Abdimas Umtas: Jurnal Pengabdian Kepada Masyarakat
LPPM-Universitas Muhammadiyah Tasikmalaya
Volume: 8, Issue: 3, July, 2025; pp: 1204-1218
E-ISSN: 2614 - 8544

Optimizing Bamboo Utilization Through Hihid Product Design Innovation in Sukaluyu Village

Handayani Madania Insani[a)], Afifah Mu'minah, R. Moch Rizal Hafiyan, Wafi Ulya Az Zahra, Mimin Sa'adah, Sri Ayu Rismayanti

Universitas Pendidikan Indonesia Tasikmalaya, Indonesia

[a)] Corresponding author: handayanimadania@upi.edu

ABSTRACT

Sukaluyu Village in Tasikmalaya Regency benefits from abundant bamboo resources, a material traditionally used by the local community in their daily lives. However, the utilization of bamboo has remained largely conventional, hindering its market potential due to a lack of innovative design development. A key challenge is the limited variety in the design and form of bamboo handicrafts, particularly hihid (traditional hand fans), which possess considerable commercial promise. This community engagement initiative seeks to empower local residents by exploring novel, functional, and aesthetically pleasing forms of hihid suitable for everyday use and with wider market appeal. The methodology employed is Participatory Learning and Action (PLA), involving collaborative, practical training between the community members and the facilitator team. The results indicate that participants successfully learned the production techniques for both bamboo and plastic rattan hihid and were able to create diverse, functional, and visually attractive fan designs. This initiative has improved community skills and broadened local economic opportunities through innovative, bamboo-based craft products.

ARTICLE INFO

Article History :
Submitted/Received 28 April 2025
First Revised 2 May 2025
Accepted 29 April 2025
First Available online 31 April 2025
Publication Date 31 April 2025

Keyword :
Bamboo
Hihid
Product design

INTRODUCTION

Situated in the resource-rich Mangunreja District of Tasikmalaya Regency, West Java, Sukaluyu Village benefits from abundant natural resources, particularly in agriculture and community forestry. Bamboo is a

https://doi.org/10.35568/abdimas.v8i3.6554

prevalent resource, traditionally used by the community for construction, fishing tools, and curtains. Despite this availability, its conventional use has not significantly boosted the local economy. With the growth of the creative economy and increasing consumer interest in innovative local products (Todaro & Smith, 2011), bamboo presents a significant opportunity to create valuable crafts. A prime example, and the focus of our engagement is the production of traditional fans, or hihid. Beyond their practical use, these items can become sought-after souvenirs, decorative pieces, and even fashionable accessories through artistic and modern design. However, the Sukaluyu community has yet to fully capitalize on this potential. Current hihid designs remain traditional and lack the variety needed for contemporary markets. This limitation is primarily due to insufficient knowledge and skills in diversifying bamboo craft designs, restricting their distribution to local markets and preventing access to wider national and international markets. This situation necessitates a community empowerment program focused on skill development, encompassing both technical craft production and fostering creative design along with market understanding. Consequently, this community service project was initiated, as outlined in our abstract, to train residents in producing bamboo hihid with improved forms and visual appeal. The main goal is to motivate residents to create more diverse hihid designs from bamboo, thereby enhancing their market value and competitiveness. This design exploration aims to produce hihid that are not only functional for cooling but also serve as decorative and commercially viable products. Therefore, design innovation is key to market expansion and increased local income, a central theme of our work.

Literature Review

Bamboo as a Local Resource

Bamboo is a renewable natural resource widely distributed across tropical regions, including Indonesia (Widjaja & Kartasujana, 2006). With over 1,600 species globally, approximately 125 of which are found in Indonesia, bamboo is advantageous due to its rapid growth, material strength, and versatility in various applications, ranging from construction to household tools and handicrafts. Furthermore, bamboo is increasingly valued for its environmental sustainability in craft development (Liese & Kohl, 2015).

Hihid as a Handicraft Product

Traditional bamboo hand fans, known as hihid, are commonly found in rural Indonesian communities. These fans are not only practical for cooling and dispersing smoke but also offer aesthetic potential through creative design (Supriyanto, 2014). Moreover, hihid embodies symbolic cultural value and can be a regional identity product with significant market potential.

