

## COMMUNITY-BASED SOUVENIR DEVELOPMENT AND LOCAL ENGAGEMENT AT THE SANGIRAN WORLD HERITAGE SITE

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### ABSTRACT

This study explores the potential and constraints of developing community-based souvenirs at the Sangiran World Heritage Site. Using a qualitative case study approach, combining focus group discussions, participant observation, and interviews with local artisans, the research identifies strong potential rooted in Sangiran's paleoanthropological heritage, locally sourced materials, and existing craftsmanship traditions. Findings show that these assets could support authentic geological, textile, bamboo, and food-based souvenirs. However, development is constrained by limited capital, low technical and design capacity, regulatory restrictions on material extraction, weak market access, and minimal collaboration between communities and heritage institutions. The study concludes that although early forms of heritage-based creative production already exist, coordinated capacity-building and stronger institutional support are necessary to realize their full economic and cultural value.

**Keywords:** Community-based tourism; souvenir development; creative economy; World Heritage Site; Sangiran; local livelihoods; heritage interpretation; sustainable tourism

### INTRODUCTION

World Heritage site designation often leads to increased tourism, which can significantly boost local economies. For instance, the Grand-Pre National Historic Site in Nova Scotia experienced a 6.2% increase in visitors following its WHS designation, with each visitor spending an average of \$68.72, contributing positively to the local economy (MacLeod, 2009). Similarly, in Chinese cities, WHS acquisition has been linked to economic growth through increased tourism, research and development investments, and exports (Zeng & Wang, 2023). In Italy, WHS designation has been shown to increase property values and income in municipalities with heritage sites. This is attributed to the enhanced attractiveness of these areas for both tourists and potential residents (Bertacchini et al., 2024). The tourism industry associated with WHS can create new jobs, ranging from

hospitality to site management. This is particularly evident in regions where tourism becomes a primary economic activity following WHS designation (Jimura, 2011).

Sangiran, a UNESCO World Heritage Site, is highly valued for its contributions to understanding human evolution. The site is renowned for its paleontological significance, as it houses an extensive collection of fossil remains, especially those of early hominins. These findings have been pivotal in studying the evolutionary history of *Homo erectus* (Sémah et al., 1990), offering invaluable insights into the development of ancient human species (Widianto & Simanjuntak, 2009). Furthermore, the preservation of Sangiran's geological layers provides essential data for reconstructing past environmental conditions, which aids in the understanding of how early humans adapted to changing climates and landscapes. The stratigraphy and dating of the fossil-bearing layers in Sangiran have revealed a complex history, with multiple fossiliferous units from different time periods, highlighting the area's dynamic geological past and its role in the broader narrative of human evolution. The site's archaeological finds underscore the early use of tools and the behavioral patterns of *Homo erectus*, enriching the narrative of technological and cultural advancement during the Pleistocene epoch (Widianto, 2006).

Sangiran attracts both scholarly attention and public interest. However, the socio-economic impact of this global recognition has yet to be fully realized at the local level. Currently, the economic benefits derived from the site, such as tourism revenue, museum activity, or research collaboration, are limited and unevenly distributed. Meanwhile, local residents continue to rely on subsistence agriculture, with few direct opportunities to engage in or benefit from heritage-related economies.

Tourism development can help boost the economy of local people through their active participation in offering products and services to tourists. One of the possibilities is to produce souvenirs. The souvenir development can help not only boost the economy of the local people (Shen & Lai, 2022) but also play as a useful tool in promoting the destination image (Thirumaran et al., 2014) and facilitate the dissemination of culture (Qiu et al., 2024). However, from the research we conducted in Sangiran, despite the potential, souvenir production in Sangiran still faces a number of problems.

This paper is meant to look at the challenges facing the local community in developing tourism souvenirs despite the fact that souvenirs can represent the outstanding universal value of Sangiran as a world heritage site.

