Digital Innovations: Location Digitalization and Socialization of Greenhouse Automated Watering Plant in Kelompok Wanita Tani (KWT) Giri Asri, Desa Wukirsari, Bantul, DIY

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***Abstract**. (10 pt)*
The farmer women group (Kelompok Wanita Tani/KWT) is a group whose members consist of women or housewives who carry out productive activities in the agricultural sector such as cultivation and processing of agricultural products. KWT has a significant role in women's empowerment, MSME development, and improving the welfare of village communities in relation to KWT and MSMEs. By supporting a dynamic and inclusive MSME ecosystem, digital innovation plays an important role in building a more sustainable and competitive economy. The purpose of this service is to carry out digital innovation in KWT Giri Asri as a Farmer Group and as an MSME actor based on the current conditions and situation of KWT Giri Asri and the development plan for agricultural activities and MSMEs in the future. The method used in this service consists of two stages. The first stage was field observation and data collection through interviews in order to identify the problems faced by KWT Giri Asri. In the second stage, a literature study was conducted, followed by the implementation of location digitization and socialization of automation of greenhouse plant watering. This digital innovation activity received a positive response from the management and members of KWT Giri Asri, and can help KWT's performance as an MSME actor and as a farmer group in the future.
***Keywords:** Digital Innovation; Kelompok Wanita Tani (KWT); Automatic Watering System; Greenhouse; Location Digitalization*

I. INTRODUCTION (Heading 1) (bold, 12 pt)

Wukirsari Village, according to previous residents, comes from the word "Wukir" which means mountain and "Sari" means good/good. So, literally Wukirsari can be interpreted as a good mountainous region. Wukirsari Village was originally a combination of four villages, namely Giriloyo Village, Pucung Village, Pajimatan Village, and Singosaren Village. In 1946, the four villages merged into one village, or previously known as "Catur Manunggal Mukti" which is now known as Wukirsari Village.

Wukirsari Village is an area located in the south of the direction of the city of Yogyakarta with a distance of about 16 km, with an area of 15,385,504 m², with a total of 6,428 families, and a population of 18,445 people. From the review of the Bantul Regency Spatial and Regional Plan (RTRW) document, Wukirsari Village which is included in the Kapanewonn Imogiri area which is a Development Sub-Region (SWP) VI hierarchy II. In general, the direction of its development is as an agribusiness area, cultural heritage, nature reserve, subordinate protection and tourism of special interest in the Development Direction/Strategy of Bantul district, especially the Development

Sub-Region (SWP) VI area of the eastern region, including Kapanewonn Imogiri is developed in a limited manner, in accordance with its environmental carrying capacity and environmental function, namely the intensification and diversification of agriculture and livestock, the development of people's forestry, development of the handicraft industry, the development of the Wukirsari Village industrial estate has enormous potential, both natural resources, human resources, and institutions/organizations. Until now, the potential of existing resources has not been optimally empowered so that the opportunity to make this potential to accelerate the development of Wukirsari Village is still wide open.

The natural resources of Wukirsari Village are mostly agriculture which occupies an area of 2/3 divided into 1/3 lowlands such as in the hamlets of Sindet, Singosaren, Manggung, Bendo, Tilaman, and Pundung. As for other hamlets, they have been spread in the highlands. Natural resources of Galian C are usually located in fields and also in the hills. The texture of the soil in the Wukirsari area is generally fertile soil, especially the agricultural land. However, the fertility of the soil has not been maximized due to the problem of inadequate irrigation flows so that agricultural land stretching from Manggung to Nogosari and Pucung is only able to harvest twice a year. More than that, agricultural areas in the Nogosari Plencing and Sindet areas are even only able to do so once a year because the irrigation is rain-fed water. (Wukirsari, 2025)

