level and adoption rate are also high.</p>	<p>➤ Making a point to implement appropriate activities at an appropriate timing and order. Designing ways to maximize the effect of the activities.</p>
<p>Undermining effect</p>	<p>Because the project provided agricultural materials, equipment and other things, a greater number of farmers participated in the project just for goods and pay, which resulted in a high dropout rate. Even worse, regarding community activities in which they used to participate without receiving material provision, they ceased to participate when material assistance was not provided.</p>	<p>➤ Sensitization workshop (project activity briefing)</p> <p>[Sample case] In SHEP projects, at the time of target farmer selection and before starting activities, it is repeatedly explained to the farmers that the project is technical assistance to provide techniques and skills for market-oriented farming. This naturally eliminates farmers who would</p>	<p>➤ Declaring that the project is purely technical assistance without a material reward to all people involved in the project at the first briefing.</p>

		participate for material rewards. Because farmers decide to participate based on their understanding, they are not dissatisfied with an absence of a material reward.	
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(iv) R: SHEP initiatives and designs/tips for the receivers (farmers)

Failure factor	Failure case	SHEP activities (sample cases)	Design/mechanisms
Capacity of the farmers	Due to insufficient understanding and consideration of the farmers' capacity (motivation, economic level, technical level, basic education, etc.), the recommended techniques were not adopted.	➤ Baseline survey	➤ Including the technical, economic and education level of the target farmers in baseline survey items and implementing the project activities keeping the results in mind.
Farmer selection standard	In the absence of clear selection criteria, farmers with varying motivation for participation and levels (economic situation, skill level basic education, etc.) participated in the project, which made it difficult to plan activities meeting every farmers' needs. As a result, the project failed to achieve its goals/outcomes, including	➤ Selecting the target farmer groups based on selection criteria	➤ Analyzing the type of farmers suitable for the SHEP approach ➤ Maximizing effects with the limited resources by setting selection criteria according to the situation of the country/region

	the adoption rate of the recommended techniques.		
Project participants	Because only representatives of the farmer groups participated in the project activities and the opportunities were not given to other farmer members, interest in the project was low among general farmers and the message was not delivered to general farmers. Furthermore, the information gap widened in the farmer group and troubles occurred among the members.	<ul style="list-style-type: none"> ➤ Submission of the agreement on the selection of farmer group participants in training 	<ul style="list-style-type: none"> ➤ Creating opportunities for communication by farmer representatives to the farmer group members ➤ Making farmers aware of the duty of representatives to share information with other members before their selection

(vi) E: SHEP initiatives and designs/tips for Effect (improvement of farming income, production technologies, etc.)

Failure factor	Failure case	SHEP activities (sample cases)	Design/mechanisms
Visualization of effects	Effects were not visualized due to the lack of data regarding project outcome before, during and after the implementation.	<ul style="list-style-type: none"> ➤ Baseline survey, regular survey, end-line survey 	<ul style="list-style-type: none"> ➤ Establishing methods of participatory surveys for farmers to collect quantitative and qualitative data before, during and after the implementation ➤ Setting an increase in farmer income as a project goal and

			quantifying results
Manifestation of effects	Farmers did not adopt the techniques/skills they had acquired through the project, or ceased to use them after adopting them.	<ul style="list-style-type: none"> ➤ In-field training for farmers <p>[Sample case] In some SHEP projects, the target farmers effectively applied the techniques and skills they acquired through the training for their other agricultural work. Examples are application of a market survey implemented for horticulture crops to other fields (animal husbandry, fisheries, etc.), and application of line planting to food crops (maize, etc.)</p>	<ul style="list-style-type: none"> ➤ Selecting locally available, appropriate techniques (farmer-friendly techniques) based on the farmers' needs ➤ Providing an in-field training program adapted to the cropping season ➤ Introducing appropriate techniques and skills in accordance with changes/improvement in motivation of the farmers
	Improvement of production techniques of the farmers increased yield and unit crop but not their farming income.	<ul style="list-style-type: none"> ➤ Implementing a series of activities of the SHEP approach <p>[Sample case] Increases of agricultural income of the target farmers are reported almost in all SHEP projects. For example, in Kenya SHEP Phase 3 completed in 2020, a 119% and 95% increase in the target</p>	<ul style="list-style-type: none"> ➤ From the start, sharing the recognition that a series of activities will lead to an increase in income of the farmers among all people involved in the project ➤ Farmers understand how learning appropriate techniques and skills directly can increase their income through repeated experiences of

		farmers was confirmed (JICA 2019). In Nepal, where the SHEP approach was introduced first in Asia, net profit of the target farmers from vegetables increased 70% on average (JICA 2020).	an income increase by practicing the SHEP approach.
Internalization/ institutionalization	Because the existing agricultural extension system of the country was not considered, the outcome of the project activities was not reflected in the extension system and did not become established.	<ul style="list-style-type: none"> ➤ Sensitization workshop (project activity briefing) ➤ Technical Committee, Joint Coordination Committee and other regular meetings ➤ Regular progress report to high-level officials of the C/P organizations <p>[Sample case] In Senegal, the SHEP approach is stipulated in policy documents. Its mainstreaming has progressed and its elements are incorporated routinely in various programs. In Malawi, under the leadership of the Ministry of Agriculture, which recognized the effectiveness of the SHEP approach, the essence and activities of the approach are adopted in</p>	<ul style="list-style-type: none"> ➤ All parties of the agricultural extension system share the purpose of the project and results and challenges in the field on time ➤ Working for adoption of the SHEP approach in regular operations (training, budget planning, etc.) of the C/P organizations through a detailed report to high level officials ➤ Being simple and achieving positive outcomes in a short period of time, the SHEP approach is highly valued by the C/P organizations, often leading to internalization and institutionalization

		projects of other donors, including IFAD, GIZ and EU.	
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As described above, the major characteristics of the SHEP approach are: goals and visions are shared by all people involved, including the C/Ps and farmers at an early stage; seizing opportunities to expand effects by involving other stakeholders who may cooperate; creating as many opportunities as possible for farmers to act proactively, raising new awareness and making decisions in every step of the activities by farmers; activities are based on the position and viewpoint of farmers and the program is tailored to their needs and level; careful design to provide appropriate programs at an appropriate time and order; and all activities are market-oriented.

All these designs support the three psychological needs for people to work with motivation – autonomy, competence and relatedness – and by gradually strengthening farmers' production and selling techniques (technical capacity) in synergy with their motivation to actively learn new things (core capacity). That are the factors for achieving the ultimate goal of increasing farmer income at the end. However, when using the concept of the SHEP approach, it is most important to design activities according to the actual situation of the country rather than imitating activities in other countries as they are. We hope that consultants, experts, C/Ps organizations and JICA will develop constructive discussions on agricultural extension based on the basic concept of the SHEP approach or by examining activities using the approach as a common language.

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(Attachment 1)

Exercise: S-M-C-R Analysis Using a Fictional Case

● Project Background

Greatland is a low-income country in sub-Saharan Africa with a population of about 25 million people. Its land size is equivalent to that of Kenya or Botswana (around 600,000 km²). While 40% of the population is living below the poverty line, there is a growing middle class. The population of this middle-class demographic has doubled in the last ten years. The progress in infrastructure development is still very slow, with almost 90% of its rural roads unpaved and poorly accessible. Irrigation networks and rural electrification also need substantial improvement. Due to many challenges facing education, the country's adult literacy rate is 62% for males and 51% for females.

Greatland is predominantly agrarian and around 80% of its citizens are engaged in agriculture. Most farmers own less than ten acres of land and practice subsistence agriculture growing maize, sorghum, cassava, etc. There is only a very small number of large-scale commercial farmers. Due to rapid urbanization and a growing awareness of nutrition and health among the people in recent years, horticultural crops are in high demand. However, not many types of horticultural produce are currently available in the market. The shortage of vegetables and fruits during the dry season is particularly severe.

The government of Greatland, through its Five-Year Agricultural Sector Development Policy, promotes better market access for smallholder farmers with a view to uplifting their livelihoods and living standards. To this purpose, the country's Ministry of Agriculture (MOA) identifies horticulture as a high potential sub-sector and supports smallholder farmers to shift into commercial farming in horticulture. There are a total of six regions in the country, each with around five districts, and each of these with around 10 counties. The current national average coverage is one extension staff member per 2,000 farm households. Extension services are not efficiently delivered due to limited means of transportation and bad roads that make communities inaccessible during rainy seasons.

There are many community-based farmer groups in the country, most of which are poorly managed small

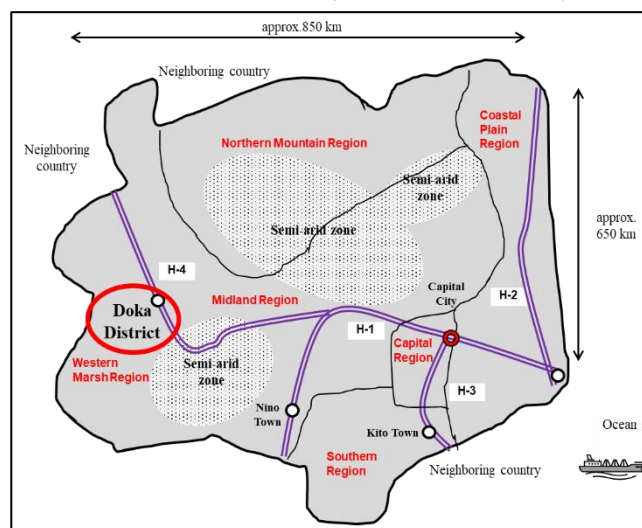


Figure 1 Map of Greatland

(Attachment 1)

groups mostly not registered with the government. Gender relations within households are based on a traditional patriarchal system, where properties are owned by men. Women engage in agricultural work for long hours, both in cultivation and in animal husbandry, but important decisions are made by men. Generally, meetings and training held in the community are attended by men who are household heads.

Doka District is located in the Western Marsh Region. In recent years, agricultural projects supported by donors and NGOs have been actively implemented here due to its broad areas suitable for farming. Maize is grown in wide areas, while smallholder farmers have gradually introduced horticulture crops for income generation in recent years. However, many of them cannot earn enough income because of the low quality and quantity of crops, and limited access to markets.

Against this background, the government of Greatland asked NGOs holding a field office in Doka District to support agricultural projects aimed at increasing the income of smallholder farmers through horticulture in this district and decided to implement "The five-year Greatland Doka District Smallholder Horticulture Project." Its target area is four counties in Doka District of Western Marsh Region, and the target villages are selected by the individual counties every year.

● Characters

Name	Description
Marco	NGO project leader
Tomoz	Horticulture Officer in Doka District Main counterpart of Marco
Sense	Extension officer in charge of Maru Village
Sueol	Farmer leader of Maru village

● Summary of the project activities

Before starting the agricultural project for smallholder farmers in Doka District, project leader Marco consulted with Tomoz, the Horticulture Officer of Doka District, and decided to implement the project in Maru Village of Wajo County first, where there was high potential for agriculture, but no assistance was provided by other donors. Maru is located three hours by car from the central part of Doka District. In the field, Sense, who was the extension officer in charge of the village, was assigned to the project. Marco, Tomoz and Sense visited Sueol, who was a farmer leader of the village, and collected information about the current situation and challenges in the village from him and a few community representatives. They said that the majority of farmers had difficulty expanding farmland due to a shortage of water during

(Attachment 1)

the dry season and an overall lack of labor and could not earn money from horticulture crops due to a skill shortage and limited access to markets. Based on this information, Marco organized a participatory workshop for the same representatives, created an action plan to solve the problems for horticulture in Maru village and implemented the following activities.

Table 1: Project activities in Maru Village, Wajo County, Doka District

Timing	Activities	Detail
1 st year		
February	Participatory workshop for needs assessment and Action Plan making	Marco, Tomoz and Sense facilitated a participatory workshop, inviting a few representatives from the village for a needs survey regarding machinery, equipment and improved seeds, and created an action plan
February	Selection of target farmers	The farmer representatives selected 30 target farmers from Maru Village and formed a new farmer group for implementation of the project activities.
April	Provision of agricultural machinery and seeds	Based on the results of the needs survey, the project provided small tractors, small power pumps for irrigation and the seeds of an improved tomato variety to the farmers.
May	Establishment of a demonstration farm	The project established demonstration plots for use of the small tractors, small power pumps for irrigation and the seeds of the improved tomato variety in an Agriculture Research Center at the center of Doka District.
June	Development of Training Materials	Marco and Tomoz, with cooperation of the Agricultural Research Center, developed manuals and training textbooks on operation of the tractors and the power pumps for irrigation and cultivation of the improved tomato variety.
August	Cultivation technique training	Marco, Tomoz, and Sense invited all the target farmers to the demonstration plots and provided technical trainings.
August	Introducing Circulation Board system	Marco proposed and introduced a "Circulation Board" system, through which farmers and Sense share information on all matters related to crop production

(Attachment 1)

		and farming.
August	Cultivation by farmers	Farmers returned to the village and started cultivating tomatoes.
December	Market survey	Marco, Tomoz and Sense collected information on tomato prices and market trends. The results were circulated to the target farmers through the “Circulation Board.”

