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EMPOWERING THE SMALLHOLDER FARMERS TO GAIN MORE PROFITABLE RICE PRODUCTION

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ABSTRACT

Rice produced by smallholder farmers plays an important role in providing Indonesian food security where majority of the population are dependent on rice as the staple diet. This fact, however, does not necessarily make the smallholder farmers gain all the benefit from the rice they have been produced, including the financial profit. Improving the profitability of rice production in smallholding agriculture is often hampered by lack of human capital and access to infrastructure, market, and technologies. A series of programs were tailored for the smallholder farmers in Kemumu, North Bengkulu to improve their human capital, bargaining power, land productivity, market access, and eventually the financial profitability of the rice production processes as a whole. The programs were developed through value chain mechanism involving revitalization of the farmer group organization, development of farm gate seed merchandize, reduction the dependency on synthetic fertilizer, mentoring the on farm activities, development of the community rice processing, and development of rice marketing channels.

Key words: *farmer association, value chain, farm gate merchandize*

INTRODUCTION

Rice is Indonesia's most consumed food grain. More than 90% of the population depends on rice for their diet with an annual consumption rate as much as 130 kg per capita, or about 33 million tons at national level. During 2012 Indonesia produced more than 69 million tones of rice, or equivalent to 38 million tones of milled rice (ICBS, 2013). The agriculture census conducted in 2013 indicated that smallholder and family farmers were dominant in the food production. Around 9.45 million hectares out of 13.45 million hectare of harvested areas were cultivated by 14 million household which, on average, operate on 0.68 hectares (ICBS, 2014).

In term of profitability, rice production is a profitable activity but farmers cannot make a living only on rice. Nurasa and Purwoto (2012) reported that rice production in Java can provide a considerable profit with an average as much as 9.05 million IDR/hectares/season (750 USD/hectare/season) with an average R/C around 2.8/season, whereas outside Java, a higher profit can be gained with an average 10.13 million IDR/hectares/planting season with an average R/C 3.57. With two rice planting seasons within a year and 0.5 – 75 hectares of harvest area, then the average monthly income from the rice production in Java was 758,000 IDR (63.27 USD) and outside Java was 891.000 IDR (74.37 USD).

Rice is a strategic commodity that plays important roles in food security, farmer's welfare, poverty alleviation, economic growth, and economic health (Simatupang, 2002). Self sufficiency in rice, therefore, becomes the topmost priority in the agriculture development policy. With total population around 237 million and growth rate 1.4% (ICBS, 2013), self sufficiency will not be an easy task. Agriculture land conversion, climate change, less maintained irrigation infrastructures, and the increasing price of agricultural inputs can be constraining factors that decelerate achieving the goal. Similarly, a marginal income gained by smallholder farmers as the backbone for food security can potentially result in declining their enthusiasm in the rice production.

Hayami and Kawagoe (1993) postulated that smallholder farmers in Indonesia are entrepreneurial with little government intervention and regulations. Therefore, increasing their motivation and living standard, will be the foundation for achieving the target of self sufficiency in food. This notion can be attained when smallholder farmers are improved their knowledge and skills in the rice production in such a way that the reaped profit from rice field can be used for a better source of living. The work presented in this paper is based on a limited scope of an action research addressed to rice farmers in one of main rice producing area in Bengkulu Province, Indonesia and a series of value chain activities directed to empower the smallholder farmers in gaining the on-farm efficiencies, collecting the off-farm added values, and gaining market access for the products.

RESEARCH METHOD

The programs were initiated in 2007 and carried out in a series of chain value activities for smallholder farmers in a rice producing area of Kemumu village, Armajaya Sub-district, North Bengkulu Regency, Bengkulu Province. The program was started with a small survey in targeted area to portray the farmer's and farming characteristics. A purposive sampling technique was carried out on 85 respondents selected from the members of farmer groups in the village. The resulted data were used as the basis for setting up the type of relevant activities required for the empowerment. The following activities were chosen but their implementations were not conducted in a consecutive years, due to resources limitation.

Strengthening the farmers organization

This program was performed in 2007 through a meeting attended by the leaders of 12 farmer groups, namely Karya Baru I, Karya Baru II, Karya Baru III, KT Karya Baru IV, Karya Baru V, Tirta Bening, Bina Karya, Usaha Bersama, Semangat Karya, Semangat Bersama, Gelora Muda, dan Tirta Agung. Aside from the discussion on the current issues, such as setting the time for planting date, rice varieties to be grown, and agriculture inputs availability, a lecture was given during the meeting to indicate the importance of well -organized farmer organization to gain more benefits in the rice production.

Introducing system of rice intensification (SRI)

SRI was introduced in 2008 through a series of lecture given to 12 farmers; each was representing the farmer group. All the components of SRI were explained, including land preparation for nursery and main field, nursery management, seed rate and cropping pattern, nutrient management, and water management. A demonstration farm was set up following the lectures on 0.5 hectare paddy field to put the lecture materials into practices.

Training in seed production

There were 24 farmers joined to the seed production training conducted in 2010. The training was arranged in a series of lecture and demonstration farms. The lecture materials comprised of seed regulation, seed certification procedures, field management, harvest lost, seed health, seed storage, and seed packaging. A guest lecturer from the Provincial Seed Control and Certification Agency was also invited to deliver some training material as well as to guide the farmers in completing the administration for seed certification. There were 20 participants who agreed to undertake seed production in their land with a total area of 18.8 hectares. Similarly, two strategic paddy field locations were used to set up the demonstration farms; each was 0.3 hectare and used to produce stock seeds of four selected rice varieties. Mentoring to the participants was carried out during on-farm and off-farm works.