Aesthetics and Functionality in Handicrafts

The creation of handmade products requires consideration of two key aspects: aesthetics and functionality (Munandar, 2002). Aesthetics, in this context, encompasses elements such as form, color, motif, and visual harmony (Danto, 2001), while functionality refers to the product's practical use in daily life. Products that successfully integrate both aesthetic appeal and practical function are generally more marketable.

Innovation in Handicraft Design

The product development process should integrate considerations of functionality, aesthetics, and user experience to maximize market appeal (Shaferi, etc, 2024). The creative process of product design involves synthesizing ideas, techniques, and aesthetics to develop solutions that align with consumer

https://doi.org/10.35568/abdimas.v8i3.6554

needs and preferences (Ulrich & Eppinger, 2012). As Ulrich and Eppinger (2012) explain, effective design requires a clear function, visual appeal, user-friendliness, and efficient manufacturability. In the context of bamboo crafts, design innovation plays a vital role in broadening market reach and increasing product value (Verganti, 2009). This theoretical framework informed the design and implementation of our community service program, with a specific focus on leveraging local resources and innovating the design of bamboo-based hihid.

METHOD

This program utilized the Participatory Learning and Action (PLA) approach, which underscores the importance of active community involvement in identifying problems, designing solutions, and implementing programs (Chambers, 1997). PLA facilitates learning through practical, real-world experiences, enhances local capabilities, and promotes a sense of ownership over initiatives for change. The application of PLA in this project involved engaging local residents from the outset—encompassing the identification of potentials and challenges, the planning of training modules, the implementation process, and the evaluation phase. By fostering contextual and experiential learning, this approach contributed to the sustainability of the project and ensured community buy-in (Pretty, 1995).

Key Principles of PLA Applied:

1. Participatory Engagement: Ensuring active participation from community members throughout all phases of the program.
2. Learning by Doing: Implementing training sessions through direct practical application, consistent with experiential learning theories (Kolb, 1984).
3. Contextual Relevance: Adapting materials and methods to align with the specific local socio-cultural context.
4. Reflection and Evaluation: Concluding each activity with open discussions and feedback sessions among the participating residents.

Stages of PLA Implementation:

1. Identifying Local Potential and Issues: Conducting field observations and focus group discussions (FGDs) with local stakeholders to thoroughly explore the available bamboo resources and the existing challenges in product design development.
2. Program Planning: Collaboratively developing a comprehensive training plan with community members, including schedules, selection of venues, and procurement of all necessary tools and materials.
3. Training Implementation: Conducting collaborative training sessions in village halls and residents' homes, focusing on fundamental hihid production techniques using both bamboo and plastic rattan, while also fostering an environment for creative experimentation.
4. Monitoring and Evaluation: Utilizing pre- and post-tests as tools to assess the development of skills among participants. Holding reflective sessions with both facilitators and residents to discuss the achieved outcomes and plan for future endeavors.
5. Sustainability and Network Development: Establishing craft groups to ensure the continuity of production and initiating partnerships with local microenterprises to facilitate access to broader markets (Tambunan, 2019).

Flowchart of Participatory Learning and Action (PLA) Implementation

https://doi.org/10.35568/abdimas.v8i3.6554

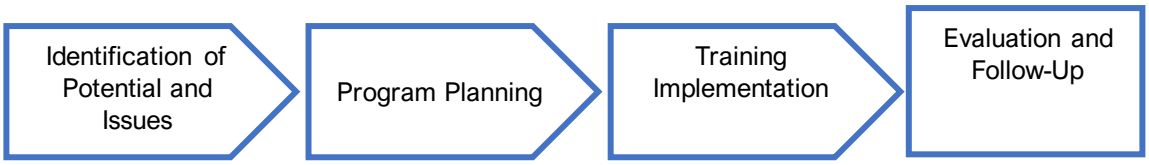

FIGURE 1. Flowchart of PLA Implementation

Stage Descriptions:

1. Identification of Potential and Issues: This stage involved conducting field observations and focus group discussions (FGDs) with local residents to understand the existing resources and challenges.
2. Program Planning: Schedules, materials, tools, and training methods were developed through a participatory approach, involving the community.
3. Training Implementation: Practical, hands-on training sessions focused on the creation of hihid (bamboo hand fans) using both bamboo and plastic rattan materials.
4. Evaluation and Follow-Up: This final stage included reflecting on the program's achievements and establishing both craft groups for continued production and partnership networks for broader reach.