(From the 1st to the 4th year, the same activities will be repeated in new villages.)

● **Result of the project activities in Maru Village**

At first, the farmers of Maru village had high expectations for the project. However, in spite of the provision of tractors, irrigation pumps, seeds and other assistance, they became less and less motivated. One year after the start of the project, none of the target farmers of Maru village was able to increase their income through horticulture.

[Questions]

- 1. Why couldn't the project in Maru village achieve the planned goals?**
- 2. How to improve the activities in the second year and after based on the result in Maru Village?**

(Reference materials)

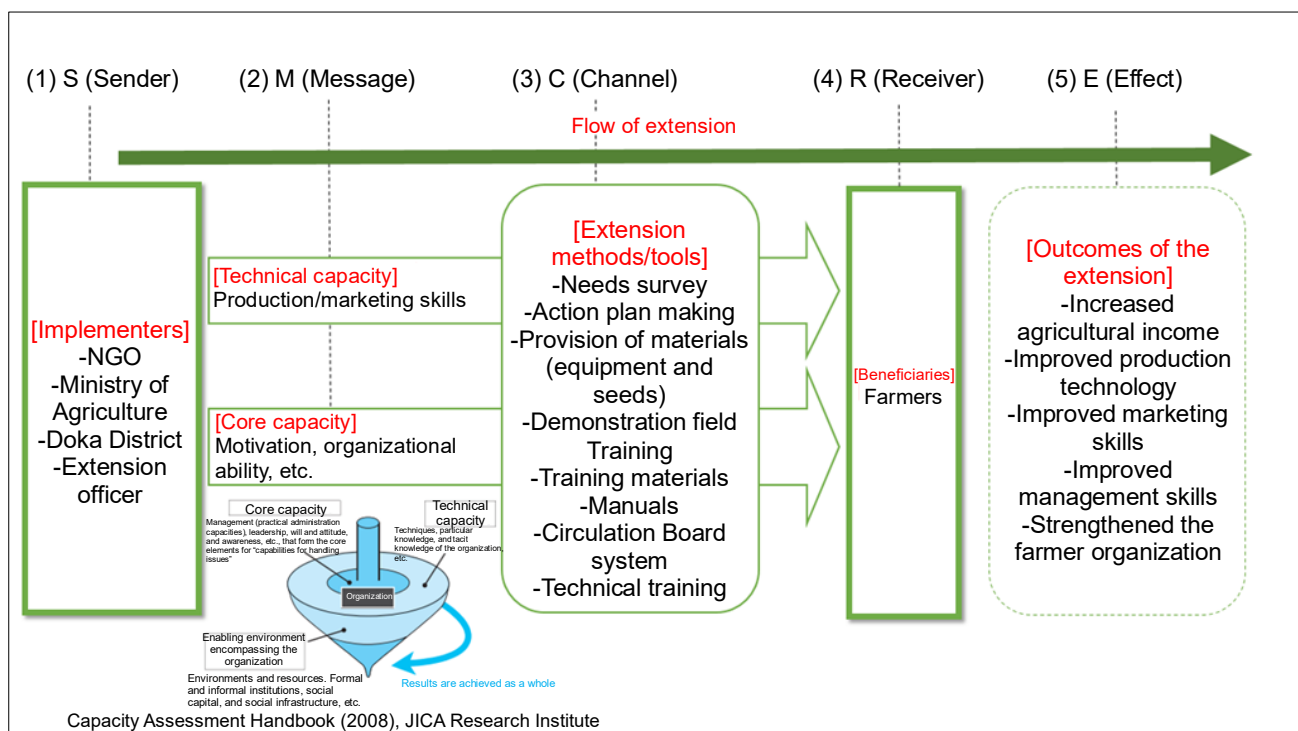
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Example answers to Exercise: S-M-C-R-E Analysis Using a Fictional Case

Activities of the first year of “The Greatland Doka District Smallholder Horticulture Project” ended without achieving the planned goal due to a lack of attention to S-M-C-R-E. This commentary lists the failure factors analyzed for each element of S-M-C-R-E and improvement ideas by reference to the S-M-C-R-E model (figure below) of the project.

S-M-C-R-E model of “The Greatland Doka District Smallholder Horticulture Project”



Failure factors analyzed using the S-M-C-R-E model and improvement ideas

(i) S: Areas where attention to Sender (implementer of agricultural extension) was lacking, and improvement ideas

Failure factor	Failure area	Improvement idea
Capacity of the extension staff	<ul style="list-style-type: none"> ➤ No Training of Trainers (ToT) to improve the skills of the extension staff was implemented and Marco (NGO project leader) led the guidance of the cultivation technique training for farmers. As a result, when farmers asked questions about cultivation techniques after returning to the village, Sense (extension staff) could not answer, and the farmers' questions/problems were not solved. ➤ Without capacity building of the Greatland government organizations, sustainability of 	<ul style="list-style-type: none"> ➤ Implement ToT to improve skills of the extension staff prior to the technical guidance for farmers.

	future activities was not expected.	
Implementation system/budget of the C/P organization	<ul style="list-style-type: none"> ➤ The selection of the target counties and villages was left entirely to the district and counties, without a prior field survey. The project activities were started without knowing about the intention or implementation system of the target counties/villages or aptitude of the project sites. As a result, the extension staff was fully occupied with other work and felt that the project activities were burdensome. There is no prospect for transportation means or allocation of the budget for visits to farmers. 	<ul style="list-style-type: none"> ➤ Conduct a prior field survey and confirm the aptitude of the project implementation system, including preparedness and willingness for the project. ➤ Introduce a proposal-based method to the target area selection process. Ask to include in the proposal the motivation, resources, socioeconomic situation and support by other donors and set selection criteria based on the implementation system and willingness of the district government.
Collaboration with stakeholders	<ul style="list-style-type: none"> ➤ Because it was not considered to involve relevant stakeholders (private companies, NGOs, agricultural cooperatives, etc.), the project failed to expand business opportunities and increase the number of beneficiary farmers. 	<ul style="list-style-type: none"> ➤ Expand business opportunities by involving horticulture market actors and providing them opportunities to meet farmers. ➤ Cooperate with other stakeholders, including other donors, private companies and NGOs, to expand extension implementers beyond the C/P organizations.

(ii) M: Areas where attention to Message (capacity development) was lacking, and improvement ideas

Failure factor	Failure area	Improvement idea
Sharing of goals and visions	<ul style="list-style-type: none"> ➤ Members of the farmer group other than representatives were provided with tractors and other materials without receiving explanation from the project and later joined the cultivation technique training at the center of the district far away from their village. Because the goals of the project and the path leading to the goal were not shared with the farmers in a timely manner, they participated in the project passively without understanding the activity purposes or the significance. 	<ul style="list-style-type: none"> ➤ Hold a sensitization workshop to share the project's concept and goals, and the roles of farmers to target farmer candidates at an early stage. ➤ Whether or not to participate in the activities is decided by the farmers after listening to the explanation.
Participants in the project	<ul style="list-style-type: none"> ➤ Only a few farmer representatives were involved in the plan including a needs survey and action plan making, while other members of the farmer group were not given any opportunity to participate in the planning process, and their opinions were not reflected. As a result, only the representatives understood the project, which generated an information gap with other farmers. 	<ul style="list-style-type: none"> ➤ Hold a participatory workshop involving all the target farmers for a needs survey and action plan making.
Building core capacity	<ul style="list-style-type: none"> ➤ Because the farmers did not conduct a market survey themselves but just received market information from Marco and Sense, their ownership and motivation were not fostered. ➤ Because the incorporation of needs and formulation of action plan were made only 	<ul style="list-style-type: none"> ➤ Design the project activities to incorporate as many mechanisms as possible for farmers to choose, decide and practice.

	by the project side (Marco, Tomoz and Sense) and the farmer representatives, ownership and motivation of other group members were not fostered.	
Supply-driven extension activities	<ul style="list-style-type: none"> ➤ Because overall the extension activities were one-way from the project implementers and lacked the perspective to think from the farmers point of view, the rates of participation and technology adoption by the farmers were low. ➤ Situation and challenges of the village were heard only from the representatives of the farmer group, and needs of other members were not incorporated. Furthermore, because only the representatives participated in the action plan making, the plan lacked the point of view of other members. Irrigation pumps were installed by the side of fields of farmer representatives, while the tractor was unnecessary for general horticulture work conducted by female members of the group at a corner of their garden. ➤ Because the demonstration farm was set up in a research center of the district three hours from the village, it was difficult to access for farmers, and they were only able to visit the farm at the point of the cultivation trainings. The training was on sophisticated and new techniques, which were not used in the village for this reason. ➤ The Circulation Board system was not used by the farmers. Due to poor interaction of the extension staff (Sense) and the project implementers (Marco and Tomoz) with the farmers, no trusting relationships were built. 	<ul style="list-style-type: none"> ➤ Incorporate mechanisms for farmers to select, decide and practice in a series of activities of the project. ➤ Make a point of listening to opinions of all target farmers in the process of a needs survey and action plan making. ➤ When setting a demonstration farm, set it in the village or other places easily accessible for farmers so that farmers can practice themselves. ➤ Design face-to-face interaction with farmers in the field to build a relationship of trust.
Market orientation	<ul style="list-style-type: none"> ➤ Because the activities were entirely dedicated to production technology and lacked the perspective of strengthening farming as a business, the unit crop and yield of the farmer representatives were improved but their income did not increase, due to the lack of sales contacts, low selling prices, an increase in production cost and other problems. 	<ul style="list-style-type: none"> ➤ Provide opportunities to connect horticulture market actors with the target farmer groups. ➤ Help farmers plan cultivation adapted to the market needs by supposing buyers before production through a market survey.
Gender consideration	<ul style="list-style-type: none"> ➤ Due to the lack of gender consideration, in spite of the important roles played by women in farming, only male farmers participated in the activities, and the message of the project was not reflected in the activities of the farmers. 	<ul style="list-style-type: none"> ➤ Implement activities to promote a change in farmers' awareness about gender. ➤ Include the gender ratio in the selection criteria of the target farmers. ➤ Call for participation of an equal number of male and female farmers as couples in training sessions.
Undermining effect	<ul style="list-style-type: none"> ➤ Because the project presented the provision of agricultural materials, irrigation equipment and improved seeds as a solution to the challenges facing the 	<ul style="list-style-type: none"> ➤ Avoid assistance provision in a manner that has a negative impact on farmers' motivation (undermining effects and thwarting

	<p>farmers, a greater number of farmers participated in the project just for goods, which resulted in a high dropout rate. Even worse, regarding community activities in which they used to participate without receiving material provision, they ceased to participate when material assistance was not provided.</p>	<p>of needs for independence).</p> <ul style="list-style-type: none"> ➤ Communicate to the farmers at an early stage: the farmers are expected to learn to improve their farming and work on agriculture by using their own capital. ➤ If material assistance is necessary, create opportunities for farmers to learn about existing external resources (introducing microfinance institutions, NGOs doing infrastructure development, or other schemes of the government).
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(iii) C: Areas where attention to Channel (training, practice, demonstration fields, visual aids, etc.) was lacking, and improvement ideas

Failure factor	Failure area	Improvement idea
Training material development	<ul style="list-style-type: none"> ➤ The manuals and training materials that were developed with cooperation of the research center were very difficult to understand for the farmers with a low literacy rate, and were not used for this reason. These were difficult also for the extension staff and the message was not delivered to the farmers as a result. 	<ul style="list-style-type: none"> ➤ Develop training materials easy to understand for farmers and easy to use for extension staff.
Timing/order of activities	<ul style="list-style-type: none"> ➤ When materials (tractors, pumps, and seeds) were provided, the farmers' expectations for the project were high and they had a willingness for the activities, but their motivation dropped later because four months had passed before the start of the cultivation technique training. ➤ Because the tractors and irrigation pumps were distributed without explanation on how to use them, many of them were broken when they were to be used for the training. ➤ Because a market survey was implemented during the crop harvest season, farmers could not produce crops according to the market needs. 	<ul style="list-style-type: none"> ➤ Implement appropriate activities at an appropriate timing and order. Design ways to maximize the effects of the activities. ➤ Provide technical guidance when farmers thoroughly understood its significance and purpose, and became motivated to learn.