## METHODS

This research adopted a qualitative case study approach focused on the communities around the Sangiran World Heritage Site. Multiple data collection techniques were employed to ensure a comprehensive understanding of the souvenir development context. Focus group discussions (FGDs) were conducted with local residents, artisans, and tourism stakeholders in Sangiran. For instance, one FGD brought together a group of village leaders and traditional craftsmen to discuss existing souvenir production activities, perceived obstacles, and ideas for improvement. These group dialogues provided insight into the collective experiences and attitudes of the community regarding tourism and handicrafts. In addition, participant observation was carried out in the field: the researchers spent time in local craft workshops, village markets, and the Sangiran Museum area observing how souvenirs are produced, marketed, and valued by visitors. This first-hand observation helped capture everyday practices and interactions that would not surface in interviews alone.

Alongside group data, an in-depth case study was undertaken to illustrate individual artisan experiences. The team worked closely with Mbah Maimo, Karyadi, and Mbah Surati (senior local craftspersons renowned for making souvenirs) as focal examples. Interviews were conducted at home workshops to document their personal history, crafting techniques, and the challenges in sustaining their business. This case study offered a narrative that humanizes the broader trends, highlighting how one artisan adapts to changing tourist demands while struggling with issues like aging skills and limited market access.

To synthesize the information, all qualitative data from FGDs, observations, and the case study were analyzed thematically. We coded the interview and discussion transcripts for recurrent themes, for example, training needs, marketing challenges, cultural authenticity, and environmental considerations in souvenir-making. Patterns observed during fieldwork were cross-checked against interview findings (triangulation) to ensure reliability.

## LITERATURE REVIEW

### Tourism and Souvenirs

Souvenir tradition has been in existence since ancient times. During the 17<sup>th</sup> century rulers of Germanic States, households used to have the 'Wunderkammer' (wonder chamber), a room dedicated for keeping private collections of curiosities consist of exotic material objects and artifacts. However, when Grand Tour was introduced between 17 and 18 centuries, the participants of the tour brought with miniature replicas of the European sites they visited (Paraskevaidis & Andriotis, 2015).

In fact, souvenirs have played an important role in the activities of tourists at a destination. Souvenirs act as place and time memories of travel experiences. Purchasing souvenirs is meant to remind them of the authentic products of the region or as evidence that they have visited the destination and to share a travel experience (Elomba & Yun, 2018). In other words, through purchasing souvenirs on their holiday, tourists are connected to a generalised image of a culture, or even a destination which can be a village or a town (Hitchcock & Teague, 2019). Before purchasing the souvenirs, tourists consider the symbolism of the place visited besides the aesthetic and functional qualities of the products. Specifically, tourists look at three criteria of souvenir products before making their decision to buy souvenirs: the product value including quality, the product display characteristics such as color, packing and size and the product uniqueness such as memory of the trip (Olaere, 2017).

Discussion over tourist souvenirs is also related to issues of authenticity because souvenirs are signs of the tourist's travel and are thus often taken as tangible proof of where she or he has been. Authentic souvenirs are a kind of product of cultural exchange and interaction between producers' society and external audiences (Hitchcock, 2019). Furthermore Soukhathammavong & Park (2019) noted that authentic souvenirs need to integrate culture and history as the representation of the local identity of the destination, to be handmade and produced within the locality, to have a unique, attractive presentation, and to require local-specific skills of local artisans or recognisable person for craftsmanship. Souvenirs can be categorised into different typologies : (1) the pictorial souvenirs or image items such as postcards, photographs, and posters; (2) piece-of-rock souvenirs, natural items such as stones and seashells from the beach; (3) symbolic souvenirs, representing place identity, which are mostly mass-produced objects, for example, a miniature Eiffel Tower in France and a miniature Merlion in Singapore; (4) marker souvenirs, meaningful items constructed by adding specific words, locations, events or signs such as T-shirts and keychains; and (5) local product souvenirs such as local food and handicraft items, which are made locally.

