Establishment of Community-Based Dissemination Model and Its Effective Function for Sustainable Food Security and Poverty Reduction

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Abstract: Vietnam ranks as one of the largest rice exporters in the world. Two major deltas, the Mekong River Delta and the Red River Delta, contribute around 70% of the country’s rice production and 90% of its rice exports, while people in the mountainous areas of Central Vietnam still suffer from food shortage for three to four months per year. To combat this incongruous situation, the Foundation for International Development/Relief (FIDR), a Japan-based non-governmental organization (NGO), launched a project to introduce system of rice intensification (SRI) methods and developed the community-based dissemination (CBD) model. One of the difficulties that the government and aid agencies generally face is to create an effective and sustainable dissemination model, when the newly-introduced technology is totally unfamiliar to targeted region and residents. Vietnam consists of 54 ethnic groups, and 14% of the population is comprised of 53 ethnic minorities, mainly living in mountainous areas. Almost 50% of them still live below the poverty line and are threatened by food shortage. Within their cultural context, it is hard to adapt to the new concepts of farming, and they are not used to paddy rice cultivation yet. As the result of the project, the model successfully reduced the food shortage of 1.5 months less in average with more than 4,000 households involved. The model is now turned over to the local government as a case of sustainable management practices. This paper aimed to examine what made the model effectively function.

Key words: System of rice intensification, community-based dissemination model, sustainable management practices.

1. Introduction

Vietnam has experienced speedy economic development, transforming from one of the poorest developing countries into the group of lower middle-income country. Although Vietnam ranks as one of the largest rice exporters in the world and produces around 70% of the country’s rice production and 90% of its rice export in two major deltas, the Mekong River Delta and the Red River Delta, almost 50% of ethnic minority in the mountainous areas in Central Vietnam still live below the poverty line and suffer from food shortage for three to four months per year [1, 2].

The system of rice intensification (SRI) method is introduced widely in the world to increase yield while decreasing the inputs. In Madagascar, the origin country of SRI method, resource-limited farmers realize yields of up to 15 tons of paddy per hectare [3]. The Vietnam’s Plant Protection Department (PPD) recognized the potential contribution of SRI to food security and has been conducting the training in the North of Vietnam since 2003, with the result of yields from the field adapted to SRI method exceeding conventional one by average of 11% [4].

To combat the incongruous situation in Central Vietnam, the Foundation for International Development/Relief (FIDR), a Japan-based non-governmental organization (NGO), introduced SRI method to three households in one village of Quang Nam province, Central Vietnam in 2010. After confirming its effectiveness, FIDR launched a project on food security improvement (PFSI-1) to introduce SRI method and to establish the model to alleviate

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food shortage as Phase 1 in three mountainous districts in Quang Nam province in 2012. In 2015, three years after the project started, the community-based dissemination (CBD) model on agriculture and food security was recognized as a successful model for food shortage by local government, and received attention from other local authorities and potential beneficiaries to deepen and extend the model to other areas. By the strong request from the local government, the second phase (PFSI-2) was launched in December, 2015, to disseminate and confirm its effectiveness of CBD model with expanded target areas, six districts in Quang Nam province and one district in Thua Thien Hue province, utilizing the good practices and experiences gained from the first phase. This paper aimed to examine what the key factor was to make this model effectively function.

2. Project Approach

2.1 Background

Vietnam consists of 54 ethnic groups and 14% of the population is composed of 53 ethnic minorities. Within their cultural context, it was hard to adapt to the new concepts of farming, and they were not used to paddy rice cultivation yet, being experienced with upland rice production. One of the difficulties that the governments and aid agencies generally face is to create an effective and sustainable dissemination model for newly-introduced technology, when this is totally unfamiliar to targeted region and residents. The difficulties in detail, before the project started, were: (1) the number of government staff for technical transfer was limited to spread the new technologies; (2) the gap existed between the societies of ethnic minority communities and government policy due to its cultural background which is hard to be understood by majorities; (3) it was hard for people in remote areas to catch not only the general information but also agriculture-based information such as outbreak of plant disease through the “top-down” monitoring systems by the government, that is a typical one-way report and communication line from the upper level of authority to the lower level. Moreover, the frequency of monitoring was less due to the lack of personnel and the distance to remote area, so it did not function well to guide and supervise when farmers had problems. What the project developed through the first phase was the CBD model to solve mentioned difficulties: (1) Key Farmers who actively learned about SRI method were involved to the technical transfer as local technicians and facilitators; (2) by involving Key Farmers, the government learned how to communicate with ethnic minority people and Key Farmers play an important role in connecting with the national socio-political system into the minority community [5]; (3) mutual monitoring system was established with Key Farmers who also bring the information frequently from the fields to the upper levels of authorities.

2.2 CBD Model

The CBD model on agriculture and food security is a consolidation and a combination of three components: (1) technical transfer of SRI methods, (2) strengthening network, (3) bottom-up and top-down monitoring system (Fig. 1) [6].

SRI was introduced with the Farmer Field School (FFS) in which trainees not only learned theory about new rice cultivation technique but also focused on practice based classes in the field. The project did not
choose participants, so anyone could join FFS if interested. Also, the project did not select the specific varieties of rice so that farmers could start with any conditions.

