

Development of Lestari Mulya (LM) Agro-Edutourism based on Sustainable Agroindustry in Ngestiharjo Village, Kulon Progo

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Abstract

Lestari Mulya (LM) Agro-Edutourism is a tourist destination designed for educational purposes for children who have received early childhood education and kindergarten students. The community services aim to support members of the Lestari Mulya Women Farmer Group as managers of the Agro-Edutourism to discover their potential, identify development alternatives and assist them to become a sustainable agroindustry. Focus Group Discussion (FGD) methods were used by the Universitas Gadjah Mada community services team to gather the information needed for further development planning. The results of the in-depth interviews showed that there is potential for the land and that some ideas can be developed to improve the quality of Agro-Edutourism products. The Lestari Mulya Women Farmers Group was able to use the FGD method to design a safer and more comfortable layout for the area. The community services team has developed a master plan proposal to apply for funding to improve infrastructure to support faster development of the Agro-Edutourism

INTRODUCTION

Lestari Mulya (LM) Agro-Edutourism is located in Ngentak, Ngestiharjo, Wates, Kulon Progo Regency. This area is part of the aerotropolis area, which is a tourist area in support of the Yogyakarta International Airport (YIA) in Kulon Progo Regency, which is being intensively developed. KWT Lestari Mulya is a Women's Farming Group that started with the desire of 30 women from Ngentak to provide for their families by growing vegetables and providing adequate nutrition to prevent child stunting.

KWT Lestari Mulya occupies an area of 2,000 m², where a variety of fruit, vegetables, ornamental plants and fish are grown. The Agro-Edutourism program is designed as an educational package to teach children about agriculture and fisheries, such as preparing planting soil, watering plants, harvesting vegetables and feeding fish.

The activities carried out by KWT Lestari Mulya are in line with the Agro-

Edutourism Program promoted by the Director General of Horticulture of the Ministry of Agriculture in 2020 with program number: 1652/R-KEMENTAN/12/2020. According to the Director General of Horticulture, the Agro-Edutourism Program has several objectives, including building a pilot model of an integrated agricultural system that integrates related commodities, especially floriculture (flowering and ornamental plants), biopharma (medicinal plants), fruits and vegetables in an upstream-downstream cycle in a sustainable manner, improving the quality of agricultural human resources (HR), becoming a tourist destination, and accelerating national economic recovery.

LM Agro-Edutourism supports the implementation of the Green Economy, which improves human welfare and social equality while reducing environmental risks. In Agro-Edutourism, there are many perennial fruit plants and seasonal vegetable plants that make the Agro-Edutourism area

and its environment clean and cool, despite being in the middle of the city of Wates.

The purpose of UGM assistance in community service in the short term is to help KWT to recognise its potential, identify problems faced to develop Agro-Edutourism and help develop a solution strategy. In the long term Agro-Edutourism can develop into a sustainable agricultural industry to produce service products in the form of educational services and agro-tourism integrated with product sales services in the form of fruit, vegetables, fish and processed vegetable and fish products. The achievement of the long-term goals of KWT Lestari Mulya is expected to be able to continue the LM Agro-Edutourism business independently to improve the local economy of KWT members.

Several Agro-Edutourisms have developed well in the Kulon Progo region with their respective advantages such as Agro-Edutourism of the Tiwi Manunggal Joint Business Group (KUB) based on integrated farming with zero waste, Agro-Edutourism of Kleco fruits at Embung Kleco, Agro-Edutourism of Chrysanthemums in Gerbosari. Each tourist area has its own characteristics where in general Agro-Edutourism develops because it has the advantage of attractive natural scenery.

LM Agro-Edutourism will develop its own waste processing, which is expected to become an agro-industry with sustainable integrated agriculture. The development of agro-tourism is expected to improve the quality of the community and strengthen the potential of agricultural villages (Indarti et al., 2019).

The Ministry of Tourism and Creative Industries (Kemenparekraf) and the Ministry of Village Development of Disadvantaged Regions and Transmigration (Kemendesa PDTT) are quite serious about developing the potential of several villages to become Tourism Villages (Fatanti et al., 2022). For almost the same purpose, the Ministry of Agriculture campaigned for the establishment of Agro-Edutourism, which

was supported by the Kulon Progo Regency Agriculture and Food Service by providing opportunities to apply for grants to develop Agro-Edutourism.

Achieving the long-term goals of community service is expected that LM Agro-Edutourism can be better known to the public because it can produce quality food products and agro-education services with integrated and environmentally sound management.