The farmer women group (Kelompok Wanita Tani/KWT) is a group whose members consist of women or housewives who carry out productive activities in the agricultural sector such as cultivation and processing of agricultural products. The farmer women group (KWT) can be a forum for women or housewives in channeling their aspirations and driving the various activities of farmer women groups that are able to support economic improvement for women or housewives (Manto et. al., 2023) The Farmer Women Group is a forum for women to provide opportunities to participate in advancing the agricultural sector in the village. One of the activities carried out by women is by participating in women's organizations such as the Farmer Women Group (KWT). The existence of the Farmer Women Group is a form of association of farmer women to accommodate a forum for appreciation of farmer women. Currently, almost all over Indonesia, especially in rural areas, there are many associations of Women Farmer Groups. However, the existence of Women Farmer Groups among women in rural areas tends to be not optimal (Ardiani & Dibyorini, 2021) KWT plays an important role in organizational learning as well as participating in training and counseling on good agricultural techniques, processing agricultural products, and farm management. By improving knowledge and skills, it is hoped that women in this group can increase family income, as well as overcome food security at the household level. (Nugroho et.al., 2024) The existence of women farmers who are members of the Women Farmers Group (KWT), agricultural products have a higher economic value. Through the KWT empowerment process, in addition to easing and helping the work of husbands or the Farmer Farmers Group, KWT can help women farmers become more productive and independent. Women will learn to manage and process agricultural products with various developments according to market needs and potential. Thus, the existence of KWT is very helpful in empowering women in empowerment-based development programs. (Siti & Ilyas, 2021) The success of yard utilization activities requires the participation of KWT members as the implementer. (Pratama et.al., 2022) Thus, KWT has a significant role in women's empowerment, MSME development, and improving the welfare of the village community in relation to KWT and MSMEs.

Digital innovation is an innovation that uses digital technology to support a company in carrying out its operations (Hinings et.al., 2018). Other experts state that digital innovation is innovation that occurs through digital technology (Agostini et.al., 2020). Digital innovation refers to the use of digital technology to develop or improve existing products, services, or processes with the aim of increasing value or creating added value for users or organizations. Therefore, it can be concluded that digital innovation in the context of empowering MSMEs is the strategic application and adoption of digital technology to increase operational efficiency, improve customer experience, create added value for products and services, increase customer interaction, and meet growing

market demands. Utilizing digital innovation in empowering MSMEs has a lot of positive impacts on economic growth. Through this digital innovation, MSMEs can grow faster, create new jobs, increase income, and contribute significantly to local and national economic growth. By supporting a dynamic and inclusive MSME ecosystem, digital innovation plays an important role in building a more sustainable and competitive economy (Tasyakurina & Widodo, 2024)

The purpose of this community service is to carry out digital innovation in KWT Giri Asri as a Farmer Group and as an MSME actor based on the current conditions and situation of KWT Giri Asri and plans to develop agricultural activities and MSMEs in the future.

II. METHODS

The method used in this community service consists of two stages. The first stage was held on May 20, 2025 at KWT Giri Asri, at this stage field observations and data collection through interviews were carried out in order to identify the problems faced by KWT Giri Asri. In the second stage, a literature study was conducted, followed by the implementation of location digitization and socialization of automation of greenhouse plant watering on June 5, 2025 at KWT Giri Asri.