Identification of Potential and Issues

The process of identifying the local potential and existing challenges in Sukaluyu Village commenced with a series of field observations. These observations were systematically conducted by the community service implementation team, working in close collaboration with local leaders and key figures within the village. This collaborative approach ensured that the assessment process was informed by both external expertise and local knowledge, fostering a more comprehensive and accurate understanding of the situation. Sukaluyu Village is geographically characterized by its fertile land, which supports a variety of agricultural activities. Notably, the village is also endowed with an abundance of bamboo, which grows wild and is readily available on the properties of many residents. This widespread availability of bamboo represents a significant local resource with the potential for further development and utilization. The initial observations revealed that bamboo has traditionally been utilized by the residents of Sukaluyu Village for a range of practical, household purposes. These traditional applications, while essential to daily life, often represent a relatively basic and low-value use of the resource. Examples of traditional bamboo products include:

Fish traps (bubu): These are ingeniously crafted devices used for catching fish in local water bodies, demonstrating the community's resourcefulness in utilizing bamboo for sustenance.

Window blinds: Bamboo is also used to create simple window coverings, providing shade and privacy in homes.

In addition to these common applications, some residents of Sukaluyu Village engage in the crafting of simple tools from bamboo. One such tool is the hihid, the traditional hand fan. However, it was observed that the production of hihid is typically carried out using very basic and conventional techniques, resulting in products with limited design variation and functionality. A key issue identified during this initial assessment was the absence of a systematic and concerted effort to develop bamboo into high-value handicraft products. While bamboo was readily available and used for various purposes, there was a lack of organized initiatives and skills development programs aimed at transforming this resource into more sophisticated and marketable items. This represented a missed opportunity for the community to enhance their income and economic well-being through the production of value-added bamboo products. The

https://doi.org/10.35568/abdimas.v8i3.6554

hihid itself, while a functional item, exemplifies this challenge. The hihid products currently produced in Sukaluyu Village are generally simple in form and design, often serving the basic purpose of cooling down freshly cooked rice. While this function is important in the local context, it limits the potential of hihid as a more versatile and commercially viable product. Based on these findings and observations, the community service team, in collaboration with the community, determined that hihid production would be a primary focus of the program. The goal was to enhance hihid in two key dimensions:

Form: To move beyond the simple, traditional designs and explore more aesthetically pleasing and innovative forms.

Function: To expand the functionality of hihid beyond its traditional use, positioning it not only as a tool for personal cooling but also as a marketable souvenir item. This expanded functionality would increase the product's appeal to a wider range of consumers and potentially open up new market opportunities.

I've aimed to provide a more detailed and descriptive account of the initial identification process, highlighting the context of Sukaluyu Village and the rationale for focusing on hihid production.

FIGURE 2. FGD with Community
(Source: Personal Documentation, 2024)

The focus group discussions (FGDs) conducted with community members in Sukaluyu Village yielded valuable insights into the challenges and opportunities related to bamboo craft production. Several key issues were consistently raised by the participants:

1. Limited Awareness of Bamboo's Potential in the Creative Economy:

   A significant finding was that many residents of Sukaluyu Village demonstrated a lack of awareness regarding the potential of bamboo within the broader context of the creative economy. The creative economy encompasses a range of economic activities that involve the use of creativity and intellectual capital to produce goods and services. This includes sectors such as arts and crafts, design, fashion, and cultural heritage. The FGDs revealed that the community's perception of bamboo was largely limited to its traditional uses, with little recognition of its potential to be transformed into innovative and high-value creative products. This lack of awareness represents a barrier to the development of bamboo-based creative industries in the village, as it limits the community's ability to envision and pursue new economic opportunities.

https://doi.org/10.35568/abdimas.v8i3.6554

2. Deficiency in Technical Training and Aesthetic Design Skills:

Another critical issue highlighted by the community members was the deficiency in both technical training and aesthetic design skills related to bamboo handicraft production. Technical training refers to the practical skills required to effectively process bamboo, utilize tools, and produce craft items. This includes skills such as bamboo selection and harvesting, cutting, weaving, joining, and finishing techniques. Aesthetic design skills encompass the ability to create visually appealing and innovative designs for bamboo crafts. This involves an understanding of design principles such as form, color, pattern, and composition, as well as the ability to incorporate cultural and contemporary influences. The FGDs revealed that many artisans in Sukaluyu Village possessed basic craft skills but lacked the advanced technical knowledge and design expertise needed to produce high-quality, market-competitive products. This skills gap limits the variety, quality, and marketability of bamboo crafts produced in the village.