METHOD

The implementation of community service was carried out in the odd semester 2022-2023 at KWT Lestari Mulya, with the location of activities in Ngentak RT 14 RW 3, Ngestiharjo, Kapanewon Wates, Kulon Progo, Yogyakarta. The implementation began with a face-to-face meeting for introductions and in-depth information gathering about LM Agro-Edutourism.

Face-to-face discussions using the FGD method were held in October, attended by active members of KWT Lestari Mulya, as well as stakeholders. The Focus Group Discussion (FGD) method was used with the consideration that KWT members and stakeholders were used to using the method. There were three groups where two groups consisted of KWT Lestari Mulya members and one group consisted of stakeholders. The FGD began with an explanation of the purpose and how to conduct the FGD by the team leader. The FGD was guided by facilitator Dr Makhmudun Ainuri. The expected output in this FGD is the rearrangement of the layout in the LM Agro-Edutourism area supported by all KWT members and stakeholders. The results of this layout design will be used as initial information for the preparation of the LM Agro-Edutourism development masterplan proposal which will be used to seek funding for LM Agro-Edutourism infrastructure development.

The first year Community Service Success Indicators as listed in Table 1.

Table 1. Indicators of success for the first year of community service

No.	Indicator Description	Unit	Target
1	The results of identifying the potential	List of potential	1
2	Expected Agro-Edutourism Layout Map	sketch	1
3	Lestari Mulya Agro-Edutourism Masterplan Proposal	Proposal	1

The results of the identification of the potential owned and that can be developed according to KWT members will be continued with the preparation of the development implementation program. The map of the LM Agro-Edutourism layout design will be used to rearrange the production area and education area. The arrangement of the area is aimed at management efficiency as well as reducing the risk of danger for visitors and managers.

The FGD results were used as the basis for making a Masterplan proposal for the development of LM Agro-Edutourism. Implementation of the Masterplan was carried out on the campus of FTP UGM with the help of students for the design of its 3-dimensional layout. For practicality, the team made the proposal on campus while still communicating well with KWT online.

RESULTS AND DISCUSSION

By applying the principles of Rapid Rural Appraisal (RRA), as done by (Fatanti et al., 2022), face-to-face discussions with KWT members can occur smoothly. The community service was conducted by face-to-face discussion on 17 October 2022. The FGD was attended by the chairman and members of KWT, stakeholders and the team from UGM. Stakeholders who attended were Field Agricultural Extension Workers (PPL), Ngentak hamlet officials, Village secretary, and Ngentak hamlet community leaders. The FGD was held at the LM Agro-Edutourism pavilion. The 18 members of KWT Lestari Mulya were

divided into two groups and the third group was a combination of stakeholders.

Before carrying out the FGD there were several things that had been agreed upon that should be in LM Agro-Edutourism with a new layout arrangement, adding 15 tarpaulin ponds with a diameter of 1.5 m which was government assistance for LM Agro-Edutourism in 2023. The FGD group was given the opportunity to improvise in proposing the development of LM Agro-Edutourism. Figure 1 shows the FGD activities of the KWT members.



Figure 1. Activity of FGD

The FGD participants were able to explore the main potentials that could be developed, which were conveyed through the proposed layout design of the LM agro-edutourism area. It was agreed that the large number of KWT members cannot be considered as potential, as the number of inactive KWT members is increasing due to family care.

Focus group discussion (FGD) on the layout design

Preliminary drawings of the layout of the buildings within the boundaries of the LM Agro-Edutourism Area were distributed to all the groups. Each group was given pieces of paper of different colours and shapes to represent the different facilities that would be reorganised in the agro-educational area. In addition to using sticky notes, the participants were allowed to use markers of different colours to draw on the layout sheet what they wanted to have in the LM Agro-Edutourism area.

Figure 2 is the result of the layout design of the three FGD groups. The black

shading shows the KWT's building area which is the centre of activity. The red shading shows the area belonging to the community.

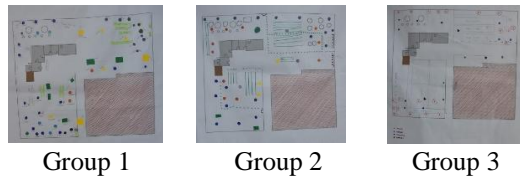


Figure 2. FGD group result sketch

From the discussion, the three groups were very concerned about the presence of old coconut trees with a very large number (more than 20 trees). The community service team then summarised the results of the layout FGD in the form of Table 2. Table 2 illustrates the new facilities needed in LM Agro-Edutourism to complement the existing facilities.