(iv) R: Areas where attention to Receiver (farmers) was lacking, and improvement ideas

Failure factor	Failure area	Improvement ideas
Capacity of the farmers	<ul style="list-style-type: none"> ➤ Due to insufficient understanding and consideration of the farmers' capacity (motivation, economic level, technical level, basic education, gender awareness, etc.) the recommended techniques were not adopted. 	<ul style="list-style-type: none"> ➤ Conduct hearings surveys of all target farmers through a participatory baseline survey and needs survey and implement project activities considering the results.
Farmer selection standard	<ul style="list-style-type: none"> ➤ Most farmers of Maru village were making a living mainly by growing maize, while horticulture crops were grown by women at a garden corner for self-consumption. In the absence of clear selection criteria for target farmers, farmers who were not 	<ul style="list-style-type: none"> ➤ Set selection criteria according to the situation of the districts and select the target farmers in line with the criteria. ➤ Use an existing group when targeting a farmer group. Include

	<p>appropriate for the project activities were selected. As a result, the adoption rate of the recommended techniques was low, and the goals/outcomes of the project were not achieved.</p> <ul style="list-style-type: none"> ➤ Because a new farmer group was organized for the project, the organization was too weak to continue activities after the project. 	<p>the existence of a farmer group in the selection criteria.</p>
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(v) E: Areas where attention to Effect (improvement of farming income, production technologies, etc.) was lacking, and improvement ideas

Failure factor	Failure area	Improvement ideas
Manifestation of effects	<ul style="list-style-type: none"> ➤ Because the contents of the cultivation technique training held in the demonstration plots were sophisticated techniques that could not be applied to the farmers' fields and were difficult to understand, the farmers did not adopt the techniques/skills they had learned. 	<ul style="list-style-type: none"> ➤ Choose the technical training contents that the farmers want to learn and make the way of communication easy to accept for them.
	<ul style="list-style-type: none"> ➤ As a result of the project activities in Maru Village, none of the target farmers were able to increase their income through horticulture. 	<ul style="list-style-type: none"> ➤ Build a series of activities that bring about farmers' motivation so that their behavior changes lead to an income increase.

Agricultural Extension Work Reference Material Attachment 2

The SHEP approach Q&A

February 2022
JICA Economic Development Department



20 Questions about the SHEP Approach

1. What is the SHEP approach?
2. What are challenges of agricultural extension in developing countries?
3. Who are the targets of the SHEP approach?
4. Is the SHEP approach also effective for commodities other than horticulture?
5. Is provision of materials/money taboo in the SHEP approach?
6. Are farmer groups necessary in the SHEP approach?
7. Does the SHEP approach target processing of agricultural products?
8. What is the difference between the SHEP approach and the Food Value Chain (FVC) approach?
9. Should the SHEP approach not be introduced uniformly?
10. What is normalization of the SHEP approach?
11. What is collaboration with the private sector in the SHEP approach?
12. What is the relationship between the SHEP approach and nutrition initiatives?
13. How is gender positioned in the SHEP approach?
14. What is the role of the SHEP approach under the COVID-19 disaster?
15. What is the possibility of DX promotion in the SHEP approach?
16. Won't production of the same crop as a result of a market survey lead to a drop in prices?
17. What are the criteria for target crop selection?
18. Do extension staff have available capacity to provide marketing guidance?
19. How long does training/guidance of the SHEP approach last?
20. Can the SHEP approach be used for illiterate farmers?



1. What is the SHEP approach?

The SHEP approach is an abbreviation for the Smallholder Horticulture Empowerment & Promotion approach, which aims to change the mindset of smallholder farmers who are growing horticulture crops from “grow and sell” to “grow to sell” and increase farmers’ income through improved farming and cultivation skills.

The SHEP approach is supported by two theories: 1) Promoting farming as a business and 2) empowering and motivating people by effective activity designs and tips (see Figure 1). 1) Promoting farming as a business is an initiative aimed at agriculture that grows to sell based on the asymmetry of information theory of economics. Farmers and market actors build a win-win relationship by mitigating the asymmetry of information through information sharing, and conduct effective transactions. 2) Empowering and motivating people by effective activity designs and tips is an initiative supported by the Self-Determination Theory of psychology to motivate farmers. The approach fulfills three psychological needs by using tips to raise farmers’ motivation and fosters farmers who think and act proactively. The originality of the SHEP approach lies in its activities supported by the two theories.

The process of agricultural extension activities is divided into four steps in the SHEP approach. The steps incorporate activities to promote market-oriented agriculture while raising farmers’ motivation to improve farming (see Figure 2). In order to instill a sense of ownership in farmers as much as possible, the approach follows the process of (i) farmers imagine goals and success at an early stage, (ii) ascertain the value of the market through market surveys, (iii) select crops and plan cultivation themselves, and (iv) acquire cultivation techniques for the selected crops. It is recommended to customize each activity according to the situation of the country, while following these steps.

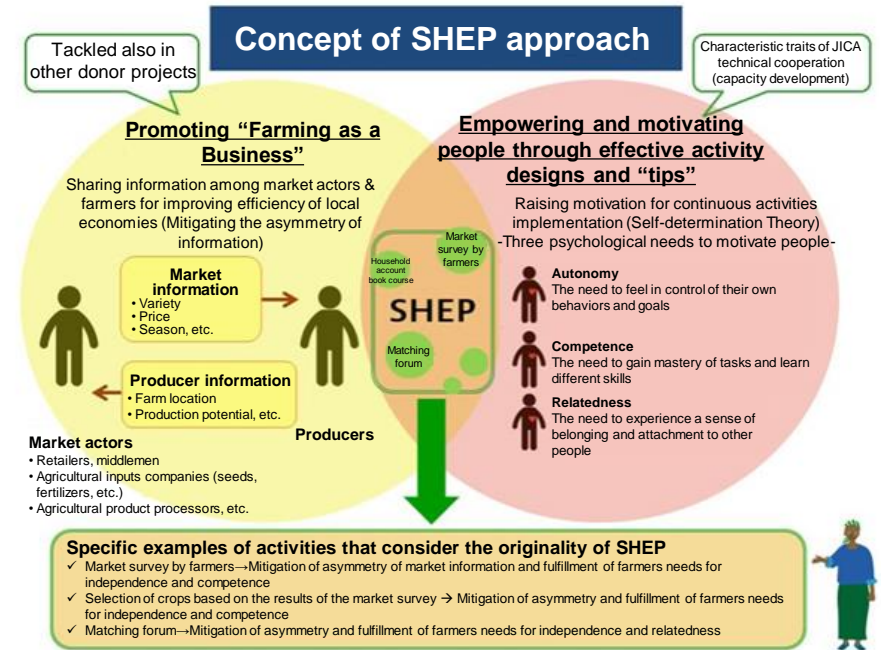


Figure 1 Concept of SHEP approach

Step	Sample activities:
1. Share goals with farmers	Project activity briefing (sensitization workshop) Selecting the region for the activities based on proposal Selection of target groups by the region
2. Farmers’ awareness is raised	Participatory baseline survey Matching forum Group training of male and female farmers and extension staff Decision by farmers
3. Farmers make decisions	Selection of target crops Formulation of an action plan
4. Farmers acquire skills	Skill-up training for extension staff in charge In-field training by extension staff

Figure 2 Activities based on the four steps in Kenya

2. What are challenges of agricultural extension in developing countries?

Challenges of agricultural extension in developing countries are divided broadly into challenges facing public organizations who deliver extension services and those facing farmers who are the beneficiaries.

Agricultural extension projects are mainly implemented by the Ministry of Agriculture, local governments and other public organizations. Their major challenge is the weak implementation system to support farmers. Due to a shortage in or lack of resources to support farmers, poor knowledge, skills and leadership of the extension staff, as well as a shortage in teaching materials for farmer training/guidance, the governments of developing countries have not been able to implement agricultural extension activities adequately as a necessary public service. Less than 20% of the smallholder farmers possessing 1 ha or less are receiving benefits from public agricultural extension services, so it is necessary to expand the service deliveries. In addition, many extension programs still provide technology transfer accompanied by material rewards, which fosters farmers' dependency and leads to undermining effects. Furthermore, due to failure to cooperate with private companies, NGOs and other non-governmental actors, those programs are not implemented effectively/efficiently, and opportunities to enhance the positive outcomes are limited.

The major challenges facing farmers are low agricultural productivity and income. Poor cultivation and management skills of farmers and lack of access to information and services by various stakeholders interact to keep productivity and income stagnant. In addition, husbands and wives are not practicing farming as management partners due to the lack of gender equality and trusting relationships in farmer households. Furthermore, because farmers without motivation for production and marketing are in a vicious cycle of a lack of the mindset to make decisions for business and failure to actively acquire new techniques, knowledge and skills.



The SHEP approach provides concrete solutions to the “quality issue” of agricultural extension!



Field of a typical smallholder farmer © JICA



Insect pest affecting tomatoes © SHEP PLUS



Farmers waiting for middlemen who may or may not come to the roadside © JICA

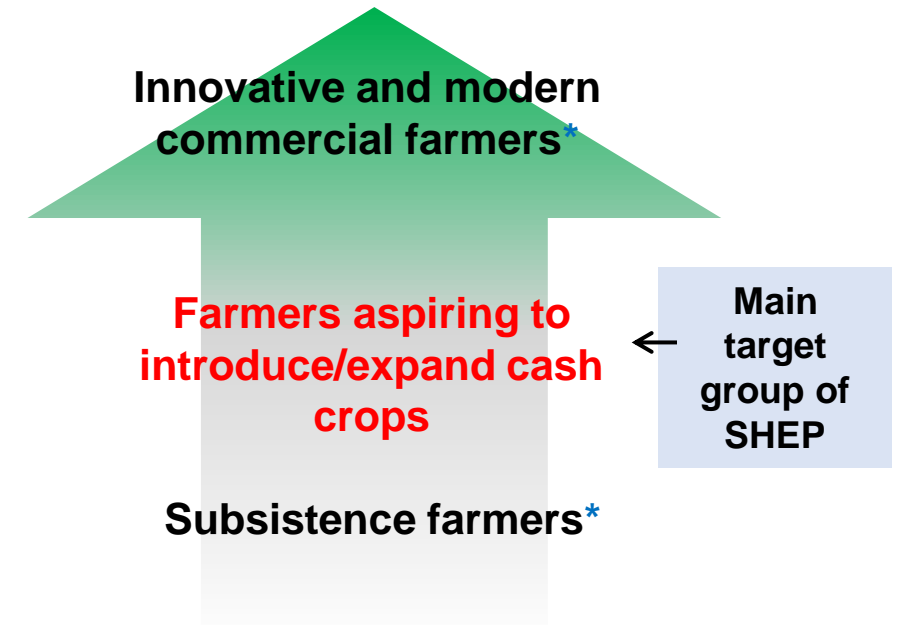
3. Who are the targets of the SHEP approach?

The SHEP approach targets the poor of the country, and the majority of rural residents are poor farmers. However, the SHEP approach is not a panacea for all farmers. The main targets of the SHEP approach are not large-scale farmers who are already practicing autonomous and commercial farming, but farmers who are trying to sell their produce in markets or want to increase sales. It is considered that subsistence farmers need a support approach other than SHEP or an activity package in combination with the SHEP approach. For example, the technical cooperation project adopting the SHEP approach in Nepal and Uganda (SRC-CAP, NUFLIP) target farmers who are rather subsistence farmers, but it incorporated more generous support and activities and achieved a result of improving the farmers' livelihoods.

We think that the point of the difference between farmers tackling commercial agriculture and the target farmers of the SHEP approach is whether or not they are doing farming always with the market in mind. Farmers who have abundant capital but are aimlessly growing the same crops and fail in marketing can be a target of the SHEP approach. For example, some of the SHEP graduate farmer groups* have expanded the scale and almost reached the level of upper innovative commercial farmers. It is conceivable that, if the SHEP approach, which provides basic capacity training for farming as a business is implemented for such farmers, they would say “we already know all about that” and their income would not increase. Innovative and modern commercial farmers also need a different support approach that is not the target of the SHEP approach.

The impact evaluation study using Randomized Controlled Trial (RCT) conducted in Kenya discovered that SHEP target farmers increased their horticulture income about 70% compared with other farmers. Farmers with lower-education, old farmers and female farmers, who were generally considered to be at a disadvantage in extension, were able to increase their income more than others. That is to say, the SHEP approach is a farming improvement method that can effectively work for a wider range of farmers.

* Group of “proactive farmers,” who received a series of training of the SHEP approach and whose acceptance of useful techniques and behavioral change were confirmed.



*According to the definition of Kenya Vision 2030



SHEP target farmers receiving cultivation technique instruction
© Ethio-SHEP

4. Is the SHEP approach also effective for commodities other than horticulture?

The SHEP approach, where farmers produce crops after ascertaining the market, is especially effective for horticulture crops that, unlike cereals, cannot be stored and whose market prices drastically fluctuate.

However, if there is “asymmetry of information” between the market and producers, the SHEP approach is effective as a means to mitigate this for other commodity production, including husbandry, chicken raising and breeding. The SHEP approach has been practiced for horticulture crops in many countries, but use of the approach for various commodities, including livestock (in Palestine, Namibia, etc.) and rice (in Madagascar, Zambia, etc.) has been gradually progressing in recent years. Even if activities of the SHEP approach are not formally implemented as a project, many farmers who have practiced the SHEP approach for horticultural crop production are actively applying their knowhow to livestock business, including poultry, cows and goats, to increase their income.

