

Community Empowerment in the Landscaping of Gardens around Karo Traditional Houses to Support Cultural Ecotourism in Lingga Village

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Abstract

Lingga Village in Karo Regency, North Sumatra, is a cultural village that preserves the traditional architecture of the Karo people, particularly the Siwaluh Jabu traditional house, which reflects the community's life philosophy, social order, and spirituality. The surrounding environment of these traditional houses remains poorly organized, with vacant land left unmanaged and declining awareness of cultural preservation, resulting in suboptimal utilization of the area's aesthetic value, cultural function, and tourism potential. This community service program aims to arrange a cultural garden around the traditional houses while empowering the local community to manage the cultural landscape in a sustainable manner, with a focus on preserving cultural identity, improving environmental quality, and strengthening the local economy through the development of cultural tourism and agrotourism. The implementation method adopts a community-based participatory approach, carried out through several stages: site observation and mapping, focus group discussions, planning and designing the cultural garden, training and knowledge transfer, collective implementation of garden arrangement, as well as evaluation and documentation. The garden design integrates the orientation of the Siwaluh Jabu house, the cosmological meaning of space, ecological landscape principles, and the selection of local vegetation with symbolic, aesthetic, and economic value, organized into aesthetic, educational, and productive zones. The results of the program indicate the establishment of a well-arranged cultural garden rich in Karo cultural symbols, increased community capacity and participation, and the creation of a sustainable cultural landscape management model that functions as a "living laboratory" combining aesthetic, educational, economic, and spiritual roles. This model positions the community as the main actor and holds potential to be replicated in other cultural villages with similar characteristics.

Abstrak

Desa Lingga di Kabupaten Karo, Sumatera Utara, adalah desa budaya yang melestarikan arsitektur tradisional masyarakat Karo, khususnya rumah tradisional Siwaluh Jabu, yang mencerminkan filosofi hidup, tatanan sosial, dan spiritualitas masyarakat. Lingkungan sekitar rumah-rumah tradisional ini masih kurang tertata, dengan lahan kosong yang tidak terkelola dan kesadaran akan pelestarian budaya yang menurun, sehingga pemanfaatan nilai estetika, fungsi budaya, dan potensi wisata di area tersebut menjadi kurang optimal. Program pengabdian masyarakat ini bertujuan untuk menata taman budaya di sekitar rumah-rumah

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tradisional sekaligus memberdayakan masyarakat setempat untuk mengelola lanskap budaya secara berkelanjutan, dengan fokus pada pelestarian identitas budaya, peningkatan kualitas lingkungan, dan penguatan ekonomi lokal melalui pengembangan wisata budaya dan agrowisata. Metode pelaksanaannya mengadopsi pendekatan partisipatif berbasis masyarakat, yang dilakukan melalui beberapa tahapan: observasi dan pemetaan lokasi, diskusi kelompok fokus, perencanaan dan perancangan taman budaya, pelatihan dan transfer pengetahuan, pelaksanaan penataan taman secara kolektif, serta evaluasi dan dokumentasi. Desain taman ini mengintegrasikan orientasi rumah Siwaluh Jabu, makna kosmologis ruang, prinsip-prinsip lanskap ekologis, dan pemilihan vegetasi lokal dengan nilai simbolis, estetis, dan ekonomis, yang diorganisasikan ke dalam zona estetis, edukatif, dan produktif. Hasil program menunjukkan terbentuknya taman budaya yang tertata rapi dan kaya akan simbol budaya Karo, peningkatan kapasitas dan partisipasi masyarakat, serta terciptanya model pengelolaan lanskap budaya berkelanjutan yang berfungsi sebagai "laboratorium hidup" yang menggabungkan peran estetis, edukatif, ekonomi, dan spiritual. Model ini menempatkan masyarakat sebagai aktor utama dan berpotensi untuk direplikasi di desa-desa budaya lain dengan karakteristik serupa.



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Introduction

Lingga Village in Karo Regency, North Sumatra, is a cultural village that still preserves the traditional architectural heritage of the Karo people, particularly the Siwaluh Jabu traditional house. This traditional house functions not only as a dwelling, but also as a representation of the Karo community's life philosophy, social order, and spiritual life.

