



Transforming Natural Resources into Business Opportunities through Ecoprint Technique in Sindangmandi Village Banten

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Abstrak

Transformasi sumber daya alam menjadi produk bernilai ekonomi merupakan langkah strategis dalam meningkatkan kesejahteraan masyarakat desa. Salah satu teknik yang dapat dimanfaatkan adalah ecoprint, yaitu metode pewarnaan kain yang menggunakan bahan alami seperti daun dan bunga. Kegiatan pengabdian masyarakat ini bertujuan untuk memperkenalkan dan melatih teknik ecoprint kepada ibu rumah tangga serta pelaku UMKM di Desa Sindangmandi, Banten, sebagai alternatif usaha kreatif yang ramah lingkungan. Metode pelaksanaan meliputi sosialisasi, demonstrasi teknik pounding dalam ecoprint, serta praktik langsung oleh peserta. Hasil kegiatan menunjukkan tingginya antusiasme masyarakat dalam mengadopsi teknik ini, yang diharapkan dapat membuka peluang usaha baru berbasis sumber daya lokal. Dengan meningkatnya keterampilan masyarakat dalam ecoprint, potensi ekonomi desa dapat berkembang melalui diversifikasi produk seperti totebag, hijab, dan pakaian berbasis pewarna alami. Pengabdian ini berkontribusi pada pemberdayaan ekonomi berbasis lingkungan dan keberlanjutan usaha kecil di tingkat lokal.

Kata kunci: *Ecoprint, Sumber Daya Alam, Kewirausahaan, Pemberdayaan Masyarakat, Desa Sindangmandi.*

Abstract

The transformation of natural resources into products of economic value is a strategic step in improving the welfare of village communities. One of the techniques that can be used is ecoprint, which is a method of dyeing fabrics that use natural materials such as leaves and flowers. This community service activity aims to introduce and train ecoprint techniques to housewives and MSME actors in Sindangmandi Village, Banten, as an alternative to environmentally friendly creative businesses. The implementation method includes socialization, demonstration of pounding techniques in ecoprint, and direct practice by participants. The results of the activity show the high enthusiasm of the community in adopting this technique, which is expected to open up new business opportunities based on local resources. With the increase in community skills in ecoprint, the economic potential of the village can develop through the diversification of products such as totebags, hijab, and clothes based on natural dyes. This service contributes to the empowerment of environment-based economies and the sustainability of small businesses at the local level.

Keywords: *Ecoprint, Natural Resources, Entrepreneurship, Community Empowerment, Sindangmandi Village.*



Introduction

Waste treatment and sustainable use of natural resources are the main concerns in various sectors, including the creative industry. One of the environmentally friendly techniques that is getting more attention is ecoprint, which is a fabric dyeing technique that uses natural materials such as leaves and flowers. This technique not only reduces the use of hazardous chemicals but also increases the economic value of organic waste.

The sustainable transformation of natural resources into viable business opportunities presents a compelling pathway for rural development, particularly through the application of ecoprinting techniques (Zhang, 2020) (Mross & Rothenberg, 2007). Natural resource transformation is a process of exploring or processing raw natural resources into more useful and value-added products. This process not only includes one stage, namely extraction, but also processing and industry to produce goods and services that can be used by the community. Handicraft is a work of art whose manufacturing process uses human hand skills (Hotima, 2019). Handicrafts can also be interpreted as making an object by hand, not a machine mold, which focuses on usability and beauty. One of the potential businesses that can be run is the production of totebags. This is also considering the government's recommendation to reduce the use of plastic with the aim of reducing plastic waste which turns out to be difficult to decompose (Rosha & Khaidir, 2019).

According to the laws and regulations that are the legal basis for the implementation of KKN or KKM, including: 1.2.1. Law Number 20 of 2003 concerning the Higher Education System. 1.2.2. Law Number 12 of 2012 concerning Higher Education. 1.2.3. Government Regulation Number 4 of 2014 concerning the Implementation of Higher Education and Higher Education Management. 1.2.4. Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 49 of 2014 concerning National Standards for Higher Education. 1.2.5. Rector's Decree SKEP87VII2010 July 5, 2010 concerning Academic Guidelines. One of our KKM activities is to carry out ecoprint activities to develop the potential of natural resources in Sindangmandi village, Banten.

