



DTF Technology Innovation and Community-Based Creative Economy in Tegalsari Religious Tourism Village, Ponorogo

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ABSTRACT

Background: Tegalsari Village, a village in Ponorogo Regency, boasts significant religious tourism potential, with the Kiai Ageng Muhammad Besari Mosque and Tomb frequently visited by pilgrims from various regions. However, the village lacks a unique product or souvenir that could attract tourists and positively impact the local economy. Currently, the souvenirs offered are sourced from other sources (wholesale) rather than produced by local residents utilizing existing resources.

Contribution: This research aims to develop the creative economic skills of local communities through training in making screen-printed t-shirt souvenirs using the DTF technique as a typical village product.

Method: Through the ABCD approach (Asset Based Community-Driven Development), this service program involves community members in identifying and developing potential local assets.

Results: The results of the community service show an increase in participants' skills in DTF (Direct to Film) screen printing techniques and enthusiasm for developing independent businesses.

Conclusion: This program has the potential to increase village original income and support village autonomy through the use of DTF technology.

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INTRODUCTION

Since regional autonomy began to be implemented in Indonesia, the Province, Regency/City, and Village regions as autonomous regions have experienced a significant impact. The opportunity for the government at the regional level to handle, manage, and regulate most of the needs and interests of the community is explained in Law No. 23 of 2014 concerning Regional Government which regulates that as an autonomous region, the Regency/City has the rights, authority, and responsibility to regulate and manage its own household. The concept of

regional autonomy in principle is aimed at expanding development at the lowest level of regions in Indonesia, namely the Village. [1]

There are various methods that can be used to improve development in villages, some of which are: reducing unemployment, poverty, and inequality in society. Therefore, the Village Government must concentrate on developing existing assets in order to create a Prosperous Society. [2] One of the assets that many villages in the Ponorogo Regency area have is tourism assets, one of the religious tourism that is quite famous and visited by people from outside the city is the Tomb of Kiai Ageng Muhammad Besari. Therefore, the Ponorogo Regency Government must strengthen the tourism sector that the region already has in order to increase regional income.

Strengthening the tourism sector is a crucial part of the implementation of regional autonomy, particularly in villages. The tourism sector was chosen for its potential to boost the Indonesian economy. This aligns with the policy issued by the Ministry of Tourism and Creative Economy/Head of the Tourism and Creative Economy Agency of the Republic of Indonesia No. 11 of 2022 concerning the Strategic Plan of the Ministry of Tourism and Creative Economy/Head of the Tourism and Creative Economy Agency for 2020-2024. The tourism sector makes a significant contribution, making it a crucial sector in various development policies as a foundation for the country's economy.

Villages, as the lowest component of the government structure in Indonesia, have unique characteristics and differ in each region. And this uniqueness is the initial potential for development at the village level. One of them is through the development of tourist villages. Referring to the data on the development of tourist villages from the Ministry of Tourism, there are 2,000 tourist villages out of a total of 74,954 villages in Indonesia. [3] One of the famous tourist attractions in Ponorogo is the Religious Tourism of the Tomb of Kiai Ageng Mohammad Besari, located in Tegalsari Village, Jetis District, Ponorogo Regency.

In supporting the development of tourist villages, the Ministry of Tourism requires every village with tourism potential to form a Pokdarwis . Pokdarwis (Tourism Awareness Group) is one component of society that plays an important role in contributing to the development of tourism in its region. Pokdarwis carries out tourism development throughout the archipelago through various activities including community development through self-help and self-help groups. [4] Management of tourist areas in Ponorogo Regency itself has not been optimally implemented. In essence, tourism relies on uniqueness, distinctiveness, locality and authenticity. While in reality there are still many tourist villages in the Ponorogo Region that copy tourism from other regions, so that this uniqueness does not yet exist. [5]

In Tegalsari Village, the local and authentic religious tourism destination of Kiai Ageng Mohammad Besari's tomb is a prime tourist destination. Its distinctive features include its history and the surrounding buildings, including the mosque, tower, and gate, which combine ancient Javanese and Middle Eastern architecture.



