Community Empowerment in Fabric Waste Processing into Creative Products: Efforts to Reduce Textile Waste and Boost the Economy in Gadingmangu Village

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Abstract

Textile offcuts in Gadingmangu Village were previously stacked or burned by locals due to a lack of processing ideas. Through this project, we worked directly with local residents mostly homemakers to upcycle fabric scraps into valuable marble fabric crafts. We collected field data qualitatively through direct observation, interviews, and documentation. The activities ran through waste sorting education, hands-on marble fabric making, basic business mentoring, and a product showcase. The outcomes were encouraging: community waste processing awareness jumped from 0% to 95%. Entrepreneurial skills reached 95%, business income grew by 90%, and new small business groups began to form. This effort successfully replaced open-air waste burning with a productive economic routine for the village.

Keywords: *Creative Economy, Fabric Waste, Local Empowerment, Marble Fabric, Upcycling.*

A. INTRODUCTION

Inorganic waste in villages is often left unmanaged, lacking a clear disposal or treatment strategy. This issue stems from limited facilities and a lack of processing equipment, compounded by residents' unfamiliarity with waste sorting practices. We observed this situation firsthand in Gadingmangu Village, where a thriving garment industry generates piles of fabric scraps daily. Unfortunately, these remnants remain unused; residents typically just stack the scraps in a corner or burn them in open areas. Yet, burning fabric scraps is hazardous, as the smoke releases toxic substances that impair respiratory health and damage the environment.

In response to this situation, we sought to provide a solution based on the 3R principles (*Reduce, Reuse, Recycle*) combined with hands-on practice. Processing scrap fabric not only reduces the village's waste accumulation but also offers a potential source of additional income for families. The innovation we introduced is the "*marble fabric*" technique; this method transforms what was once considered waste into products featuring artistic patterns and high market value.

While literature and research on textile waste already exist, most programs stop at brief training sessions without establishing a sustainable, self-running business venture. Addressing this gap, our initiative in Gadingmangu Village focused on forming a resident-led entrepreneurial group. We aim to empower residents to independently produce and sell their *marble fabric* creations. This article outlines how the mentoring process was conducted and assesses its impact on the local economy.

B. LITERATURE REVIEW

Community-led waste management plays a crucial role in preserving the village environment. Fabric scraps are difficult to decompose, necessitating specialized handling. By applying the 3R concept (*Reduce, Reuse, Recycle*), this textile waste can be transformed into

useful items such as bags, wallets, or accessories. Local-level waste management goes beyond mere village cleanliness; it also generates economic value through a circular economy model. Training residents in skills that leverage local potential has proven effective in strengthening household economies (Ambar et al., 2021). Applying fabric marbling techniques adds artistic value to the scrap fabric, enhancing the market competitiveness of the products made by residents. Such hands-on training encourages the community to become more self-reliant in utilizing local waste resources.

The emergence of startup business groups in the village also assists local government in reducing unemployment rates (Titiek et al., 2025). To ensure the sustainability of this support program, success hinges on the smooth transfer of technology, well-organized community groups, and consistent marketing assistance.

C. METHOD

This research employs a qualitative descriptive approach to examine the resident assistance process in depth. The activities took place in Gadingmangu Village, Perak District, Jombang Regency, involving local artisan groups and village officials.

Data were collected through three primary channels: direct observation during training sessions, in-depth discussions with participants and village figures, and documentation of all activities. To ensure focused data collection, we utilized observation and interview guidelines. The resident empowerment process unfolded in four stages:

1. Initial outreach: Introducing the sorting of garment waste and the importance of maintaining village environmental cleanliness.
2. Technical practice: Training on creating "*marble fabric*" patterns and sewing skills to produce marketable craft items.
3. Business mentoring: Teaching group management, *packaging* production, and the fundamentals of digital marketing.
4. Product exhibition: Hosting an exhibition of the residents' work to expand the market reach of the village products.

D. RESULT AND DISCUSSION

The mentoring program at the activity location brought real changes to the residents. Field evaluations showed that residents' ability to sort and process fabric increased drastically. The old habit of leaving or burning waste has now turned into the skill of making *marble fabric* and various creative crafts.

The development of skills and the economic impact on residents before and after the activities can be seen in Table 1.