Sindangmandi Village is located in Banten Regency and is known for its natural wealth. The locals mostly make a living as farmers. However, with the development of technology and knowledge, there is a need to develop natural resources into high-value products.

Based on our observations, some of the problems experienced by the community are: 1) The number of potential plants around that can be used as Ecoprint materials; 2) Lack of empowerment of the Dasa Wisma group (most of whom are housewives) to produce products that utilize the potential of the village as an alternative source of income for the people of Sindangmandi Village, Serang District, Banten.

According to Flint, (2008) the ecoprint technique can be interpreted as a process to transfer colors and shapes to fabric through direct contact. The ecoprint technique utilizes materials from parts of plants that contain color pigments such as leaves, flowers, stem bark, etc. The method used in the ecoprint in Sindangmandi Village is using the Pounding technique.



Figure 1. Ecoprint Practice by Pounding Technique

The development of an area requires a lot of carrying capacity in terms of infrastructure and human resources. To increase people's income, it is necessary to empower community groups, especially the Dasa Wisma group, so that they are not only dependent on the service and agricultural sectors. Therefore, this activity aims to develop the skills of dasawisma groups in Sindangmandi village which provide economic and social benefits for the community by utilizing the natural potential of their village through ecoprint. With the increase in the skills of the women of the dasa wisma group, it can increase local economic activities which can indirectly improve the welfare of the people of Sindangmandi Village.

Sustainability in the surrounding environment and natural resources is very important for human survival. Humans have an obligation to always maintain the preservation of the surrounding nature, if the preservation of nature on this earth is not properly maintained, what happens is damage so that it will result in various natural disasters on this earth. The way we can do it is by conducting education or education to support growth in the world of education and in the industrial world while preserving nature. During the student work lecture (KKM) activities that we carried out in Sindang Mandi village, we saw the potential for natural resources that are very abundant, there are a lot of plants and trees in the village, because many of these plants and trees have a negative impact, namely garbage, so one of the ways we can do is to socialize and jump directly into ecoprint activities, namely dyeing techniques on fabrics that use environmentally friendly materials and waste. The coloring will not pollute the environment. Ecoprint activities have a positive impact on the environment because they can reduce the use of hazardous chemicals that are commonly used in the traditional printing process. The use of natural dyes and plants in the surrounding environment can also support sustainability and reduce carbon footprints. However, it is very important to ensure that the plants used in this ecoprint are chosen wisely and the process is carried out wisely and responsibly to minimize environmental impact.

Implementation Method

The activity was held in Sindangmandi Village, Baros District, Serang Regency, Banten. This village was chosen based on the mapping that has been carried out by LPPM Untirta for the implementation of KKM activities, where after the initial identification was carried out, Sindangmandi Village is one of the villages that has a beautiful natural environment and the people in the village have a high sense of mutual cooperation, so we see the need to hold activities to increase capacity in environmental economic empowerment and the sustainability of small businesses at the local level.

As for the implementation time of the activity, it lasts for 1 month, namely in January 2025, with the following details:

1. Week 1: Preparation, coordination with the Sindangmandi Village apparatus, and socialization with the people of Sindangmandi Village;
2. Week 2: demonstration of pounding techniques in ecoprint, as well as hands-on practice by participants;
3. Week 3–4: Periodic mentoring and evaluation.

