

STUDY ON THE OPTIMALIZATION OF AGRICULTURE AREA FOR SUSTAINABLE ASIATIC PENNYWORT FARMS BY AL WAHIDAH INTERNATIONAL SDN. BHD. AT THE CITY OF PENANG, MALAYSIA

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Abstract: Development of a region intends to harmonize various activities, especially the use of space and resources to sustain community activities in accordance with regional development goals and objectives. Asiatic Pennywort (*Centella asiatica*) is an herbaceous that is commonly found in temperate and tropical swampy areas and has been utilized as a medicinal herb for centuries. Al Wahidah International, SDN. BHD., a Malaysian halal herbal product company, has been successfully developing a specific agricultural area of Asiatic Pennywort located in Penang, West Malaysia by establishing a system of collaboration between companies and farmers. The farm is located in Kayang Ramban (1 Ha, managed by 2 persons) and Ko Kelang (2.5 Ha, managed by 6 persons). The farm can produce up to 4 tonnes Asiatic Pennywort for one harvest or with a total 3.5 hectares farm can produce 16 tonnes. At the good-rainfall season, the farm can optimally harvest 4 times, while at the less-rainfall season can be 3 times every year. The yield of overall farm for 3 times a year harvesting could reach 48 tonnes.

Keywords: Land use optimization, Asiatic Pennywort, Company-farmer cooperation

INTRODUCTION

Development of a region intends to harmonize various activities, especially the use of space and resources to sustain community activities in accordance with regional development goals and objectives. The optimization can be indicated by several benchmarks in the form of prosperity that is appropriate and in harmony with socio-cultural aspects and in a sustainable environment (Ambardi and Prihawantoro 2002, Suprajaka and Fitria 2012). Agriculture-oriented development plan can be considered as a good example for the optimization of regional development.

Land is one of the main components that must be considered when implementing agriculture-oriented development planning. Land issues usually emerge when the requirements is continuous to increase yet lack of availability on fertile land. Furthermore, it potentially triggers competition in land tenure (Djaenudin et al. 2011). To overcome this, an appropriate land use planning effort should be made.

Appropriate use of agricultural land can be seen from how the land can be appropriately managed in a sustainable manner by the community by considering social and economic aspect as well environment issues. Various efforts to optimize the land use for agriculture has been implemented using a variety of technological innovations based on the commodity, ranging from food commodities to medicinal herbs.

Asiatic Pennywort, a unique herb easily found in Southeast Asia, has been proven to be valuable as the medicinal herb (Lasmadiwati 2004, Mirza et al. 2013). This herb can easily grow on clay and sandy soil. The great opportunity to artificially culture has been developed by various medicinal plant industries.

Al-Wahidah International, SDN. BHD, a Malaysia-based company which is engaged in providing halal food and medicinal plant-based products has succeeded in developing an agricultural area located in Penang, West Malaysia. The company establishes a collaboration model between with farmers for the land use management. The collaboration between the company and local farmers is successfully developing Asiatic Pennywort as one of the superior medicinal plant-based products (www.hpainternational.biz).

A good model for of land use management for agricultural development is notable to be analyzed. This study is expected to express how a good agricultural land management can support the improvement of agricultural capacity and bring prosperity to farmers.

METHODS

This study was conducted for three weeks in (December 2017 – January 2018). The site of data collection is situated at an integrated farming area of Al-Wahidah International, SDN. BHD in Penang, West Malaysia.



Figure 1. Map of Penang island, Perlis, West Malaysia

The study consisted of site survey and semi-structured interview with local farmers. The collected data were primary and secondary data. The collected data were analyzed descriptively with a qualitative approach so that can describe factually and accurately (Sugiyono, 2011). The data analysis was strengthened by the results of interviews and literature studies. In addition, this method is intended to analyze data by

describing or describing data that has been collected to make conclusions in accordance with the needs of researchers (Moelong 2007).