Figure 1. Mosque and tomb of Kiai Ageng Muhammad Besari Tegalsari

Various efforts have been made by the Tegalsari Village Government and the Kiai Ageng Mohammad Besari Foundation to improve community welfare and increase income. All tourism development activities are carried out to provide satisfaction to tourists and business actors around religious tourism objects. Usually tourists who visit tourism areas will look for souvenirs and gifts as a memento or souvenir, unfortunately in this religious tourism object the souvenirs offered are still limited to food and beverage products, not yet souvenirs and gifts. Actually, this effort has become the focus of the Village Government together with Pokdarwis to make souvenirs and gifts typical of Tegalsari, but limited Human Resources still become an obstacle in realizing it.

One of the initial steps taken by the village to develop the tourism village was to purchase a DTG type digital printer in 2022. However, unfortunately due to limited human resources, the tool has never been used until now which resulted in some components of the tool being unable to function. Some of the advantages of DTG screen printing are that it can be directly applied to t-shirts, does not require transfer paper in the production process, the resulting screen print is sharp and even, however, the disadvantages of this DTG screen printing are a fairly long production duration, a limited print area, and if the printer is rarely used, the printer machine will generally be damaged and some components will not function.

This is a challenge for the Tegalsari Village Government, the DTG printing machine that has been purchased has never been used at all, even though the machine was purchased at a high price. The purchase of this DTG printing machine was actually also accompanied by a Mentor who was supposed to train the Resources in the village, but due to several things the activity did not run and ended up with the DTG printing machine stalled until now, if it is repaired it will require a lot of money, so concrete steps are needed so that the local community can produce souvenirs, especially t-shirts with not much capital, namely through DTF screen printing.

Actually, screen printing techniques are divided into 2 categories, namely manual screen printing and digital screen printing. Manual screen printing has the advantage of being cheap, the screen printing results are more durable and suitable for screen printing in large quantities, even the color accuracy can reach 80-95%. Although cheap, manual screen printing has longer stages and processes than digital screen printing, generally manual screen printing has 7 stages, namely: design, printing on tracing paper, selecting the appropriate screen, applying emulsion liquid, heating the screen with a lamp or sun, spraying water on the screen, and finally

the screen printing process onto the t-shirt. [6] While digital screen printing is divided into 2, namely DTG (*Direct to Garment*) and DTF (*Direct to film*). Digital screen printing has the advantage of being able to print full color and color gradation, shorter production duration compared to manual screen printing, and print results that have high resolution and are suitable for screen printing in small quantities. [7] whereas method the most digital screen printing used moment This is a DTF method, basically this DTF screen printing including in type or technique screen printing advanced Because own method enough work different from type screen printing most . In the process of making it , screen printing This own method in the form of move design and ink to screen printing media through film paper using help A tool called heat press [6] and one of the type of media/ material the most frequently worn t-shirt used For transfer film namely combed cotton . [8]

Community service related to the development of tourist villages has been carried out by several predecessors, including that carried out by Siti Nur Kurnia Suci. [9] This community service was carried out in Bancangan Village , Sambit District, Ponorogo in 2022. The purpose of this community service is to develop the potential of Bancangan Sambit Village through empowering youth organizations. The difference between the community service that has been carried out and the community service that will be carried out is in the focus of its development. In this community service that will be carried out, the community service focuses on religious tourism that has developed rapidly, has good management, is managed by Pokdarwis and foundations, but unfortunately, this tourism does not yet have typical souvenirs that can be taken home by tourists as a medium for tourism promotion.

The second service belongs to Rizky Aprilia Fajrina [10] Which was carried out in 2023. In this service, the focus of development is MSMEs in Kesugihan Pulung Village. This service aims to advance MSMEs in Kesugihan Village. Starting from packaging design, marketing, NIB and PIRT registration to issuing halal certificates. The difference in this service is in the goals to be achieved. In this service, it is hoped that village autonomy can be implemented well by increasing tourist attractions in tourist villages through various unique and distinctive religious tourism so that it can improve the people's economy and increase PAD.

The next service belongs to Eka Indah Nuraini et al. [11] which was carried out in 2023. In this service, the focus was on increasing the appeal of religious tourism at the Tegalsari Ponorogo mosque and cemetery through the establishment of a reading park. The aim of this service is to increase reading literacy for educational success. The difference in this service is in the method for increasing tourist appeal. In this service, the method used was to hold training in making typical Tegalsari t-shirt souvenirs .