3. Absence of Supporting Institutions or Craft Groups:

The community members also emphasized the absence of active institutions or craft groups to support bamboo artisans in Sukaluyu Village. Supporting institutions can play a crucial role in providing resources, training, marketing assistance, and other forms of support to craft producers. Examples include cooperatives, associations, and government agencies. Craft groups provide a platform for artisans to collaborate, share knowledge, access resources collectively, and market their products together. The lack of such support structures in Sukaluyu Village isolates individual artisans, limiting their access to resources, information, and market opportunities. This absence of support hinders the development of a vibrant and sustainable bamboo craft industry in the village.

4. Underexplored Potential of Bamboo:

A recurring theme in the FGDs was that the vast potential of bamboo as a resource has not been fully explored in Sukaluyu Village. Participants expressed a sense that bamboo was being underutilized, with its applications largely confined to traditional and low-value products. This underutilization was attributed to the limited support available for training and design innovation. The community members recognized that with adequate support and investment, bamboo could be transformed into a wide range of high-value products, contributing significantly to the local economy.

5. Availability of a Productive Labor Force:

Despite the challenges, the FGDs also highlighted a significant advantage: the presence of a productive labor force in Sukaluyu Village. The community possesses a substantial number of individuals within the working age group (approximately 18–50 years old) who represent a valuable human resource. Participants expressed enthusiasm for the potential to empower this labor force through skill-based training in handicrafts, particularly bamboo craft production. The availability of a willing and able workforce provides a strong foundation for developing a thriving bamboo craft industry in the village.

Program Planning

The program planning phase was executed through a series of focused and collaborative discussions between the community service implementation team and the local residents of Sukaluyu Village. These discussions were crucial in ensuring that the training program was relevant to the local context, utilized available resources effectively, and met the needs and aspirations of the community members. The initial step in the planning process involved revisiting the field observations that were previously conducted. These observations played a vital role in identifying the specific types of bamboo that are readily available

https://doi.org/10.35568/abdimas.v8i3.6554

and most suitable for utilization in Sukaluyu Village. Understanding the local bamboo varieties was essential for tailoring the training to the accessible resources and ensuring the sustainability of the craft production. The characteristics of different bamboo species, such as their flexibility, strength, and workability, were considered to determine the most appropriate type for crafting hihid.

Furthermore, the planning phase included a thorough review of the existing bamboo-based products already being made by the community members. This assessment was crucial for understanding the current level of craftsmanship, identifying existing skills and techniques, and evaluating the potential for further development and innovation. By examining the strengths and limitations of the current products, the team could identify areas where training and design input would be most beneficial. This review also helped to build upon the community's existing knowledge and practices, rather than introducing entirely new and unfamiliar techniques. Based on the comprehensive discussions and the insights gained from the field observations and product review, the following key program components were agreed upon collaboratively:

1. Training in Innovative Hihid Craft Production: A core element of the program would be intensive training focused on the production of hihid crafts. This training would specifically emphasize innovations in shape, size, and the incorporation of mixed materials. The aim was to move beyond the traditional, simple designs and equip participants with the skills to create more diverse, aesthetically appealing, and functional hihid that could appeal to a wider market. This included exploring different forms, experimenting with various dimensions to suit different uses, and learning how to effectively integrate different materials to enhance both the visual appeal and the durability of the final products, aligning with the goal of creating marketable souvenir.
2. Primary Bamboo Material: Bambu Tali (String Bamboo): Through the field observations and discussions, it was determined that the primary type of bamboo to be utilized in the training program would be bambu tali (string bamboo). This specific variety was likely chosen due to its favorable characteristics, such as its flexibility for weaving, its strength for structural integrity, and its abundance in the local area of Sukaluyu Village. Utilizing a readily available local resource like bambu tali ensures the sustainability and accessibility of the craft production for the community members.
3. Supporting Materials: To enhance the design and functionality of the hihid, the program would also incorporate supporting materials, including:
    a. Plastic rattan: This material likely offers opportunities for adding decorative elements, creating intricate patterns, and potentially increasing the durability or water resistance of the hihid. The use of plastic rattan allows for a wider range of aesthetic possibilities and can cater to contemporary market preferences. The successful grasp of production techniques for both bamboo and plastic rattan hihid was also noted as an outcome.
    b. Bamboo wood pegs: These would likely be used as fasteners or structural elements in the construction of the hihid, providing a natural and locally sourced method for joining different bamboo components.
4. Required Tools: The discussions also identified the essential tools that would be necessary for the participants to effectively engage in the hihid production training. These tools included:
    a. Machetes or small saws: These would be required for the initial processing of the bamboo, such as cutting it to the desired lengths and splitting it into strips.
    b. Bamboo carving knives: These specialized knives would be used for shaping, detailing, and preparing the bamboo strips for weaving and assembly.

