



THE ART OF TATAH SUNGGING WAYANG AS A STRENGTHENING BRANDING COMMUNITY OF WAYANG PURWA CRAFTSMEN ASSOCIATION IN WAYANG GENDENG HAMLET, BANGUNJIWO BANTUL-YOGYAKARTA

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Abstract

Gendeng Hamlet in Bangunjiwo Bantul is a hamlet where puppet craftsmen grow as one of the oldest craft centers in Bangunjiwo. Gendeng Hamlet, as a puppet craftsman, once experienced a heyday in the era of President Soeharto and continues to survive amid the times. The puppet artisans of Gendeng Bangunjiwo Hamlet over time, with assistance from akadfemisi and various servants from Ivarious agencies and ministries until now. The artisans continue to survive and consistently maintain the tradition of Javanese puppet inlay and try to restore the golden age by supporting the existence of the Gendeng Leather Puppet Craft Center with improved product quality.

The method determined to implement PM UPUD community service is collaborative and participatory. The stages of implementation are as follows: stages or steps in implementing the solutions offered to overcome the problems of target partners. Describe the method of implementing community service each year, at least containing the following: Socialization, Training, Technology implementation, Mentoring and evaluation, and Sustainability Program.

The program outputs obtained include: (1) Increasing the capacity of superior products, upskilling creative human resources, and planning transfers. The flagship product of the Tatah Sungging Gendeng Craft Center is shadow puppets. More specifically, Yogyakarta style wayang kulit. Puppet artisans in Gendeng hamlet can make high-quality works—Puppet Patterning Application Technology & Application of Machine Learning, and Strengthening Branding. (2) Gendeng's leather puppets could penetrate foreign markets during its heyday. In the archipelago itself, especially Yogya and surrounding areas, gender leather puppets dominate the market. The wayang production of Gendeng has yet to be able to repeat its former glory period.

Keywords: Tatah Sungging Wayang, Branding Community, Gendeng Hamlet, and Puppet Patterning

INTRODUCTION

Gendeng Hamlet, Bangunjiwo-Kasihan, Bantul, Yogyakarta, is widely known as a potential leather puppet craft center in Yogyakarta. Hamlet has been known as a producer of the highest-quality shadow puppets since 1929. An important figure who pioneered shadow puppetry's growth was the late Walijo, alias Atmosukarto, later known as Pak Pujo. A puppet craftsman known as a puppeteer, wayang wong dancer, and pengrawit was a public figure then. The shadow puppet artisans at that time in Gendeng had made the activity of shadow puppetry a ritual like the fulfillment of daily needs. The

number of shadow puppet artisans in Gendeng Hamlet has decreased drastically, to 50 people, since the reformation and the monetary crisis that occurred in 1997-1998.

Gendeng Hamlet in Bangunjiwo Bantul is a hamlet where puppet artisans grow as of the oldest craft centers in Bangunjiwo. Gendeng Hamlet, as a puppet craftsman, once experienced a heyday in the era of President Soeharto and continues to survive amid the times. The puppet craftsmen of Gendeng Bangunjiwo Hamlet have had assistance from akadfemisi and various servants from multiple agencies and ministries until now. The craftsmen continue to survive and consistently maintain the tradition of Javanese puppet inlay and try to restore the golden age. By continuing to maintain the existence of the Gendeng Leather Puppet Craft Center with improved product quality.



Figure 1. The signing of the Specialty Fund for Bangunjiwo Culture Independent Village 2024

The Bangunjiwo Village Government, headed by H. Parja, S.T.M.Si., has signed the Minutes of the Financial Assistance of the Specialty Fund FY 2024 for Bangunjiwo Culture Independent Village in 2024, which is the third year in the implementation of the DIY BKK Specialty Fund. The Village and Urban Village Profile is a comprehensive picture of the character of villages and urban villages, which includes primary family data, potential natural resources, human resources, institutions, infrastructure, and facilities, as well as the development of progress and problems faced by villages and urban villages. Compilation, collection, processing, and publication of village and kelurahan profile data, which includes primary family data, data on the potential of villages and villages, and the level of development of villages and villages. The utilization of human resources in the Bangunjiwo area as an effort to utilize primary family data, data on the potential of villages and villages, and the level of development of villages and villages in the planning system and evaluation of the performance of governance, development, and community development through the collection of facts and information through filling in primary family data, the potential of villages and villages and the level of development of villages and villages.