Table 2. Results of *Focus Group Discussion*

No	New Facilities	Number of Proposing Groups
1	Gates availability	2/3
2	Main entrance road	2/3
3	Footpath	2/3
4	Gazebo (photo spot)	3/3
	New plant species	3/3
5	Warehouse	2/3
6	Rabbit/chicken farm	2/3
8	New fish ponds	2/3
9	Wells	1/3
10	Production area	Tim
11	Education area	Tim
12	Garbage and livestock waste processing unit	Tim

Table 2 shows that there are two FGD groups that want to build a gate at the entrance and improve the road at the entrance and all the footpaths. Three groups suggested new facilities, including the provision of gazebos and flower plants for photo opportunities.

There are three new facilities that have been proposed and agreed by the Service Team. Firstly, a production planting area to produce products for sale as a source of income and an educational area for visitor demonstration and exploration. It is proposed that there be a waste processing unit and livestock waste to produce compost

to ensure the implementation of Agro-Edutourism as an integrated agro-industry.

The final results were discussed with KWT management and stakeholder representatives to ensure that the proposed layout could be implemented and the infrastructure built. Figure 3 shows the final layout expected by the FGD participants.

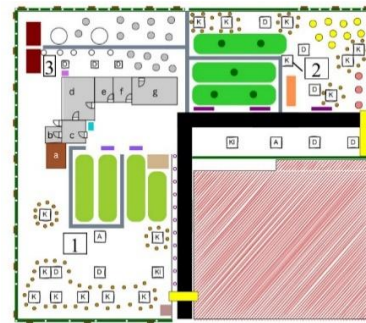


Figure 3. A new layout

The grey box is the activity centre. Light green is the production planting area. Dark green is the education planting area, and the small grey circle is the government-funded tarpaulin pond that will be built in 2023. The brown box is the planned rabbit or chicken enclosure. The small square box with the letter K represents a longan tree, the letter KI represents a coconut tree, the letter D represents a durian tree and the letter A represents an avocado tree.

Changes to the layout as a result of the FGDs compared to the original layout include the removal of about 10 coconut trees that are considered a risk to visitors and will be cut down. Most of the coconut trees are very tall (over 10m) and have never been harvested, so there is a risk that dried fruit and leaves could fall at any time.

In contrast to other agro-educational tourism, LM agro-educational tourism has been developed at the hamlet level, which is very limited in terms of human resources (HR) and natural resources. In addition, LM Agro-Edutourism does not have a good natural landscape due to its location in the middle of the crowded city of Wates.

Other Agro-Edutourism generally carries and emphasises the beauty of nature tourism at the village level (Novikarumsari

& Amanah, 2019), (Nuzil & Dayat, 2020), (Sukmawani et al., 2014). Banyumulek Ranch Agro-Edutourism in NTB developed at provincial level (Rianto et al., 2016). However, by integrating the cultivation and processing of fruit, vegetables, fish and livestock into ready-to-eat food products, complemented by the processing of waste and refuse into compost and fertiliser, it is expected that LM Agro-Edutourism will have a distinct advantage in attracting tourists.

With the second performance indicator target achieved, the next step was to prepare a master plan proposal for the development of LM Agro-Edutourism, which is the third performance indicator. This proposal is used to apply for grants to help develop the LM Agro-Edutourism Infrastructure. An overview of the contents of the proposal is the landscape of LM Agro-Edutourism, which is equipped with a detailed development design and draft budget (RAB). Figure 4 is one of the three-dimensional images of the Agro-Edutourism design shown above in the masterplan proposal. The Lestari Mulya Agro-Edutourism Development Masterplan proposal has been completed and submitted to the Kulon Progo Regency Agriculture and Food Office.



Figure 4. Top view of proposed LM Agro-Edutourism development design

In order to attract more visitors, KWT LM will be offering two tour packages in the second year of the dedication: an environmental package and a plant cultivation package. The environmental package focuses on waste sorting. The Plant Cultivation Package focuses on mixing plant media and planting seeds. KWT feels it is necessary to promote itself online in order to be recognised by the general public.

CONCLUSION

Community Service has been able to increase the capacity of KWT members as Lestari Mulya Agro-Edutourism managers by allowing them to explore the potential that can be developed, design the layout of the area and work with the team to develop a master plan proposal for the development of Lestari Mulya Agro-Edutourism.

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