Research by Nasution and Ginting (2023) shows that only two traditional houses in Lingga Village remain habitable, while the others have deteriorated due to lack of maintenance and declining awareness of local cultural preservation. Findings by Saragih et al. (2021) further emphasize that Karo architecture reflects the community's worldview, in which each space within the traditional house is arranged based on cosmological meaning and social function. Therefore, revitalization efforts in the traditional house area need to be designed with careful attention to traditional spatial philosophy so that cultural values are preserved.

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In addition to its cultural dimension, Lingga Village also has considerable potential for the development of agrotourism. Munthe et al. (2024) state that synergy between local culture and agrotourism can enhance economic value as well as strengthen the tourism appeal of the Karo region. By combining the concept of traditional gardens with local agriculture, the traditional house area can be developed into an educational tourism space that integrates cultural preservation with environmental sustainability.

The community service activity in the form of garden arrangement around the traditional houses is directed at creating an environment that is visually appealing, rich in cultural meaning, and capable of supporting the improvement of community welfare through the strengthening of tourism potential. This effort is expected not only to improve the physical quality of the environment, but also to revive the community's collective awareness of the importance of Karo cultural heritage.

The main problem addressed in this community service activity is the lack of proper arrangement and maintenance of the environment surrounding the Karo traditional houses in Lingga Village, resulting in suboptimal use of their visual appeal, cultural function, and tourism potential. In fact, the Karo traditional house (Siwaluh Jabu) is a central symbol of Karo community life that reflects their social structure and cosmological philosophy.

At present, the area around the traditional houses appears poorly organized, with portions of land left idle and unmanaged, so that it has not yet been able to fully represent local cultural values. Yet this area has great potential to be developed as an educational space and cultural tourism destination based on community empowerment. Therefore, this issue is positioned as a priority because it is directly related to the preservation of cultural identity, the improvement of environmental quality in traditional settlements, and the strengthening of the local economy through the development of sustainable cultural tourism and agrotourism.

Research methods

The implementation of this community service program adopts a community-based participatory approach that positions local residents as the main actors in every stage of the activity. This approach is in line with the concept of dynamic cultural preservation, which seeks to maintain traditional values while at the same time responding to evolving environmental and social needs.

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Consequently, the program is not only directed at producing a physical output in the form of a well-arranged garden, but also at facilitating knowledge transfer, capacity building, and the long-term sustainability of cultural garden management in Lingga Village, Karo Regency, during November 2025 with the involvement of traditional leaders, village authorities, youth groups, and women's groups.

The first stage is preparation and field observation, which aims to understand the actual conditions on site and build a shared understanding between the implementation team and the community. Activities carried out include surveying and mapping the environment around the Karo traditional houses to identify existing vegetation, spatial patterns, building orientation, and accessibility, which then form the basis for determining potential garden areas and landscaping needs. This stage also involves conducting focus group discussions with traditional leaders, village officials, and residents to explore the symbolic meanings of the traditional house and the cultural values to be integrated, as well as identifying partners and distributing roles (youth organizations, women's groups, local MSMEs), resulting in a map of existing conditions, a list of environmental issues, and an initial design concept for a culturally based garden.

The second stage is the planning and design of the Cultural Garden, which seeks to harmonize Karo cultural values, aesthetic aspects, and environmental sustainability principles. The process begins with the formulation of a design concept grounded in the harmony between nature and Karo culture, taking into account the orientation of the Siwaluh Jabu traditional house and the cosmological meanings of space. This is followed by the selection of local vegetation and materials, such as symbolic plants, local ornamental plants, and natural materials like river stones, bamboo, and wood to maintain the natural character of the site. The draft design is then validated through community deliberation to ensure alignment with customary values and local needs, leading to a final design and a detailed technical implementation plan.

The third stage is training and knowledge transfer, designed to strengthen the community's ability to maintain the garden independently. Training is conducted through field-based workshops using a learning-by-doing approach, covering topics such as Karo cultural philosophy and spatial concepts, planting and maintenance techniques (soil preparation, seed selection, watering, and natural

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pest control), compost production and simple irrigation systems, as well as community-based garden management through role distribution, work schedules, and rotation systems. In this process, lecturers and students act as technical facilitators, while community members serve as the main implementers, fostering knowledge transfer, local capacity enhancement, and a strong sense of ownership over the program outcomes.