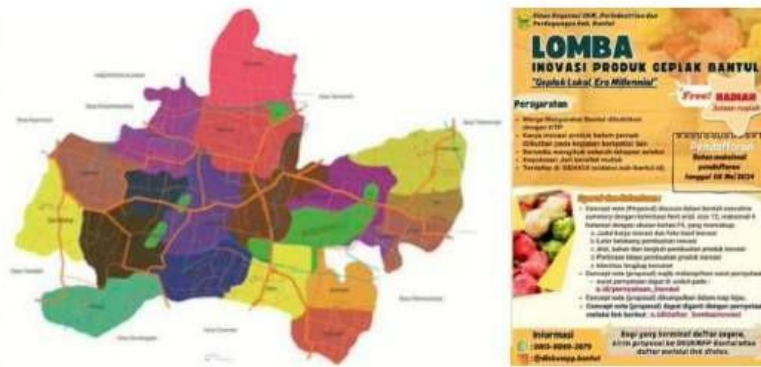


Figure 2. Topography of Bangunjiwo Village

Bangunjiwo Village is located in Kasihan Sub-district, Bantul Regency, consisting of 19 hamlets, which include 146 Neighborhood Associations. Bangunjiwo Village is a merged village of 4 villages, namely Paitan, Sribitan, Kasongan and Bangen. Highlands/mountains dominate the topography of the town. The land use of settlements is 35%, rice fields 13%, and tegal, plantations, and forests 52%. The village potential encompasses all of the resources owned or utilized by villages and sub-villages, including human resources, natural resources, and institutions, in addition to infrastructure and facilities designed to support the acceleration of community welfare programs. Village Development Level is a form of achievement of the results of development activities that can reflect the progress and success of the community, village, and kelurahan governments and local governments in developing villages. Gendeng has long been known as a producer of the highest-quality shadow puppets. There are dozens of reliable artisans who still maintain the technique of making shadow puppets, especially Yogyakarta-style shadow puppets that are of high quality. Briefly, shadow puppets began to be made in Gendeng around 1929. The person who pioneered making these shadow puppets was (the late) Mr. Waliyo or Mr. Atmo Sukarto. Although his name is Atmo Sukarto, people know him better than Pak Pujo. Apart from being a shadow puppet maker, he is also known as a puppeteer, wayang wong dancer, and pengrawit.

His love for shadow puppetry led Pak Pujo to establish an art studio that became a place for people around him to learn how to make quality shadow puppets. From here, Pak Pujo's students were able to develop and establish their place to produce shadow puppets to form a craft art environment, which later became known as the Gendeng Leather Puppet Craft Center. In its development, the shadow puppet craft was triumphant when President Soeharto was in power. The artisans can live more than enough as a result of making puppets. The wages of puppet artisans are still higher than the salary of teachers at that time. The most crucial factor that made shadow puppets successful was that, at that time, the appreciation and support of the Government was huge. Puppet artisans were included in exhibitions where the artisans did not have to spend a penny because the Government covered everything. President Soeharto was a lover of shadow puppetry, so he also introduced and promoted

shadow puppets in Gendeng.

Partner Issues: (1) There is no development of creative incubators to increase exploration and increase the capacity of superior creative human resources that are highly competitive to increase productivity progressively. (2) The low productivity of shadow puppet products is due to the majority being order-based, so the Ngudi Mulya Paguyuban Partners can only achieve a turnover of around Rp. 553. 300,000 in a year and only about 14 million per month in a distribution of 38 artisans. (3) There is a need to increase the capacity of human resources and up-skilling that excels in the production sector and empowers human resources marketing based on digital marketing. (4) There is a need for a strategy to formulate appropriate and intensive community branding to encourage the strengthening of a prosperous, culturally independent village area. (5) The need to strengthen the link & match between the business world and the Community Branding strategy. (6) Weak legal protection attached to superior products in the form of IPR.

METHOD AND PROCEDURES

The method determined to implement PM UPUD community service is collaborative and participatory. The stages of implementation are as follows: stages or steps in implementing the solutions offered to overcome the problems of target partners. Describe the method of implementing community service each year, at least containing the following.