https://doi.org/10.35568/abdimas.v8i3.6554

c. Sandpaper: This would be used for smoothing the surfaces of the bamboo, improving the finish and the tactile quality of the hihid.

d. Pencils: These would be necessary for marking measurements, sketching design ideas onto the bamboo, and transferring patterns.

e. Templates or design patterns: The use of templates and pre-designed patterns would help participants to create consistent shapes and explore new design variations for the hihid, moving beyond the simple forms previously observed. This aligns with the program's aim of fostering innovative design development.

Training Implementation

The implementation phase of the community engagement program, which focused on empowering the residents of Sukaluyu Village through bamboo craft training, was carefully structured and executed over a period of four months. This extended timeframe allowed for a comprehensive and in-depth learning experience, ensuring that participants had ample opportunity to acquire new skills, experiment with designs, and develop a strong foundation for future craft production. To facilitate effective learning and organize the program's activities, the four-month implementation period was strategically divided into thematic phases. This phased approach allowed the program to address different aspects of bamboo craft production in a sequential and logical manner, building upon previously acquired knowledge and skills.

TABLE 1. Training Implementation

No.	Week(s)	Activites
1	1-2	Field Observation
2	3-4	Focus Group Discussions (FGD)
3	5-6	Bamboo Splitting and Cutting
4	7-8	Bamboo Shaving
5	9-10	Soaking and Drying
6	11-14	Weaving
7	15-16	Product Exhibition

Hands-on Production Process of Hihid

The core of the community engagement program involved a practical, hands-on approach to the production of hihid (traditional bamboo hand fans). This methodology was deliberately chosen to align with the principles of Participatory Learning and Action (PLA), emphasizing active learning through direct experience and community involvement in the skill development process. The production process was carefully structured into distinct stages to facilitate learning and ensure a systematic approach to crafting the hihid:

1. Preparation and Material Gathering: This initial stage focused on equipping participants with the necessary raw materials and preparing them for the subsequent crafting process.

   a. Bamboo Selection: Participants were actively involved in the process of selecting bamboo. They learned to identify bamboo culms that possessed the desired characteristics for hihid production, specifically emphasizing bamboo that was both sufficiently flexible to allow for intricate weaving and appropriately mature to ensure strength and durability in the final product. This step instilled in participants an understanding of material quality and its impact on the final product.

   b. Bamboo Slicing: Once the appropriate bamboo was selected, participants were trained in the crucial skill of processing the raw material. This involved carefully slicing the bamboo culms

https://doi.org/10.35568/abdimas.v8i3.6554

into thin slats of precise dimensions, tailored to the specific design requirements of the hihid. This process likely involved using tools such as machetes or specialized bamboo knives, and participants would have learned techniques to ensure uniform thickness and width of the slats for consistent weaving.

c. Preparation of Complementary Materials: In addition to bamboo, the program incorporated other materials to enhance the hihid's design and aesthetic appeal. This included:

- Wooden handles: Participants were instructed on how to prepare wooden pieces that would serve as sturdy and comfortable handles for the hihid. This might have involved shaping, smoothing, and potentially decorating the wooden handles.
- Plastic rattan: As a supplementary weaving material, plastic rattan was also prepared. This likely involved selecting appropriate colors and thicknesses of the rattan and preparing it for integration into the bamboo weaving process, allowing for decorative patterns and variations in texture. The inclusion of plastic rattan also introduced participants to the concept of material mixing for enhanced design possibilities.

