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Analyzing of Agrotourism Potential in Malang City

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Abstract— *Agrotourism, in addition to being a tourist and learning place, also functions as generate income for the Regional Original Revenue. Malang City which most of its area is settlement, can be studied as an agro-tourism based on urban agriculture. The research was conducted in 4 Sub District of Kedungkandang District with microclimate characteristic as follow temperature (22.7- 25.1 °C) and humidity (79 - 86%) support the agro-tourism sector. Research was started from May - September 2022. The strong potentials of the selected locations are (1) Land owned by the Malang City government so that the possibility of using it for agro-tourism areas is more open; (2) At the moment a little paddy-based agro-tourism is integrated with sheep farming and fisheries; (3) There is a tour of the Masked Village in the Northeast aerial photo taking location; (4) There are many potential educational locations to be targeted for marketing agrotourism-based edutourism; and (5) Enthusiastic community. The method of survey was direct observation and then analyzed using SWOT method to find high potential agrotourism areas. The conclusion obtained was the design of agrotourism development in Tlogowaru Sub District is divided into two functions, namely (1) lodging and trade functions, (2) agriculture, animal husbandry and fishery education areas.*

Keywords— ***Agro-tourism, Agriculture, Mapping, Paddy Field***

I. INTRODUCTION

Malang is the most potential city in East Java for agro-tourism because of its flourishing biosphere, climate and supportive astronomy position based on "Kota Malang dalam Angka 2018". Malang City has total of 2,742 ha of agricultural land, both paddy fields and non-paddy fields [1]. It is located at 112.06° - 112.07° East Longitude and 7.06° - 8.02° South Latitude, yield a tropical city with a wide variety of agricultural product. Surrounded by inactive mountains on its geographical location, namely Mount Arjuna-Welirang in the north, Mount Semeru in the east, Mount Kawi, Butak and Panderman in the west and Mount Kelud in the south (active), makes Malang a chill, beautiful natural charm to be used as a spotlight. According to [6] in the current era of globalization, tourism is one of the activities that has a strategic role in supporting national economic development and agro-tourism is included.

In agro-tourism sector, Malang is well-known for its experiential tourism based on agro- production, such as plant-nurseries, planting, harvesting crops and fruits, as well as fish- nurseries, dairy process, and others. According to [2] agritourism is any custom developed on agricultural land that has the aim of engaging tourists. The agrotourism model leads to learning about producing in addition to selling its own products. Apart from being a tourist spot, agro-tourism is a place of learning as well as a place for activities that can generate income for Regional Original Revenue. Agritourism is an existing opportunity for farmers to secure assets and the National Gross Domestic Product because it becomes an additional source of income and employment opportunities for traditional farmers. Malang, which is mostly residential area, can be studied as urban agriculture-based agrotourism. This research was conducted with the aim of conserving rice fields by using it as agro- tourism, increasing the income of farmers and communities around the agro-tourism location, and increasing agritourism in Malang City. The target in this research is farmer groups and agricultural land in Malang City..

II. METHOD ALSO CALLED MATERIALS AND METHODS OR EXPERIMENTAL METHODS

This research was conducted in Malang City, which is located at 440 - 667 meters above sea level and one of the tourist destination in East Java. It is located in the middle of Malang Regency, geographically it is located at 112,06° – 112,07° East Longitude and 7,06° – 8,02° South Latitude, with the northern boundary are Singosari and Karangploso District, Malang Regency, to the east is Pakis Subdistrict and Tumpang District, Malang Regency, to the south with Kerajinan District and Pakisaji District, Malang Regency and to the West with Wagir District and Dau District, Malang Regency. The image of Malang City area is presented in Figure 1.