1. Socialization. The initial stage is to conduct socialization with POKDARWIS partners and coordinate the program that will be carried out from years 1-3. Socialization involves village officials, urban villages, and members of Partner 1 and Partner 2 simultaneously. To equalize perceptions about the problems to be worked on, solution plans, and implementation of activities and assistance programs.
2. Training. To strengthen the image of the Cultural Independent Village area, conduct innovative product training activities, creative human resource management, capacity building, Upskilling training, digital marketing-based marketing management, and community branding training.
3. Technology implementation. Transferring technology from the production aspect by increasing the capacity of Creative Human Resources and Up-Skilling, transferring product serving technology, feasibility testing of leather material (the primary raw material for Wayang Kulit), and material testing at the Center for Standardization and Services for the Leather, Rubber, and Plastic Industry at the Ministry of Industry through SNI and ISO standards. National Accreditation Committee LP-022-IDN of the Ministry of Industry of the Republic of Indonesia (SNI 06-4363-1996 items 7.3 and 7.1.2) (SNI 06-1795-1990, SNI 06-1794-1990) and ISO 3379, ISO 4045: 2008, ISO 4048: 2008). Other technology transfers include designing Wayang model patterning and scanning through Machine Learning and implementing aspects of marketing governance based on Digital Marketing to strengthen local, national, regional, and global market competitiveness. Diversification of puppet models and innovation in recycling materials and natural dyes.

4. Mentoring and evaluation. The mentoring process is carried out regularly according to the agenda for implementing activities with partners. Then, the monitoring and evaluation process is also carried out independently by the activity implementation team and institutional MONEV, both by LP2M and the grant provider from DRTPM Ristek Dikti. Assessment is also carried out to obtain accurate confidence that a program follow-up plan is needed in the following years.
5. Sustainability Program. The program's sustainability is essential in intervening in the next mentoring program so that its implementation can have a positive impact on increasing the capacity of community human resources, quality of life, and community welfare.

Methods & stages of the activity plan: (1) mentoring creative incubators and design innovations for creative team designers to be highly competitive, (2) bringing in designer experts at design innovation workshops so that productivity increases by 20-25% with a breakthrough in a reliable marketing system, (3) bringing in management experts in training, mentoring, strengthening HR governance systems, production, and marketing based on strengthening digital marketing-based marketing systems. (4) formulating IT-based marketing strategies and concepts with stable governance, (5) developing networking and synergy with the business world and branding cooperation, (6) regulating and registering IPR on Partners' superior products.

RESULTS

UMKM Mitra Ngudi Mulya and Pokdarwis Kajigelem, which are currently heading towards a highly competitive puppet industry center, need the synergy of all stakeholders, improving the quality of human resources, and awareness of the importance of exploring creative ideas and actively taking steps to innovate on an ongoing basis. Zahry (2017) [12], in IJCCI volume 4, issue 2, March 2017, states that creative industries have been identified as a new engine of growth in that human capital, technology, tolerance, education, amenities, and infrastructure, and governance are the factors considered in locating creative industries in a city. This study identified tolerance and governance as the more dominant and influential factors of these six. Innovative industries in various countries have an underlying drive, as in Indonesia. "The Creative Economy: How People Make Money from Ideas" by John Howkins (2001).

Zahry states that the creative industry has been identified as a new engine of growth driven by the availability of human resources, technology, tolerance, education, infrastructure facilities, and governance, which are factors considered in finding the creative industry. Of all these aspects, what is needed more urgently is the availability of opportunities, access, regulation, and government support as more dominant and influential factors. The creative process is a dominant thought process to create or create something with the sensory abilities owned authentically and imaginatively, playing fantasy or imagination freely and boldly, without the need to be limited by subjective concerns. (Retantoko,

2016). The creative process means the freedom to develop ideas and ideas freely.

1. Partner Profile #1 (NGUDI MULYA Puppet Crafters Association)

Gendeng Hamlet, located in Bangunjiwo Sub-district, Kasihan District, Bantul Regency, Yogyakarta Special Region, is one of Yogyakarta's best shadow puppet artisan centers. It is known that there are 8 main workshops with 40 craftsmen who are members of one shadow puppet artisan association in Gendeng Hamlet called "Paguyuban Ngudi Mulya." Shadow puppet craftsmen in Gendeng Hamlet are known as reliable craftsmen in the eyes of the world because they can work on the best quality leather puppets with a high level of complexity. The buyers of the shadow puppet work of Gendeng Hamlet craftsmen are usually domestic or foreign collectors of the Yogyakarta palace people. Because the shadow puppets made by craftsmen in Gendeng Hamlet are exclusive products, buyers can order leather puppet works from craftsmen and consult with craftsmen about puppet characters to the desired finish. The problem is that craftsmen need a central catalog to help buyers or new visitors know the shadow puppets they want, and there is a lack of intermediaries for the buyers' craftsmen. The solution to the problem is to create a shadow puppet catalog for the Ngudi Mulya association containing information related to Gendeng Hamlet craftsmen to shadow puppet characters.