### **Souvenir and Local Economy**

Due to the fact that souvenirs are important aspects of tourists' travel, local souvenir production can potentially bring economic benefits to the local community at destinations. Generally, tourists bring home souvenirs as remembrance of places they visited. Gifts and souvenirs are dominant expenses in tourists' spending (K. Swanson, 2014). The souvenir businesses at tourist destinations can be worth billions of dollars yearly involving business activities of producing, selling and buying souvenirs. Tourists' spending on souvenirs can

reach 33 -55 percent of their total expenditures (K. K. Swanson & Timothy, 2012). Souvenir businesses near tourist destinations contribute to increasing income for local artisans, retailers, and communities. For museums, they can improve their economic sustainability from the sales of cultural souvenirs (Qiu et al., 2024).

Despite the potential of tourism contribution to local economy through souvenir production among others, the tourism industry often controlled by externals, therefore failed to promote local development and improve the local livelihoods because of economic leakage (Lacher & Nepal, 2011). Economic leakage happens when a country imports majority of supplies for tourists. To make sure the income from tourism retained, inter-sectoral linkages should be promoted (Rylance & Spenceley, 2017).

To boost the local economy development, souvenir production is a potential business avenue as the souvenir production require low capital and low leakage (Lacher & Nepal, 2011). Low leakage because the material for production should be mainly from the local area to meet the expectations of tourists for authentic souvenirs. With some training, producing handicrafts locally can involve to women, children and also the elderly therefore generate income for them (Lacher & Nepal, 2011) who often are the most vulnerable groups.

### **Responding to Challenges to achieve sustainable business growth**

Challenges for the local community to respond to the tourism souvenir business opportunities are various to achieve sustainable growth. When tourism is meant to boost local economy and contribute to poverty alleviation, then the expectation is to encourage local community participation at the destination. However, in many cases, the local community fail to respond to the business opportunities because they are lack of financial capital, low skills and lack of knowledge about tourism (Lacher & Nepal, 2011). With the changing tourist preference, authenticity and cultural relevance in souvenir production is also hard to maintain. To adapt to the market demand and remain competitive, producers need to adopt flexibility and innovation in souvenir design and production. Flexibility and adaptability are essential in order to navigate the tourism industry's inherent vulnerability to external shocks. The Covid-19 pandemic exemplified how the unforeseen circumstances easily disrupt the sector, underscoring the need for businesses to remain responsive to changing conditions (Qiu et al., 2024).

Entrepreneurship had become part of rural socio-cultural elements, which was the driving factor for participating in tourism related businesses. In order to pursue successful tourism entrepreneurship practices, certain conditions need to exist. For souvenir businesses to succeed, producing products that align with visitor preferences is essential. Therefore, souvenir business owners must

master both craftsmanship and service management skills to create products that appeal to tourists.

The literature underscores that heritage tourism in rural areas, such as Sangiran, must establish strong linkages with the local economy to benefit nearby communities. Common challenges that hinder community participation, including limited skilled human resources, lack of capital and credit, revenue leakages, and the dominance of outside players in tourism businesses. Building on these insights, the following section examines Sangiran's specific potential and the challenges faced in developing community-based souvenirs.

## **POTENTIALITIES AND CHALLENGES**

### **Potentialities of Sangiran locality for souvenir development**

Sangiran demonstrates substantial potential for the development of community-based tangible souvenirs due to its unique convergence of paleoanthropological heritage, geological resources, and established local craftsmanship. The catalogue of Desa Krikilan ("KATALOG UMKM," n.d.) indicates that the community possesses a diverse repertoire of material products whose value is grounded in both their physical properties and their capacity to articulate elements of Sangiran's deep-time cultural landscape. Geological-material crafts represent one of the strongest foundations for souvenir development. Items such as pictorial agate, batu lurik, and kapak batu draw directly on locally available kalsedon, jasper, and batu sangir, materials that are intrinsically linked to the geomorphological history of the Sangiran dome. The community already demonstrates high technical competence in cutting, grinding, polishing, and pattern selection, as well as the use of traditional tools in stone crafting. These skills allow the production of objects that align closely with archaeological themes, enabling these items to serve simultaneously as commodities and heritage interpreters. Their authenticity, especially when supported by gemological certificates or contextual information on lithic technology, positions them strongly for integration into museum retail systems and heritage tourism markets.