Table 1. Community Skill Enhancement in Textile Waste Processing

Skill Indicator	Before Training	After Training%
Waste processing from sorting to product manufacturing	0%	95%
Productive economic business actor skills	20%	95%
Marble fabric business actor income	30%	90%
MSME growth and new job creation	45%	95%

The series of community empowerment activities, ranging from material briefing sessions, hands-on practice in processing scrap fabric, to the exhibition of *marble fabric* craft products, are presented in Figure 1 through Figure 4.



Figure 1: Material Briefing Session and Socialization on Environmental Awareness and Startup Business Management



Figure 2: Hands-on Practice Session for Training in Marble Fabric Pattern Creation



Figure 3: Group Photo of the Implementing Team and Training Participants



Figure 4: Display of Marble Fabric Bag and Accessory Craft Products

Field findings prove that skills-based mentoring is effective in resolving the problem of convection waste in the village. The increased ability of residents to process fabric scraps into *marble fabric* not only reduces hazardous gas emissions resulting from waste burning, but also opens up new business opportunities for residents.

The *marble fabric* innovation provides high added value to leftover fabrics that were previously discarded. This result is in line with the findings of Ratnaningsih et al. (2021) that training based on local potential is effective in strengthening the community's economy. In addition, the formation of community business groups and product exhibitions became the key to the program's sustainability. Residents are not only able to make products, but also understand *packaging* and how to market them (Abelqis et al., 2024). This proves that waste

processing based on a circular economy is capable of creating a productive work climate in the village while supporting the economic independence of the residents (Astuti et al., 2025).

E. CONCLUSION

The empowerment program in Gadingmangu Village has proven successful in increasing residents' knowledge, technical skills, and environmental awareness. This *marble fabric* training has managed to transform the residents' old habit of burning fabric into processing creative crafts with high economic value. Aside from resolving environmental pollution issues, the establishment of new business groups and product exhibitions also opens up entrepreneurial opportunities to boost the village residents' economy.

REFERENCES

Abelqis, R., Alfiansyah, A. B., Wijaya, A. N., et al. (2024). Pemberdayaan Ekonomi Desa Gadingmangu Melalui Inovasi Pengolahan Limbah Tekstil Menjadi Kain Marmer. *Indonesian Journal of Community Dedication*, 2(3), 452-456.

Alfiyani, L., Mukhlisin, L., Rahman, N. E., Yulianto, A., Setiyadi, N. A., Sarjito, & Khuzaimah, I. S. (2024). Pelatihan Ecoprint Berbasis Pemberdayaan Masyarakat Untuk Pengelolaan Limbah Organik. *Journal of Human and Education*, 4(6), 303-308.

Astuti, T. P., Nur, H., Rosi, W., & Ariefah, Y. (2025). Pemberdayaan Masyarakat Melalui Pengelolaan Limbah Perca Batik di Kampung Batik Laweyan. *Jurnal Budiman*, 7(1).

Muhammad, K., Prasetyo, H., Hariroh, M. R., & Muhadar, P. (2024). Pemberdayaan Masyarakat Melalui Pemanfaatan Limbah kain dalam Meningkatkan Ekonomi Masyarakat. *Jurnal Peradaban Masyarakat*, 4(1).

Nurul, N., Rosalia, R. W., Asmal, K. J., et al. (2020). Pemberdayaan Masyarakat Pulau Wisata Lakkang Melalui Desain dan Pemanfaatan Bahan Limbah Menjadi Industri Kreatif. *Jurnal Tepat (Teknologi Terapan Untuk Pengabdian Masyarakat)*, 3(1).

Ratnaningsih, A. T., David, S., & Latifa, S. (2021). Pemberdayaan Masyarakat Melalui Pemanfaatan Sampah Anorganik Menjadi Produk Kerajinan Yang Bernilai Ekonomis. *Jurnal Pengabdian Kepada Masyarakat*, 5(6), 1500-1506.

Risyanti, Y. D., Aryaningtyas, A. T., & H., P. S. (2023). The Role of Waste Banks in Empowering Plastic Waste Into Economically Valuable Upcycled Handicraft Products. *Proceeding of International Conference on Digital Advance Tourism, Management, and Technology*, 1(2), 200-211.