The history of shadow puppetry in Gendeng Hamlet dates back to around 1930. Gendeng Hamlet is part of Bangunjiwo Village in Bantul, Yogyakarta. There used to be a courtier of the Yogyakarta Palace named Bekel Prayitno Wiguno, known as Mbah Bundhu, who came and settled in Gendeng Hamlet for several years. During Mbah Bundhu's stay, a young man from Gendeng Hamlet named Kijo Pujowinoto came to Mbah Bundhu to learn how to tat and make shadow puppets directly.

Since Kijo Pujowinoto became Mbah Bundhu's first student, it was the first step in the tradition of making shadow puppets from artisans, who were passed on to children and grandchildren in each generation of craftsmen. Currently, there are 40 active craftsmen in Gendeng Hamlet. These craftsmen are gathered in a leather puppet craftsmen association called "Paguyuban Ngudi Mulya." Shadow puppet craftsmen initially formed Paguyuban Ngudi Mulya on April 1, 2017. Surono, a shadow puppet craftsman in Gendeng Hamlet, chairs Paguyuban Ngudi Mulya. Shadow Puppet is a Great World Cultural Work from Indonesia that has received a symbol of world recognition from UNESCO.

Indonesia has various shadow puppets, depending on the region, such as in Java or Bali. For Java, there are several styles, such as Yogyakarta and Mataram. The shadow puppet artisans in Gendeng Hamlet are specialists in Yogyakarta-style shadow puppets. Shadow puppets made by craftsmen from Gendeng Hamlet are known as leather puppets with high artistic value because every process of making leather puppets from Gendeng Hamlet is made traditionally without using machines or printing equipment. The artistic value of leather puppet crafts is not only fixated on the results of the work but also determined by the artistry process. The key to working on

traditional shadow puppets is time, patience, and thoroughness because working on one can take months.



Figure 3. Ngudi Mulya Organization Synergy Activities in Some Important Events

2. Partner Profile #2 Sagio Griya Ukir Kulit pengrawit.

Sagio Griya Ukir Kulit is an MSME that started with shadow puppet craftsmen in Gendeng Hamlet, using a modern organizational management pattern and the most experienced production management system and marketing management. Sagio's extensive network and flexible manner with all circles of national puppet patrons and craftsmen (puppet centers in Java and Bali) also became a regular customer of President Soeharto during the New Order, followed by ministers and other high-ranking officials up to presidents Gus Dur and Megawati. Sagio is known as a Yogyakarta puppet carving craftsman who can bring the legendary Wayang Purwa Yogyakarta MSME to position it as an entity that exudes the pride of the Yogyakarta puppet craft community that preserves Indonesia's noble culture. With a focus on leather carving, a heritage that has roots in a rich history, the SME is a priceless keeper of the flame of tradition. The SMEs it manages are very flexible to changes and demands of market taste without destroying the tradition of Yogyakarta wayang purwa inlay.



Figure 4. Workshop and Reviewer Visit During Site Visit

MSMEs are oriented towards preserving noble cultural values as a legacy of family and community traditions of Yogyakarta by creating models or wayang pakem. On the other hand, Sagio also explores various materials, techniques, and visual presentations of puppets to adjust to the demands of the times and manage the cash flow of the MSMEs he manages. He always utilizes small pieces of leather waste to be remade as souvenir puppets and explores cement paper and other recycled waste as the basic material for making puppets.



Figure 5: Atmosphere of Puppet Inlay Training Activities with Partners

Sagio, a tatter, and founder of Sagio Griya Ukir Kulit, concentrates on making puppets and souvenirs from buffalo and cow skins. Before the 1997 financial crisis, there were 125 stitchers, but now there are only 50 people who concentrate on this profession," Sagio explained to the Gudegnet Team (11/09). Sagio continues to be committed to maintaining the cultural heritage of

his ancestors so that it does not become extinct. Apart from all that, he is concerned about young people reluctant to learn to sculpt puppets. If those who learn to puppeteer are indeed many, but few are willing to sculpt sungging. Prompted Sagio to create a book titled "Wayang, Form & Story," which explores the shape of Wayang, how to inlay, and the story so that the knowledge gained by Sagio can be learned later by the next generation. Introducing Wayang to the public does not stop there; Sagio also makes modifications to Wayang, such as using glass, paper, and silhouette painting media with the aim that people will recognize the character of Wayang again. Sagio hopes that young people today can love Wayang wholeheartedly. "If not them, who else? Someday, if anyone wants to learn how to carve puppets, I am very open; you can learn here for free," he concluded kindly.

