

Creating a Caring Earth: Community-Based Practices For Environmental Sustainability in Vietnam

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Abstract

This study examines how community-based initiatives in Vietnam advance environmental sustainability through what we define as caring earth practices, a framework informed by the Eastern philosophy of harmony between Heaven, Earth, and humans. While global policies often emphasise top-down governance, the Vietnamese cases illustrate how local communities develop bottom-up models of ecological stewardship that intertwine cultural values, scientific knowledge and livelihood needs. Five contexts were analysed: sea turtle conservation and ecotourism in Con Dao Island, coral reef protection at Yen Islet, community-based tourism for riverbank stabilisation at Ho Islet, mangrove-friendly aquaculture in Ca Mau, and the “No plastic bag” campaign in Cham Islands Biosphere Reserve. Collectively, these cases demonstrate that communities function not only as beneficiaries but also as ethical stewards who align natural cycles, landscape values, and social norms with sustainable livelihoods. The findings identify three core principles underpinning caring for the earth practices: community centrality, knowledge hybridity, and conservation–livelihood balance, reinterpreted through the Eastern notion of Heaven (natural order), Earth (ecological landscapes), and Human (collective responsibility). By situating Vietnam as a living laboratory, this study reconceptualises community-based natural resource management with an Asian orientation and offers practical implications for policy design, sustainable tourism, and ecological governance in rapidly transforming environments.

Keywords: Caring Earth, community-based conservation, environmental sustainability, Indigenous knowledge.

1. Introduction

In the context of the increasingly serious global environmental crisis, Asian countries, particularly Vietnam, face significant challenges in balancing economic growth, tourism development, and natural resource conservation (Ramaano, 2025; Srivastava, 2024). National and international policies are often designed using a top-down approach, emphasising the coordinating role of the state and intergovernmental organisations (Thahir et al., 2022). However, many empirical studies have shown that these administrative command-based governance models are insufficient to solve environmental problems at the root, especially in the context of cultural diversity and local livelihoods (Agrawal & Gibson, 1999; Mdiniso et al., 2017; Rolha et al., 2021).

Instead of a purely macro approach, studies from the 1990s to the present have developed the concept of community-based natural resource management (CBNRM). Scholars such as Brosius,

Tsing, and Zerner (1998) emphasize that communities are not only policy beneficiaries but also creators of knowledge and management practices (Brosius et al., 1998). Armitage (2005) also points out that community empowerment creates greater flexibility and adaptability in environmental governance, resulting in more sustainable outcomes than centralised models (Armitage, 2005). In Vietnam, early studies such as Le (2008) have noted the potential of CBNRM to sustain rural livelihoods and conserve natural resources, but the scope and depth of these studies are still limited (Le, 2008).

In addition, another stream of research emphasises the link between CBNRM and tourism. Mbaiwa and Thakadu (2018) pointed out that community-based tourism can increase income and conservation motivation (Mbaiwa et al., 2018). Sebele (2010) adds that community-based tourism models are only successful when the participation of local people is genuinely ensured (Sebele, 2010). These findings suggest that in contexts such as Vietnam, where ecological and cultural resources are particularly rich, tourism and conservation can be integrated to generate economic benefits and promote environmental protection.

However, some theoretical gaps remain. First, the majority of CBNRM studies focus on Africa (Mbaiwa et al., 2018; Stuart-Hill et al., 2005) or South America (Pezzuti et al., 2018), while cases in Southeast Asia are less explored and often descriptive. Second, among the few studies in Vietnam, comprehensive theoretical frameworks have not been developed to generalise internationally comparable conceptual models. Third, the relationship between indigenous and scientific knowledge in community initiatives in Vietnam has not been systematically analysed, although this is a core factor in explaining the sustainability of environmental practices (Heffernan, 2022; Mills et al., 2025).

In this context, this study aims to introduce and analyse the concept of caring earth practices as a new approach to explaining the role of communities in environmental protection. Through a survey of five typical cases in Vietnam, including sea turtle conservation combined with ecotourism in Con Dao, coral reef protection in Hon Yen (Phu Yen), community tourism against landslides in Con Ho (Tra Vinh), a shrimp farming model under a mangrove canopy in Ca Mau, and the “Say no to plastic bags” campaign in the Cham Islands biosphere reserve (Quang Nam), this study shows how local communities integrate environmental conservation with livelihood development.

This study had two aims. Empirically, this study adds a diverse set of case studies from Vietnam to demonstrate the central role of communities in conservation practices. Theoretically, this study contributes to the literature by conceptualising caring earth practices as a community-based ecological governance model that connects indigenous knowledge with scientific knowledge while harmonising conservation and development. In doing so, this study not only sheds light on the specificity of Vietnam but also contributes to expanding the CBNRM theoretical framework for the Asian context in the global stage of sustainable development.

2. Literature review

2.1. Community-based natural resource management: background and controversy

The concept of community-based natural resource management (CBNRM) emerged in the late twentieth century as a response to the limitations of centralised governance and the free market (Dulyakasem et al., 2026). Ostrom (1990) made a breakthrough by demonstrating that communities can establish sustainable rules for managing common resources, breaking the pessimistic hypothesis of the tragedy of the commons (Ostrom, 1990). Following this, Agrawal and Gibson (1999) argued that communities are not homogeneous but always contain power conflicts; therefore, CBNRM research must pay attention to internal social dynamics (Agrawal & Gibson, 1999). Brosius, Tsing, and Zerner (1998) extended this line of research by analysing the cultural-political nature of resource governance, showing the complexity of knowledge and power networks (Brosius et al., 1998).