Alongside geological crafts, ethnographic-material products illustrate the community's capacity to embed cultural iconography into tangible objects. Ikat Batik Sangir Kombinasi Tulis, for example, incorporates visual motifs derived from Sangiran's paleoanthropological record, such as *Homo erectus* fossils, mollusks, stone tools, and the iconic Sangiran 17 specimen, onto a textile medium produced through established dyeing and color-fixation techniques. This textile practice not only supports the continuity of local craftsmanship but also transforms the batik cloth into a wearable form of archaeological communication (Sukmi et al., 2024). Similarly, bamboo-based crafts made from mature bamboo ori

indicate a viable path for environmentally sustainable product development (Duwiningsih, 2020). These items, ranging from functional implements to decorative pieces, can be further enhanced through the application of prehistoric-themed carvings or pyrographic designs, thus deepening their narrative linkage to Sangiran's heritage identity.

Tangible food products, while consumable, function materially as portable and culturally embedded souvenirs with significant development potential. An array of heritage-linked foods such as keripik pisang gawen, sale pisang, stik pisang, balung kethek, kacang kreweng, kue kacang, kripik entik, and sambel pecel also documented in this study, each produced using endemic crop varieties and traditional processing methods. These items meet the criteria for durable edible souvenirs: they are shelf-stable, transportable, and symbolically tied to local resources such as pisang gawen, talas gendruk, and organically grown peanuts. Their production already reflects a high degree of household-level expertise and standardization, as shown by the widespread adoption of business licenses and halal certification. When properly packaged and framed within narratives that connect their ingredients to Sangiran's landscape history and subsistence traditions, these foods can serve as culturally meaningful material objects within the visitor economy.

Across these product categories, Sangiran's tangible souvenirs exhibit several characteristics that underpin their high development potential. They possess strong material authenticity through the use of locally sourced geological, botanical, and agricultural resources; they encode heritage value through raw material selection, and production techniques; and they demonstrate technical feasibility due to the presence of skilled artisans capable of maintaining or scaling production without compromising traditional integrity. Furthermore, these objects are well-suited to contemporary heritage tourism markets, particularly when distributed through museum gift shops, cultural festivals, and village-based tourism routes. The narrative flexibility of these tangible products can each capable of carrying scientific, cultural, or historical meanings, enhances their interpretive function and reinforce Sangiran's identity.

To further understand the potential of the Sangiran World Heritage Site for developing heritage-based tangible souvenirs, it is necessary to examine existing practices among local artisans who are already producing objects inspired, directly or indirectly, by Sangiran's cultural and scientific landscape. A close look at individual creators allows us to observe how heritage values are currently interpreted, transformed, and materialized at the community level. In this study, three artisans were selected as illustrative cases: Mbah Maimo, a maker of Wayang Cakruk incorporating Sangiran-themed characters; Pak Karyadi, a producer of

stone and wooden keychains modeled on prehistoric motifs; and Mbah Surati, a traditional weaver from Ngebung whose craft represents the region's enduring cultural fabric. These cases provide important insights into local creativity, challenges, and the latent potential for developing community-based souvenir production grounded in Sangiran's heritage values.

The interview results indicate that economic relevance is a key factor shaping community interest in Sangiran's heritage values. To understand how such economic relevance can emerge from heritage understanding, it is critical to examine existing cases of community members who have already begun transforming Sangiran's values into tangible economic products. Within the Sangiran Dome, these three individuals provide important empirical illustrations of how heritage knowledge, local creativity, and cultural identity can be mobilized into community-based economic activities. Their experiences reveal the current potentialities and constraints of a heritage-driven local economy, and they illuminate the types of interventions required to strengthen such initiatives.