3. Profile #3 (POKDARWIS KAJIGELEM).

The socialization of Pokdarwis and Tourism Villages in Bantul Regency in 2021 was carried out on November 19 2021 before they were legally formed by Bangunjiwo Village and the Yogyakarta Regional Government. The Pokdarwis and Tourism Village Socialization activity took place in the Sekar Mataram Bangunjiwo area, attended by the Kajigelem Bangunjiwo Pokdarwis Management and the hamlets in the Kajigelem area. H. Bibit Rustamta, SH, a member of the Bantul Regency DPRD, attended the socialization event.

The aspect that is also considered in the Ngudi Mulya UMKM and POKDARWIS KAJIGELEM is to maximize the use of leather scrap and other smelly materials in the concept of waste management that can be recycled and even up-cycled into other supporting products. Thus, industrial practice emphasizes minimizing wasted materials and waste production to maintain natural and biological stability. Waste management is a priority with environmentally friendly governance systems. Waste management aims to 1) control waste to actualize an environmentally-oriented lifestyle and 2) improve public health and environmental quality and raise the economic value of the waste.

The target of waste management is increasing efforts of waste management and public awareness to create a clean environment and healthy living. The scope of the waste management arrangements includes (a) management and use of waste, (b) licensing related to waste, and (c) levy of waste service/cleanliness. Local Government, society, and the private sector, as entrepreneurs and specific event organizers, shall implement waste management activities. (Ogi & Pratiwi, 2015).[10] Waste management activities can be managed by themselves or through cooperation with waste management service providers. Forms of cooperation that can be carried out in collaboration with waste management service providers include: waste management and cleaning. This environmental management system enables organizations to reduce the hazardous processes that may harm the environment and society. (Pratiwi, 2019).[11] This kind of

environmental management system enables organizations to reduce hazardous waste management processes that may harm the environment, plants, and animals and damage the community environment.



Figure 6: Puppet inlay products of Gendeng Bangunjiwo Bantul Regional Productive Partners

4. Partner #4: The Bangunjiwo Village Government.

Citing from the RPJMP and Perkal No. 5 of 2023 concerning PERKAL 2024, related to the Bangunjiwo Village development strategic plan, can be observed at points;

- a. (point 12) The village's Medium-Term Development Plan, hereinafter referred to as RPJMKal, is a planning document for village development activities over a period of 6 (six) years.
- b. (Point 13) The Kalurahan Government Work Plan, which will be referred to as RKPKal from this point forward, expands the RPJMKal for one (1) year.
- c. (Point 14) RKPKal Proposal List is an elaboration of the RPJMKal, which is part of the RKPKal for a period of 1 (one) year, which will be proposed by the Callahan Government to the district government through the regional development planning mechanism.
- d. (point 15) Kalurahan assets are goods owned by the kalurahan that originate from the original wealth of the kalurahan, purchased or obtained at the expense of the kalurahan revenue and expenditure budget, or the acquisition of other legal rights.
- e. (Point 16) Potential Assets of a kalurahan are all the potential of the kalurahan, which includes natural and environmental resources, human resources, social and cultural resources, economic resources, and other resources that can be accessed, developed, and transformed by the kalurahan into development resources that are owned or become assets of the kalurahan, managed, processed, utilized, and used for the common welfare of the kalurahan community.
- f. (Point 17) The kalurahan Revenue and Expenditure Budget, now referred to as APBKal, is the village government's annual financial plan.

MBKM Objectives, KPIs, and Abdimas Focus: KPI 2 (Students) Students Gain Off-Campus Experience, Students have an off-campus learning experience of at least 6 credits: Students carry out field assistance tasks in the Leather Puppet Tatah Sungging Workshop 2. Students are actively

involved in strengthening the governance of creative human resources at the Partner location 3. Students assist the Governance Team & gain hands-on experience in production preparation, production process, and post-production. 4. Assist the implementation of the work of the Branding Community Team 5. Assist in Digital Marketing Governance

KPI 3 (Lecturers): Lecturers carry out off-campus activities, including trauma activities in other domestic universities. They also carry out community service programs through mentoring programs and strengthening community branding strategies.