METHOD

The method used in this research is the ABCD approach, which focuses on utilizing existing local assets. The implementation stages include:

1. Discovery : At this stage, the community service provider uses interview and observation methods to find assets owned by the community service subject, namely Tegalsari religious tourism . Interview data was obtained from the Head of the Tegalsari Village Pokdarwis , Mr. Hanif, and from the Head of Tegalsari Village, Mr. Khoirul Huda, as well as several people from the Youth Organization who play an active role in managing religious tourism. And observations were carried out around the religious tourism area which includes the trader's stall area.
2. Dream : Based on interviews and observations, the Tegalsari religious tourism management hopes and dreams of creating unique souvenirs and gifts for the Tegalsari religious tourism

area . This will help the tourism industry become known throughout the region. Previously, when the religious tourism area received international visitors, they still used third-party services to create these gifts and gifts.

3. Design : To create a self-sufficient village and increase its tourist appeal, several activities will be implemented. First, training on making souvenir t-shirts will be conducted. Second, halal certification registration will be conducted for MSMEs operating around the Tegalsari religious tourism area.
4. Definition : After careful consideration and coordination with the Tourism Awareness Group (Pokdarwis), Village-Owned Enterprises (BUMDES), and the Foundation, this religious tourism initiative is holding a souvenir making training program in the form of t-shirts typical of Tegalsari religious tourism which can be given as gifts to visiting tourists. The Village Government already has a digital printing machine for t-shirt screen printing. However, it has not been able to utilize it due to limited human resources.
5. Destiny: This community service activity will be carried out in October 2024, considering that several preparations must be made, including preparing cotton t-shirt materials purchased outside the city and a DTF screen printing press .

The steps taken in community-based community service activities are as follows:

1. Preparing

At this stage, the community service provider prepares to record existing assets in the religious tourism area and coordinates with Tegalsari village stakeholders , particularly the Tourism Awareness Group (Pokdarwis) and the village head. This coordination is crucial for exploring existing assets and formulating the goals of the community service program. In addition to coordinating with relevant stakeholders, the community service provider also identifies the problem. The community service provider and their team allocate tasks and develop preparation tools for community service.

2. Participatory program

At this stage, the community service providers collect data related to the assets owned by Tegalsari village. This process is carried out to maximize asset identification. Communication and preparation with the tourism group (Pokdarwis) are carried out at this stage. The asset collection process involves documentation and interviews with the Tegalsari tourism management.

3. Reinventing assets

This stage is the asseting activity. During this stage, existing assets and capital are collected and properly categorized. This is done to develop an activity design that can optimize the assets and capital already owned by the Kiai Ageng Mohammad Besari tomb tourism.

4. Designing

At this stage, the implementation team coordinates the selection of assets for the cemetery tourism project. The asset selection process is accompanied by a detailed implementation design. This ensures optimal and successful implementation of the community-based community service program.



Figure 2. Tourist village assets, namely rows of traders around religious tourism

5. Communicating

This stage was implemented through discussions with stakeholders in Tegalsari village and the Tourism Awareness Group (Pokdarwis) . During this stage, the community service implementation team discussed the activities and gathered input from various parties to ensure the planned design could be optimally implemented.

6. Implementing

The implementation stage is the execution stage of community service activities. The community service implementation team optimizes assets in accordance with the design and communication results.

7. Evaluating

Based on the results of *implementing* A program evaluation is conducted . At this stage, the community service provider and their team assess the effectiveness of the activities they have undertaken. Reporting is also carried out at this stage.

RESULTS AND DISCUSSION

Tegalsari Village, Jetis District, Ponorogo Regency, is a revered center of religious tourism. The Kiai Ageng Muhammad Besari Mosque and Tomb have a long history dating back to the 18th century and are a draw for tourists from various regions. Furthermore, the mosque received an award as a cultural tourism object in 2012. The area is managed by the Kiai Ageng Muhammad Besari Foundation and the village government, with support from the Tourism Awareness Group (Pokdarwis) and the Village Owned Enterprise (BUMDes) in providing supporting facilities. Despite its high popularity, the village does not yet have a distinctive product that could become a tourist icon. Food and beverage products dominate the vendors' stalls, while products such as t-shirts or typical souvenirs are not yet available. Therefore, this community service activity aims to empower the community by training in t-shirt souvenir making that can increase the attraction and boost the local economy.