FIGURE 3. Preparation and Material Gathering
(Source: Personal Documentation, 2024)

2. Soaking and Drying:

Enhancing Bamboo Flexibility: To prepare the bamboo slats for the intricate process of weaving, it was crucial to enhance their flexibility. Participants learned that soaking the bamboo slats in water for a duration of 2–3 days significantly increased their pliability, making them less prone to breakage and easier to manipulate during the weaving process. This soaking process is a common technique in bamboo craft, as it alters the physical properties of the material to suit the crafting needs. Preventing Mold Growth: While soaking was essential for enhancing flexibility, it also introduced the risk of mold growth, especially in a tropical climate. Therefore, a subsequent drying process was equally important. After soaking, the bamboo slats were carefully dried to remove excess moisture. This drying process was crucial to prevent the development of mold and fungi, which could compromise the integrity and aesthetic appeal of the bamboo, as well as ensure the longevity of the stored material. Participants were likely trained in appropriate drying techniques, such as air-drying in a shaded area or using controlled heat sources, to achieve the desired moisture level without damaging the bamboo.

3. Weaving and Design Development:

https://doi.org/10.35568/abdimas.v8i3.6554

Mastering Weaving Techniques: The heart of the hihid production process lay in the weaving stage. Participants engaged in hands-on practice to master various weaving techniques using both the prepared bamboo slats and the decorative plastic rattan. This likely involved learning different weaving patterns, interlacing methods, and structural techniques to create the main body of the hihid. The training emphasized the development of dexterity, precision, and consistency in weaving. Incorporating Handles: Once the weaving was complete, the hihid structure was assembled with the prepared wooden handles. Participants learned how to securely attach the handles, ensuring both structural integrity and a comfortable grip for the user. This step combined the woven bamboo element with the functional handle component, creating a complete and usable product. Creative Design Exploration: Beyond the basic construction, the training program strongly encouraged participants to explore their creativity and develop unique designs for the hihid surfaces. This involved:

- Geometric Patterns: Participants experimented with incorporating various geometric patterns into their weaving, adding visual interest and complexity to the hihid. This could have involved using different weaving techniques, color combinations, and material arrangements to create distinct geometric designs.
- Color Combinations: The use of both bamboo and plastic rattan allowed for the exploration of diverse color combinations. Participants learned how to effectively integrate different colors to create visually appealing and aesthetically pleasing hihid. This likely involved an understanding of color theory and the principles of visual harmony.

https://doi.org/10.35568/abdimas.v8i3.6554

FIGURE 4. Weaving and Design Development
(Source: Personal Documentation, 2024)

4. Finishing Touches:

   To enhance the aesthetic appeal and overall quality of the hihid products, a final stage of finishing touches was incorporated. Polishing with Natural Varnish: A selection of the crafted hihid was chosen for a polishing treatment. This involved applying a natural varnish to the surfaces of the hihid. The use of natural varnish likely served several purposes:

   a. It enhanced the visual appearance of the hihid, bringing out the natural beauty of the bamboo and any incorporated decorative elements.

   b. It provided a protective coating, potentially increasing the durability and longevity of the hihid.

   c. It gave the hihid a smoother and more refined finish, improving its tactile quality.

The choice of natural varnish aligns with the emphasis on utilizing local resources and sustainable practices. Participants would have been trained in the proper application techniques to achieve a professional and attractive finish.

5. Product Reflection and Exhibition:

   To consolidate the learning experience and foster a sense of accomplishment, the program culminated in a reflective session and a mini-exhibition. Reflective Session: This session provided a platform for participants to engage in a collective reflection on their learning journey. It served several important purposes:

https://doi.org/10.35568/abdimas.v8i3.6554

a. Sharing Challenges: Participants were encouraged to openly share any challenges they encountered during the hihid production process. This allowed for peer-to-peer learning and the identification of common difficulties that could be addressed in future training.

b. Exploring New Design Possibilities: The reflective session also fostered a creative exchange of ideas, with participants exploring potential new design variations and innovations for hihid products. This helped to stimulate further development and diversification of the craft.

c. Consolidating Learning: The session provided an opportunity to reinforce the key skills and knowledge acquired throughout the program.

