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THE EDUCATIONAL PROGRAMME FOR MICRO INVESTMENT IN AGRICULTURE IN INDONESIAN RURAL AREAS

Review
Article

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Abstract

The purpose of this paper is to explain the benefits of the educational programme for micro-investment in Indonesian rural areas. Rural communities that tend to have a low income need financial education so that people can understand the concept of investment and benefit from it. Investment at the micro level is accessible for people who have minimal investment funds. Furthermore, this paper will provide steps and benefits for micro-investment education. Finally, this research will deal with the financial side of micro-investment in agriculture. Further empirical findings are presented to demonstrate the effectiveness of this programme.

FINANCIAL EDUCATION

BACKGROUND

Indonesia as most of the developing countries has enormous potential for agricultural resources. Located in a tropical area with a hot climate throughout the year it stimulates various plants to thrive all the year round. The majority of Indonesians have enjoyed the potential of the agricultural sector. Farmers and entrepreneurs alike have benefited from the development of the agricultural sector. At present 30% of the land in Indonesia is used for agriculture, and around 49 million Indonesian households (41% of Indonesians) work in the agricultural sector.

The majority of people that work in agriculture work as field workers. This paper will explain how field workers could invest in micro-scale agriculture. Particular techniques and approaches are required to invest in the education of field workers/farm laborers. This paper will look into the techniques and approaches in micro-investment-education that are most suitable for people in Indonesian rural areas.

This paper is crucial because the Indonesian government's programmes on poverty alleviation programmes in Indonesia today are focused on sustainable village development. This strategy is the same as the strategy carried out by China which has succeeded in reducing poverty (people's income below 1 \$ per day) in their country within 20 years. Indonesia is also on the right track in terms of poverty alleviation through the development of rural areas. This paper attempts to provide an explanation as to how education in the field of micro-investment can result in alleviating rural poverty. Several prior kinds of research on financial education focus on the consequences, such as impulsive decision making (DeHart et al., 2016), debt behavior (Brown et al., 2016), financial literacy, spending and saving decisions (Calderone et al., 2018; Farinella et al., 2017), financial preparedness and capability (Barua et al., 2014; Xiao&O'Neill, 2016) and risk perception (Astuti et al., 2018). However, there is still little knowledge about the role that education in micro agricultural investment plays in alleviating poverty in the rural area.

Investment that delays current spending for future funds is essential because it can provide reserve funds for unpredictable events (accidents, illness, loss of property and natural disasters) or financial plans related to education, houses, and marriage. This is not easy to introduce to people who have limited income (1 \$ - 4 \$ per day). It requires the right investment and it is applicable at a micro scale.

One of the factors that is positively related to financial literacy is motivation (Mandell&Klein, 2007). The availability of financial education does not guarantee that the community will have good financial knowledge. This is because they do not want to participate in the programme or apply the concept. Previous research found that motivation to study finance such as financial counseling (Elliehausen et al., 2007; Hirad et al., 2002) can influence financial decisions. The desire to study finance by attending private counseling and financial education is one of the essential factors for the success of financial education.

Motivation is an essential factor in financial education in the field of micro-investment. One of the drawbacks of financial education is related to its content, which is not specific enough to solve the current problems of our society. Its main aim is to increase students' financial knowledge, and as a result they cannot receive the benefits directly. This paper will give insights into how to educate people in special micro-investment; it addresses farmers who have limited income (1 \$ -4 \$ per day) in the Indonesian rural area.

The most appropriate educational method in micro-investment to be used with the farming community in Indonesia is the case method and simulation. Cases explain real problems farmers face every day. Thus, one of the the main problems is their unstable income; they can get 1 \$ a day or sometimes 4 \$, but if they are ill, they do not get anything. They often spend it all on household needs or pay accumulated debts. So it is almost impossible for them to save money or make investments. Education is the only means which could show them how to live a decent life. Education for microinvesting is becoming increasingly challenging because people usually start saving money without being aware of the role that investment may play in their life. However, in the case of micro-investment, it can be different. Farmers do not need much capital to be able to make micro-investment. So they do not need to have savings before making any micro-investment. The application of micro-investment in agriculture in rural areas in Indonesia is so easy because of the availability of land that can be planted by villagers in Indonesia. Free land can be easily found in Indonesian rural areas. Even if there is no free land, the village government has land ownership that can be used by villagers to apply this investment. Financial education will be useful if done with an active participatory approach method. Researchers or educators directly explore the financial problems that farmers face and identify the land that can be planted. After that, a participatory approach can be carried out by approaching community leaders who

have a strong influence and who will help them implement their educational programme.

EDUCATION MATERIAL

Education in rural communities should consist of 20% theory and 80% practice so that participants can clearly understand its benefits. The explanation of the theory should be carried out by practical and simulative methods. Practical means provide 80% technical and 20% philosophical issues and discussions. Philosophical discussions explain why investment is significant and make farmers understand how to invest with limited funds - by simulating the costs and benefits they obtain when investing in agriculture. Profit forecast, costs, and risks that must be mitigated are essential things that must be explained. Real practice (i.e. how to plant seeds) is also very important.