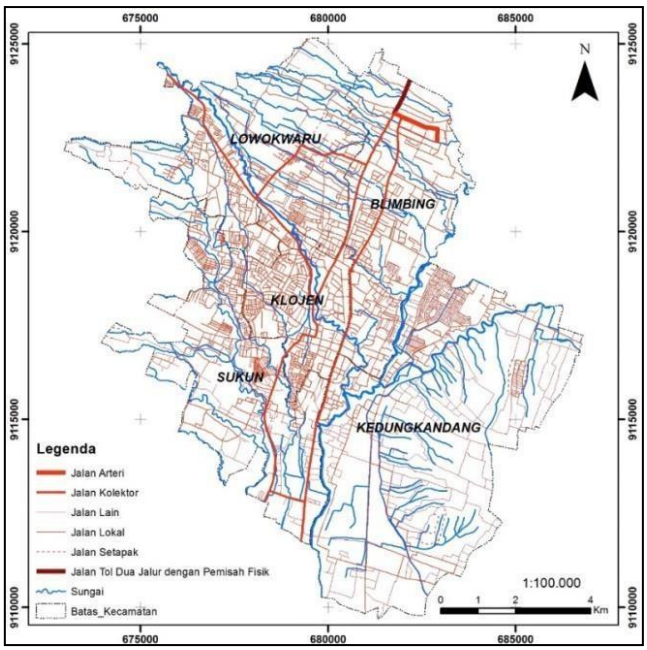

Fig.1. Administration Map of Malang City, with a scale of 1: 100.000

The location of groundcheck and sampling is determined by a map from digitizing google earth. The survey aims to collect primary data from direct-observations, including agricultural land conditions (including food crops, livestock, horticulture and plantations), socio-economic conditions of farming communities, conditions of agricultural supporting infrastructure, and other data in accordance with the terms and criteria. Researchers used SWOT analysis techniques to find out the strengths, weaknesses, threats and opportunities in the formation of agro-tourism in Malang. Analysis of the internal and external environment is an essential task in agritourism development. Furthermore, to formulate a tourism village model, the researcher rests on the data from the mapping of the potential and the formulation of the strategy which is elaborated into a more operational concept scheme.

III. RESULTS AND DISCUSSION

3.1 SWOT Analysis in Determining Potential Areas of Agro-tourism

There are 4 areas that have the potential for agro-tourism. The land that has the potential to be developed into an agro-tourism area is located in Kedungkandang District (Bumiayu, Cemorokembang, Arjowinangun and Tlogowaru Sub District). The selection of Kedungkandang District to be the research location begins with a SWOT analysis in 5 districts, namely Kedungkandang, Sukun, Lowokwaru, Blimbing and Klojen.

Fig.2. Bumiayu Sub District

Bumiayu Sub District has an agricultural stretch of 134 ha with a shape extending from north to south along the Mayjend Sungkono Road. In the western part there is a residential area and the southeast agricultural area in this district is colored yellow, which means it's included in the settlement plan (Figure 2).

Table 1. SWOT Analysis of Bumiayu Sub District

Strength	• There are 134 ha of active rice fields • The area located close to main roads as well as trade and service areas • There is land with attractive contours along the river body
Weaknes s	• Based on the RDTRK (Detailed City Spatial Plan) map, the agricultural area in this village is included in the residential zone • View of agricultural area covered by buildings • The agricultural area enters the river boundary so that high buildings cannot be made
Opportun ities	• Agricultural areas along the river body so that agrotourism areas can be designed with attractive contours and views

	• An agrotourism area that is close to settlements so that it can facilitate access
Threat	• The large number of settlement zoning in this district can lead to isolated and undeveloped agrotourism areas • The large number of residential areas can cause pollution of irrigation channels that irrigate agrotourism areas

Cemorokembang Sub District is also an area that has the potential of agrotourism. It has an agricultural area of 90.8 ha located in the Southeast part of Cemorokandang sub-district. In the southwest part of the village, there is an exit from the Malang Surabaya toll road. In the Malang Spatial Pattern Plan, agricultural land in Cemorokandang is included in the Residential Area Plan (Figure 3).