In Palestine, for example, as a step of “farmers awareness is raised,” instead of visiting livestock auctions for a market survey, target farmers visit farmers who have produced livestock traded at a high price in order to grasp the knack of production. Because the characteristic of the SHEP to raise motivation of the producers while at the same time promoting market-oriented agriculture, has a wide application, it can be applied to cereals, fishery, processed products, etc.

However, because each commodity has its own characteristics, the challenges are different. For example, an extension staff in Namibia said, “in terms of cattle markets because prices fall as cattle age, even though the market price is low farmers cannot wait for the price to rise. There are marketing difficulties different from horticulture.” This is true, but no matter whether it is a vegetable or livestock product, it is important for farmers to ascertain the market first and become aware of areas of improvement.



SHEP for Livestock (in Palestine) © EVAP Phase 2



SHEP for Rice (in Madagascar) © PAPRIZ Phase 2

5. Is provision of materials/money taboo in the SHEP approach?

Basically, free goods are not provided in the SHEP approach, in order to prevent “the undermining effect”^{*} and the thwarting of their need for autonomy. However, because micro finance institutions, NGOs supporting infrastructure development and other governmental schemes are introduced and collaborations with other organizations/programs are promoted through stakeholder forums, farmer groups can have access to existing external resources and use material support.

However, material provision can support needs for competence if conducted creatively. We think “how to do” is more important than “what to do.” It is not that provision of materials/money itself is bad, but we should avoid provision in a way that would negatively affect the farmers’ motivation (thwarting the need for autonomy). For example, a project adopting the SHEP approach in Nepal gave financial support to farmers while asking them to share the cost in line with an existing subsidy system of the government of Nepal. As a result, the project was able to implement activities by supporting the need for farmers’ competence while not hindering their need for autonomy. When a project provides materials, equipment, etc., it is advisable that farmers use their own resources as far as possible and that the project pays for the shortage. It is necessary to pay maximum attention to the undermining effect, prevent material provision from becoming a wish list for farmers, and pay due consideration to fair distribution and the method of explanation.

When selecting target farmers, it is taboo to encourage participation by promising goods. This way leads to more farmers coming for handouts, resulting in a higher dropout rate. In the SHEP approach, the selection criteria of target farmers stipulates “farmers who have not received support in horticulture by any other donor” and “farmers who agree that this is technical assistance for farmers to increase their income by providing them farming skills, making their own investments within their resource capacity and having access to the market.” From the first, we try not to select farmers who would not participate without handouts.

In practicing the SHEP approach, daily wages and meal allowances are basically not given to the target farmers. The projects are for farmers who agree not to receive these allowances for participation. However, in Palestine with the culture to serve tea, refreshments are served using the government budget, for example. There are also exceptions, including travel expenses when the training place is distant from the farmers’ community, and a daily wage when they need to spend a whole day for the activity. It is desirable to carefully consider the country’s culture and other factors.

Generally, it is necessary to clearly communicate to the farmers at the first activity briefing that materials or funds are not provided. Because there are always farmers who participate in the activities without receiving the provision of goods or allowance, we focus on these farmers. When the positive outcomes are actually shown, other farmers also understand the effectiveness of the SHEP approach, which raises their motivation to participate in training. This is one way of persuading farmers to say that allowances for one or two days will be soon spent, but they can use the skills and techniques they acquire in the SHEP training over their whole life. This may not satisfy all farmers, but it is important to consistently persuade them in this attitude. When the implementers of the SHEP approach are also in charge of projects of other donors, we hope them to ask people related to the donors to carefully consider how to raise farmers’ motivation. Actually, the International Fund for Agricultural Development (IFAD) and JICA have signed an agreement to jointly promote the SHEP approach and some African countries have adopted the SHEP approach in the IFAD projects.



Providing materials purchased based on cost share (in Nepal) © SRC-CAP

^{*} The undermining effect refers to the situation in which people lose their intrinsic motivation by being given material rewards for doing a task

6. Are farmer groups necessary in the SHEP approach?

The organization of farmers itself is not a purpose. Basically, we recommend avoiding the formation of new farmer groups and using existing farmer groups. This is possible in Kenya, Malawi, Zimbabwe and other places where there is a certain number of farmer groups rooted in villages, but there are also countries/regions where there are no farmer groups. In this case, we should operate flexibly according to the situation of the country/region and often carry out activities considering a loose group of neighborhood farmers as a unit.

When there is an existing organization, such as an irrigation association in an irrigation scheme, we strongly recommend targeting this. Activities are implemented more smoothly with groups that have experience in joint activities compared with forming new groups from scratch. If there is no existing farmer group, a loose group of neighborhood farmers in the community can be found as unit and it would be good to implement activities for them as a group with potential for organization in the future. It is also possible to start improvement at a small scale with individual farmers. Activities can start from selling produce with a focus on buyers who are acquainted with the farmers. In this way, too, farmers can find things they can improve by doing market surveys and increase their profits.

Organization is a means for farmers to proactively continue sustainable farming as a regular vocation and not a purpose. Economically privileged farmers can run their farming without belonging to organizations. However, farmers with limited resources can do only limited activities as individual farmers, but have the potential for significant growth through being members of an organization. For this reason, in the SHEP approach, group activities are recommended and farmers are provided opportunities to think about the purpose of group activities and what benefits they will have from them, so that farmers have a good understanding of joint activities. It is ideal and always recommend that all activities are conducted by farmer groups. But in reality, not all farmer groups are well organized or solid. Without trust in the group, group activities can result in failure in farming due to money problems and other trouble among members. Therefore, farmers themselves should determine whether to do activities individually or in a group.



Meeting of a farmer group (in Bangladesh) © SMAP



Harvest by a farmer group (in Ethiopia)
© Ethio-SHEP

7. Does the SHEP approach target processing of agricultural products?

In the case of processing of agricultural products, too, it is the same to start from thinking about buyers. Loss from the “grow and sell” approach to processed products is bigger compared with fresh produce. In addition, because demand for processed products is limited and packaging involves costs, processing may not be profitable in many cases. Processing entails the risk of ending up as labor addition instead of value addition for smallholder farmers. Furthermore, in order to prepare necessary tools and facilities for processing, farmers need the ability to determine profit and loss on their own and reasonable organization, cohesion and trusting relationships. Some farmer groups stumble at this stage.

For example, in Kenya SHEP UP (Phase 2), processing of agricultural products was included as one of the activity components, in response to the strong request from the Kenyan Ministry of Agriculture. However, because only four of the 550 target farmer groups was able to make profits from the processing of agricultural products. As a result, processing was dropped from the activity components in the succeeding SHEP PLUS (Phase 3). For smallholder farmers to make profits from processing of agricultural products, they need higher organizational and technical skills. However, because the cost effectiveness is too low and many farmers have improved their livelihoods without introducing processing, processing of agricultural products is not actively recommended in projects using the SHEP approach.

In the Palestine EVAP Phase 2, because a farmer group that had obtained information that a quality standard is set for each processed product requested to acquire techniques pertaining to the quality standard for processed grape products, training on a grape syrup processing technique was provided. In this way we responded to farmers' request within the scope of the project in some cases.



Sales of subdivided banana biscuits (in Kenya)
© SHEP UP



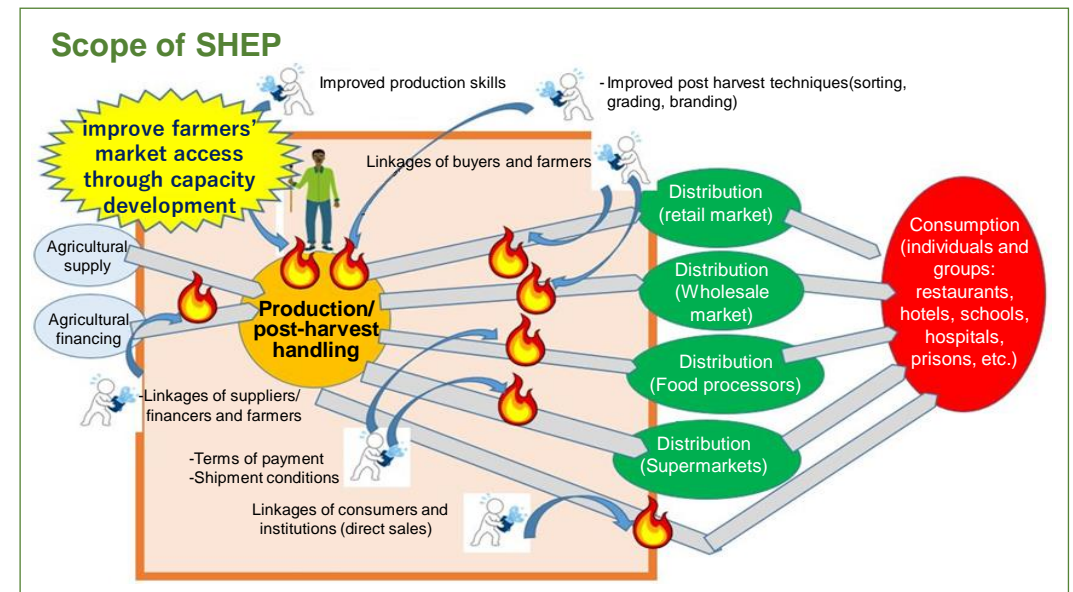
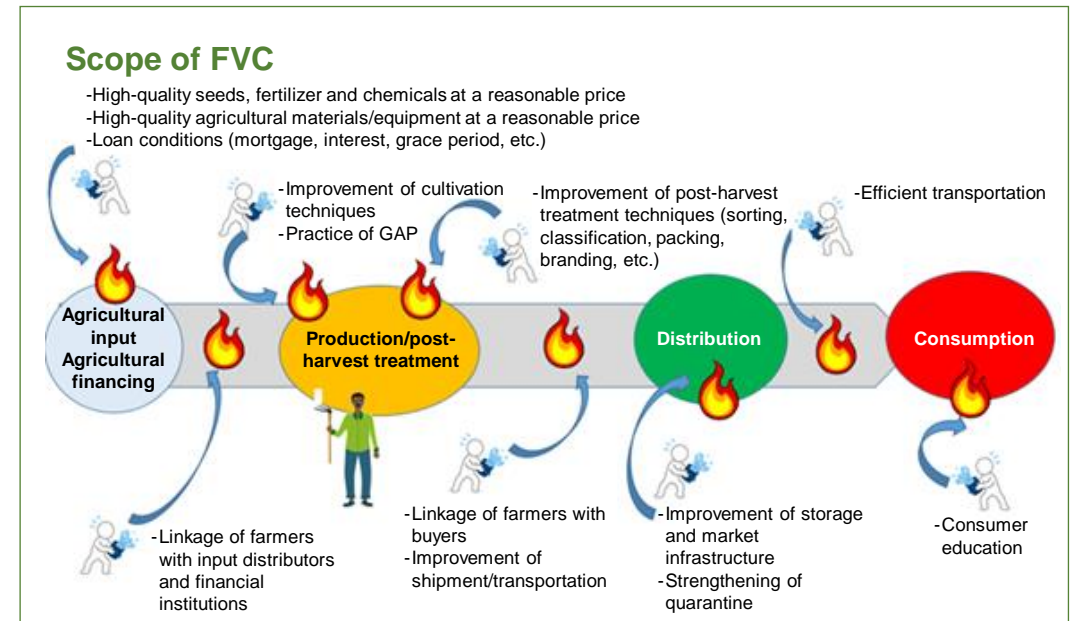
Training on a grape syrup processing technique
(in Palestine) © EVAP Phase 2

8. What is the difference between the SHEP approach and the Food Value Chain (FVC) approach?

The Food Value Chain (FVC) approach is a comprehensive approach to think about measures for all challenges in the processes from upstream to downstream – from the input of agricultural materials/equipment to production, processing, distribution and consumption of agricultural products. It would be ideal if we could take effective measures for all challenges, but in actuality, taking all measures is difficult in many cases due to resource shortage, absence of established systematic approach, and so forth.

On the other hand, because the main purpose of the SHEP approach is to enhance the abilities of producers through support for smallholder farmers, the approach works to overcome challenges facing producers and challenges in the direct upstream and downstream from them and implements activities with a narrower focus compared with FVC approach. For this reason, using the SHEP approach in FVC projects, is very useful and started to be used in various FVC projects.

In Bolivia, for example, the SHEP approach is introduced to a FVC project. The aim is to enhance the resilience of producers and improve their livelihood. In Asian countries, some projects combine the FVC and the SHEP approaches. These are basically FVC projects but are utilizing the SHEP approach for capacity building of producers and market actors.