RESULTS AND DISCUSSION

Table 1. Profile of Asiatic Pennywort farm in Penang, Malaysia.

No.	Location	Area	Yield/ Harvest	Number of Farmers	Revenue/harvest	Note
1	Kayang Ramban	1 Ha	4 Tons	2 Persons	IDR 56.000.000,-	Price at wet condition: MYR 4/kg or IDR 14.000/kg (MYR 1 = IDR 3.500)
2	Ko Kelang	2,5 Ha	12 Tons	6 Persons	IDR 168.000.000,-	
	Total	3,5 Ha	16 Tons	8 Persons	IDR 224.000.000	

Source: Interview data and HPA International.

Table 1 above describes Asiatic Pennywort farms in two different locations, namely Kayang Ramban with an area of 1 Ha and Ko Kelang with an area of 2.5 Ha. The results demonstrate very productive and optimum yield of every Hectare farm to produce 4 tons Asiatic Pennywort in one harvest. Overall, the farms can produce 16 tons Asiatic Pennywort every harvest. In the good rainfall season, the harvest time can 4 times in a year, while in the less rainfall season only 3 times. The lowest annual production, in the less rainfall season, is calculated to reach 48 tons.

Numbers of farmers working on the farms are vary based on the locations. In Kayang Ramban, a 1-Ha farm is with the yield per harvest of 4 tons is managed by 2 farmers. Whereas, Ko Kelang with the area of 2.5 hectares and yield per harvest of 12 tons has 6 farmers working on it. Overall, the farms can effectively produce such number of yields per harvest (16 tons) with only 8 farmers as the workforce (Table 1).

Analysis on the revenue (Table 1) demonstrates the very high income obtained by the Asiatic Pennywort farms. Total revenue for each harvest of all the farms can obtain IDR 224,000,000. From the value, every farmer can earn (gross) IDR 28,000,000,000. The annual accumulation, if considering the less rainfall season or 3 times a year, the yield can worth IDR 672,000,000. By considering the monthly income and number of farmers, every farmer can get monthly average income (gross) of IDR 7,000,000.

The prior calculation considers the wet condition, MYR 4 Ringgit per kg or equal to IDR 14,000,000 per kg. The value of agricultural products can even higher when a proper treatment applied before selling to the costumers. For instance, the price of Asiatic Pennywort in dry condition is about ten times than the wet condition (about MYR 40 per kg or IDR 140,000 per kg). If farmers process the Asiatic Pennywort plant from wet to dry, the farmer will get a higher income, and when the farmer processes the Asiatic Pennywort plant again into Asiatic Pennywort flour, the selling value will be even higher to the company.



Figure 2. (above) site survey to the farms, (below) the farm and the owner

The results demonstrate how a very productive Asiatic Pennywort farms management. The farms are a great example of the best cooperation between company and local farmers to reproduce optimum yield in limited-but-well-managed farmland. Moreover, the possibility to extend the managing land for similar model of farm it is very possible and will get even greater yields as well absorb employment opportunities.

Cooperation between the company and farmers can be a good model to develop sustainable management of farms. The company can supply seeds and buy back the yield from farmers at an agreed price. The price depends on the condition of the yield (wet, dry, or flour). In this collaboration, farmers can experience benefits in the provision of seeds and competitive price by the company. On the other hand, the company benefits from the availability of raw materials from the farmers.

Indonesia, with the very potential natural resources and very fertile and vast land, is prospective to adapt the model implemented by the Asiatic Pennywort agricultural land in Penang, West Malaysia. It can potentially absorb labor for as farmers maximally and will help farmers prosper.

CONCLUSION

1. Optimum land use of Asiatic Pennywort farms lead to the sustainable yield
2. Economic values of Asiatic Pennywort can be developed in relatively small area and producing very high revenue for farmers and company (Herbal Penawar Al-Wahida International SDN. BHD.).
3. A good cooperation between farmers and company can trigger sustainable production.
4. Optimum land use and number of farmers could produce maximum and sustainable yield.

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