First, the work of Mbah Maimo, a *dalang* and maker of Wayang Cakruk, represents a unique fusion of traditional performing arts with Sangiran-specific themes. His handcrafted puppets incorporate characters from local paleontological narratives such as Balung Buto, alongside classical wayang figures. This integration shows an early form of heritage-based product innovation, where prehistoric symbolism is translated into craft. However, despite the creative potential, issues of consistency, finishing quality, and packaging remain obstacles to accessing higher-value markets. The fact that most buyers are currently local residents or children rather than tourists underscores the need for capacity building, quality control, and design development. Nevertheless, the foundational concept, linking Sangiran narratives with traditional Javanese puppetry demonstrates strong potential for commercialization, educational use, and cultural revitalization.

Second, Pak Karyadi's keychain production, featuring *Homo erectus* silhouettes and prehistoric animal motifs carved from local stone or wood, shows how simple, low-cost items can become effective heritage souvenirs. His work is directly inspired by Sangiran's paleontological identity, indicating a deeper local recognition of the site's unique scientific values. Moreover, his ability to respond to demand from souvenir shops near the museum illustrates the presence of an existing (though underdeveloped) supply chain connecting local producers to heritage tourism markets. However, the destabilization of this micro-enterprise during economic shocks such as the COVID-19 pandemic highlights the vulnerability of heritage-based livelihoods when institutional support, market access, and consistent visitor numbers are lacking.

Third, Mbah Surati's traditional Kain Tenun Kluwung Ngebung represents a heritage craft with both cultural and historical significance, although not directly tied to Sangiran's paleontological values. Its relevance emerges through another dimension. It reflects the local cultural landscape in which Sangiran's prehistory is embedded. Her weaving practice, conducted with traditional tools and skills passed down through generations, embodies intangible cultural heritage within the Sangiran community. Yet, the difficulties of material access, limited income, aging practitioners, and the absence of apprentices signal the fragility of this craft tradition. Without targeted intervention, this cultural asset risks disappearing, even though it could be revitalized as a valuable cultural product in Sangiran's broader heritage economy.

These three cases reveal several key insights. First, local creativity exists, and some community members are already integrating Sangiran-related themes into their products. Second, economic potential is present but under-realized, primarily due to limitations in skills, design innovation, product finishing, branding, and market access. Third, these examples show that heritage value is not yet fully or systematically translated into economic value, rather, it depends heavily on individual initiative and informal learning. These cases therefore serve as evidence that supporting and enriching community understanding of Sangiran's values. Therefore, strengthening their capacity to transform these values into tangible products is essential for building a sustainable community-based economy.

These artisans demonstrate that heritage-based economic potential in Sangiran is not hypothetical, it already exists in embryonic form. What is lacking is a coordinated system that integrates these individuals into a larger network of museum support, scholarly engagement, design innovation, and community empowerment. Their experiences highlight where intervention is most urgently needed, which are capacity enhancement, product development, value-based storytelling, quality standards, and heritage education.

In its current state, Sangiran holds a coherent and diverse foundation for the advancement of community-based tangible souvenir development. The integration of geological artifacts, ethnographic textiles, bamboo crafts, and heritage food can support both community livelihood and heritage conservation goals.

Strategic interventions focused on design innovation, packaging standardization, and the strengthening of narrative ties between products and Sangiran's archaeological significance would further enhance the capacity of these

tangible objects to operate as sustainable, culturally embedded, and economically viable components of the local creative industry.

### **Challenges in Developing Souvenir Production as a Local Creative Economy in Sangiran**

Efforts to develop souvenir production as part of Sangiran's creative economy are met with a range of structural, economic, and social challenges. Insights gathered from focus group discussions (FGDs) with local residents, particularly artisans in Krikilan village, reveal both the potential and the limitations of current initiatives.

While community members possess foundational skills in souvenir production, including fossil replica molding, T-shirt printing, and stone craftwork, these skills have not yet reached a level of refinement that would allow them to compete in broader markets. Participants in the FGD expressed a strong desire to improve their technical capacity, but they are often constrained by limited access to capital, tools, and training. Furthermore, marketing and distribution remain significant barriers; artisans reported that they lack both the market reach and the financial resources to sustain regular production.