- a. Conduct a SWOT analysis and feasibility study related to the community branding program plan and activities to strengthen partner capacity and the social environment supporting cultural tourism areas.
- b. Prepare feasibility documents for leather material (the primary raw material for leather puppets) and material testing at the Center for Standardization and Services for the Leather, Rubber, and Plastic Industry.
- c. Prepare leather material test documents at the Basic Accreditation Committee LP-022-IDN from the Ministry of Industry of the Republic of Indonesia (SNI 06-4363-1996 points 7.3 and 7.1.2) (SNI 06-1795-1990, SNI 06-1794-1990) and ISO 3379, ISO 4045: 2008, ISO 4048: 2008).
- d. Develop a concept and design strategy for community branding for the Wayang Purwa Cultural Tourism Area in Gendeng Bangunjiwo Hamlet.
- e. Lecturers formulate and select potential IPR innovation products as well as grant acquisition.
- f. Formulate visual feasibility and other supporting components for community branding strategy activities.
- g. Formulate prototype output, scientific articles, publications, dissemination, and video profiles of the area being branded.
- h. Planning follow-up programs and subsequent development plans

IKU 3 Lecturers with Off-Campus Activities: Carrying out community service in an intensive and well-planned manner. Coordinate with all stakeholders on quality and sustainable PM UPUD activities. Coordinate several activities with the community, partners, podarais, and regional Government for each activity.

IKU 7 Collaborative and Participatory Class: Involves many students (for Arts Management, Art- Edupreneurship, Creative Industry Work Practices at the 2026 Bangunjiwo Festival. In this activity, collaboration with various institutes and cultural events in Yogyakarta. 6 MBKM program recognitions students from 3 study programs, 12 courses with a total of 43 credits (2 semesters): Art-Edupreneurship_2 credits, Arts Management credits, Creative Industry Practices_3 credits,

Design Experiment, Creative Design Workshop_4 credits, Enrichment Program I_10 credits, Business Creativity & Innovation_3 credits, Public Speaking_3 credits, Cooperative & Small Business Management_3SKS, Digital Marketing_3SKS.]

5. Community Service Focus and Sustainable Development Goals (SDGs)

- a. Provide access to information related to current business conditions and human resource potential.
- b. Prepare suitability documents for leather material (the primary raw material for Wayang kulit) and material testing at the Center for Standardization and Services for the Leather, Rubber, and Plastic Industry.
- c. Prepare leather material test documents at the Basic Accreditation Committee LP-022-IDN from the Ministry of Industry of the Republic of Indonesia (SNI 06-4363-1996 points 7.3 and 7.1.2) (SNI 06-1795-1990, SNI 06-1794-1990) and ISO 3379, ISO 4045: 2008, ISO 4048:2008).
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- e. Lecturers formulate and select potential IPR innovation products as well as grant acquisition.
- f. Formulate visual feasibility and other supporting components for community branding strategy activities.
- g. Formulate prototype output, scientific articles, publications, dissemination, and video profiles of the area being branded.
- h. Planning follow-up programs and subsequent development plans.
- i. Through activities with MSME Partners, Productive Business Units, and POKDARWIS Partners, there will be an ongoing impact on the economy and community welfare. The synergy between Universities, Industrial Partners, Social Institutions, and Local Government will grow harmoniously to reduce economic, cultural, and social disparities. This synergy will increase the capacity of craftsmen and the community at large to strengthen cultural tourism in village areas and culturally independent villages, which can enhance geographical indications.



Figure 7. Handover of Workshop Materials and Equipment

6. Encouraging the Growth and Development of Industry, Innovation and Infrastructure

This activity will have a social, economic, and cultural impact on society as part of the industrialization process initiated by the community of Wayang craftsmen in Gendeng. The hamlet of Bangunjiwo Bantul will continue to innovate and meet the needs of the community with good, ideal, and more advanced infrastructure without reducing value: local values and local genius activities that have been inherited by their predecessors from time to time. In the end, it will continue to grow creative economic activities that have a sustainable impact on community welfare.



Figure 8. Workshop Participants' Puppet Products Ready to be Marketed

7. Role & Participation of Partners in Program Implementation.

In this Community Partnership Program (PKM), partner participation in program implementation includes the following;

- a. Partners facilitate time, communication space, discussion space, various studio facilities, production workshops, joint employee support and equipment, and the use of technology in intensive training and mentoring activities.
- b. Provide access to information related to current business conditions, human resource potential, preparation of transparent and accountable financial reports, and all data associated with the pre-design process, production process, post-production, and marketing processes are provided openly to the accompanying team so that the team can freely find out strengths, weaknesses, challenges, read various opportunities so that together we can find the right solution.
- c. Contribute in-kind funds amounting to Rp. 20,000,000 to support the implementation of the mentoring program and test the feasibility of production, markets, product trends, and so on.