Mini-Exhibition: To showcase the participants' achievements and celebrate their creativity, a mini-exhibition was organized.

a. Presenting Final Creations: Participants proudly presented their completed hihid products to their peers, community members, and potentially invited guests. This exhibition served as a tangible demonstration of the skills and knowledge gained during the program.

b. Building Confidence: The exhibition also played a crucial role in building the participants' confidence and self-esteem, validating their efforts and encouraging them to continue pursuing their craft.

FIGURE 5. Product Reflection
(Source: Personal Documentation, 2024)

Evaluation

The evaluation process of the community engagement program yielded a particularly interesting and valuable insight that directly led to a design innovation. This demonstrates the dynamic and adaptive nature of the Participatory Learning and Action (PLA) methodology, where feedback from participants shapes the program itself. During the training sessions, it was observed that some of the older participants, specifically those aged 40 and above, encountered difficulties in the weaving process. The primary challenge stemmed from their visual limitations in distinguishing between the narrow bamboo slats, which were often only about 1 centimeter wide. This difficulty was further compounded by the fact that the bamboo slats were often similarly colored, making it hard for the older participants to differentiate between them and accurately manipulate them during the weaving process. This observation highlights

https://doi.org/10.35568/abdimas.v8i3.6554

the importance of considering the specific needs and limitations of the target participants in any community development program.

In response to this challenge, the program facilitators, in collaboration with the participants, implemented a creative and practical design innovation. This involved the introduction of color-coded bamboo strands. By applying different colors to the bamboo slats, the participants, especially the older ones, were able to more easily distinguish between them. This simple yet effective modification significantly eased the weaving process, improving the participants' ability to learn and produce the hihid crafts. This adaptation exemplifies the core principle of PLA, which emphasizes iterative learning and responsiveness to the community's needs. Beyond addressing the specific challenge faced by older participants, the program also fostered a broader culture of design exploration and innovation. This led to the introduction of new product variants that expanded the appeal and market potential of the hihid. Examples of these innovative product variants include:

1. Heart-shaped fans: This design variation introduced a novel and aesthetically pleasing form for the hihid, moving beyond the traditional rectangular or oval shape. Heart-shaped fans could appeal to a wider range of consumers, particularly those seeking unique and decorative items.
2. Keychain-sized hihid: This miniaturized version of the hihid transformed it from a primarily functional item into a decorative accessory. Keychain-sized hihid could be marketed as souvenirs or novelty items, expanding the product's market reach and potential uses.

FINDINGS AND DISCUSSION

Several significant outcomes emerged from the community engagement program, each contributing to the overall success of the initiative.

1. Enhanced Skill Sets: A key achievement was the demonstrable enhancement of participants' technical skills in bamboo processing and weaving. This included the acquisition of proficiency in the use of relevant tools and a deeper understanding of the properties and handling of materials.
2. Product Diversification and Innovation: The upgrading process centers on enhancing production methods to be more innovative and efficient, thereby converting inputs into improved outputs (Ni Putu Natasya Amelia Putri, N., Basmantra, I., 2023). The program served as a catalyst for product innovation, leading to the development of new hihid designs. These designs were characterized by:
    a. Creative shapes that moved beyond traditional forms.
    b. Vibrant color palettes that increased the visual appeal of the products.
    c. The incorporation of mixed materials to enhance both aesthetics and functionality. These design improvements significantly increased the aesthetic and commercial appeal of the hihid products, making them more attractive to potential buyers.
3. Stimulated Entrepreneurial Activity: The program played a role in igniting an entrepreneurial spirit within the community. This was evidenced by the fact that some residents began to undertake market-oriented production of hihid and actively explored distribution partnerships with existing local microenterprises.
4. Community Empowerment through Participation: The participatory nature of the training program was instrumental in fostering a strong sense of ownership and collaboration among the residents. This empowerment enables the community to continue the development of their products independently, ensuring the long-term sustainability of the initiative.

https://doi.org/10.35568/abdimas.v8i3.6554

In conclusion, this initiative provides a compelling example of how the integration of local wisdom, creative design principles, and participatory methodologies can effectively contribute to economic development in rural contexts. Furthermore, it underscores the critical role of cross-sector collaboration between universities, local government structures, and the communities themselves in ensuring the sustainability of such programs and facilitating their replication in other regions with similar resource endowments.