Training in premium rice production management

This was conducted in early 2014 and aimed at improving the managerial and technical skills of the personnel involved in the management and operation of rice milling unit owned by the association. The management training comprised inventory, operational, financial, and marketing managements.

Channeling the premium rice marketing

Market channelling for the premium rice produced by the association was carried out by promoting the product to the individuals in University of Bengkulu and some local rice stores.

RESULTS AND DISCUSSION

Farmer's characteristics

All respondents in this study were at productive age, ranged from 39 to 56 years old, with education background ranged form elementary to high school. On average they grew rice on 0.6 hectares of well-irrigated land with two planting seasons in a year. Rice production was not the only activity to make a living for their families, but they had other jobs, such as teacher, handcrafter, carpenter, and construction worker. Except for land preparation, initial capitals for growing rice, including seed, fertilizers, and pesticides, are commonly obtained loans provided by village traders which, in turn, they would be deducted at harvest time.

Roles of association

The idea of amalgamating the existing farmer groups into a farmer association had been appreciated by group leaders and formalized through a public notary. The existent of association had brought a number of benefits for the farmers. Although, village traders were still the major financial source for initiating the rice production activities, the amount of loan was diminished significantly due to capability of the association to access sufficient inputs with government-subsidized price, especially fertilizers and seeds. It has been a government policy that subsidized fertilizers are distributed only to the farmer association instead of individual farmer. Here, farmers paid urea, ZA, SP36, or NPK only 62%, 48%, 43%, or 47% of the same type of fertilizers under commercial prices. Similarly, farmers paid the seeds for only 29% of the commercial price. Aside from agricultural inputs, the members of association had received government grants in form of mechanized equipments, such as 12 units of hand tractors, 3 units of power threshers, and 1 unit of rice milling unit (RMU) with capacity 500 kg/h as well as 35 cattle for manure production. Except RMU, all equipments have been used in the rice production.

Land productivity and production efficiencies

Although soil and climatic conditions are supportive for rice production, it has been long phenomenon that average grain yield obtained from the rice fields was only 4.8 ton/ha, or below the national average, i.e. 5.1 ton/ha. The recent yield 5.0 ton/ha or more was mainly gained by the farmers who already adopted System of Rice Intensification (SRI). SRI was introduced through training in 2008 to use resources more efficiently, including lower sowing rate, early transplanting, single seedling per hill, sparse and squared planting space, intermittent water use, manual weeding, leaf color chart (LCC) based N management, and insect trap lamp-guided pest control. As reference, the 0.5 hectares demonstration farms could produce 4 ton grain. Due to a number of factors, however, rate of SRI adoption amongst the farmers was relatively slow. It is not uncommon to find farmer sow their seeds much higher than the recommended rate 25 kg/ha. Similarly, high population density, improper use of fertilizers, and continuous irrigation can be easily found in the rice fields. It can be understood that changing the farmer habit and traditions would take time.

Seed production

Rice seeds provided by the government with subsidized price have helped farmers in obtaining certified seeds, but in some cases their availability did not match with the planting date and also the varieties did not match with the farmer's preference. The training in seed production held in 2010 has a good impact on the trained farmers and the community. The farmers who practiced seed production could reap the added value from selling certified instead of selling the grain for consumption. As a comparison, state-owned seed company that operate on the area would pay 4,200 IDR for the certified seeds produced by the farmer, whereas rice grain for consumption worth only 3,700 IDR. Similarly, other farmers could obtain cheaper seeds through farm gate merchandize at 5,000 IDR/kg, which normally it would cost 7.000 IDR/kg at seed stores. Recently, 62 ha out of 400 ha operated by the farmers of association were used to produce 160 to 180 ton of certified seeds.

Premium rice production

The RMU received from the government in 2008 had not been operated until recently. Several problems were encountered to run this facility economically. The majority of the farmers had already bonded to the village traders in connection with the initial capitals for buying the agricultural inputs and land preparation. In this case, farmers had an obligatory to sell the crop to the traders for cash money after put aside some quantity for the family consumption. Consequently, there was no sufficient raw material for running the RMU. In addition, the personnel involved in the association management had no sufficient knowledge and skill in running the facility, causing inefficiency in the operation.

In early 2014 there was a financial scheme provided by Indonesia Science Institute (LIPI) to revitalize the RMU with no interest and long term payment. Under this scheme, the personnel involved in the association management were trained to both on-farm and RMU operation to produce premium quality milled rice. The money obtained from LIPI was used to provide seeds and fertilizers for the members of association and to buy some additional equipment, such as a flatbed dryer, grader, and packaging equipments. In order to secure the raw material supply, the head of each farmer group was assigned to control the on-farm activities and collect the crop at harvest with a reward 100 IDR/kg grain brought to the RMU. Similarly, with the additional equipments, the association could produce premium milled rice with a higher price compared to regular price.

Premium rice marketing

Currently, the premium rice produced by the association is registered to the authority to obtain a permit for merchandize. In the meantime, the product introduced to individuals in University of Bengkulu and local rice stores gained a good acceptance both in quality and price.

CONCLUSION

Rice production is difficult activity to make living on. Most smallholder farmers, if not all, ought to have additional job(s) to fulfill their daily need. Empowerment by means of improving the knowledge and skills of smallholder farmers with value chain mechanism to reap more profit from the added value in each step of premium rice production would ease economic pressure in their families.

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