The material provided does not discuss the concept of micro-investment but it provides those interested with real examples and simulations of the amount of the returns generated by these micro-investments. Investment in agriculture comes naturally in Indonesia; the most suitable investment is in woody tree plants. Various types of woody trees can be applied to micro-investments. Several types of trees could be harvested in a short period, while others over more extended periods of time. Some tree species need more than ten years to be harvested, while others need just five years. This paper focuses on woody trees that have a 5-year harvest period.

The programme begins by discussing the types of woody plants that can be harvested within five years. This is important because the faster the harvest, the more promising it will be carried out. The next step concentrates on the comparison of investment returns between various types of woody plants. Various costs and risks that threaten the investment of woody plants are also discussed.

The educational programme continues with a real simulation in three stages, namely: 1) first planting technique, 2) fertilizer and maintenance and 3) handling disease in woody trees. All farmers participate directly in the programme and their understanding of the simulation is supported by the learning by doing method. Planting techniques have special rules that must be followed if they want to get maximum results — the distance between plants, the size of the plant holes and the fertilizers used at the beginning of planting. The next stage is the fertilizer and maintenance process. Fertilizers are needed to ensure the plant growth and administered according to the age and stem size of plants. Treatment is essential by cutting off unnecessary branches so that the wood continues to grow upwards without additional branches. Farmers are also familiarised with handling diseases in

woody trees. Woody trees are susceptible to very contagious diseases transmitted from one tree and another; so handling infected trees is very important so that there is no transmission to other trees.

The education process not only provides knowledge and practice but also expose trainees to credible trainers. The trainer presents the characteristics of good tree seeds or the optimal size of buying seeds so that the farmers' harvest meets their expectations and the optimal type of fertilizer is given at the beginning of planting. This will also help trainees to select the most suitable tree seeds at the beginning of the planting period.

SOCIAL CAPITAL

The role of social capital is crucial in this programme. Cooperation, trust and networking are inseparable variables for this program to run. People in rural areas in Indonesia like to work together and trust each other. Thus this program is easy to implement in rural areas. Cooperation is the initial requirement for this program to work. Farmers work together to make investments in order to achieve common goals. Trust is an important ingredient which maintains a working group: trust between members, trust in agricultural consultants and trust in various institutions that participate in helping this programme run.

Establishing and maintaining social capital is a challenge in this programme. The consultant must raise participants' awareness about the importance of collaboration so that good relations between various parties can be maintained for a long period of time. In addition to conducting the educational programme, consultants should also be moderate when there are problems between members of the work group or with external parties.

The final key to education for micro-investment in farming communities is collectivity. Collectivity is very important in the micro-investment process. The lack of funds to invest is overcome by joint investment or collective investment. Every farmer who wants to participate can form a group to work together in investing. The advantage of working collectively is the establishment of a system of mutual supervision in investing. The system provides many benefits for the group. First, no labour cost must be spent, the plantation must be monitored and maintained because it can be carried out alternately between farmers in their spare time. Secondly, when there is a problem, the entire team discuss it to find out a solution. A team could produce a better decision. Third, groups are more likely to get help and funding access from outside parties such as the government or other non-profit organizations.

FINANCIAL FORECAST

One popular wood tree investment in Indonesia is Albasia tree. This tree is elementary to take care of, it can be harvested in five years old and has the potential to produce 300 - 500% returns in 5 years. The following is an overview of the costs incurred in investing in Albasia trees.

Table 1 gives more details about an estimated investment of 1 000 trees.

The rate of return has already been estimated at 20% of dead trees — usually trees that die around 5-10% in 5 years. This micro investment can be made by each farmer raising funds and using land that can be planted together with their team (so the rent land cost will be 0). Availability of land is another factor that must be resolved so that investment can be made. Various schemes can be used to get land. First, every village government in Indonesia has vacant land that can be used by village officials along with villagers. Second, leasing schemes can be used to utilize land that is not used with a land lease agreement. Third, profit-sharing cooperation between landowners and village groups is also possible.

MONITORING AND EVALUATION

The micro-investment process does not stop after the programme ends. The monitoring process is carried out for periods of 3 months and six months. This is to ensure that participants continue to make investments. Mentoring focuses on plant diseases so that these can be dealt with immediately. The monitoring becomes very important because common investing can often lead to potential conflicts between individuals who have differences of opinion. So it is expected that a third party can mediate when there are problems in this woody tree investment group.

CONCLUSION

The educational programme for micro agricultural investment aiming to reduce poverty can be implemented when various parties involved can carry out their duties according to their positions and functions. Villagers, village governments, consultants, suppliers, trainers and landowners are the parties that play a major role in this programme. Villagers as well as other parties can receive benefits from this programme. This programme is successful if all parties could collaborate and maintain the relationship for a long period of time.

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APPENDICES

Table 1. Investment Cost

No	Cost Driver	Cost
1	Seedling costs 0.125 US \$ x 1000	125 US \$
2	Initial fertilizer	60 US \$
3	5-year growth fertilizer	147 US \$
4	Miscellaneous cost	100 US \$
5	Rent Land	2,000 US \$
Total Cost		2,432 US \$

Estimated harvest with 20% of dead trees, 800
trees x 18 US \$ each tree = 14,400 US \$