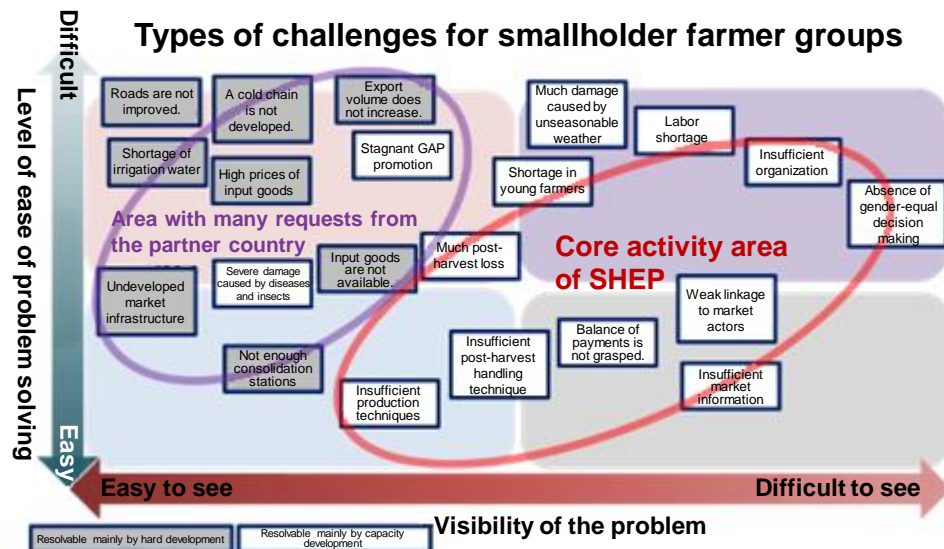
Scope of the FVC and SHEP approach© JICA

9. Should the SHEP approach not be introduced uniformly?

The SHEP approach is based on the concept consisting of two wheels: “promotion of market-oriented agriculture” and “empowering and motivating people by effective activity designs and tips.” The approach is composed of a series of activities along the four steps. Its model is the SHEP approach Kenyan Version, where the SHEP approach was developed and adopted. (See “SHEP Handbook for Extension Staff”.)

In practicing the SHEP approach, it is recommended not to uniformly implement the SHEP approach Kenyan Version that forms its basis, but to customize a series of activities depending on the situation of the target area. This is because, although there are many common agricultural situations and challenges for agricultural extension in developing countries, the level of farmers’ capacity and their challenges vary depending on the country or region, even in the same continent. The universal value of the SHEP approach will be preserved in customization by following its concept and four essential steps. Because the SHEP approach is designed to gradually raise farmers’ motivation following the four steps so that the farmers can participate in the activities on their own initiative and their motivation increases with the progress of the activities. As a result, they become more motivated to gain new knowledge and techniques. It is an important factor of the SHEP approach to construct the order, timing, interval and linkage of the activities with due consideration to psychological reactions of the farmers.

It is recommended to start trying the SHEP activities through pilot activities in the field and then to develop and customize the SHEP package best suited to the whole country based on experience gained in the field.



Typical challenges facing smallholder farmers in developing countries © JICA

Four Essential Steps	Activities in Kenya	Activities in Other Countries
1. Share goal with farmers.	<ul style="list-style-type: none"> - Selection of Target County - Sensitization Workshop 	<ul style="list-style-type: none"> - Sensitization Workshop - Selection of Target Groups (Rwanda)
2. Farmers’ awareness is raised.	<ul style="list-style-type: none"> - Participatory Baseline Survey - FABLIST Forum - Market Survey 	<ul style="list-style-type: none"> - Participatory Baseline Survey - Needs Assessment (Malawi) - Market Survey
3. Farmers make decisions.	<ul style="list-style-type: none"> - Crop Selection - Action Plan Making 	<ul style="list-style-type: none"> - Crop Selection - Crop Calendar Making
4. Farmers acquire skills.	<ul style="list-style-type: none"> - Training for Extension staff - Demand driven In-field trainings for farmers 	<ul style="list-style-type: none"> - In-field Training

Four essential steps and activities in Kenya (center), and customized SHEP activities in other countries (right) © JICA

10. What is normalization of the SHEP approach?

Mainstreaming of the SHEP approach has three development stages: internalization at the individual level, institutionalization at the organization level, and normalization as the organization's norm.

First, at the stage of internalization, because this is the stage where the approach is just introduced and its effectiveness needs to be demonstrated in the organization, it is recommended to select farmer groups with higher potential to succeed in order to ensure success cases.

Next, at the stage of institutionalization, because the organization has already recognized the effectiveness of the SHEP approach, it is important to expand the SHEP approach for a larger number of farmers and create an environment for the approach to be institutionalized as an extension method by the organization. Specifically, writing of policy documents, securing of government budget, and incorporation of the essence of the SHEP approach in extension staff training are initiative examples of this stage. The number of target farmers of the SHEP approach will increase as a result.

Lastly, at the stage of normalization, because this is the final stage where the SHEP approach has become normal in the organization, the SHEP approach is introduced to all farmers. Therefore, it is not necessary to set selection criteria for the target farmer groups.

Since TICAD V in 2013, the SHEP approach has been widely implemented and practiced in many countries, but none of them has yet reached the stage of normalization. However, in Kenya, Malawi, Palestine, and other countries that have been practicing the SHEP approach from a relatively early stage, the number of individuals who internalized the SHEP approach has significantly increased, and their organizations are reaching the stage of institutionalization. The government of South Africa paid attention to the SHEP approach at an early stage of its utilization and is quick in tackling its institutionalization, including entry in its policy documents and nationwide expansion.

Internalize

I have learned and absorbed the concept of the SHEP approach. Now it has **become part of my nature**.

Careful (narrow) target setting

Countries just introducing SHEP

Institutionalize

Our organization has made the SHEP approach a permanent part of the extension system.

Wider target setting

Countries already confirmed SHEP's effectiveness

Normalize

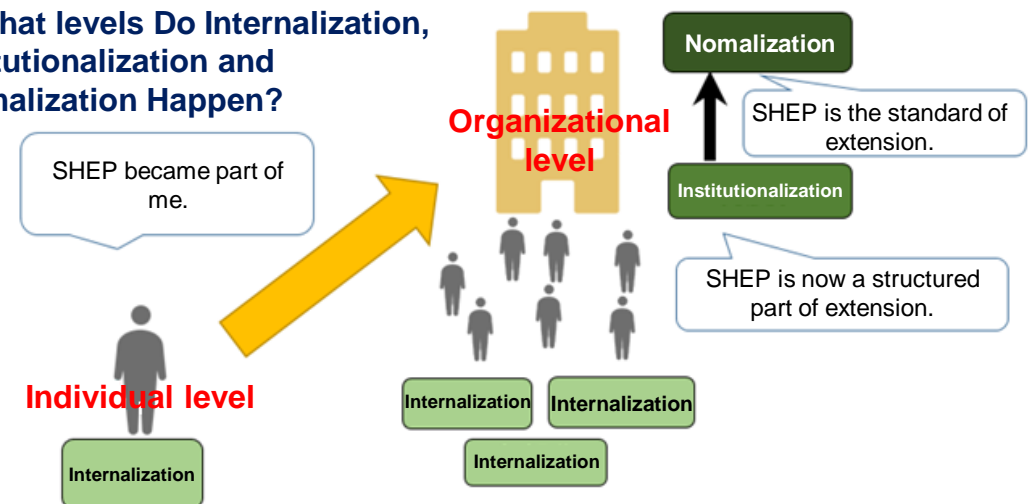
Our organization has brought the SHEP approach to a **standard state** of extension services.

Applied to all farmers

Countries already practicing SHEP as a routine

Japan

At What levels Do Internalization, Institutionalization and Normalization Happen?



Created by SHUTO Kumiko, IMG Inc.

11. What is collaboration with the private sector in the SHEP approach?

The SHEP approach in developing countries is basically applied by the extension staff of the partner government. However, it is also adopted by private companies. For example, in the case of technical training for farmers, seed companies were asked to set up demonstration plots at their cost and provide regular technical guidance by utilizing the SHEP approach.

After “The SHEP One Million Declaration” at TICAD VII in 2019, various actors involved in agricultural extension (donors, NGOs, private enterprises, and universities, etc.) have integrated the SHEP approach. In Bangladesh, for example, three parties (1) extension bureau of the government, (2) microfinance institutions and (3) private seeds distributors are concurrently implementing the SHEP approach. When major donors have almost given up support for extension staff of the government, collaboration with private companies has become a major part in Bangladesh, where the growth of the private sector is significant. Because target farmers of the SHEP approach who are market oriented and capable of reasonable business decisions are important business partners for companies selling seeds, fertilizers and other agricultural materials, and for buyers of agricultural products, the SHEP approach attracts a lot of attention as a tool for fostering farmers.

Malik Seeds Pvt. Ltd.



In Bangladesh, seed company Malik Seeds Pvt. Ltd. achieved the two goals of improvement of farmers' livelihood and increase in the company's sales at the same time by practicing the SHEP approach. Because farmers who increased their income by introducing the SHEP approach tend to expand their business by investing in seeds and fertilizers, it is beneficial also for seed companies who can increase future product sales by providing technical guidance to farmers. It is a win-win case for both sides because farmers can also improve productivity by acquiring techniques.

SHEP video produced by Malik Seeds Pvt. Ltd.

SHEP Experience: Step to Change (9 minutes): <https://www.youtube.com/watch?v=PjHHJvVhczM>

Powerhive Inc.



Powerhive Inc. is a U.S. venture company developing a mini grid business combining photovoltaic power generation systems and storage batteries in non-electrified regions. It is supporting improvement of the living environment of residents through use of electricity, increase of household income and community development by providing chicken ranches, electric vehicles, irrigation pumps, mills and home electric appliances while supplying electricity to non-electrified areas in Kenya.

Expecting increase in electricity charge by increasing the income of rural residents and fostering their business mindset, the company implemented trainings using the SHEP approach for farmers. The Kenya SHEP project team provided Training of Trainers (ToT) to the company's extension staff on SHEP market surveys, crop selection and crop calendar making so that the company's extension staff can promote the SHEP approach for residents.

Trained farmers who are customers of Powerhive Inc. started agriculture as a business. After completing the trainings, some of them conducted a market survey on their own, selected horticulture crops for selling rather than for self-consumption and purchased necessary materials. There is also a farmer group that newly leased land for cultivation. Farmers with a business mindset are appearing as the company aspired.



© JICA

12. What is the relationship between the SHEP approach and nutrition initiatives?

Some SHEP projects incorporate activities related to nutrition improvement for farmers and general consumers.

For the target farmers, *kamishibai* (a picture-card show) was introduced in the production technique trainings to inform the health effects of each crop and tips for cooking with consideration given to nutrition. The *kamishibai* is designed to be easily understood even by extension staff with insufficient knowledge about nutrition, by avoiding technical terms of nutrition and using illustrations. Because the capacity of farmers and extension staff is limited, in practicing the SHEP approach, some cards for nutrition are added to existing *kamishibai* that are used for production techniques. Farmers are running a farm to increase income, but knowing the positive effects of the crops they produce will be instrumental in making farming more enjoyable and taking pride in it. A secondary effect is also expected that, when a part of the produced horticulture crop is self-consumed, the knowledge will help to improve their nutrition.

In Ethiopia and Nigeria, the target farmers were encouraged to use their increased income by practice of the SHEP approach for nutrition improvement. Step 4 is appropriate for incorporating activities related to nutrition improvement for farmers in the SHEP approach. Conducting such activities earlier involves the risk of hindering autonomy when farmers decide crops for selling and the risk of conveying the wrong message to produce crops of good nutritious value. It is important to avoid situations where crops with good nutritious value were produced, but are not selling well.

For general consumers, activities to improve the market value of horticulture crops through securing a sales channel for school lunches and PR activities brought a synergy effect of an increase in demand for horticulture crops and nutrition improvement for general consumers.

It is desirable to obtain agreement and cooperation of the Counterpart Personnel (hereafter referred to as “C/P”) for these activities in order to ensure sustainability. However, it is necessary to consider the circumstances of the country concerning the capacity and mandate of extension staff involved in nutrition improvement. If it is difficult to ask extension staff to cooperate, use of other resources (other government officials, health workers, JICA resources, etc.) may be possible.



Sample page of SHEP x nutrition *kamishibai*
© JICA

You can see forms of a SHEP nutrition *kamishibai* on the JICA site below:
<https://www.jica.go.jp/activities/issues/agricul/approach/shep/materials/kamishibai.html>

13. How is gender positioned in the SHEP approach?

The SHEP approach recognizes gender from the perspective that it is necessary and effective in business for couples to cooperate as a farm management unit.

Specifically, it is important for farmer couples to find the common goal of “profitable farming” through gender awareness training. Couples who didn’t squarely talk about farming and were doing farm work separately without thinking proactively, once they could actually increase their income by talking together, cooperating and strategically operating agriculture with a plan, start to work with lit-up eyes. In order to encourage decision making as a couple, it is recommended to eliminate asymmetry of information between spouses by asking for the participation of both husband and wife in gender awareness workshops, or, if only one member of the couple participates, assigning a task to tackle with the spouse at home, which is named “homework system.” We often hear stories like (as a result of cooperation between husband and wife) “children have developed respect for their parents” and “children say that they want to become a farmer.” The point of gender awareness training is to separate men and women for practice/discussions. Discussions by men and women together often end up in a quarrel. After separate practice/discussions, presentations of the result will increase mutual understanding. Furthermore, since understanding of the importance of gender awareness not only by target farmer groups but also community leaders is often the key to smoothly conduct the project activities, try to involve such community people for some cases. (see P76 to 81 of “SHEP Handbook for Extension Staff”)

In Kenya where the SHEP approach was developed, gender awareness training is very popular among both male and female farmers. Actually, many farmers feel that this is more effective than crop production training. However, in countries where SHEP projects are not implemented, it is difficult to take time for gender awareness as training. In these cases, we handle the gender issue regularly as a cross-cutting issue by talking about gender awareness with farmers in every activity and encouraging participation of both sexes. In Malawi and Uganda, we use the Household Approach (HHA) and implement trainings with a focus on sharing the vision by all family members rather than men and women. In Palestine and Egypt, where gender norms and the roles of men and women in farming are significantly different, training is implemented separately. In Palestine coloring books and puzzles for children are prepared in the training to make it easier for women who take their children to participate. As a result, mothers can concentrate on the training. In this way, it is necessary to customize training according to the situation of the country.



