

LOCAL INNOVATION FOR GLOBAL CONTRIBUTION THROUGH STRONG COLLABORATION

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Abstract

Important assets, local innovations, can develop into global contributions through strong and sustainable collaboration. North Sumatra, which has a wealth of local wisdom, has a variety of cultural and natural resources such as ulos, andaliman, arsik, Rumah Bolon architecture, and Mandheling coffee. These natural and cultural resources can help produce valuable innovations. Cultural values can be transformed into products and development models that are relevant worldwide when this heritage is developed through cooperation between the government, academics, industry players, local communities, and international partners. In this article, we will discuss how the local wisdom of North Sumatra can serve as a foundation for innovation, and how cross-sector collaboration can expand the impact of this innovation to the international arena. Cultural data, scientific research findings, and community-based development theories are combined to conduct a descriptive analysis. The results of the analysis show that collaboration is the main bridge that drives the transformation of local knowledge into meaningful global contributions.

Keywords: Data local innovation, North Sumatra, collaboration, global contribution, local wisdom

I. INTRODUCTION

Many innovations originate from traditional practices that have been tested by time, rather than from laboratories or modern technology centers. With its rich Batak Toba, Karo, Mandailing, Simalungun, Pakpak, and Angkola cultures, North Sumatra has a vast heritage of local wisdom that has the potential to be a source of sustainable innovation. Local wisdom is not only a cultural identity but also knowledge about the environment, traditional production methods, and social values that can be applied worldwide.

North Sumatra has a great opportunity to contribute amid global interest in culturally- identity products, sustainable lifestyles, and nature-based consumption. Cultural resources such as ulos, Mandheling coffee, andaliman, arsik, and the architectural design of Rumah Bolon can be used to generate innovations in the fields of culinary, food technology, cultural tourism, architectural design, and creative industries. However, these innovations can only flourish with well-planned and organized cooperation.

Therefore, this article discusses how local innovation can have a global impact through strong cooperation, particularly by examining examples of North Sumatra's local wisdom that can be transformed into products and knowledge of international value.

II. METHOD

This study uses a literature review method with a descriptive-analytical approach. This method was chosen because the purpose of the study is not to conduct experiments or quantitative measurements, but rather to collect, examine, and interpret various scientific sources related to local innovation, cultural wisdom, and collaboration strategies in developing global contributions. The data collection process was carried out by examining credible scientific sources, such as national and international journals, academic books, research reports, government policy documents, and publications from research institutions relevant to the topic of North Sumatra. The data sources focused on literature discussing local wisdom such as ulos, andaliman, arsik, Rumah Bolon architecture, Mandheling coffee farming practices, and innovative collaboration models in creative economy development. The collected literature was then selected based on relevance, recency, and credibility. The relevance criterion assessed the extent to which the literature was directly related to the theme of local innovation and global contribution. The recency criterion ensures that the data used is obtained from the latest publications, while credibility refers to the quality of the journal or publishing institution.

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III. DISCUSSION

Human interaction with nature and culture has led to the formation of local wisdom in North Sumatra. Ulos, a traditional Batak woven fabric with philosophical and social significance, is the most prominent component. In addition to being used in traditional ceremonies, ulos has evolved into a contemporary fashion product thanks to collaboration between local weavers, design experts, and the textile industry. With the use of natural dyeing technology and environmentally friendly production methods, ulos can develop into a global cultural product in line with sustainable lifestyle trends. This is supported by numerous studies, including ethnographic research on ulos fabric, which shows how rich the motifs and cultural values still are in Batak society today.

In contrast, andaliman is a traditional food from the Tapanuli region and around Lake Toba. The tingling sensation of spiciness, rarely found in other spices, is a characteristic of this spice. Andaliman contains essential oils, antioxidant compounds, and high antibacterial potential, according to several scientific studies. As shown in several recent pharmacological studies, andaliman is seen as a potential commodity in the food, cosmetics, pharmaceutical, and herbal beverage industries based on these scientific findings. Local farmers, local governments, investors, and academics can work together to maximize new opportunities for andaliman worldwide in developing an ecosystem that includes cultivation, research laboratories, and international marketing. Traditional Batak food, especially arsik, has cultural value beyond its spices. In Batak culture, arsik is a symbol of balance and life beyond food. Arsik has the potential to become a global culinary icon as the culinary world increasingly explores traditional foods. The development of arsik as a ready-to-eat product with export value without losing its traditional identity can be achieved through modern packaging, standardized preservation techniques, and food safety certification.

Inovasi lokal Sumatera Utara tidak hanya terfokus pada produk; ada juga melakukan praktik pengelolaan alam masyarakat di In addition, Batak architectural heritage such as Rumah Bolon has enormous potential. The shape of this traditional house is adapted to the tropical climate, utilizing natural ventilation and using environmentally friendly materials. In the context of sustainable architecture, these principles are very relevant. Future house designs that combine traditional aesthetics can be created through collaboration between the construction industry, academics, and cultural architects.

Mandailing coffee, one of the world's most famous Arabica coffees, helps the agricultural sector drive local innovation in North Sumatra. For years, this coffee has been a popular export commodity due to its unique flavor. Collaboration between farmers, export companies, research institutions, and local governments is essential for organic certification, international market expansion, and production quality. around Lake Toba. It has been proven that local knowledge about air conservation, forest maintenance, and land use helps prevent environmental degradation. A culture-based conservation model can be created by combining this knowledge with ecological monitoring technology and contemporary scientific methodologies.

These examples show that strong cooperation is necessary for local innovation to flourish. Collaboration bridges traditional knowledge with global technology, local actors with international markets, and cultural values with the needs of the modern world. These innovations generate financial benefits, strengthen cultural identity, and improve the quality of life for local communities.

IV. CONCLUSION

Local wisdom in North Sumatra is a rich and relevant source of innovation that can be developed worldwide. Cultural identity can be the basis for highly competitive innovation, as demonstrated by ulos, andaliman, arsik, Rumah Bolon architecture, and Mandheling coffee. Cross-sector collaboration is a key factor in this transformation process. Through cooperation between the government, historians, communities, industry players, and global partners, local innovation has a great opportunity to contribute to sustainable development, cultural diplomacy, and the international creative economy.

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