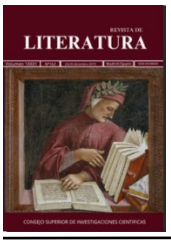

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Local Consciousness for Sustainable Community Teak Conservation of Sribauban Sub-district, Lamphun Province, Thailand

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ABSTRACT

This research aims to study teak resource management through community participation under the relationship between local people and forest communities to enhance teak resource conservation awareness in the target area. Data collection methods included in-depth interviews, focus groups, observation, and training. The results reveal that the first community forest occurred, Ban Thung Yao, is a forest revered for its traditional and belief that where there is water emerging from the underground there will be a sacred thing to take care and strictly forbidden to cut trees in the area. This belief system led to an agreement to conserve the forest together, with Ban Thung Yao community forest has become a leaning site about community forests, preserving community forests in terms of cultural beliefs, community involvement, community rules and is managed by the community itself. However, the teak wood outside this community forest has significantly decreased due to the worried about breaking the law, and the villagers shifted to planting other crops in their area such as longan. To address these issues, the research proposed a framework for increasing the awareness and understanding for trek conservation among people in the community through training activities, with the goal of establishing a body of knowledge in preserving natural resources of teak forests. This involves developing a manual titled “Conservation of Teak Forest Resources” with the aims of enlightening the community about the long-term benefits of sustainable teak wood practices.

Keywords: Conservation, Community, Local Consciousness, Sustainability, Teak

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INTRODUCTION

Thailand has identified a natural distribution of teak trees within its northern region, encompassing a substantial forest area of approximately 6,169,152.4096 hectares, which corresponds to 64.21% of the total forested expanse (Ministry of Natural Resources and Environment, 2018). This teak wood, possessing identical quality attributes to its Burmese counterpart, enjoys global acclaim as the finest variety attainable, commanding significant demand within the international market.

The superlative qualities inherent in teak wood, such as its exquisite wood grain patterns, captivating coloration, and exceptional durability, render it a highly prized and sought-after material. This preeminence is particularly pronounced when juxtaposed with other wood types. The profound value attributed to teak wood underscores its elevated market desirability, establishing it as a preferred selection for a diverse array of applications.

Acknowledging the extensive forested expanse that thrives with teak trees in Thailand, it becomes evident that this resource holds substantial economic significance, both domestically and in the context of global trade. Nevertheless, it remains imperative to exercise judicious and sustainable forest management practices to avert undue depletion and safeguard against environmental degradation.

Throughout history, the symbiotic relationship between communities and forests has endured. Human presence has yielded not only sustenance in the form of raw materials and food sources but also materials for construction and a vital water source, nourishing the ecosystem's inhabitants. The multifaceted utilization of forests, however, carries with it a dual-edged impact encompassing both favorable and adverse aspects. Fostering a collective mindset and fostering consciousness within the community concerning the intrinsic significance and advantages of forests assumes paramount importance. This concerted effort paves the way for the implementation of appropriate management methodologies, thereby facilitating the preservation of forests in a harmonious coexistence with humanity. This approach resonates congruently with the principles of the Bio-Circular-Green Economy (BCG) model.

The BCG model epitomizes an economic development paradigm that conscientiously balances the imperatives of economic advancement with the imperative of preserving the bedrock of natural resources. The model draws upon the indigenous reservoir of knowledge, fortified by the inherent strengths of Thailand. This includes its rich biodiversity and bountiful agricultural yield. Concurrently, the model advocates a transformation in production systems, ensuring resource utilization that is both judicious and sustainable. This encompasses the maintenance of raw material stability, preservation of environmental equilibrium, and the safeguarding of biodiversity. In essence, the BCG model represents a sophisticated framework that harmonizes economic progress with the stewardship of natural resources. By nurturing an enlightened relationship with forests, the community aligns with the model's ethos, culminating in a sustainable cohabitation that benefits both humanity and the environment.

The framework of Bio-Circular-Green Economy (BCG) in economic development is underpinned by two fundamental pillars: the bioeconomy and the circular economy, converging to form a comprehensive paradigm that aligns with the principles of a green economy (Bioeconomy Research Community Circular Economy and Green Economy, 2018).