To strengthen the network among stakeholders, the project utilized advanced farmers called “Key Farmers” in their community and built the Key Farmers’ network to connect the local government, experts and the local community.

To improve and strengthen the monitoring system, the project introduced bottom-up and top-down approach, which is the line from grass-roots level to upper-government level and the line with the transversal monitoring to link each level of networking.

Three components are expected to bring synergetic results in relations with each other: to increase the number of participants of FFS without any rewards and the number of applicants of SRI methods (“a” in Fig. 1), to ensure the quality of FFS and adaptability of SRI method to increase yields through the frequent mutual monitoring (“b” in Fig. 1), and to strengthen the grass-root monitoring system and network for quick response and treatment to any difficulties that farmers face daily (“c” in Fig. 1).

3. Methods

In Central Vietnam, there are two crop seasons in rice cultivation. During the project period, yield surveys were conducted at the beginning and the end of every crop season. Livelihood surveys and farming system surveys were also done by external researchers once or twice a year regularly. In addition, monitoring was frequently conducted by each level, provincial level, district level, communal level and Key Farmers.

Based on the results of regular activities mentioned above, the mid-term evaluation (2016) [7] and the final evaluation (2019) [8] were conducted with various kinds of methods, such as (1) reviewing of all related project documents, monitoring reports and survey reports from three external researchers and lecturers, (2) participatory assessment through workshops with beneficiaries, (3) focus group discussion, key informant interview and household interview, and (4) with/without survey. Additionally, field observations and case studies were also utilized for project evaluation.

4. Results

By analyzing all the results collected from those surveys, the effectiveness of the project with CBD model was confirmed and evaluated as below.

4.1 SRI Appliers Number and Rice Yields Were Increased and Food Shortage Was Alleviated

There are almost 4,000 households applying the CBD model by the year of 2018 at the target areas. Rice yields were increased approximately up to 1.5 times more than previous levels of productivity with non-SRI paddy fields, surveyed in 2015 (Fig. 2) [9]. Besides, local farmers could decrease inputs (less seeds, less water and less labors) as a result of applying SRI methods. Through the positive change by increasing rice productivity, the period of the food shortage was reduced from 4.9 months to 3.4 months in average as a result of second phase of the project (Fig. 3) [10].

They, now, not only have enough rice to eat but also can sell the extra rice to obtain alternatives. Moreover, they can utilize rice for raising livestock such as chicken and pig for sale. It helps to generate more income for households.

4.2 Key Farmer Network Connected Government Policy Network and Traditional Network of Ethnic Minority Community

Connection-type of Key Farmer Network was introduced in Central Vietnam by the project and its effectiveness was confirmed. Human capital of Key Farmers was improved much, not only with cultivation techniques but also with strengthened relationship among community people. Through this
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Fig. 2  Actual rice yield of with/without system of rice intensification (SRI) application of target districts in six rice seasons. WS: winter-spring crop period; SA: summer-autumn crop period.

network, the relationship between government officers and community people became closer and SRI method was introduced well into the community. This also led the number of SRI appliers to increase significantly about five times more with the project approach, compared to the popular technical transfer by the end of the project period (Fig. 4).

A noteworthy fact was that, about 60% of Key Farmers were women, which means that the project promoted the participation of women who are mainly engaged with farming in the community. Besides, these farmers, especially women, get more confident and encouraged by the result created with their own efforts. Through the participation in the project activities, local farmers have more opportunities to open their mind to share and increase their knowledge, and positively change their awareness and habits.

4.3 Monitoring System Functioned and Strong Solidarity and Social Capital in the Community Was Raised

The frequency of monitoring increased, twice a year by provincial level, every month by district and communal levels and every week by Key Farmers, to check plant conditions, disease and insects and FFS progress. By involving Key Farmers, “Bottom-up” monitoring system started to function, which enabled to ensure the quality of FFS, quick response to the problems to be solved. Moreover, the communication
among all stakeholders went better than before. The solidarity was strengthened and all stakeholders, especially farmers in the community, now share the common issues to the platform like FFS. Furthermore, they started to talk not only about rice cultivation technique but also about a lot of life experiences when they meet. The opportunity to work together at the fields bounds them close together to solve common issues.

4.4 CBD Model Is Successfully Handed Over

The CBD model utilizes local resources effectively in the area for sharing techniques to benefit all stakeholders. Local governments and communities now run FFS by practicing this model with their own budget and continue activities.

5. Conclusions

In conclusion, for the sustainable food security and poverty reduction, involvement of local resources, especially human resources, is a key to bring impact to the community. This human resource was Key Farmers. They connected the government policy with community culture. They are a key to connect three components of CBD model to function well. Without them, the CBD model could not bring the synergetic results as expected.

Lastly, when the CBD model works well with those human resources, the community can have experiences of having tackled issues together, and becomes a strong unit to cooperate and share the common things, create the stronger livelihood and enhance the community resilience. The CBD model, therefore, is able to be applied not only to agriculture sector project but to others, such as nutrition, education and hygiene.

References


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for Small Scale Farmers in Central Vietnam (Phase-2).
Final Evaluation Report for Project on Food Security Improvement for Small Scale Farmers in Central Vietnam, University of Miyazaki.