A central concern expressed during the discussion relates to the purchasing power of the average tourist visiting Sangiran. The majority of visitors are perceived to come from lower-middle-income backgrounds, which limits the viability of producing premium-priced items. Although local artisans had once succeeded in producing high-quality T-shirts, demonstrated by a short-lived premium product line developed around ten years ago, they now feel less confident competing in that segment. The influx of cheaper, lower-quality T-shirts from outside the region has flooded the local market, leaving local producers unable to match the volume and price due to their limited production capacity and financial constraints.

In terms of product preferences, stone-based crafts remain the most sought-after souvenirs among visitors. However, these products face two significant limitations. First, the raw materials stones which considered to have symbolic or spiritual value (locally known as *batu blurik*) are increasingly scarce. Second, government regulations prohibit the extraction of geological materials from Sangiran due to its designation as a non-renewable natural and cultural resource. As a result, artisans are forced either to import similar materials or to reduce production, both of which negatively affect the authenticity and economic sustainability of their craft.

Wood-based crafts, in contrast, are perceived as less desirable by the market and have not been widely adopted by local artisans, despite the potential

of using reclaimed wood or local timber. Meanwhile, fossil replica production in miniature form presents a promising niche, particularly given the high interest in fossil-related items prior to the implementation of strict regulations prohibiting fossil trade. While replica-making is not restricted and can serve as an educational and commercial bridge, it remains underdeveloped due to a lack of consistent support and access to appropriate materials and training.

Beyond technical and market challenges, social and institutional dynamics further complicate the development of a community-based souvenir economy. One recurring theme in the FGDs was the lack of collaboration among local artisans and the limited cooperation between residents and formal heritage institutions such as the Sangiran Museum. Participants noted that although Krikilan and surrounding areas are home to many skilled individuals, there is little coordination or collective effort to develop products or shared marketing strategies. Moreover, museum management was perceived as disengaged from the local community. For example, participants noted that for various events, the museum often contracted external vendors for souvenirs and catering rather than involving local entrepreneurs.

This sentiment is reinforced by broader economic pressures. Artisans emphasized that their daily work is primarily driven by immediate subsistence needs, making it difficult to take financial risks or invest in long-term product development. Even when credit or loan programs are available, the lack of fast-moving products often leads to quick depletion of working capital. Additionally, other sectors that could potentially support the souvenir economy, such as culinary enterprises or homestays, are similarly underdeveloped due to the low volume of daily museum visitors (reported to be around 25 people on average during regular days, with noticeable increases only during major holidays).

Lastly, the fragmented nature of the local economic ecosystem is a notable barrier. There is a lack of integration and solidarity not only between sectors (e.g., between homestay operators, food vendors, and artisans) but even among the artisans themselves. High levels of individualism and competition, rather than collaboration, limit the potential for scaling up collective initiatives or developing shared branding and marketing channels.

These findings point to a complex set of interrelated challenges that hinder the growth of souvenir production as a viable component of Sangiran's creative economy. Addressing these issues requires a multi-level strategy involving skill development, inclusive institutional partnerships, cooperative business models, sustainable sourcing practices, and visitor market expansion. Empowering the community not only through training but also by fostering

networks of mutual support and collaboration is essential for unlocking the economic potential of local cultural heritage.

## DISCUSSION AND CONCLUSION

### Some Examples of Good Practices

A number of best practices from literature can guide souvenir development in Sangiran. Crucially, products should reflect the authentic cultural heritage of the area rather than being generic trinkets. Prior studies show that leveraging heritage arts and crafts as inspiration for souvenirs raises visitors' interest and strengthens local cultural identity (Zhu et al., 2023). In practical terms, this means incorporating Sangiran's unique attributes, such as fossil motifs, Javanese art, and indigenous knowledges into the design of saleable items. For example, storytelling has been identified as a powerful tool to enhance souvenir authenticity. Embedding local narratives and meanings into products can markedly increase their perceived value (Vu, 2022). Sangiran's artisans could similarly share the stories of human evolution discoveries or village traditions through their crafts, adding intangible value that distinguishes their souvenirs. Another good practice is to innovate while respecting tradition. Souvenir developers should satisfy modern consumer demands (e.g. quality, convenience) while embedding local culture as the design inspiration (Zhu et al., 2023). This might involve using contemporary techniques or materials in a way that upholds the site's educational and cultural significance.