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This cohesive approach integrates these concepts into a unified framework that prioritizes sustainable practices and environmental stewardship.

Effectuating the conservation of community forests hinges upon a participatory process that engages various stakeholders, encompassing community leaders, residents, and relevant agencies. This collective involvement underscores the necessity for collaborative efforts across multiple sectors. As such, a concerted intersectoral approach becomes imperative to ensure the success of these conservation initiatives. The BCG model underscores the importance of harmonizing economic growth with ecological preservation, an endeavor facilitated through the synergy of the bioeconomy, circular economy, and the overarching ideals of a green economy. The collaborative engagement of diverse sectors amplifies the efficacy of community forest conservation, underscoring the significance of multifaceted cooperation in achieving sustainable outcomes.

Located in the Mueang Lamphun district of Lamphun province, Thailand, the Sri Bua Ban subdistrict community occupies a plateau enveloped by encircling mountains. The predominant landscape consists of expansive forests, within which numerous vital community forest zones thrive. Notably, the Nam Jum community forest stands out as a preeminent example. This forest area is deemed the most abundant among the community forests and holds the distinction of being the subdistrict's inaugural community forest, spanning an area of 60 rai. Characterized by its mixed deciduous forest composition, the Nam Jum community forest boasts a profusion of teak trees alongside majestic Takian trees.

Historically, the years spanning from 1923 to 1968 were marked by encroachments and deforestation that inflicted considerable harm upon these forests, directly impacting the watershed - a pivotal source of potable water and a cornerstone for agricultural endeavors. The far-reaching consequences of this degradation were acutely felt. Recognizing the intrinsic value of community forest conservation reverberates not only through immediate but also indirect benefits for the inhabitants and the ecosystem inhabitants dwelling within these woods. The community forests serve as a lifeline, nurturing the well-being of both human and non-human residents alike. As such, they are the wellspring impelling the villagers in the region to wholeheartedly devote their attention and efforts toward safeguarding these community forest sanctuaries.

In light of these considerations, an impactful initiative has been undertaken to promote teak planting and enhance awareness surrounding the conservation of teak resources within the community. This endeavor operates within the framework of the Plant Genetic Conservation Project, initiated under the auspices of Her Royal Highness Princess Maha Chakri Sirindhorn, in collaboration with Chiang Mai University. Central to this endeavor is the recognition of the intricate process involved in shaping attitudes and fostering consciousness.

The initiative unfolds through a comprehensive strategy that entails a profound exploration of the social and economic milieu of the model community. By dissecting the contextual fabric, the project formulates activities aimed at nurturing attitudes and awakening consciousness. These efforts encompass activities designed to inculcate a profound appreciation for the conservation of teak wood resources in the community. Simultaneously, an in-depth inquiry into the management of teak resources, with the active participation of the community, transpires within the Sri Bua Ban subdistrict community of Mueang Lamphun district, Lamphun province. The anticipatory outcomes of this project are far-reaching. The research team envisions a ripple effect of benefits cascading to those engaged in the project. Moreover, the initiative is poised to crystallize into a case study of immense significance, serving as a beacon of guidance for both

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the community and pertinent agencies in the days ahead. In essence, this undertaking embodies a harmonious fusion of academia, conservation, and community empowerment, promising enduring positive ramifications.

Objectives

This research aims to cultivate a positive attitude and instill awareness of the conservation of teak resources within the Sri Bua Ban Sub-district community in Mueang Lamphun District, Lamphun Province. It also seeks to explore the management of teak resources through community participation.

MATERIALS AND METHODS

The target group

The target group used in the research selecting the target by purposive sampling including youth, the elderly people, community volunteers, a forest conservation group, community leader, forest conservation group organization members, Sub-district administration, public and private sector officials, and population of the village. The target group must be able to provide information about the needs of the community, community issues to find a solution.

Research area

The research area is Sri Bua Ban subdistrict community, Mueang Lamphun district, Lamphun province.

Research tools and techniques

In-depth interview

The in-depth interview using an unstructured interview form for collecting information about the history of forests and communities, traditions and beliefs, utilization of forests about community forest contexts, finding potential and way of life of the community. Questionnaire is primarily used as a tool to gather information.