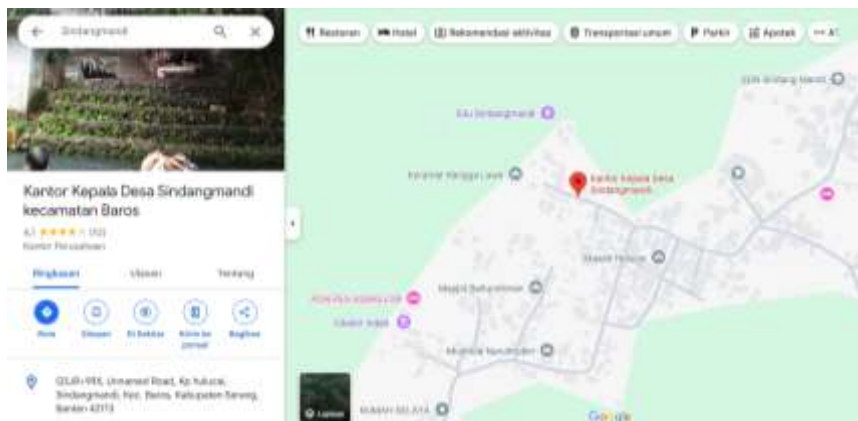


Figure 2. Map of Sindangmandi Village Location

The participants of the activity were groups of housewives and MSME actors in Sindangmandi Village. They were chosen because they have a commitment to protecting the environment, have a strong desire to increase environmentally friendly creative businesses, and have access to ecoprint raw materials (local leaves, flowers). Participant determination is carried out through:

1. Initial field surveys include surveys on local raw materials for ecoprint;
2. Coordination with the Village Head and village officials;
3. Focus group discussions (FGDs) with local communities;
4. Procurement of auxiliary tools (cloth, local leaves, vinegar etc.).

The activity will be carried out through several stages as follows:

1. Preparation (1st week):
 1. Coordination with the village government;
 2. Survey and mapping of problems;
 3. Preparation of training materials with hands-on practice.
2. Socialization (1st week):
 1. Introduction of the concept of ecoprint as an alternative to new business opportunities;
 2. The potential of ecoprint as an environmentally friendly solution.
3. Training (2nd week):
 1. Direct practice of ecoprint techniques;
 2. Selection of suitable local leaves, preparation of fabrics and natural coloring.
4. Mentoring:
 1. Assistance in independent production by participants;
 2. Simulation of labeling ecoprint products made by participants.

The success of the activity will be measured through the following indicators:

1. 70% of participants were able to practice ecoprint techniques independently;
2. The formation of small business groups that are interested in producing ecoprints sustainably;

3. Increased participants' understanding of the principles of environmentally friendly production (measured through direct interviews after training activities);
4. The documentation of activities in the form of reports and videos of the results of the implementation.

The evaluation method is carried out as follows:

1. Field observation by the service team to see direct practice regarding the technical skills of participants during ecoprint practice;
2. In-depth interviews with representatives of participants and community leaders after the activity;
3. Documentation of photos and videos of activities as well as weekly reports of implementation;
4. Follow-up: monitoring for 2 weeks (3rd week and 4th week) after the activity to see the sustainability of the ecoprint.

Result and Discussion

The transformation of natural resources into business opportunities through ecoprinting in rural villages holds significant promise for sustainable development, offering a synergistic blend of economic empowerment, environmental stewardship, and community revitalization. Green innovation plays a crucial role in promoting sustainable economic development, particularly in the context of small to medium-sized enterprises operating in rural environments (Mabhandu, 2023).

The service activity has been carried out at the Sindangmandi village hall, Serang, Banten, with a method of socialization and practice carried out in January 2025. The training or practice provided was in the form of materials and tutorials as well as practices presented by Ucu and Asri Nur Azzahra who are students of Development Economics from Sultan Ageng Tirtayasa University.

In this ecoprint making training activity, the women of Sindang Mandi Village are expected to be able to make ecoprints on tote bag fabric. We, students, hope that with this training, the village community is expected to gain knowledge and skills that are useful for improving the economy. The purpose of this activity is to provide the benefits of ecoprint technique skills on fabrics.

The training provided is carried out with direct practice. The following are the steps of the implementation of ecoprint making training as follows:

- 1) All people who are present at the village office will be given an explanation of the material regarding tools, materials and the steps to make them. Before practicing directly in a tote bag, the community is given material first so that during practice they can do it properly and correctly as explained in the material.
- 2) The entire village community practices directly according to the stages of making from placing a plastic base in a tote bag, putting leaves in a tote bag, hitting with a hammer until the color of the leaf sticks to the fabric, slowly lifting the leaves from the fabric, folding the tote bag cloth and soaking it in alum water and making sure that the cloth is evenly soaked and finally drying the cloth that has been soaked in the alum water until dry. When it is dry, the ecoprinted tote bag fabric can be used directly or sold. After that, the people who were present at the village office immediately practiced it from the beginning to the end of this ecoprint method.