Stage 1

Stage 2

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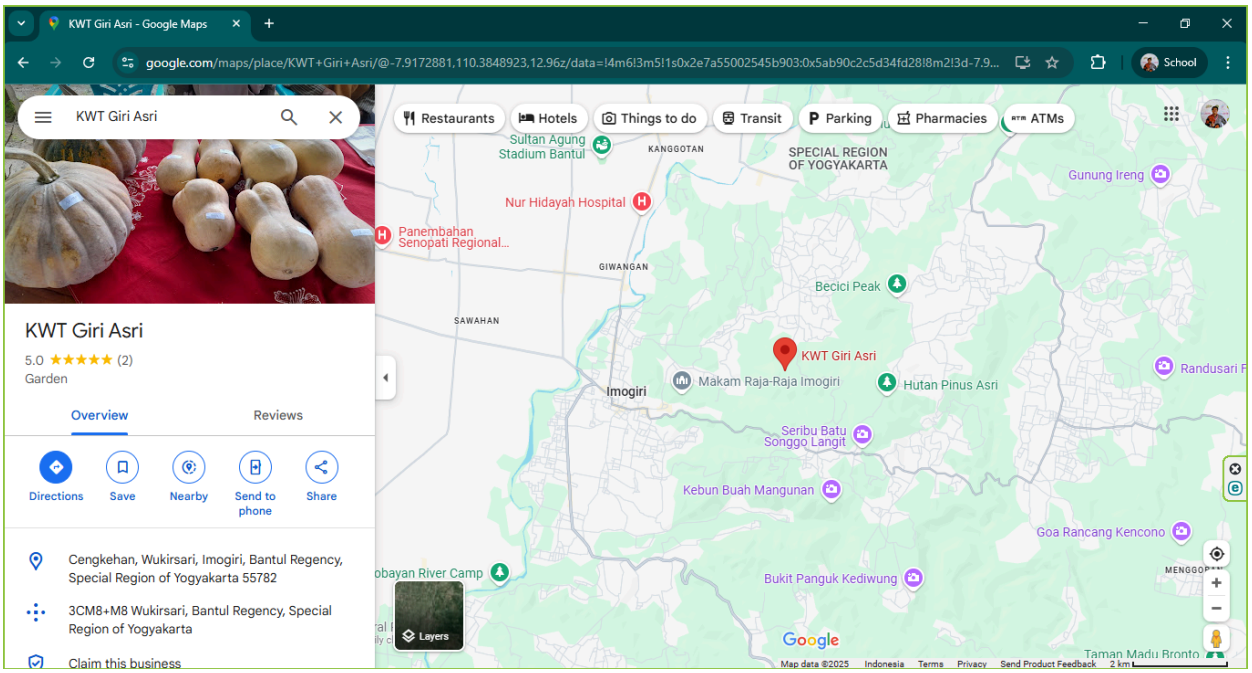
III. RESULT AND DISCUSSION

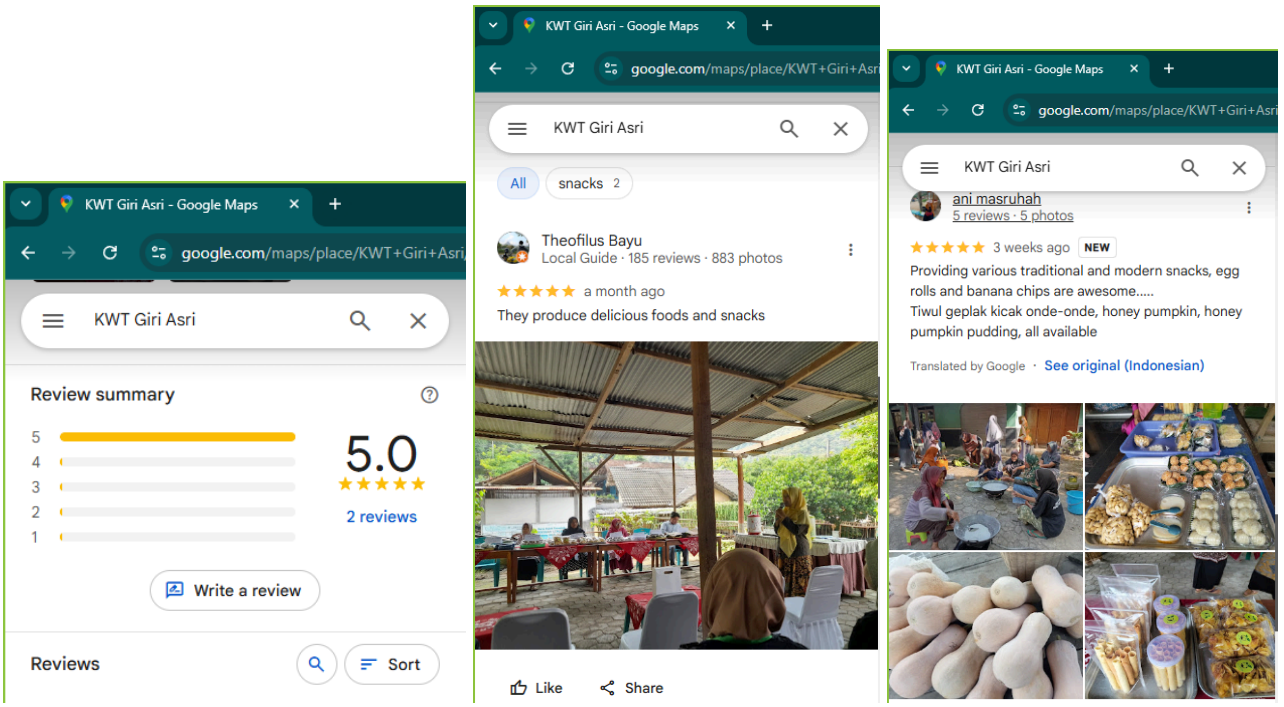
In stage 1, there were two problems identified based on the results of field observations and interviews, namely the absence of the location of KWT Giri Asri on Google Maps and the manual of plant watering activities in the KWT Giri Asri greenhouse. In stage 2, based on a literature study related to problems and strategic issues of the village, these two problems are in line with the problems and strategic issues of the village in the field of government administration related to the management of village information related to village maps and the field of development implementation related to the development of productive economic businesses as well as the development, utilization, and maintenance of economic facilities and infrastructure, namely: BUMDes, irrigation, and MSMEs (Wukirsari, 2025).