The fourth stage is the implementation of the garden arrangement as the core activity of the program, namely the application of the cultural garden design on site through collective community work. The steps include land clearing and soil preparation, construction of garden paths, boundary lines, and planting points, planting local vegetation according to designated zones (aesthetic, educational, and productive), installation of garden elements such as stones, bamboo fencing, information boards, and natural seating, as well as the development of simple infiltration systems and composting facilities. Active community participation in this process not only produces tangible physical changes, but also strengthens solidarity, togetherness, and the practice of mutual cooperation.

The fifth stage is evaluation and documentation, which aims to assess the effectiveness of the program, the level of community participation, and the quality of the garden arrangement outcomes. Evaluation is conducted from two perspectives: process evaluation, which looks at community involvement, coordination, and the ability to apply acquired knowledge; and outcome evaluation, which examines changes in the physical condition of the garden (aesthetics, cleanliness, vegetation sustainability) as well as social impacts such as increased cultural awareness and a stronger sense of community. The instruments used include simple questionnaires, interviews, and field observations, while documentation in the form of photos, videos, and digital publications is utilized as media for promoting the village as a cultural tourism destination.

Methodologically, this program is supported by three main approaches. First, a participatory approach (Participatory Rural Appraisal/PRA), which ensures that all stages—from planning and implementation to evaluation—are carried out together with the community so that the results genuinely respond to local needs. Second, a dynamic preservation approach that integrates Karo traditional values with modern principles such as ecological sustainability, educational tourism, and

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creative economy development. Third, an educative-transformative approach that focuses on changing community behaviour towards greater concern for environmental and cultural preservation through direct, experiential learning in the field.

Results and Discussion

Results

The results of this community service program show that arranging a cultural garden around the Karo traditional houses in Lingga Village has not only transformed the physical environment, but also introduced an innovative model of community-based cultural preservation. The activity has created a well-organized green open space that is visually attractive and rich in Karo cultural symbols through the integration of traditional garden concepts, agrotourism, and ecological landscape principles. The novelty lies in the use of the traditional house and its surroundings as a “living laboratory” that brings together aesthetic, educational, economic, and spiritual functions within a single area managed participatorily by the community.

In terms of implementation, the program began with field observations and mapping of the traditional house area to identify existing vegetation, spatial patterns, building orientation, and potential garden zones. This stage was followed by focused group discussions with traditional leaders and community representatives, resulting in maps of existing conditions, a list of environmental problems, and an initial design for a cultural garden that corresponds to local character and needs.

During the planning stage, the community service team and residents jointly developed a cultural garden design that combines the orientation of the Siwaluh Jabu traditional house, the cosmological meaning of space, landscape aesthetics, and environmental sustainability principles. The innovative aspect of this design is the creation of garden zoning (aesthetic zone, educational zone, and productive zone) that is intentionally structured to integrate cultural, educational, and economic functions within a coherent spatial arrangement.

Training and knowledge transfer activities formed a crucial part of the program’s outcomes, as they successfully enhanced the community’s capacity to manage the garden based on local wisdom and appropriate technology. Through workshops using a learning-by-doing approach, residents were trained in Karo cultural philosophy and spatial concepts, soil preparation, planting techniques, watering, natural pest control, organic compost production, and simple irrigation

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systems. The innovation here lies in expanding the notion of cultural preservation beyond the maintenance of traditional buildings to encompass the management of a cultural landscape that is ecological, productive, and oriented toward community empowerment.

The implementation of the garden arrangement was carried out through collective community work, including land clearing, soil preparation, construction of paths and garden boundaries, planting local vegetation according to the designated zones, installing garden elements (stones, bamboo fences, information boards, natural seating), and building infiltration systems and composting facilities. This process not only produced tangible physical improvements, but also strengthened social solidarity and fostered a sense of shared ownership over the cultural garden. Photo and video documentation undertaken throughout the activities also served as material for promotion and as learning media for both residents and visitors.



Figure 1. Photo of Community Service Activities in Lingga Village.