- 3) After this training activity was carried out, all the people who were training participants succeeded in practicing the ecoprint technique. So it is hoped that this ecoprint training activity will have a positive impact that will improve the economy and open job vacancies for the people of Sindang Mandi Village to produce products using this ecoprint technique, not only in tote bags but this ecoprint can be applied again such as on hijab, t-shirts, mukena and so on.



Figure 3. The Results of the Practice of Making Totebags with Ecoprint

The Ecoprint technique applied in making totebags and dyeing fabrics provides many benefits. The benefits are:

1. The material is easy to get
The materials used in this dyeing method are very easy to obtain. We can use a wide variety of materials. We can use different types of natural materials, such as from leaves, flower plants and others.
2. Very easy to make
Indeed, the process of creating ecoprint skills is very easy and anyone can learn them. Beginners can learn and then try to apply them. You can even try it yourself without having to be taught by anyone.
3. Art value
Art and ecoprint techniques include aesthetics that must think about the unique concepts and designs chosen or used in the prepared materials.

The ecoprint technique first appeared in the early 2000s. This technique combines natural coloring and art to create a unique and interesting method, this ecoprint technique was introduced by an artist who became a central figure in the development of ecoprint, namely Indian Flint. Ecoprint began to be introduced in Indonesia around 2016 with natural dyeing techniques and textile art having a strong attraction so that ecoprint has its own attraction for the local artist and artisan community in Indonesia. Indonesia has biological diversity ranked second after Brazil. There are biological and non-biological natural resources that are very easy for us to find, one of which is plants and trees that we can take extracts for ecoprinting activities. The plants in Sindang Mandi village are plants that we can use for ecoprint activities that have economic value. Currently, environmentally friendly techniques and concepts are applied in various trends in Indonesia so that the creation of motifs with natural coloring is suitable, this is present in the Indonesia Trend Forecasting (ITF) program which is an important agenda for creative industry business actors. In this

ITF program, it explains the supporting factors for change to create trends, concern for the environment continues to increase.

Based on the description above, it can be explained that the work program activities of this ecoprint are carried out based on the problems caused by waste, waste from plants and trees is also a very serious problem to be overcome immediately in the village. So that we as students and students who are devoting themselves to Sindang Mandi Village are making efforts to reduce waste by carrying out ecoprint activities, not only reducing waste but this ecoprint activity will give birth to new MSME seeds in Sindang Mandi Village, according to what we have said about this ecoprint work program, then the community is expected to continue to develop the science that has been provided by us, So that this ecoprint activity can become a new livelihood in the village so that a sustainable economy will continue to be created because of the work program of students and students of Sultan Ageng Tirtayasa University.

The purpose of this training is to provide training on making totebags using ecoprint to housewives in Sindangmandi village so that the totebags can be used as one of the business opportunities that can be done. This entrepreneurship training is expected to provide new skills to trainees in understanding how to utilize the surrounding natural resources. In the Great Dictionary of the Indonesian Language, "training means teaching someone to do something", and in this case, it is expected that the trainees will be able to perform certain types of skills. Handicrafts in the form of totebag production skills with ecoprint techniques are expected to increase knowledge or skills that will be valuable for improving the family economy.

Conclusion

Ecoprinting represents a paradigm shift in how rural communities can leverage their natural resources for economic gain while simultaneously promoting environmental sustainability. Ecoprinting presents a compelling model for sustainable development, demonstrating how traditional knowledge, innovative techniques, and community engagement can converge to create economic opportunities, preserve natural resources, and foster a more resilient and equitable future for rural villages. Sindangmandi Village, Baros District, Serang Regency is a village with high agricultural potential. This community service activity in the form of socialization and ecoprint training aims to help the community in utilizing the potential of existing natural resources. From the training activities carried out at the Sindangmandi village hall, it can be concluded that: The enthusiasm of the community in entrepreneurship in designing totebags with the ecoprint technique is quite good because the number of participants is quite large and the information is clear.

It is hoped that in future developments, the community will take advantage of the potential of the surrounding environment such as plants to create other ecoprint products with high economic value so that they can open up new job opportunities, improve living standards, and reduce the unemployment rate.

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