- d. Facilitate the accompanying team, both the lecturer service team and the field assistance team (6 students provided that each study program team sends 2 program assistant students), who are given free access to help with specific improvements and technical matters.
 - e. Prepare the Partner's Creative Team to support various programs, such as design innovation workshops and creative incubator development.
 - f. Providing display space and facilities as well as production workshops to provide assistance and FGDs
 - g. Prepare and involve employee human resources to collaborate with the mentoring team in every activity during the mentoring process.
8. Evaluation of Program Implementation and Sustainability in the Field After PKM Activities are Completed.

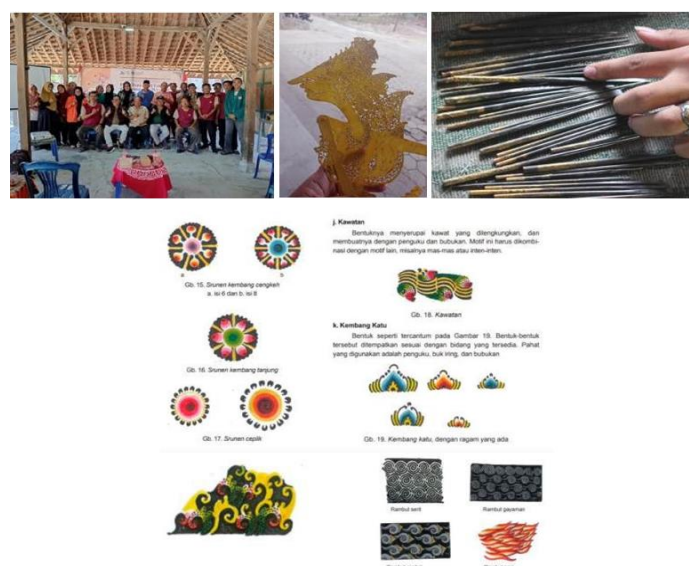


Figure 9. Application of Tatah Sungging in Workshop Activities

The program evaluation process is carried out in 3 monthly stages (the first 3 months are to determine the suitability of the program to Partner needs, and in the second 3 months, an evaluation of the program's success is carried out, which has a direct impact on improving the product system, improving the quality of HR skills, and in the third 3 months an evaluation of all programs is carried out planned by identifying levels of achievement that have an impact on product quality, employee performance related to production work processes, and strengthening Digital Marketing for products based on Design innovation with a highly competitive edge. MONEV (Internal and External Higher Education) has been carried out in the last three months to evaluate the completeness and feasibility of the funded program and program accountability.

For the continuation of the PKM activity program after completing this mentoring program, it seems necessary to reorganize a new program, namely PPUD. This program plan is worthy of being a follow-up program to the same partner so that ongoing program assistance can be carried out until SMEs can develop programs initiated further by strengthening the team, mentoring

capacity, and achieving better outcomes.

9. Science And Technology Overview

- a. Creative Incubator & Design Innovation For Increasing Production The science and technology overview carried out through partner design innovation workshops and training activities is triggered to carry out various simple research and visual explorations to obtain a form of design that is a unique, original invention, and novelty so that the products produced have specific aesthetic value and are different from similar products. Visual exploration is used to obtain a form of design that is unique, original, and novel. Exploration of raw and recycled materials and the application of environmentally friendly natural dyes from surrounding plants.
- b. Creative Hr Governance, Production Governance. In the mentoring process, Partners are expected to be able to collaborate in improving the production process management system, from preparing creative, skilled, and trained human resources, studio SOPs, workshop SOPs, production processes, Quality Control processes, and how products are ready to be packaged as well as marketing preparations. Designing a digital puppet patterning system to increase the efficiency and productivity of puppet artisans in serving orders. Design and application of machine learning in identifying, processing, and detecting the authenticity of products that are the main characteristics of Yogyakarta wayang purwa produced by artisans in the Gendeng Bangunjiwo hamlet area.
- c. Creative Hr Governance & Product Branding Startegies. Training activities and assistance with a strict management system for financial and tax reports will influence performance and keep cash flow under control. Tax reporting assistance is also provided so that partners can conduct transactions and build customer trust. Designing a digital puppet patterning system to increase the efficiency and productivity of puppet artisans in serving orders. Design and application of machine learning in identifying, processing, and detecting the authenticity of products, which are Yogyakarta Wayang Purwa's main characteristics. As a product branding strategy, exploring and innovating puppet staple materials with a recycling system is necessary to contribute to going green and sustainable.
- d. Digital Marketing-Based Marketing Governance. Through the E-Commerce Based marketing system strengthening program through various marketplace networks, maintaining content on the e-commerce system, maintaining appearance, and continuing to build a more comprehensive marketing network. This activity will produce Partner HR that is more skilled, creative, and progressive in promoting and marketing activities with an unlimited reach. Website Stubs on Partners. Strengthening the e-commerce-based marketing system. Refresh various marketplace networks and maintain content on social media (FB and Instagram)
- e. Regulation, Ipr Registration (Copyright & Geographical Indications) & Regional Branding.