SHEP target farmer couples (in Bangladesh)
© SMAP



Training session in Palestine ©JICA



Writing the roles of men and women in a gender awareness workshop (in Zimbabwe)
© ZIM-SHEP

14. What is the role of the SHEP approach under the COVID-19 disaster?

The COVID-19 pandemic forced city-wide lockdowns and border closures around the world, causing disruptions to supply chains of agricultural products. Under this situation, farmers practicing the SHEP approach recognized changes in market needs through regular market surveys and responded by changing buyers and crops on a case-by-case basis. Some farmers converted the crisis into opportunities: when the market temporarily ran short of produce due to a lockdown or border closure, they obtained the information instantly, shipped their produce and made good profits.

In Tanzania, in response to decreased demand in bigger markets due to the closing of borders, farmers changed their sales channel to small local markets. As a result, they learned of a means to sell their crops without relying on a big market, though at a small scale. In Uganda, high fuel prices made it difficult for farmers to go to the market frequently, but they coped with the situation by having the market players with whom a relationship of trust had been built transport vegetables by taxi and receiving mobile money payment. Other farmers who distributed the timing to earn income by changing the cultivation timing of different vegetables after introducing the SHEP approach were not affected by a lockdown thanks to the distributed selling timing. These cases show that even during the emergency of the COVID-19 pandemic, farmers practicing the SHEP approach maintained their entrepreneurship and demonstrated resilience of proactive farmers who can respond to changing market needs.

Evacuation of Japanese experts due to the COVID-19 pandemic strengthened the sense of ownership of the C/Ps and promoted autonomy and collaboration (in Tanzania and Ethiopia). It is also reported that the impossibility of large-scale group training resulted in farmer-to-farmer extension (Uganda). Some farmers were not able to ship to a large market due to COVID-19, but consumed the vegetables, etc. at home, which led to improvement of their nutrition (in Kenya).



SHEP target farmer (Uganda) © NUFLIP Phase 2



Field visit to other farmer groups (Tanzania) © TAN-SHEP

15. What is the possibility of DX promotion in the SHEP approach?

Digital transformation (DX) in the SHEP approach consists of (1) digitalization of information, (2) utilization of digital information, and (3) digital transformation.

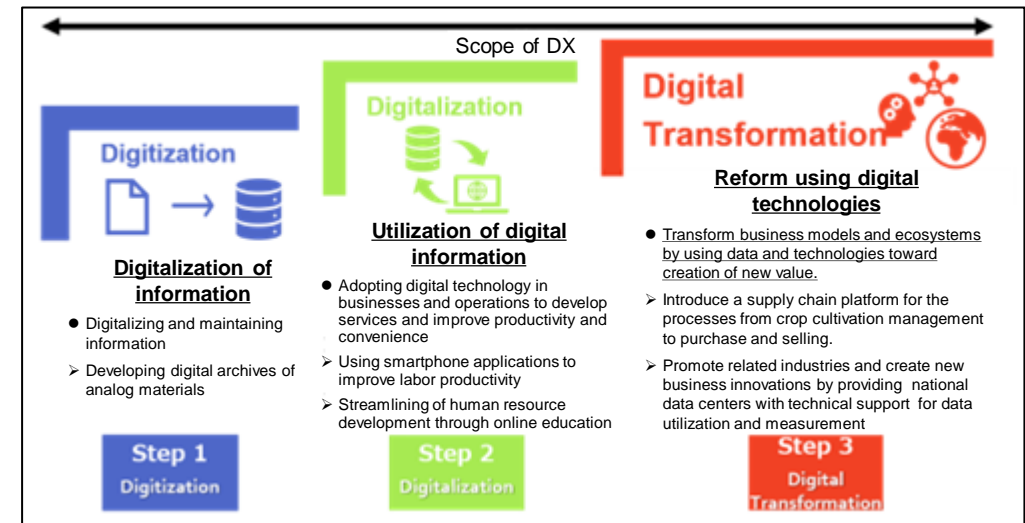
For (1), in order to carry out SHEP projects effectively and efficiently under the COVID-19 disaster, extension staff have been using tablets since 2020. Tablets with training materials and videos installed are used for baseline surveys, activity monitoring, questionnaire surveys and training of the SHEP approach. In Kenya, for example, a survey of the regions where Japanese experts cannot enter due to the COVID-19 pandemic was conducted remotely through the C/Ps who carry tablets. In Nigeria and Senegal, C/Ps, extension staff and Japanese experts use tablets when they attend regular online meetings. In Zimbabwe, a survey application called Open Data Kit had been used by the government in tablets to collect data of baseline surveys. While ensuring the process of “raising awareness,” by asking farmers to fill in a paper questionnaire in the past, the efficiency of the data collection was improved by entering the information from questionnaire sheets collected by extension staff into Open Data Kit.

For (2) utilization of digital information, a large number of videos designed for easy understanding have been developed for a variety of on-line SHEP training. The SHEP resource personnel are rapidly expanded by being involved in such online training as observers, which was not possible before. For the future, it is expected that an increase in remote based training will further promote the follow-up activities of SHEP resource personnel and strengthen their community.

For (3) digital transformation, in order to mitigate asymmetry information among farmers as well as between farmers and market actors, some system taking advantage of digital technologies is expected to be developed.



Baseline survey using a tablet (Nigeria) © Project to spread market-oriented farming to improve livelihoods



Source: Ministry of Economy, Trade and Industry DX Report 2 (Interim Report)

16. Won't production of the same crop as a result of a market survey lead to a drop in prices?

At present, it is very rare that crop selection by farmer groups leads to oversupply to the market. We think this is because farmer groups select different crops due to different technical abilities and available resources, and also because the amount that smallholder farmers can produce hardly exceeds the market demand. On the other hand, if prices would break or crops cannot be shipped due to oversupply, an important point is whether or not farmers can analyze the cause and think of the next actions to solve the problem.

For example, farmers actually experienced market saturation in one season in Rwanda and their business failed. However, the farmers continued market surveys and were able to make a profit in the next season. After everyone started to cultivate the same crop, farmers worked on cultivation of new crops based on another market survey and realized that they could improve profitability. In South Africa, farmer groups conducted production adjustment, including shipment at different timings, to prevent oversupply.

In this way, market surveys are essential for development of “proactive farmers” who understand fluctuating and difficult-to-predict markets and practice agriculture as a business. In practicing a market survey based on the SHEP approach, farmers visit local markets and learn how to interview market actors. What is important in this process is for farmers to know not only that the market is a physical place but that market actors provide various business opportunities, including export companies, processors, hotels, restaurants, cafeterias, super markets, hospitals, schools, dormitories and prisons. Because farmers should investigate who are promising customers and develop sales channels, we bring them to local markets to interview market actors in many cases, but we also encourage them to actively visit other businesses and facilities. In some countries, visits to leading processors, supermarkets, etc. are made in addition to visits to local markets.

When all farmers practice the SHEP approach, asymmetry of information will be mitigated and much waste will be eliminated. Specifically, this will reduce waste of perishables unsold in the market as well as labor and agricultural inputs, including fertilizers and seeds, spent to harvest unsold crops. This will contribute to SDG12 “Responsible Production and Consumption.”



Market in Guatemala © JICA



Wholesale market in Kenya © JICA

17. What are the criteria for target crop selection?

Farmer groups of the SHEP approach select target crops for their group based on the results of market surveys. In addition to those results, standards that farmer groups consider when selecting target crops include their experience in cultivating the crop, self-consumption, production challenges, and estimated yield and net profits (See p.53 of “SHEP Handbook for Extension Staff”).

In the process of crop selection, it is recommended that decision making should be done based on an agreement of the farmer group members and selection of multiple (two or three) crops in order to hedge risk. Production of the same crops by a farmer group increases bargaining power with buyers, joint purchase of agricultural input (seeds, fertilizers, chemicals, etc.) realizes purchase at discounted prices, and joint shipping and selling of produce reduces transportation and other costs, which will lead to effective and efficient operation of the group. However, actual cultivation of the target crops is not forced but left to the judgement of individual farmers of the group.

After selection of target crops based on the market survey, target farmer groups are expected to modify their behavior, such as by changing cultivated crops, varieties, cultivation timing and buyers, and improving quality. Some farmers try new crops or varieties, but most farmers tend to continue to cultivate the same crops. However, they can increase their income because through the market survey they can obtain new information, including timing to ship crops for selling at high prices and the markets and buyers who purchase crops at high prices. In some cases, transaction at high prices was realized without changing cultivated crops, buyers or any other things, when farmers had a detailed knowledge of the market through the market survey and enhanced their bargaining power.



Market survey (in Tajikistan) © JICA



Crop selection by a farmer group (in Ethiopia) © Ethio-SHEP

18. Do extension staff have available capacity to provide marketing guidance?

Because the SHEP approach aims to improve the quality of agricultural extension, it is not an additional duty of extension staff but rather improvement of their normal duties. More extension staff say they can operate extension effectively by practicing the SHEP approach rather than those who do not.

For example, extension staff in South Africa said that their work became easier because they were freed from telephone calls from farmers during harvest time. In the past, their operations were often disrupted by a deluge of inquiries about “where to sell” and “who will buy” from farmers. Because farmers understood the market by conducting a market survey themselves through the SHEP approach, the extension staff were able to spare time to support other groups, which was welcomed by the farmers. They also say that, after teaching farmers how to do a market survey, operation of the extension staff is disrupted less frequently, because they need to visit farmers only when technical guidance is required. In short, a change in quality in the extension services can make up for their low quantity to a certain extent. Regarding the quality, “making activities simple” is an important point.

In every country, we hear the challenge that, due to an insufficient number of extension staff, their time is taken up with regular work and they cannot provide good extension services to smallholder farmers. To address this challenge, we suggest to reduce the number of unproductive visits to farmers in order to carry out efficient extension services.



A market survey (in Kenya) © SHEP PLUS



A market survey (in Sudan) © JICA

19. How long does training/guidance of the SHEP approach last?

The SHEP approach builds the capacity of farmers and extension staff through a series of training following the four steps. It is recommended to customize the series of training (activities) in accordance with the situation of the country. It is also desirable to adjust the training period depending on the level of the target farmers of the country.

Usually, concentrated intervention for farmers lasts about one year in a SHEP project. For example, in Kenya and Malawi, a training series of the SHEP approach is implemented for one year, which is followed by one to two years of follow-up in accordance with the level of the target farmer group. In Ethiopia and Nepal, on the other hand, the SHEP approach is implemented for two years to gradually build capacity for the target farmer groups through training. A realistic goal during the intervention period is to confirm that the farmers take the first step to move forward.

Example Crop Calendar

Date: ___/___/___
 Name of District: _____ Name of Sub-District: _____
 Name of the Farmer Group: _____

We are improving and/or changing Crop/Variety, Quality, Quantity, Harvest timing, Buyers, Others
 (specify: Packaging, Stronger price negotiation).

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Production	1 st Crop (Tomato)	Land preparation Nursery	Transplanting	1 st Topdressing Pest & disease control Weed control	2 nd Topdressing	Harvesting/ Cleaning/ Grading/ packaging						
	2 nd Crop (Cabbage)											
	3 rd Crop (Sweet Potato)											
Marketing & Business Management	Market survey at X market and Y market	Start record keeping for this season	Regularly contacting potential buyers			Arranging transportation Group selling	Profit analysis					
Group Activities/Others	Convert maize field to voggie garden	Group purchasing of seed & fertilizer	Cleaning irrigation canals			Collecting group membership fee						



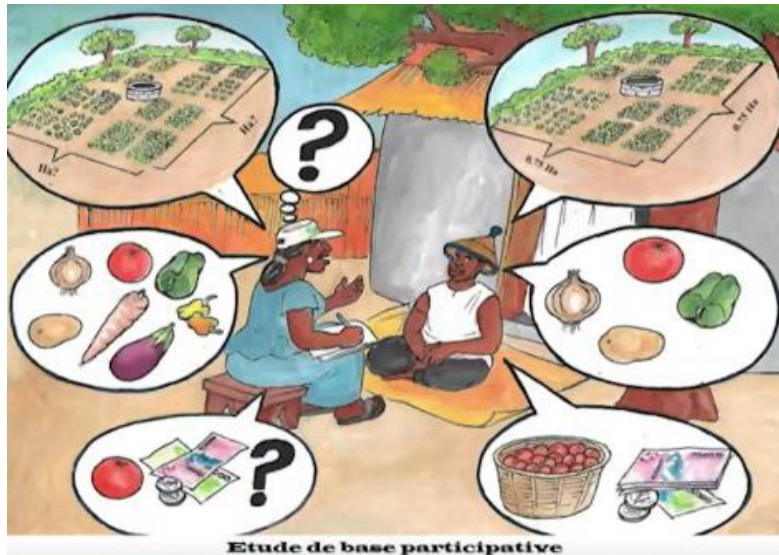
Crop Calendar created by a farmer group © JICA

A sample of crop calendar showing the activities of target farmers
 © SHEP Handbook for Extension Staff

20. Can the SHEP approach be used for illiterate farmers?

Farmers who lack basic literacy and numeracy skills can also be targets of the SHEP approach.

