

Agro-tourism in North Lombok Stimulates New Crops and Technology Adaptation, and Farming Becomes Profitable

by Taslim Sjah Dkk

Submission date: 03-Jun-2023 09:25PM (UTC-0500)

Submission ID: 2108283634

File name: NG-FIRST-ICST-TAHUN-2016-Agro-torism_in_North_Lombok_158-162.pdf (58.65K)

Word count: 2262

Character count: 12777

Agro-tourism in North Lombok Stimulates New Crops and Technology Adaptation, and Farming Becomes Profitable

Taslim Sjah^{1*}, Zainuri², Ahmad Sauqi¹, Jayaputra¹

¹Faculty of Agriculture

²Faculty of Food Technology and Agro Industry
University of Mataram

*Email: t.sjah2@gmail.com

Abstract

North Lombok Regency is currently implementing economic development, including the development of tourism and agriculture. The regency identifies potential locations, followed by implementation of integrated activities in the frame of agro-tourism. The region supplies water through piping and applies appropriate technology to crops that are introduced to the new cropping land. The results indicate that the introduced crops adapt to the new sites, grow well, and bring profit to farmers. The impact of the development of agro-tourism is positive.

Keywords: *Agro-tourism, Appropriate technology, Crop introduction, Farm Profit*

1. Introduction

North Lombok Regency (NLR) has been implementing many policies and programs for developing its region in many aspects. In economic aspect, the regency has top priorities in developing agricultural and tourism sectors, since the region has the potential on these sectors. This direction of development is in line with the national government policies and programs, that are guided in *MP3EI (Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia, The Plan for acceleration and expansion of economic development in Indonesia)*. West Nusa Tenggara (WNT), where North Lombok is within (BPS NTB, 2016), is included in the corridor of Bali and Nusa Tenggara, with one of the focuses is on tourism (Presiden RI, 2011).

NRL has more than 80 % dry land (BPS Lombok Utara, 2014), and thus the availability of water is critical. Several years ago, ground water wells have been built in many spots in NRL to activate agricultural practices, for being sources of the community income. Since then community have been growing many commodities of agriculture in broad sense, including those of estate crops, food crops, and horticulture. Apart from growing old types of crops, new crops are also introduced to region by agricultural producers, by adapting to the local condition or by manipulating the local conditions to enable crop growing, and by not forgetting economic consideration.

In achieving the goals of tourism, economic, and agriculture for the well being of the people, NLR develops the so called 'agricultural tourism', 'agri-tourism', 'agro-tourism' ('agro-wisata'). Essentially, this type of tourism is developing agriculture for the purpose of providing agricultural beauty for visitors to enjoy. This type of business has been increasing in recent years in Indonesia and other parts of the world. The entrepreneurs of this business maximize profit by exploiting revenue from the crops grown and also from tourism aspect of the activity (Wikipedia, 2016).

In integrating agriculture into tourism, supporting systems need to be included, among others, are suitable irrigation facilities and profiting new crops. Irrigation is required for enabling optimal application of agricultural inputs, particularly seeds and fertilizers. In addition, agricultural producers search for new crops that grow well in the location as well as

have a good price, all of which accumulate to become better profit than ordinary grown crops. This paper describes the impacts of agro-tourism developed in Gumantar Village, Kayangan District, North Lombok Regency

2. Materials and Methods

This study combined quantitative method (Neuman, 1997; Taylor, 2000) and qualitative methods (Neuman, 1997; Patton, 2002; Trumbull, 2000), to provide figures and explanation as needed. This research took place in Gumantar Village, Kayangan District, North Lombok Regency, and was designed to develop tourism with beauty of agriculture that attracts people to visit. The location for crop growing and crops to be grown on the location were discussed by team members. In this early stage of tourism are development, two crops were chosen, i.e. tomato and rock melon. In addition to their beauties, these two crops were considered promising to give good earnings. Furthermore, the location considered suitable for the crops and provides a good view, is asked for agreement from a farmer (farmers). After the farmer agreed to grow the crops, then the farmer is given instruction on how to grow the crops, including how much each input to be applied. He was also asked to record all farm needs and applications, farm production, product price. In particular, investigation team asked the farmer to record application dates and its cost or revenue. The team then copied the record and asked explanations for things considered necessary. These data are complemented with data from secondary sources (Sjah, 2011). Data were analyzed in descriptive way, providing information and understandings (Patton, 2002).