Through regulatory programs, socialization of IPR, Proposing Geographical Indication, carrying out this activity to assist Partners in identifying, documenting potential IPR, and registering IPR in collaboration with IPR Extension Director General of IPR, Ministry of Law and Human Rights, Yogyakarta Regional Office.

- f. Branding Community Of Puppet Craftsmen In The Mandiri Culture Tourism Area. Carrying out programs related to strengthening the Gendeng hamlet wayang craftsmen area's branding community to enhance the image of Bangunjiwo Village as an Independent Cultural Village Area. SIGN SYSTEM Pilot Program for Gendeng Puppet Craftsmen Area. Bangunjiwo Festival and Edu Go Green Program (planting trees and plants as sources of natural dyes)

CONCLUSION

1. Increasing the capacity of superior products, up-skilling creative human resources, and planning transfers.

The flagship product of the Tatah Sungging Gendeng Craft Center is shadow puppets. More specifically, Yogyakarta style wayang kulit. Puppet artisans in Gendeng hamlet can make high-quality works. Even today, there are still some craftsmen who only want to produce high-quality shadow puppets. Because of the existing reality, people need help differentiating between excellent and bad-quality puppets. At first glance, it is undoubtedly difficult for ordinary people to judge the quality of a shadow puppet. So, many puppets that were intended as ordinary or low-quality souvenirs emerged. Wayang created by Barno Surya MH. this is an example. It tends to lean towards art puppetry with high quality. He doesn't focus on making souvenirs or anything like that. He conveyed this because, according to him, the shadow puppet business not only looks at the profits from selling, but he wants the preservation of leather puppets, especially in the Gendeng area, to have a quality that cannot be underestimated. He guarantees that his shadow puppets are of commensurate quality and price.

Partners 1 and 2 prioritize progressively increasing the number of products each year by 20-25%. In Mitra 1, each member of the association, which is only able to produce 6-8 Purwa Wayang ideal sizes each year, can be increased to 15-20 puppet products per member per year, so the hope is that this community will be able to produce (if the minimum is 15 puppets) so that. 15x44 members will produce 660 products, including shadow Puppets. Likewise, souvenir products and variants are maximized. This is also the case for Mitra 2, where the regular monthly production of only 10 puppets of various sizes and types produces 120 psc of puppets. Hopefully, This can be increased to 150-160 psc of puppet products of all types and sizes.

This will encourage productivity and effective product absorption in the permanent market based on regular orders, production services for new customers, and ready stock for souvenir products. In this way, it can encourage an increase in the purchasing power of the public and foreign tourists, which will impact the welfare of regional superior product business actors.

2. Puppet Patterning Application Technology & Application of Machine Learning, and Strengthening Branding.

During its heyday, Gendeng's leather puppets could penetrate foreign markets. In the archipelago itself, especially Yogya and surrounding areas, gender leather puppets dominate the market. The wayang production of Gendeng has yet to be able to repeat its former glory period. However, many still need to look for Wayang Wayang Gendeng Craft Center. Most of them are art collectors who understand the quality of wayang. However, the number of buyers is smaller than before. Increasing creative human resources was carried out to create reliable artisans by transferring technology in the patterning process with Photoshop and CorelDRAW to make it easier to transfer puppet patterns and details with high accuracy. Then, to protect against IPR and plagiarism in the global market, Machine Learning technology will be implemented by UAD Mathematics assistant Prof. Sugiyarto.

Nowadays, it is rare for puppet artisans in Gendeng Village to participate in exhibitions, especially puppet exhibitions where they can show the superiority of their products. That way, people will know the advantages of Gendeng's shadow puppet production. A shadow puppet with the same model & size can have a different price. Because puppets are art objects, and when we talk about art, price can no longer be used as a parameter, especially at the Gendeng Craft Center, which incidentally produces high-quality art puppets. Apart from that, each artisan must have their standard rates. The quality of raw materials & finishing is also a determining factor in whether a product is expensive.

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