Fig.3. Cemorokembang Sub District

Table 2. SWOT Analysis of Cemorokembang Sub District

Strength	• There is an active paddy field of 90.8 ha • There is toll road access • Close access to Sawojajar village which is densely populated
Weakness	• Based on RDTRK, there are many zoning for settlements in this sub- district • Access near toll roads could cause congestion • Lack of natural landscape views
Opportunities	• Because it is close to a densely populated area (Sawojajar), the agro-tourism area in this district can invite many visitors • Toll road access makes it easier for out-of-town visitors to come
Threat	• The scarcity of agricultural land due to development plans in this district • The existence of toll road access can cause congestion and make it difficult to enter the agrotourism area • Overcrowding can cause pollution to the agrotourism area

Arjowinangun Sub District is a village that is included in the potential for agro-tourism based on the results of the SWOT that has been carried out. has an agricultural area of 101 ha located in the southern part of the Arjowinangun sub-district. In the Spatial Pattern Plan in southeast Malang, the agricultural area of Arjowinangun sub-district is included in the residential area plan. In addition, there is also an Industrial area plan (Gray Color) which can pollute the surrounding agricultural area (Figure 4).

Fig.4. Arjowinangun Sub District

Table 3. SWOT Analysis of Arjowinangun Sub District

Strength	• There is 101 ha of active rice fields • There is land with attractive contours along the tidal mouth of the river • Many access from residential areas • There is a trade and service area on the main road
Weakness	• Based on RDTRK, there are many zoning for settlements in this Sub District • There is an industrial area zoning in this Sub

	District • The density is quite high in this area
Opportunities	• The location is close to the river so that an attractive area can be created with the tidal/estuary concept • The number of trade and service areas so that the supply of agro-tourism needs is quite easy to access
Threat	• The existence of an industrial area plan can provide a large enough pollution for agro-tourism areas • The large number of settlement zoning in this Sub District can lead to isolated and undeveloped agro-tourism areas

Tlogowaru Sub District has 128 ha of agricultural land spread across the Northeast and the Southern part of the it. In the Southeast Malang Spatial Pattern Plan, there are still several agricultural zone plans in this area. In addition, there is an fish hatchery research institue that has the potential to be developed into an agrotourism area complex (Figure 5).

Fig.5. Tlogowaru Sub District

Table 4. SWOT Analysis of Tlogowaru Sub District

Strength	• There is 128 ha of active rice fields • There is a 13 hectare stretch of agricultural land in the middle of this Sub District • There is an fish hatchery research institue (UPT Pembenihan Ikan) which is well known and used for various activities • There is Agricultural Extension Center (BPP) which supports agriculture in the Tlogowaru village
Weaknes s	• Based on RDTRK, the zoning of agricultural areas is still quite large in this Sub District • The location is far from urban areas and borders the district • The location is quite far from the main road
Opportun ities	• The location of the land in the form of a large expanse can provide a rural atmosphere in the agro-tourism area • The existence of fish hatchery research institue can support agro-tourism areas in the fisheries sector • The contour landscape so that the scenery in this area is quite interesting • There is Agricultural Extension Center Tlogowaru which can assist in the extension process of the development of the agrotourism area
Threat	• The location is far enough from the main road so that it requires special attraction for the area • Settlement zones that surround agrotourism areas can isolate the area

3.2 Agrotourism Development Plan

The result of this study show that Tlogowaru Sub District is the most potential as an agrotourism area. The land belonging to residents around this area is also designed to become a well-integrated agro-tourism area. The potentials characteristic of the selected locations are (1) The land is belongs to the Malang City Government so that the use for agrotourism areas is more flexible; (2) Currently there are not many lowland rice-based agrotourism which is integrated with sheep farming and fisheries such as in Tlogowaru Sub District; (3) There is a tour of Topeng Village to the Northeast of the location for taking aerial photographs; (4) There are some schools that are potential to be targeted as agrotourism market; and (5) Enthusiastic society. [8] state that the area to be managed for agro-tourism should have unique areas and support from the surrounding community. Ownership of land to be used as an agro-tourism area also adds value because it is owned by the government. [11] states that location and material sources are internal factors of the competitive factors of a tourist area.