The digitization of the location of KWT Giri Asri is carried out by entering data on the location of KWT Giri Asri in Google Maps. Google Maps is the most widely used internet service today. Google Map is a map-based information service developed by Google that offers information in the form of a visual roadmap with the latest photos. Users can access Google maps online on www.maps.google.com. Google Maps view in the form of satellite images that can be zoomed,

reduced and swiped and various image modes The site offers interactive services to users. One of the advantages of using Google Maps is faster location search, ease of map storage, the ability to be accessed anytime and anywhere, understanding new places that may not have been previously known, and faster data updates than using conventional maps. Google Maps is a tool that makes it easy to find business locations in cyberspace that provides great advantages for MSMEs in introducing their businesses to a wider range of consumers, both local and out-of-region. By tagging the location of the business on Google Maps, consumers can easily find the business, find out important information and even provide reviews that can increase the credibility and attractiveness of the business (Sibawaihi et.al., 2025) Google Maps is a map application that is generally used by all android-based mobile platforms.

After the location is entered on google maps, it is followed by completing photos of KWT Giri Asri products and adding reviews. Input of KWT Giri Asri's digital location on google maps is the first step, where there are still many things that need to be added and equipped related to the content and content in this google maps in order to provide clearer information to consumers or buyers. More complete data and information input assistance activities will be carried out in the next stage of service





The socialization of automation of watering KWT Asri greenhouse plants was carried out by explaining the definition, functions and benefits of automation in general in the industrial sector, and its implementation in the greenhouse. Automation is a technology used to carry out work processes or procedures without human assistance. To automate a process, energy resources are needed both to carry out the process in question and to operate the program and control system (Groover, 2005) Automation of greenhouse plant watering itself has been implemented in KWT Mawar Siyono Tengah where the plants watered in the greenhouse are plant seeds that are prepared to be planted in the Matataman barn land. With the automation of greenhouse plant watering at KWT Mawar Siyono Tengah, KWT members can more freely do other Matalamán barn operational tasks because watering plants in the greenhouse is automated. (Dwinugroho & Setiawan, 2024)

IV. CONCLUSION

The location digitization and socialization of the automation of the greenhouse plant watering system, there was a positive response from the management and members of KWT Giri Asri. The digitization of the location of KWT Giri Asri will greatly help the activities of MSMEs from KWT

because of the search for a more accurate location and faster road routes so that it is easier to access KWT's business products. Automation of greenhouse plant watering can be applied at the KWT Giri Asri greenhouse. The proximity of the water source and electricity source to the KWT Giri Asri greenhouse will facilitate the installation of this automation system. This automation of greenhouse plant watering can help the operational activities of KWT Giri Asri members, considering that plant watering is automatic, there is no need to water manually.

For assistance in filling in the completeness of the content and content of the KWT Giri Asri location on google map and the implementation of automation of watering greenhouse plants can be a service activity in the future.

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