CONCLUSION

The initiative to develop bamboo-based hihid crafts in Sukaluyu Village represents a strategic and impactful effort to leverage the community's abundant local resources through a combination of innovative design principles and a strong emphasis on community empowerment. Previously, the village's utilization of bamboo was largely confined to conventional craft forms, limiting its economic potential. However, this project demonstrated that the readily available bamboo supply, when coupled with participatory training methods and a spirit of creative experimentation, can be transformed into a valuable driver of economic growth and cultural expression. The adoption of the Participatory Learning and Action (PLA) approach proved to be highly effective in ensuring meaningful and active community engagement throughout every stage of the project. From the initial identification of local needs and challenges to the final reflection on project outcomes and product development, the PLA methodology empowered the community to take ownership of the process and contribute their knowledge and perspectives. The training component of the initiative introduced participants to essential techniques in bamboo processing, encompassing the full production cycle from the initial cutting and drying of the bamboo to the intricate processes of weaving and applying finishing touches. Crucially, the program also fostered a spirit of innovation, encouraging participants to explore novel designs, forms, and functions for the hihid products. The project's success is evident not only in the improvement of residents' technical capabilities and craft skills but also in the creation of new economic opportunities within the community. By producing high-value, culturally significant craft items, such as aesthetically enhanced fans and marketable souvenirs, the initiative has diversified the local economy and opened up new avenues for income generation.

As a result of this program, bamboo has transitioned from being perceived as merely a utilitarian material for basic household items to being recognized as a key driver of a vibrant local creative industry and a symbol of the community's cultural identity. This transformation highlights the potential of community-driven initiatives to unlock the economic and cultural value of local resources. The model developed and implemented in Sukaluyu Village holds significant potential for replication in other communities that possess similar resource endowments and are seeking to transform traditional crafts into competitive, market-ready products. The project's emphasis on participatory approaches, design innovation, and skills development provides a valuable framework for sustainable community development.

ACKNOWLEDGMENTS

REFERENCES

Chambers, R. (1997). Whose reality counts? Putting the first last. Intermediate Technology Publications.

Danto, A. C. (2001). The abuse of beauty: Aesthetics and the concept of art. Open Court.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Prentice-Hall.

Kotler, P., & Keller, K. L. (2016). Marketing management (15th ed.). Pearson.

https://doi.org/10.35568/abdimas.v8i3.6554

Liese, W., & Kohl, M. (2015). Bamboo: The plant and its uses. Springer.

Munandar, A. S. (2002). Pengembangan kreativitas anak berbakat. Rineka Cipta.

Pretty, J. N. (1995). Participatory learning for sustainable agriculture. World Development, 23(8), 1247–1263.

Putri, N. P. N. A., Basmantra, I. N., (2023). Digital Marketing as a Mediaof Developing and Marketing Electric Motorbike Productsas aResult ofTraining Assisted by the Department of Industry and Trade. AbdimasUmtas: Jurnal Pengabdian Kepada Masyarakat, 6(4), 4833-4839.

Shaferia, I. Nawarini, A. T. Laksana, R. D. Yunanto, A. (2024). Bitesize Product Development and Marketing Innovation in Tempeh Chips Food SMEs. AbdimasUmtas: Jurnal Pengabdian Kepada Masyarakat, 7(1), 103-109.

Supriyanto, E. (2014). Pengembangan produk kerajinan berbasis budaya lokal. Jurnal Seni dan Budaya, 5(2), 45–53.

Tambunan, T. T. H. (2019). UMKM di Indonesia: Perkembangan, isu strategis, dan kebijakan pengembangan. LP3ES .

Todaro, M. P., & Smith, S. C. (2011). Economic development (11th ed.). Pearson Addison Wesley.

Ulrich, K. T., & Eppinger, S. D. (2012). Product design and development (5th ed.). McGraw-Hill Education.

Verganti, R. (2009). Design-driven innovation: Changing the rules of competition by radically innovating what things mean. Harvard Business Press.

Widjaja, E. A., & Kartasujana, I. (2006). Identifikasi bambu di Indonesia. LIPI Press.

https://doi.org/10.35568/abdimas.v8i3.6554