Observation

An observation is techniques for collecting research data using visual observation or studying events and phenomena.

Research method

The research method is divided into 2 phases as follows:
Phase 1: The study of social community context.
Phase 2: Steps to find a pattern to create consciousness of local people to conserve teak.

- Plan development process (creation community understanding)
- Action Plan Trial (community forest context survey, teak planting activity)
- Lesson learned (synthesize data)

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Conceptual framework

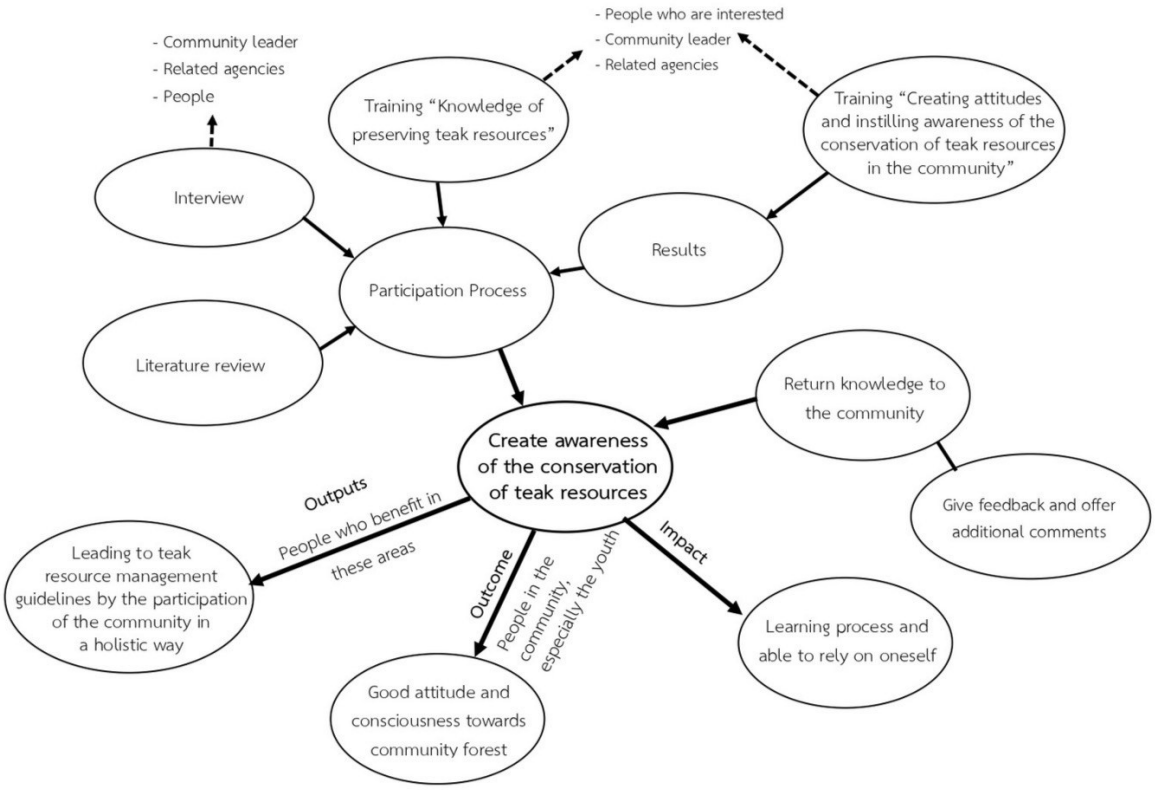

Figure 1: Conceptual framework

RESULTS AND DISCUSSIONS

Social community context

Sri Bua Ban Subdistrict is primarily characterized by its plateau terrain encircled by picturesque mountains. This unique geographical setting has endowed the region with numerous significant forests, including notable community forest areas. Among these, the Nam Jum Community Forest, nestled within Thung Yao Village, stands out as a particularly fertile and pivotal natural asset. It holds the distinction of being both the foremost community forest in Sri Bua Ban Subdistrict and an expansive expanse covering 2,500 rai.