For example, in Kenya, where the SHEP approach started, farmers' literacy rate was relatively high and they were able to calculate income and expenditure without any problem, whereas in a Tanzanian project, farmers were able to understand the income and expenditure calculations through visualization using candies. In a pilot site of the SHEP project in Ethiopia (Ethio-SHEP), activities are advanced, with literate farmers supporting illiterate ones in the farmer group on a routine basis. In Senegal, in order to make up for the low literacy rate of the farmers, *kamishibai* is used to explain market surveys. In South Africa, when literate and illiterate farmers of a farmer group together conducted a market survey, illiterate farmers had more vivid recollection of the scenes of the survey compared with literate farmers and provided valuable information for crop selection.



Kamishibai (in Senegal)
© Project for Capacity Development of Small-scale Horticulture Farmers



Extension staff providing explanation by using *kamishibai* (in Senegal)
© Project for Capacity Development of Small-scale Horticulture Farmers



Visualization by using candies to resemble money (in Tanzania)
© TAN-RICE

Other: Frequently asked questions

SHEP Secretariat team compiled Q&A on the SHEP approach by question category. Please contact if you are interested.

[Question categories]

- ✓ SHEP approach in general
- ✓ Pros and cons of materials provision
- ✓ Extension system
- ✓ Four steps
- ✓ Selection of target farmers
- ✓ Sensitization Workshop
- ✓ Market survey
- ✓ Baseline survey
- ✓ Stakeholder forum
- ✓ Farm record keeping
- ✓ Crop selection
- ✓ Cultivation planning
- ✓ In-field technical training
- ✓ Motivation
- ✓ Selling
- ✓ Impact
- ✓ After the project
- ✓ Gender
- ✓ Difference with other approaches
- ✓ Introduction of SHEP elements in projects
- ✓ Coordination with other development sectors
- ✓ Private-sector collaboration
- ✓ Farmer group
- ✓ Extension staff system
- ✓ Farmer-to-farmer extension
- ✓ The Knowledge Co-Creation Program
- ✓ Internalization of SHEP
- ✓ SHEP teaching material
- ✓ Asymmetry of information
- ✓ Challenges and failure cases of SHEP

[Question samples]

- What meaning does the order of the SHEP “four steps” have?
- How are the target farmers selected?
- What are the benefits for private companies participating in stakeholder forums?
- Farm record keeping may be difficult for many farmers. How is this incorporated?
- Because experience in cultivating the crop is a major factor when selecting target crops, farmers are more likely to continue to cultivate the same crops regardless of a market survey, aren't they?
- How are crops stored and how is value added?
- Isn't it necessary to adopt innovative latest technologies to increase farmer income?
- How do you cope when farmers' motivation fell (when poor harvest continued, for example)?
- How should we think about the motivation of C/Ps?
- I think middlemen have a stronger position in the relationship between middlemen and farmers and there is little room for price negotiation. How do you build relationships between middlemen and farmers in the SHEP approach?
- Why does the SHEP approach does not actively recommend contract farming?
- How do you keep farmers' motivation high after completing the project?
- What are the changes in farmers who practiced the SHEP approach?
- What is the level of cost effectiveness expected and achieved in terms of actual profits for farmers? What is the proportion of farmers who actually increased income?
- What are the changes in extension staff after implementation of the SHEP approach?
- After increasing farmer income and achieving the goal by practicing the SHEP approach, how do you reduce your intervention?
- Regarding gender-related initiatives, how are you treating households that have a woman as the head, including single mothers?
- Women's outing with men other than their spouse may be restricted in the Muslim world. What response examples are there?
- What is the difference between FFS (Farmers Field School) / FBS (Farmer Business School) and the SHEP approach?
- How about compatibility, common points and differences between OVOP (One Village One Product movement), *kaizen* approach and the SHEP approach?
- Are there collaboration cases with partners other than JICA?
- How did Malik Seeds of Bangladesh come to know the SHEP approach? What are the factors of its success?
- How many groups and how many farmers on average are under the charge of one extension staff? Do the staff regularly visit the farmers under their charge?
- What are the disadvantages and risks of the SHEP approach? What are the challenges and limitations?

Agricultural Extension Work Reference Material Attachment 3.

Column: Case Examples of the SHEP Approach

February 2022
ECONOMIC DEVELOPMENT DEPARTMENT



Case Examples of the SHEP Approach

1. **Rice × SHEP**
2. **Irrigation × SHEP**
3. **Livestock × SHEP**
4. **Post-conflict reconstruction × SHEP**
5. **Food Value Chain (FVC) × SHEP**
6. **Yen loan × SHEP**
7. **Grant aid × SHEP**
8. **Decentralization × SHEP**
9. **Private company × SHEP**
10. **Other donors × SHEP**



Rice × SHEP



In Madagascar and Zambia, the SHEP approach is used for rice projects. A success factor in Madagascar was filling an information gap between rice farmers and seed farmers. Because rice farmers did not know where to obtain good rice seeds, while seed farmers have a problem of unstable customers, a win-win relationship was built by connecting the two sides. In addition, increased business transparency made the seed farmers produce seeds of better quality. Unlike the case of horticulture crops, changing varieties of rice makes only a small difference in market prices and change of rice planting timing is difficult. In this context, another major factor that had an effect to improve profitability by using the SHEP approach in a rice project in Madagascar was making a habit of balance calculation and record keeping. In particular, converting family labor into wages in cost accounting promoted cost reduction by improving the labor efficiency of farmers and increasing income through seed and fertilizer input. It is reported that farmers were surprised by the fact that about 70% of the costs consist of wages when family labor was calculated in terms of money, which led to their action to improve their farm management.

Project examples

- **Madagascar:** "Project for Rice Productivity Improvement in Central Highland " (PAPRIZ Phase 1)
- **Madagascar:** "Project for Rice Productivity Improvement and Management of Watershed and Irrigated Area" (PAPRIZ Phase 2)
- **Zambia:** "Market-Oriented Rice Development project" (MOReDeP)

Irrigation × SHEP



The SHEP approach is also introduced to irrigation projects. Irrigation schemes require maintenance and management by farmers after the development, but it will not be sustainable if the farmers cannot improve their income by using the schemes. For this reason, many irrigation projects have a component to improve the farm management of the farmers and the SHEP approach is used in various projects to bring positive effects.

For example, in Malawi, where a SHEP project had been implemented for years, government officials of the counterpart organizations with SHEP experiences were actively mobilized as trainers for SHEP training for target farmers of an irrigation project.

Through this irrigation project, all target farmer groups were able to increase their income.

Because irrigation projects have high affinity with the SHEP approach, the SHEP approach is now utilized in various irrigation projects.



Installing a simple intake weir © E-COBSI

Project examples

- **Zambia:** "Expansion of Community-Based Smallholder Irrigation Development Project" (E-COBSI)
- **Sudan:** "Capacity Development Project for promotion of market-oriented agriculture and improved Irrigation Scheme Management in River Nile State "
- **Malawi:** "Project for Enhancing Capacity for Medium Scale Irrigation Scheme Development, Operation and Maintenance "
- **Malawi:** "Adapting to Climate Change Through Integrated Risk Management Strategies and Enhanced Market Opportunities for Resilient Food Security and Livelihoods" *implemented by WFP
- **Nepal:** "Project for Promotion of Irrigated Agriculture in Terai Plain"

Livestock × SHEP



In Palestine, the SHEP approach was used for a wide variety of products, including livestock and apiculture. Particularly for livestock, activities for “raising farmers’ awareness,” which is the second step of the SHEP approach, succeeded in increasing the income of the target farmers by encouraging them to adopt techniques not only through a market survey but also through visits to successful farmers and information exchange with feed companies. The farmers said that their visits to successful farmers were greatly stimulating and helped to improve their farming: “I’ve come to believe in the technique after seeing the success with my own eyes. Now, I’m practicing the technique,” for example. Successful farmers said that, in addition to being of help for fellow farmers, they also had the benefits of an increase in customers because they were introduced as good farmers. Generally, farmers are conservative, but they changed their behavior by actually experiencing the farming methods of other farmers who are successful but nonetheless farmers like them. By reference to this success case in Palestine, adoption of the SHEP approach in livestock is now planned in Namibia.



Visiting a market-oriented livestock farmer ©EVAP2



Visiting a feed company ©EVAP2



Learning methods from a successful Farmer ©EVAP2

Project examples

- **Palestine:** "The Project on Improved Extension for Value-Added Agriculture in Palestine (EVAP-1)"
- **Palestine:** "The Project on Improved Extension for Value-Added Agriculture in Palestine (EVAP-2)"
- **Namibia:** "Northern Namibia Small-Scale Farmers' Livelihood Enhancement Project" "

Post-conflict reconstruction × SHEP



The SHEP approach is also used for reconstruction support under the influence of conflicts. In northern Uganda, where conflicts continued over 20 years, assistance using the SHEP approach has been provided to rural residents who have little experience of horticulture. By incorporating activities contributing to improvement of quality of life, including family vision making, family budgeting training, and food management training, the projects achieved the outcomes of elimination of food scarcity, reduction in domestic violence, and payment of school expenses of children in addition to increased agricultural income of the target residents.

Encouraged by the success story in Uganda, the SHEP approach is also introduced in the project for promoting local integration of former refugees in Zambia.



Local market



Farm work while taking care of a child

Project examples

- **Uganda:** "Northern Uganda Farmers' Livelihood Improvement Project"
- **Uganda:** "Northern Uganda Farmers' Livelihood Improvement Project Phase 2" (NU-FLIP2)
- **Zambia:** "Project for Promoting Local Integration of Former Refugees in Mayukwayukwa and Meheba "

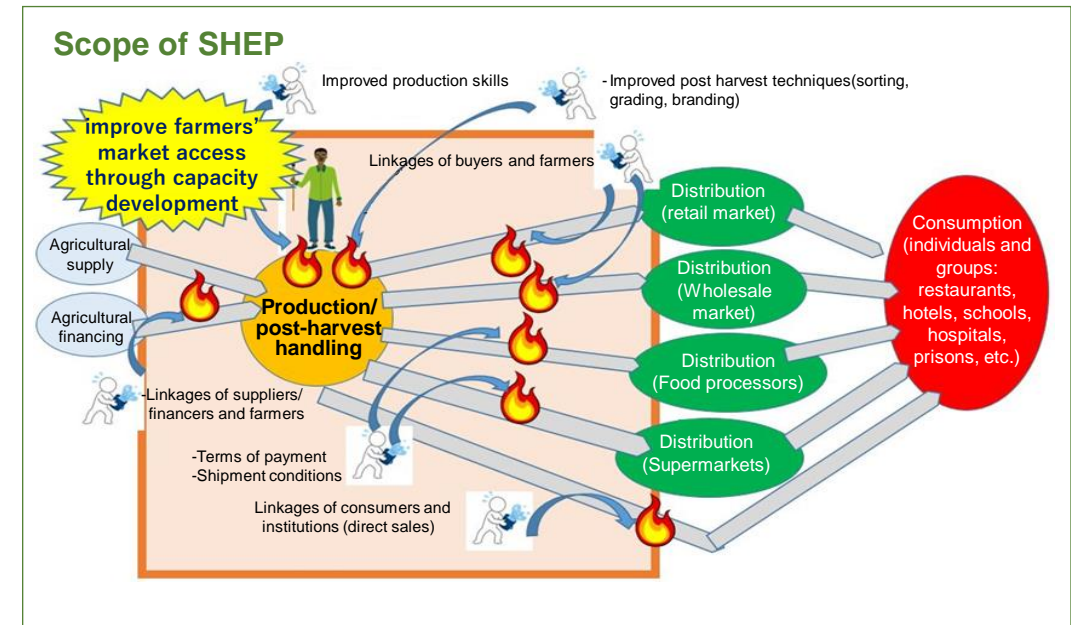
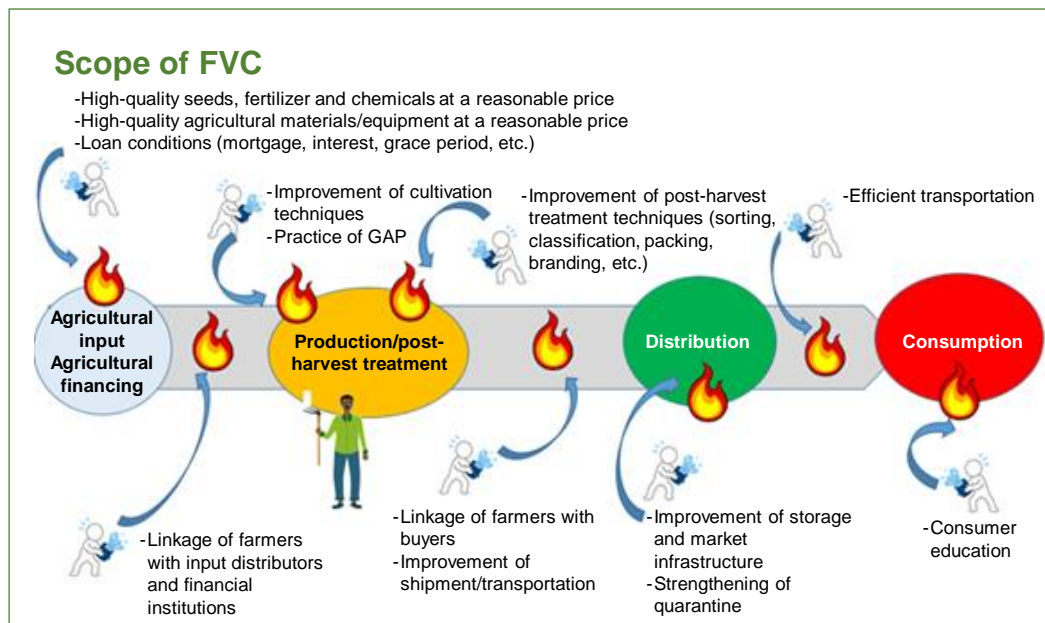
Food Value Chain (FVC) x SHEP