CONCLUSION

Community service activities in Lingga Village demonstrate that arranging a cultural garden around Karo traditional houses can serve as an effective strategy to integrate cultural preservation, environmental improvement, and the strengthening of the local economy. This garden arrangement has transformed a previously less organized traditional house area into an attractive, functional green open space rich in cultural symbolism, through a combination of traditional garden concepts, agrotourism, and ecological landscape principles.

The main novelty of this initiative lies in the use of the traditional house environment as a “living laboratory” that brings together aesthetic, educational, economic, and spiritual functions within a single community-managed area. The creation of garden zones (aesthetic, educational, and

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productive), the use of local vegetation with symbolic and economic value, and the development of composting and water infiltration systems demonstrate that cultural preservation can go hand in hand with ecological sustainability and community empowerment.

Thus, it can be concluded that this community service program not only produces physical changes in the environment, but also introduces an innovative model of sustainable cultural landscape management. This model places the community as the main actor, connects tradition with technology and the creative economy, and has the potential to be replicated in other cultural villages with similar characteristics.

Reference

- Halim, E. A. (2020). Studi Tata Ruang Rumah Adat “Siwaluh Jabu” Desa Lingga. *Jurnal Dimensi*, 6(2), 167–174. (repository.maranatha.edu)
- Saragih, J. T. A., Loebis, M. N., & Lindarto, D. (2021). Space in BatakKaro’s Architecture. *Jurnal Lingkungan Binaan Indonesia*, 10(1). (Neliti).
- Nasution, P. H., & Ginting, S. W. (2023). Design of a Rumah Budaya in the Context of Preserving Karo Culture in Desa Lingga. *International Journal of Culture and Art Studies*. (Talenta).
- Halim, E. A. (2020). Konservasi Bangunan Bersejarah pada Rumah “Siwaluh Jabu” Desa Lingga. *Serat Rupa Journal of Design*, 4(2). (Academia).
- Sihombing, D. R., dkk. (2022/2023). Kajian Ragam Hias pada Rumah Adat Karo Ditinjau Etnomatematika. *JAZ—Jurnal Aplikasi Zakat/pendidikan (edukasi) UPI*. (Ejournal UPI).
- Rahman, A. S. (2021). Ornamen & Inkulturasi: Gereja Katolik Berastagi dan Akses Arsitektur Karo. *Artchive Journal (ISI Padangpanjang)*. (journal.isi-padangpanjang.ac.id).
- Gege, M. J., Setyabudi, I., & Budiyo, D. (2023). Evaluasi Lanskap Agrowisata Desa Colol. *Jurnal Lanskap Indonesia*, 15(1). (IPB Journal).
- Arrasiansi, A. M., & Pramukanto, Q. (2023). Perencanaan Lanskap untuk Pelestarian Budaya Kasepuhan Sinar Resmi (Pendekatan Bioregion). *Jurnal Lanskap Indonesia*, 15(1). (IPB Journal).
- Satria, A. , dkk. (2023). Community-Based Agro-Ecotourism Sustainability in West Java, Indonesia. *Sustainability*, 15(13), 10432. (MDPI).
- Putra, A. , dkk. (2023). Pathways toward the Transformation of Sustainable Rural Tourism

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- Management in Developing Countries. *Sustainability*, 15(3), 2592. (MDPI)
- Herawati, N. , dkk. (2023). Evaluation of Sustainable Rural Tourism Development with an Integrated Approach (Panjalu, Indonesia). *Sustainability*, 15(3), 1835. (MDPI)
- Hadi, S. , dkk. (2023). Understanding the Emergence of Rural Agrotourism: Jambi Province, Indonesia. *Economies*, 11(7), 180. (MDPI).
- Wicaksono, A. , dkk. (2021). Development of Sustainable Community Based Tourism in Kampong Grangsil. *IRSPSD International*, 9(1), 64–77. (J-STAGE)
- Yuliana, R. , dkk. (2023). Bibliometric: Pemberdayaan Masyarakat dalam Pariwisata Berkelanjutan di Indonesia. *Socius: Journal of Sociology Research and Education*. (socius.ppj.unp.ac.id).
- Su, M. , Sun, Y., Min, Q., & Jiao, W. (2018). A Community Livelihood Approach to Agricultural Heritage System Conservation and Tourism Development. *Sustainability*, 10(2), 361. (MDPI)