This verdant expanse is more than just a forest; it serves as a vital carbon repository, capable of sequestering an impressive 45,000 tons of carbon. Beyond its ecological contributions, the Nam Jum Community Forest transcends its local significance. It operates as a dynamic learning hub, drawing in visitors from both within the country and across the globe. Throughout the year, it functions as an educational destination, offering insightful study tours that provide firsthand exposure to its ecological wonders and conservation practices.

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In essence, the Nam Jum Community Forest is a microcosm of the region's commitment to environmental stewardship, scientific exploration, and international cooperation, making it a beacon of sustainable practices and ecological education.

Tracing back through the historical annals of Sri Bua Ban Subdistrict unveils a narrative that spans more than a century. The subdistrict boasts a collection of villages, each with roots entrenched in time's embrace. These settlements, having stood resolute for generations, are veritable testaments to the endurance of human habitation and the symbiotic relationship with the land.

The nomenclature of these villages is intricately interwoven with the ecological tapestry of the region, indicative of the intrinsic wealth of natural resources. Such nomenclature captures the essence of the land's characteristics - watersheds, trees, and forests - reflecting the rich biodiversity that graces the landscape. Notable mentions include the Bon trees, the Khmer trees, the steadfast Bamboo trees, and the stately Puey (Tabaek) trees. These names, more than mere labels, encapsulate the interconnectedness of the villages with their surroundings, and speak volumes about the ecological diversity that has flourished for generations.

As this historical journey unfolds, an unmistakable realization takes shape - the villages are bound by a profound attachment to their homeland. The passage of time has forged a strong sense of identity deeply rooted in the local soil. This amalgamation of history, ecological splendor, and human connection begets a sentiment of love and reverence for one's own region. This collective sentiment finds resonance in the hearts of the villagers, as they tread the path paved by their ancestors, maintaining an intimate relationship with the land that sustains them.

Cultural traditions, beliefs such as beliefs about ghosts, beliefs about Buddhism such as:

1) The act of spirit elevation constitutes a ceremonial practice that serves as a mirror reflecting the intricate bond between humanity and the supernatural realm. This ritualistic observance is designed to invoke a sense of opulence and harmony, fostering robust health and an enduring state of well-being. It hinges on the principle of safeguarding against affliction and ailment. Commemorated annually, this ritual brings together villagers in a collective endeavor of veneration, undertaken through sumptuous feasts and diverse forms of homage dedicated to the spectrum of spiritual entities.

2) Embedded within the cultural tapestry are traditions deeply rooted in Buddhism, exemplified by practices like the Yi Peng (Loy Krathong) tradition and the act of making merit.

3) Further enriching the cultural mosaic are distinctive practices like "Longkak," where the exchange of household labor intertwines with communal productivity. Another remarkable tradition is "Rod Num Dum Hua," a ritual involving the pouring of water over the hands of esteemed elders, a gesture infused with profound respect, seeking their blessings in return.

The exploration of community history has yielded a wealth of insights, benefiting not only the dedicated research team and contributors but also the local populace. This reservoir of knowledge serves as a treasure trove, offering multifaceted perspectives on the community's evolution. It emerges as an invaluable asset, particularly for the community members themselves and future generations. Through this exploration, a profound understanding of the community's

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roots and the intrinsic significance of its forests has taken root. This knowledge serves as a bridge connecting the past to the present, imparting a deep appreciation for the indelible role community forests play in shaping their way of life, fostering a legacy that extends to the grandchildren who stand to inherit this cherished heritage.

Situation of teak planting in community areas

The researcher organized focus group discussions on 3 issues: 1) the history of teak planting in the area from the past to the present, 2) the knowledge of teak management, and 3) the pattern of teak plantation in the community.

The history of teak planting in the area from the past to the present

Initially, teak wood was an indigenous resource in the region, but its availability suffered a setback due to illegal logging activities, leading to a decline in teak reserves. In 1989, a significant effort was launched by the government in collaboration with the Royal Forest Department to promote teak cultivation. This endeavor involved the distribution of teak seedlings to farmers, supported by the department at a rate of 3,000 THB per rai for registered participants in the project.