Food Value Chain



The Food Value Chain (FVC) approach is a comprehensive approach to tackle all challenges in the processes from upstream to downstream – from the input of agricultural materials/equipment to production, processing, distribution and consumption of agricultural products.

Because the SHEP approach is to enhance the abilities of producers, it works to overcome bottlenecks directly related to them and the focus of activities is narrower compared with the FVC approach. For this reason, the SHEP approach is used in various FVC projects.



Scope of the FVC and SHEP approach © JICA

Project examples

- **Sri Lanka:** "The Project for Livelihood Enhancement of Small and Medium Scale Agri Producers through Strengthening Supply Chain Structure"
- **Viet Nam:** "Project for Transferring Advanced Technologies, Improving Added-value and Management of Sustainable and Safe Fruit and Vegetable Value Chains in Northern Viet Nam "
- **Indonesia:** "Public-Private Partnerships Project for the Improvement of the Agriculture Product Marketing and Distribution System Phase 2 "
- **Philippines:** "Project for Market-Driven Enhancement of Vegetable Value Chain in the Philippines "
- **Bolivia:** "Project for Promotion of Inclusive Food Value Chain in Santa Cruz "

Yen loan × SHEP



Two-step loans in a partnership of the government, financial institutions and private companies

Collaboration with a yen loan project where government organizations, financial institutions and private companies are the counterparts is underway in Bangladesh. With the aim of improving farmers' livelihoods, a yen loan project (SMAP)* has supported the provision of two-step loans to Microfinance Institutions (MFIs) and agricultural technique guidance by MFIs to borrower farmers. However, many MFIs are facing a shortage of technical staff to provide sufficient guidance for farmers.

To address this issue, the Bangla-SHEP project linked with yen loan was initiated. Bangla-SHEP aims to establish a collaboration system for implementation of the SHEP approach by the government, MFIs, and private companies handling agricultural materials/equipment, that agricultural technique guidance that is not a strong area of MFIs will be covered by the government agencies. The SHEP approach enables farmers to plan their farming after understanding market information and use borrowed funds efficiently. In this way, Bangladesh SHEP Package through linking a technical cooperation project and yen loan project will be developed.

* SMAP (Small and Marginal Sized Farmers Agricultural Productivity Improvement and Diversification Financing Project): Revolving funds will be applied to SMAP Phase 2 and MFIs will use the revolving funds and continue to provide loans to farmers.

Project examples

- **Bangladesh:** "Small and Marginal Sized Farmers Agricultural Productivity Improvement and Diversification Financing Project (SMAP)"
- **Bangladesh:** "Small and Marginal Sized Farmers Agricultural Productivity Improvement and Diversification Financing Project Phase 2"
- **Bangladesh:** "Market-Oriented Agriculture Promotion Project for Smallholder Horticulture Farmers through Multi-stakeholder Partnership"

Yen loan × SHEP



Component of technical assistance

In India, the SHEP approach is used in seven yen loan projects. In the component of technical assistance after constructing new facilities, the SHEP approach is introduced for farmers who are users of the facilities. After holding a SHEP training for government officials of the counterpart organizations for each loan project, follow-up support to the trainees is now led by a local consultant hired by JICA India office. JICA is now developing a system for sharing the knowledge, experiences, and status of SHEP implementation in each project throughout the country.

Project examples

- Jharkhand Horticulture Intensification by Micro Drip Irrigation (JHIMDI) Project
- Rengali Irrigation Project (Phase 2)
- Rajasthan Water Sector Livelihood Improvement Project
- Andhra Pradesh Irrigation and Livelihood Improvement Project (Phase 2)
- Himachal Pradesh Crop Diversification Promotion Project (phase 2)
- Project for Community-Based Forest Management and Livelihoods Improvement in Meghalaya.
- Uttarakhand Integrated Horticulture Development Project



Irrigation facilities constructed in Himachal
© JICA



Water channel constructed through
the Rengali Irrigation Project © JICA

Grant aid × SHEP



Component of technical assistance

The SHEP approach was used in the component of technical assistance of a grant aid project for construction of Sindhuli road in Nepal. The approach was applied to boost regional distribution and promote agriculture as a business after the improvement of access to major consumption areas thanks to the opening of Sindhuli Road. As a result, average net profit of the target farmer group from vegetables increased 70%. Farmers said that they could also improve their families' education, nutrition and medical access, became financially secure. They could purchase a new motorbike or vehicle that improved their mobility and increased choices of vocation.



Sindhuli Road connected to the target area
© JICA



Market survey by farmers © JICA

Project examples

- Nepal: "The Project for Construction of Sindhuli Road"
- Nepal: "The Sindhuli Road Corridor Commercial Agriculture Promotion Project"

Decentralization × SHEP



Kenya

Kenya, where the SHEP approach was born in 2006, introduced a decentralization strategy in 2013. As a result, authority and financial resources were transferred to the county governments, and the implementation system of the SHEP approach that had been established under the national government needed to be rearranged to align with the new system where county governments were the implementers. The distribution of human and financial resources forced downsizing for SHEP activities to match the limited resources of the respective counties.

Hints came from various examples of other African countries, such as Malawi, adopting the SHEP approach with their limited resources. By referring to these examples, a new implementation system was reestablished for the SHEP approach and led to positive outcomes within the capacity of the county in Kenya SHEP PLUS (Phase 3).

Kenya is the SHEP pioneer and had taken the position to lead other countries in many cases, but it also learned from the examples of other countries to create new ideas as the SHEP approach has spread widely. This is a by-product of wide implementation.



© Kenya SHEP

Project examples

- Kenya: "Smallholder Horticulture Empowerment and Promotion Project for Local and Up-scaling (SHEP PLUS)"

Private company × SHEP

Malik Seed Pvt. Ltd.



The SHEP approach is also adopted by private companies. In Bangladesh, Malik Seeds Pvt. Ltd. is practicing the SHEP approach, simultaneously achieving the two goals of better livelihoods for farmers and increased sales of the company. Because farmers who experienced success by adopting the SHEP approach tend to invest in seeds and fertilizers to expand their business, it is beneficial also for seed companies who can increase future product sales by providing technical guidance to farmers. This is a win-win case because farmers can also improve productivity by acquiring techniques.

SHEP video produced by Malik Seeds Pvt. Ltd.

SHEP Experience: Step to Change (9 minutes) <https://www.youtube.com/watch?v=PjHHJvVhczM>

Private company × SHEP

ETG



In Malawi, Export Trading Group (ETG) implements agricultural extension services when selling agricultural materials to smallholder farmers, and a plan to introduce the SHEP approach is underway. It is expected that farmers will be able to produce high-quality agricultural produce by improving skills with a market-oriented farming mindset, while ETG will be able to make profits by purchasing the improved produce. The initiative aims to improve the livelihoods of smallholder farmers in Africa in cooperation with Mitsui & Co., Ltd., which is going to expand its food and agriculture business in the region through investment in ETG. In May 2018, Mitsui & Co., Ltd., ETG Group and JICA signed a memorandum of cooperation (MOC).

Private company × SHEP

Powerhive Inc.

Powerhive Inc. is a U.S. venture company developing a mini grid business combining photovoltaic power generation systems and storage batteries in non-electrified regions. It is supporting improvement of the living environment of residents through use of electricity, increase of household income and community development by providing chicken ranches, electric vehicles, irrigation pumps, mills and home electric appliances etc. while supplying electricity to non-electrified areas in Kenya.

Expecting increase in electricity charge by increasing the income of rural residents and fostering their business mindset, the company implemented the SHEP training for farmers. The Kenya SHEP project team conducted Training of Trainers (ToT) for the company's extension staff on SHEP market surveys, crop selection and crop calendar making so that the company's extension staff can promote the SHEP approach for the residents.

Trained farmers who are customers of Powerhive Inc. started agriculture as a business. After completing the training, some of them conducted a market survey on their own, selected horticulture crops for selling rather than for self-consumption and purchased necessary materials. There is also a farmer group that newly leased land for cultivation. Farmers with a business mindset are appearing as the company aspired. This is also a win-win case.



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Other donors × SHEP

IFAD



In October 2018, International Fund for Agricultural Development (IFAD) and JICA signed a memorandum of cooperation in the agricultural sector of Africa. At TICAD VII in the following year, IFAD and JICA co-hosted the side event and “The SHEP One Million Declaration” was made to take actions together and promote sharing of knowledge concerning assistance for smallholder farmers. To this purpose, IFAD is adopting and practicing the SHEP approach in its various project sites supporting smallholder farmers around the world.

In Malawi, for example, 23 target farmer groups adopted the SHEP approach in PRIDE, a program for market-oriented agriculture promotion. The farmers are growing rice, peanuts, sorghum, pigeon peas, etc. in addition to horticulture crops, and conduct baseline surveys, market surveys and crop selection.

Cases where the SHEP approach was adopted in IFAD projects

- **Zimbabwe:** SIRP (Smallholder Irrigation Revitalization Programme)
- **Malawi:** RLEEP (Rural Livelihoods Economic Enhancement Programme), PRIDE (Programme for Rural Irrigation Development), SAPP (Sustainable Agricultural Production Programme)
- **Lesotho:** SADP2 (Smallholder Agricultural Development Project 2)
- **Burkina Faso:** Neer Tamba (Participatory Natural Resource Management and Rural Development Project), PAPFA (Agricultural Value Chains Promotion Project)
- **Madagascar:** FORMAPROD (Vocational Training and Agricultural Productivity Improvement Programme)
- **Senegal:** Agri Jeune (The Rural Youth Agripreneur Support Project), PADAER2 (Programme d'appui au développement agricole et à l'entrepreneuriat rural, phase II)
- **Mali:** FIER (Rural Youth Vocational Training, Employment and Entrepreneurship Support Project), INCLUSIF (Inclusive Finance in Agricultural Value Chain Project)

Other donors × SHEP



Other cases where the SHEP approach is used in other donor projects.

Sasakawa Africa Association

In August 2019, Sasakawa Africa Association (SAA) and JICA signed a memorandum of cooperation in the agricultural sector of Africa and are introducing the SHEP approach in SAA projects.

- The SHEP approach is adopted in SAA projects in Uganda, Malawi, Mali and Ethiopia.

EU

In some cases, the counterpart organizations of the partner country introduces the SHEP approach using the budgets of other donors. In Malawi, for example, ex-participants of the SHEP training implemented a market survey and gender training in EU-funded projects and achieved an increase in farmers' income, which enabled farmers to construct new homes, purchase motorbikes and dairy cows, etc.

- **Malawi:** FIDP (Farm Income Diversification Programme)
- **Senegal:** PARERBA (Projet d'Appui à la Réduction de l'Emigration rurale et à la Réintégration dans le Bassin Arachidier)

World Bank

- **Ghana:** GPVVCP (Peri urban vegetable value chain project)
- **Lesotho:** SADP (Smallholder Agricultural Development Project)
- **Cote d'Ivoire:** WAAPP (The West Africa Agricultural Productivity Program)
- **Madagascar:** CASEF (Projet de Croissance Agricole et de Sécurisation Foncière)