Main commodity is paddy which are planted 2-3 times a year. According to [10], agricultural commodities can be used as agrotourism objects, for example pre and

post-harvest can be an attractive activities. Paddy field in Tlogowaru has been integrated with fisheries and according to [3], it is necessary to combine agriculture with hobby, such as combination of rice field with jogging tract, fishing pond, integrated rice and fish farming, fish pond, flowers and horticultural crops. If this area will be developed as agrotourism, there is support from several nearby tourist locations such as Watu Menyan Nature Tourism and Jenon Water Resources in the southeast; Tumpang Valley and Topeng Village Tourism in the Northeast; Buring Education Tour, Coban Amprong, Keramat Village, Tridi Village and several other tours in the Northwest; Lastly Bonderland on the Southwest.

The development of this area has potency to lead to agrotourism due to the large amount of infrastructure that is very supportive at the specified location. There are Tlogowaru Fish Seed Center and also rice fields surrounding the selected location. According to [9] the attractiveness of a tourist object is based on: 1) The existence of resources that can cause a sense of pleasure, beauty and comfort, 2) High accessibility to be able to visit, 3) The existence of special characteristics/rare specifications, 4) Supporting facilities/infrastructure to serve tourists, 5) Natural attractions have high attractiveness because of their appearance and beauty and 6) Cultural tourism objects have high attractiveness. Therefore, the development of this area leads to agrotourism with the concept of rice field-based tourism and educational tourism on livestock and fisheries. Several areas have implemented agro-tourism development based on rice fields, one of which is in Sukorame Village, Lamongan. Tourism does not have to be in the form of natural objects, but innovation in various agricultural products can be a support for increasing tourist visits [7].

Although there are weaknesses and threats like the location far from the main road, this can also serve as an opportunity to increase the value of the destination. The location away from the city can provide a relaxing and enjoyable feel for travellers who want to take a break. According to [12] one of the most popular reasons for destination selection is a relaxing and pleasant destination with good weather. It can provide a relaxed, comfortable feel and relieve fatigue after work activities. Therefore, Tlogowaru Sub-district can utilise this weakness as an opportunity to become a tourist attraction.

3.3 Social Aspects

The social aspects in the study and design of the agrotourism potential of Malang City are the basis for determining how the carrying capacity of the community in the area is. The results obtained from distributing questionnaires to the community around Tlogowaru. The result show that the respondents are divided almost evenly with 52% women and 48% men who mostly work as farmers around the area. The people already know a lot about agrotourism planning in Malang with a percentage of 90% knowing and 10% not knowing.

Response to the facilities from community is 36% of the people choose a culinary center, then a swimming pool 24%, a gathering room / gazebo by 18%, a kiosk selling local products 16%, a hotel / villa 4% and a flower garden 2%. From these results, agrotourism design is prioritized for culinary areas that can accommodate local residents and tourists from outside. The community's suggestions for the government are to be more concerned with farmers and often held meetings with the rate of 77%, then 13% held competitions with the theme of agriculture or fisheries, then socialization about environmental cleanliness 7%, and 3% suggest repairing waterways that often leak. In developing this agrotourism object requires cooperation between the Malang City Government and the surrounding community. This is in line with [5] statement which argues that tourism / agrotourism development is all activities and efforts that are coordinated to attract tourists, providing all the necessary infrastructure and facilities, goods and services to serve the needs of future tourists. As for [5] which states that agrotourism development efforts in general cover aspects of human resource development, natural resources, promotion of support for facilities and institutions. The presence of various consumers / tourists will also be determined by the convenience created, starting from good service, easy access to accommodation and transportation to the awareness of the surrounding community.