Subsequently, in 2002, a collaborative initiative materialized between the provincial governor and the Royal Forest Department, wherein support for teak seedlings was extended to farmers. In parallel, the Sri Bua Ban Sub-district established a community forest committee, ushering in a framework that underscored the responsible utilization of these valuable resources. This framework stipulates strict regulations, prohibiting tree felling, hunting, and unauthorized forest fires within the community forest. Violations of these rules incur penalties, as enforced by the committee. The cultivation of teak trees is a recurring annual practice, with each year witnessing at least one plantation cycle.

As the chronicle unfolds to the present year of 2023, a collective effort spanning various sectors has catalyzed an evolution in teak planting practices, rendering them more economically feasible. Simplification of governmental regulations regarding teak planting and harvesting has streamlined the process, encouraging a surge in economic teak cultivation within the area. This evolving trend reflects a harmonious convergence of strategic policy adjustments and community engagement, bolstering the prospects for sustainable teak cultivation in the region.

The knowledge of teak management

Farmers have adopted a systematic approach to teak cultivation, spacing the trees at a distance of 2 by 2 meters, resulting in approximately 400 trees per rai. This arrangement emerged from an initial competition that emphasized elongated growth. This strategic planting methodology has the dual advantage of promoting upright growth and effectively competing against weed growth.

To support their endeavors, farmers often receive assistance from a variety of agencies and also procure teak seedlings from local merchants. Many of these seedlings are planted in conjunction with other agricultural ventures, such as longan orchards, vegetable plots, and short-duration crops, optimizing land usage. The resilience of teak trees to pests translates into relatively low maintenance requirements in terms of pest control measures. This inherent resistance reduces the need for extensive care against pests.

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In terms of utilization, the versatile teak finds its way into numerous aspects of daily life. It is predominantly employed for crafting simple household items like crutches, fences, raised vegetable beds, as well as various pieces of furniture found within homes. This utilization reflects a holistic integration of teak's inherent qualities into the fabric of everyday life, underscoring its practical significance within the community.

Model of teak plantation in the community

Patterns of teak planting in Sri Bua Ban Sub-district communities can be divided into 3 main types as follows:

1. Planting a fence along the longan garden

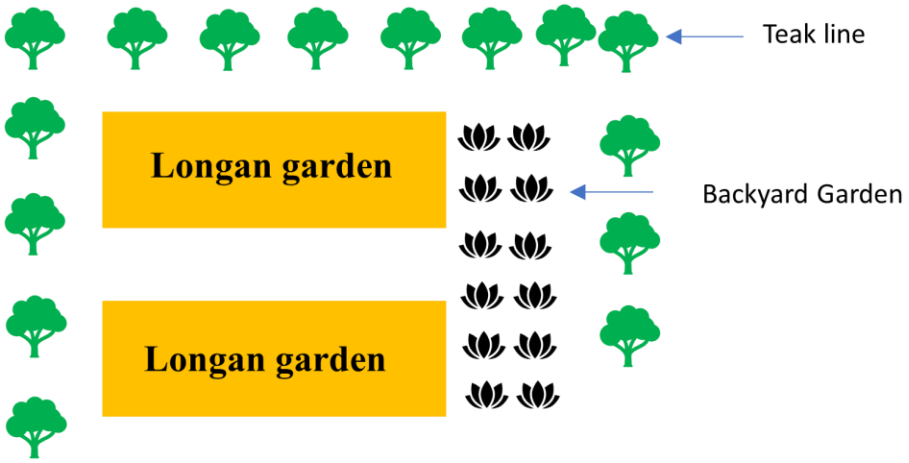

Figure 2: Planting a fence along the longan garden

2. Teak plantation plot 2*2 meter

Figure 3: Teak plantation plot 2*2 meter

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3. Planted as a fence

Figure 4: Planted as a fence

Pattern of raise awareness of local people to conserve community forests

Plan development step

During this phase, the narrative has been dedicated to unveiling the foundation upon which the research project is built, and the operational activities conducted within the area. Central to this endeavor is community involvement, which was realized through a meeting attended by 20 participants. During this gathering, community members actively engaged by contributing their insights. A prevailing sentiment emerged, advocating for the active participation of community leaders in the project's undertakings.