3. Results and Discussions

3.1. Managing resources

This activity is designed for agri-tourism to gain beautifulness or attractiveness and economic profit from crops grown, and others related. The location was selected for the ease of access by travelers, hence road side was chosen. Similarly, water is brought to the location from a source through piping and storage system. The location was (and will be) managed in such way that brings attractiveness and resource use efficiency. Attractiveness invites people to visit, and efficiency in resource use minimize cost. In particular, attractiveness in agricultural products encourages people to buy. All of these are expected to generate profit, one of the main motive in people, including farmers, to behave in certain way.

3.2. Water leads the way to agricultural practice

The traditional practice of agriculture in the area was that mainly to grow corn in most of the land in rainy season. Outside the rainy season, growing crops was inhibited by lack of water for irrigation. Irrigation facility has been introduced to bring water to the area. There are two sources of water for irrigation: springs and ground water. Water from springs is channeled through pipe using gravity. Ground water is brought to the location through pumping system. In addition, water is naturally available during rainy season from rainfalls, although it is limited to the rainy season only.

Since the irrigation water available for the whole year round, farmers have flexibility in growing crops. From one time planting in a year, farmers can now grow crops as they wish during the year. Apart from growing corn, farmers can grow other food crops, vegetables, fruits, or else. In brief, farmers can grow old traditional crops like corn, vegetables, or grow completely new crops.

3.3. New crops introduced

In this beginning period of the development of agro-tourism are, two crops were

introduced. They are tomato and rock melon. The initial planting of tomato was 7 'are' (This is Indonesia term commonly used to measure land, which 1 are = 10 m times 10 m, or 100 m²), while rock melon was 6 'are'. As these crops can be said as new crops to the farmers, then the implementing team trains and supervises the growing of the groups to guarantee that the crops will grow well. The team also provides inputs, such as seeds, fertilizers, and pesticides. The work of land processing was also done under supervision of the team. In short, the research team controlled.

3.4. Income from new crops

The two new crops generated the highest farm income according the record attained. Following conversion to hectare (ha) the income obtained from tomato was as much as IDR 233,750,000 and from rock melon was as much as IDR 137,500,000 (Zainuri *et al.* 2016). These incomes were much higher than income from other crops grown in the Province of West Nusa Tenggara, and possibly in Indonesia too. As comparison, incomes from crops grown in Lombok are presented in Table 1.

Table 1. Comparison of incomes from several crops in West Nusa Tenggara Province

Crop	Location	Income per ha (IDR)	Source of information
Tomato	Gumantar	233.750.000	Zainuri <i>et al.</i> (2016)
Rock Melon	Gumantar	137.500.000	Zainuri <i>et al.</i> (2016)
Rock Melon	Central Lombok	109.000.000	Mujianingsih <i>et al.</i> (2015)
Water Melon	Central Lombok	105.000.000	Mujianingsih <i>et al.</i> (2015)
Chili	Mataram	93.000.000	Alis (2016)
Rice	Central Lombok	24.843.954	Wijaya (2016)
Corn	West Lombok	19.752.626	Laksemi (2016)
Rice	West Sumbawa	13.179.046	Ardiansyah (2016)

There are two main reasons for high income from the two crops. Firstly, they have high price. Both tomato and rock melon were produced outside their normal season, when other farmers did not produce. In times of less supply while other factors remained the same, then the price increases (Cramer *et al.*, 2001; McIver, 2001; Penson *et al.*, 2002; Seitz *et al.*, 2002; Sjah, 2010). Secondly, production of the two crops was run in intensive way. Intensification or intensive farming with application of additional inputs is seen as a way to increase agricultural production (Sahidu, 1983; Sari and Sjah, 2016; Savadogo *et al.*, 1998). In particular to these two crop farming, intensification was applied with more organic fertilizers, including manure, granular organic 'bioextrim' liquid organic (*bomax*, *bioextrim cair*, *hormax*, *bioplant omega*, *hantu*, *super biota plus*), and with more liquid bio pesticides (*biopestida omega*, *bormax*) (Zainuri *et al.*, 2016). The combination of intensive farming (which lifted productions) and good timing of farming (with increased prices) cause farming of these crops become highly profitable.

4. Conclusions and Recommendations

The development of agro-tourism area in Gumantar Village, Kayangan District, North Lombok Regency brings positive impact. The development advances agriculture and tourism as an integration in agro-tourism, which aims of gaining profit through agricultural production and attractiveness. The crops introduced indeed generated among the highest income on record, which was due to high prices and productions of the newly introduced crops. High prices was a consequence of a good production timing, and high productions were contributed

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by highly intensive farming. Intensive farming and out of normal season farming was made possible by the availability of water for irrigation. Such program that has proven as having positive impact is recommended to be continued in that location or elsewhere. This program also brought lesson to be learnt that supervision in farming practices is important to ensure high rate of success.

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