Malang government is also planning to develop agro-tourism locations through several aspect such as provision of training related to proper cultivation techniques for the development of agricultural production, agribusiness for marketing agricultural products and funding for the repair and construction of facilities in Tlogowaru Sub-district. Government also plan to develop the tourism facilities and activities such as hotels, cafes, and restaurants that have a calm village atmosphere. Establishment of agricultural educational tourism activities such as livestock care, planting and harvesting agricultural products and fish farming. Expanding product offerings by omproving the relationship between agritourism and other economic sectors, applying the principles of sustainable development and agriculture and also developing agricultural products of Tlogowaru Sub-district. Marketing of agrotourism destination will be done by cooperating with the tourism department of Malang City to make Tlogowaru Sub-district known on a national scale, marketing through the internet and social media to promote the beauty of Tlogowaru

District agritourism also organising agricultural events to engage tourists.

IV. CONCLUSIONS

It can be concluded that Tlogowaru Sub District has potency to be established as rice field agrotourism. The development of this area has great potential due to the large amount of infrastructure that is very support at a predetermined location. The development of this area leads to agrotourism with the concept of rice field-based tourism and educational tourism on livestock and fisheries. The role of the community is also very influential on the successful development and potential of agrotourism in Tlogowaru Sub District, Malang City.

REFERENCES

[1] Badan Pusat Statistik 2020 Luas Lahan Menurut Kecamatan dan Penggunaan Lahan di Kota Malang (Hektar (ha)), 2018-2020 https://malangkota.bps.go.id/

[2] Khanal S, Mamata S 2019 Agro-tourism: Prospects, importance, destinations and challenges in Nepal. Archives of Agriculture and Environmental Science 4(4): 464-471. Doi: 10.26832/24566632.2019.0404013.

[3] Lanya I, Subadiyasa N, Sardiana K, Adi, GPR 2018 Planning of Agro-Tourism Development, Spesific Location in Green Open Space Sarbagita Area, Bali Province. IOP Conf. Series: Earth and Environmental Science 123. doi :10.1088/1755-1315/123/1/012038.

[4] Musanef 2000 Manajemen Usaha Pariwisata di Indonesia Jakarta, Gunung Agung.

[5] Rai I G B 2012 Metodologi Penelitian Pariwisata dan Perhotelan. Penerbir ANDI, Yogyakarta.

[6] Safar M 2011 Pengembangan Prospek Geowisata Dan Agrowisata Dari Potensi Sumber Daya Alam Di Kabupaten Konawe Selatan. 1 34.

[7] Sastrayuda G S 2010 Konsep Pengembangan Kawasan Agrowisata. Hand out mata kuliah concept resort and leisure, Strategi pengembangan dan pengelolaan resort and Leisure.

[8] Sumantara K and Yuesti A 2017. Development of Agrotourism to Support Comuunity-Based Tourism toward Sustainable Agriculture. Australian J. of Basic and Applied Sciences 11 13 93-99. Doi: 10.22587/ajbas.2017.11.13.10.

[9] Suwantoro G 2007 Dasar-Dasar Pariwisata. Yogyakarta : Andi.

[10] Tirtawinata M R dan L Fachruddin 1996 Daya Tarik Dan Pengelolaan Agrowisata Penerbit Penebar Swadaya, Jakarta.

[11] Vogt L 2014 The Economic Side of Agrotourism: Business Performance and Competitive Factors. Economia Agro-Alimentare 77-102. DOI: 10.3280/ECAG2013-003006

[12] Xialei D, Lawal M M, Chung-Shing C, Han X, Lewis T O C 2020 Measuring the Gaps in the Projected Image and Perceived Image of Rural Tourism Destinations in China's Yangtze River Delta. Sustainability 12 5121. Doi: 10.3390/su12125121