Furthermore, the research outcomes hold a two-fold purpose. Beyond their scientific implications, these findings have been designed to serve the community's welfare. This ethos is exemplified by the dissemination of research data back to the community. This process serves as a conduit through which vital information is communicated to the residents. Ultimately, this reciprocity embodies a symbiotic relationship, where the research endeavor benefits from community input, and the community is empowered with knowledge derived from the research.

Figure 05: Focus groups

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Action Plan Trial Steps

The journey commences with an exploration of the community's forest landscape and the closely connected environs. This endeavor delves into the intricate fabric that envelops both the community and its adjoining forests. The outcome of this exploration involves the analysis of contextual data, particularly focusing on the community forest's resource makeup. This analysis sheds light on critical facets such as the extent of the area, the diversity of natural resources it harbors, and the manner in which the forest is utilized.

Following this groundwork, a comprehensive training program takes center stage, aimed at imparting knowledge on the preservation of natural resources within teak forests. One crucial module addresses the "Carbon credit market," delineating the latent business opportunities for Thai farmers within this domain. These informative sessions unfold amidst the backdrop of the community's own forest area, fostering a tangible connection between theory and practice. Integral to the program's success is the involvement of diverse sectors, including educational institutions and religious centers within the community, such as schools and temples. Their collaborative participation imbues the initiative with a sense of collective purpose.

Participants are further equipped with insights into the legal nuances governing economical teak plantation. This knowledge becomes a catalyst for obtaining certification that grants the privilege of selling carbon credits. Carbon credits emerge as a potent financial incentive for companies and organizations striving to mitigate their carbon footprint. By curbing their emissions and accruing carbon credits, they can trade these assets in carbon markets or vend them to entities seeking emissions offset.

This symbiotic exchange generates additional revenue streams, thus offsetting the costs associated with sustainable practices. Moreover, the program champions the propagation of renewable energy and sustainable methodologies. The financial yield derived from carbon credits often finds investment in renewable energy projects, propelling the transition toward cleaner and more sustainable energy sources. In this manner, the initiative not only nurtures environmental guardianship but also empowers the community with avenues for economic prosperity and sustainable development.

CONCLUSION

Absolutely, local consciousness is a pivotal driving force in sustaining community-based teak conservation efforts. Here's a breakdown of its critical roles: 1) Community Engagement: Local consciousness serves as a catalyst for active community involvement in teak conservation endeavors. When residents feel a deep-rooted connection to their immediate environment and comprehend the significance of preserving teak forests, their commitment extends beyond passive awareness. This emotional attachment compels individuals to contribute their time, resources, and expertise towards safeguarding these invaluable ecosystems. Such engagement nurtures a sense of personal investment and accountability for the enduring protection of teak forests. 2) Knowledge Preservation: Indigenous communities often possess a repository of traditional wisdom, an ancestral inheritance. By fostering local consciousness, these age-old practices can be safeguarded and synergistically integrated into sustainable teak conservation strategies. This indigenous knowledge encompasses methodologies like selective harvesting, reforestation techniques, and natural methods for pest control. By incorporating these practices, long-term health and resilience are injected into teak forests' DNA. 3) Biodiversity Conservation:

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Teak forests harbor a vibrant tapestry of flora and fauna. The propagation of local consciousness engenders an appreciation of the intricate web linking teak forests with biodiversity conservation. Recognizing the ecological significance of these forests inspires local communities to actively champion the preservation of diverse species' habitats. This protective stance reinforces the overall robustness and equilibrium of the ecosystem, securing its long-term viability. 4) Economic Opportunities: Teak forests encompass not just environmental but also economic value for local communities. Encouraging local consciousness can illuminate the economic potential of teak as a sustainable resource. This heightened awareness can stimulate the emergence of ethical and inclusive economic avenues. Examples include responsible timber harvesting practices, ecotourism ventures that embrace the forest's allure, and the crafting of teak-based goods. These ventures not only offer livelihoods but also fortify the conservation of teak forests, nurturing a harmonious coexistence of economy and ecology.

In summary, local consciousness operates as the cornerstone of enduring teak conservation. It animates communities, preserves ancestral knowledge, champions biodiversity, and generates sustainable economic prospects. This holistic approach crystallizes the vision of a future where teak forests thrive, benefiting both people and planet.

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Declaration of Interest Statement

The author declare that they have no conflict of interest.

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