Collaboration with experts can raise product standards. in Sangiran's case, partnerships with researchers, universities and museum can lead to training programs where locals learn to craft attractive archaeological-themed souvenirs. Such initiatives exemplify how external support and capacity-building can empower local people to produce high-quality merchandise (Warto et al., 2017). Adopting these good practices lays a strong foundation for community-based souvenir industries in Sangiran.

### Strategies to overcome challenges

While the potential is high, Sangiran's communities face persistent challenges that must be addressed through proactive strategies. One major challenge is the lack of access to financial, human, and material. Many artisans have limited capital for improving their production or marketing, and few avenues to obtain credit. In a study on rural heritage tourism, Kausar and Nishikawa (2010) note that overcoming such constraints requires targeted support in skills training, micro-finance, and business assistance. In the Sangiran context, strengthening local human capital is critical. This can be done through regular workshops and apprenticeships that teach product design, business management,

and quality control, ensuring that craftsmanship keeps pace with tourist expectations. Research in the region confirms that improvements in education and training, along with better access to banking credit and employment opportunities, significantly boost community welfare (Raharjo et al., 2013). Government and NGOs could collaborate to provide low-interest loans or grants for artisans to obtain raw materials and better tools, an approach aligned with the call for industry promotion to link tourism with local livelihood enhancement (Kausar & Nishikawa, 2010).

Another challenge is the weak engagement of younger generations in the souvenir trade. Sangiran's traditional crafts will not survive if youth do not participate in learning and innovating upon these skills. Many young people are currently uninterested in pursuing traditional craftsmanship, viewing it as outdated in the modern world (Duan et al., 2023). To counter this, heritage education must be integrated into community life. One strategy is to introduce local cultural arts and souvenir-making skills in schools or community centers, so that knowledge is passed on early. Banda et al. (2024) emphasize the importance of integrating heritage into formal education and highlight the community's crucial role in safeguarding cultural legacy for the future. By nurturing pride and competency in heritage crafts among Sangiran's youth the community can ensure continuity and innovation in the souvenir sector. Additionally, fostering cooperative groups or associations among artisans can help pool resources and share knowledge, making it easier to tackle common problems like marketing and distribution. Working as a collective, the community can engage in joint branding and promotion of Sangiran souvenirs (e.g. creating a unified "Sangiran heritage craft" label), which raises visibility and bargaining power when reaching tourism markets. Such collective action also enables dialogues with local authorities to advocate for supportive policies, for instance, establishing designated local craft marketplaces or including community-made souvenirs in official museum shops. In short, by investing in people (through training and education) and organizing for collective strength, Sangiran's local communities can overcome many of the current challenges that impede their full participation in tourism.

A core theme in developing community-based souvenirs is to fully capitalize on what Sangiran already has to offer. The Sangiran site's status as a UNESCO World Heritage property means it holds exceptional assets, not only the fossils and museum exhibits, but also the surrounding villages' cultural practices and natural environment. These assets represent the unique selling points of Sangiran souvenirs. As noted by Aldora et al. (2022), tourism in Sangiran to date has revolved mainly around the museum, while the area's other potentials (its geological landscape and well-preserved rural life) remain underutilized. There is

considerable room to diversify souvenir products by drawing on this wider landscape. For example, communities can create handicrafts that reflect Sangiran's prehistoric heritage (replicas of hominid fossils, stone tools, or ancient fauna) using locally available materials. Some artisans have already begun experimenting with resin-cast fossils and petrified wood carvings, taking inspiration from the archaeological riches beneath their soil (Warto et al., 2017). These items serve as tangible reminders of the site's significance and allow visitors to "take home" a piece of Sangiran's story without harming the actual heritage objects.