With good management, sustainable tourism supports the preservation of local culture, biodiversity, and the sustainability of natural resources, so that tourism not only becomes an economic driver but also preserves local heritage for future generations. The main points of this theory are: Managing tourism to be environmentally friendly, economical, and sustainable, Maintaining the cultural and social values of local communities, Ensuring that the benefits of

tourism can be felt sustainably by all related parties, including the environment and future generations. [12]

DTF technology teaches design transfer digital printing to various media type, in activity devotion this is a design transfer done on a t-shirt made of combed cotton. Actually DTF screen printing is possible printed in various type material like cloth , plastic, paper , or ceramics with results satisfactory print . So that his hopes Later this DTF screen printing No only practiced on cloth t-shirt but on other media so that the resulting souvenirs diverse. In the context of production, efficiency and quality each other related However own role different. Efficiency refers to the ability For use source Power optimally in matter This that is tour religion in the village Tegalsari. On the other hand , the quality reflecting the level of excellence or suitability product or service with established standards [13] in matter This is a technique DTF screen printing, although a quick and easy process However quality No lost with results manual screen printing. So that development of this DTF screen printing technique If done optimally then will impact big in the surrounding community, besides increase economy the village also creates field work for inhabitant around .



Figure 3. Screen Printing Practice with Manual Method

This community service program was implemented through a series of stages: the first was an opening and briefing by the Village Head. The Village Head delivered a speech to raise awareness of the importance of creative economic skills as an effort to reduce the community's economic dependence on the informal sector. Training participants were introduced to the DTF screen printing technique, which requires lower costs and is more practical than manual screen printing.



Figure 4. Briefing by the Village Head and Explanation Regarding DTF

Second, the stages of the design creation process that will be used in DTF screen printing include determining the image to be printed on DTF, the image to be used is the image of the Tegalsari mosque tower which is the main icon of Tegalsari religious tourism . Before screen printing, the DTF method is to set the file format starting from ensuring the resolution, adjusting the color saturation, and saving the illustration design artwork in PNG format. After the participants understand the DTF screen printing work material, they continue with DTF screen printing training starting with cutting the design results on film paper, then the process of transferring the motif from film paper to fabric through film paper by applying pressure and a temperature of around 150 degrees Celsius with a machine called heat press for 15-20 seconds as shown in image 5 below:



Figure 5. Screen printing practice using the DTF (direct t-shirt) technique. to film) and provision of DTF press machines

In the Q&A session, participants were able to consult on design techniques, material selection, and marketing strategies for souvenir products . After the third stage of training, an evaluation was conducted to identify obstacles and potential skills improvements. The community service and the village agreed to provide a DTF press machine to support the sustainability of independent businesses. To support the sustainable t-shirt screen printing business, the community service provided a DTF press machine to the village government. This community service program has had positive results in improving the creative economy skills of the Tegalsari Village community. Post-training evaluations showed that participants had mastered basic screen printing techniques and were motivated to start their own businesses. DTF screen printing is very easy to apply so that each participant could practice immediately. In addition, with the DTF press machine donated to the village, it is hoped that these skills can develop sustainably. In the future, it is hoped that screen-printed t-shirts and souvenirs typical of Tegalsari can become an attraction for tourists, while also opening new business

opportunities for village youth. Through this training, the community is able to produce independent souvenirs that have become icons of the tourist village, namely t-shirts. This has the potential to increase Village Original Income (PAD) and support village economic independence. Of the 30 participants, it turned out that several had previously worked in screen printing. However, due to limited funds, they were still employed. After this community service activity, participants who wish to pursue a career in screen printing will be able to utilize the heat press machine village-owned press. This will certainly have a positive impact on local residents by creating more jobs and, for the village itself, increasing local revenue.

CONCLUSION

Souvenir making training in Tegalsari Village was comprehensive, beginning with a briefing from the Village Head who emphasized the importance of empowering Karang Taruna (Youth Organization) through t-shirt souvenir -making training to enhance local tourism appeal. Participants received material on screen printing business opportunities, the easier and more economical DTF (Direct to Film) technique, and hands on practice with manual and DTF screen printing. A question and answer session was also an important part, where participants enthusiastically asked questions about techniques, materials, and marketing, thus strengthening their understanding and skills.

The activity concluded with an evaluation and a follow-up plan for developing screen printing skills. As a concrete step to support the program's sustainability, the community service team handed over a DTF screen printing press to the village. This handover is expected to open up independent business opportunities in Tegalsari, enabling the community to create unique and high-quality t-shirt souvenirs. This initiative is expected to boost the village's creative economy and promote Tegalsari more widely through its distinctive products.

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