Beyond fossil-themed items, the broader cultural landscape offers motifs and materials for souvenirs. Sangiran's villages have traditions in music, agriculture, and folklore that could be translated into products or experiences. For instance, traditional Javanese musical instruments or miniatures (inspired by local performances like Gejok Lesung) could be sold alongside explanatory brochures, merging craft with cultural education. The rural lifestyle itself like farming methods, cuisine, and vernacular architecture, can inspire souvenir design (such as woven bamboo crafts, rustic pottery, or culinary gift packs of local snacks). The key is to package these elements in tourist-friendly ways while maintaining authenticity. Prior research suggests that areas with rich and unique cultural resources can raise awareness of preservation among local communities and encourage creative use of those resources to improve living conditions (Zhu et al., 2023). Sangiran's community stands to gain by embracing creativity, for example, designing attractive tour packages or workshops that involve tourists in making a simple souvenir (like painting a fossil cast or trying a village craft) can create interactive revenue streams. Developing such varied attractions and even a code of ethics for tourism development to ensure that new activities respect the site's integrity (Aldora et al., 2022). By fully leveraging their landscape and cultural capital, locals can offer distinctive products and experiences that set Sangiran apart from other destinations. This not only enhances tourist satisfaction but also imbues the community with a sense of pride and ownership over their heritage.

### **Aligning with sustainable tourism practices**

It is essential that community-based souvenir development in Sangiran aligns with the principles of sustainable tourism. This alignment ensures that economic gains do not come at the expense of cultural or environmental well-being. One important aspect is socio-cultural sustainability: respecting the authenticity of host communities and preserving traditional values are fundamental when introducing new tourism products (Zhu et al., 2023). In practice, this means safeguarding indigenous knowledge and craft methods even as designs evolve for modern markets. Sangiran's artisans should be encouraged to use methods that honor their ancestors' legacy (such as traditional motifs or

techniques passed down through generations) so that souvenir-making itself becomes a form of heritage preservation. Community-centric development can also discourage harmful side effects like the illicit fossil trade. Wartyo et al (2017) observed that when locals derive real benefits from tourism, they are less likely to participate in destructive practices such as illegal excavation and black-market fossil sales. By giving residents, a stake in tourism income through legitimate craft entrepreneurship, the community is incentivized to protect, rather than exploit, the heritage resources.

Environmental sustainability should likewise be woven into souvenir production. Wherever possible, local materials and eco-friendly processes ought to be used. A practice already seen in Sangiran's training programs that repurpose waste wood and other natural by-products into handicrafts (Wartyo et al., 2017). This not only reduces environmental impact but can become a selling point as travelers increasingly seek "green" products. Globally, tourism is often promoted as a comparatively low-impact industry that can drive green economic growth if managed well (Farid, 2015). Sangiran's development plan can capitalize on this by positioning the community's souvenirs as sustainable alternatives to mass-produced imports. For example, using recyclable packaging, natural dyes, and solar-powered workshop tools would demonstrate a commitment to the environment. Additionally, careful management of tourist flows and souvenir sales locations (preventing litter, avoiding over-crowding of sensitive sites) aligns with the broader conservation goals of a World Heritage Site.

Finally, economic sustainability and equity must be ensured. A core goal of community-based tourism is to distribute the benefits widely among local residents. Establishing local souvenir cooperatives or associations, as mentioned, can help in profit-sharing and collective decision-making, making sure that even small-scale artisans have a voice and stake in the industry's growth. Evidence from other World Heritage contexts shows that when local populations play a key role in cultural tourism, they can reap significant benefits by deploying their cultural capital. In Mali's heritage sites, for instance, empowering local people to produce and market their traditional crafts has increased household incomes and encouraged pride in cultural expressions (Farid, 2015). Sangiran can emulate these successes by fully involving its community in every step of tourism development.

In summary, aligning souvenir development with sustainable tourism practices means balancing profit with protection, ensuring that cultural heritage is celebrated rather than commodified, that the environment is cared for, and that the community's welfare steadily improves. This balanced approach will help guarantee that the positive impacts of tourism in Sangiran endure for generations to come.

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