Over the next two decades, CBNRM was widely applied in several regions. In Africa, Stuart-Hill et al. (2005) showed that CBNRM models in Namibia helped conserve wildlife and create livelihoods for people (Stuart-Hill et al., 2005). Thakadu (2005) also affirmed the central role of community participation in project success in his study of Botswana (Thakadu, 2005). In North America, Lurie and Hibbard (2008) demonstrated that coordination between local authorities and communities improves governance (Lurie & Hibbard, 2008). Bixler and Taylor (2012) added that social networks are a decisive factor in maintaining long-term cooperation (Bixler & Taylor, 2012). In South America, Pezzuti et al. (2018) showed that CBNRM based on indigenous knowledge provides flexibility in aquatic resource management (Pezzuti et al., 2018). Recent studies have also emphasised the multi-layered and context-dependent nature of CBNRM. Heffernan (2022) argues that the concept of community needs to be re-conceptualised in the context of globalisation (Heffernan, 2022), while Mills et al. (2025) assert that CBNRM is sustainable only if it integrates both scientific and local knowledge (Mills et al., 2025).

However, an academic debate persists. Some studies have shown that CBNRM is prone to failure in the absence of strong institutional support (Fabricus et al., 2013). Leach, Mearns, and Scoones (1999) question whether the romanticisation of community can mask gender and class inequalities (Leach et al., 1999). These tensions suggest that CBNRM is both a concept rich in potential and in need of theoretical re-framing to avoid falling into a simplistic description.

2.2. Community-based tourism and ecological conservation

The relationship between community-based tourism and ecological conservation began to take shape in the late 1990s, when scholars began emphasising the potential of tourism as a tool for sustainable development (Krittayaruangroj et al., 2023; Ramaano, 2025). Brosius et al. (1998) argued that tourism could be a means of mobilising indigenous knowledge and culture, thereby conserving both the natural environment and social identity (Brosius et al., 1998). However, they also warned that the commercialisation of culture could distort conservation goals.

In the early 2000s, Armitage (2005) argued that community-based tourism could only be linked to conservation when governance institutions were designed in a multi-layered manner, that is, a combination of community, government, and market (Armitage, 2005). Lurie and Hibbard (2008) add that local governments play a crucial intermediary role, providing communities with access to resources and markets, thereby increasing sustainability (Lurie & Hibbard, 2008). Bixler and Taylor (2012) found that social networks are an important mechanism for long-term

cooperation in community-based tourism projects, allowing for benefit sharing and conflict mitigation (Bixler & Taylor, 2012).

Later studies have extended the analysis to specific contexts. Sebele (2010) demonstrated in Botswana that communities only commit to conservation when they perceive direct economic benefits from tourism (Sebele, 2010). Fabricius, Koch, Magome, and Turner (2013) synthesised several cases from South Africa, emphasising the equitable distribution of benefits as a prerequisite for successful conservation (Fabricius et al., 2013). Mbaiwa, Thakadu, and Kgathi (2018) found that although community-based tourism generates income and strengthens social cohesion, it also creates dependency risks when the economy is too dependent on tourism (Mbaiwa et al., 2018). Pezzuti et al. (2018) demonstrated in their South American study that combining ecotourism with sustainable fisheries helps communities maintain their livelihoods and protect resources, affirming the need for a hybrid approach (Pezzuti et al., 2018). However, studies have also highlighted its limitations. Thakadu (2005) noted that a lack of management knowledge and internal differentiation of interests can undermine community-based tourism (Thakadu, 2005). Leach, Mearns, and Scoones (1999) argued that many projects romanticize communities, ignoring inequalities in gender, age, and class (Leach et al., 1999). Heffernan (2022) pointed out the gap in assessing the long-term impacts of community-based tourism on ecological conservation (Heffernan, 2022). Mills et al. (2025) add that the link between local knowledge and scientific knowledge in community-based tourism is still weak, causing many projects to lack a sustainable foundation (Mills et al., 2025).

These debates suggest the need for a new theoretical framework to explain the intertwining of conservation and development in community-based tourism (CBT).

2.3. Indigenous knowledge, science, and the East Asian framework for sustainability

Since the early 1990s, studies have affirmed the importance of Indigenous knowledge in resource management. Ostrom (1990) emphasized the self-organization of communities, in which indigenous knowledge is the basis for designing rules appropriate to the ecological context (Ostrom, 1990). Brosius, Tsing, and Zerner (1998) extended this argument by arguing that knowledge is not only technical but also cultural and political, linked to ritual, symbolism, and power relations (Brosius et al. 1998).

In the next stage, Agrawal and Gibson (1999) pointed out that indigenous knowledge does not exist in isolation but is always shaped by social relations (Agrawal & Gibson, 1999). Leach, Mearns, and Scoones (1999) developed the concept of environmental entitlements, showing that environmental knowledge is closely linked to access and use rights of resources, thereby raising issues of equity (Leach et al., 1999).

Recent studies have deepened this debate. Fabricius et al. (2013) argue that when indigenous knowledge is combined with scientific knowledge, conservation projects achieve greater flexibility and effectiveness (Fabricius et al., 2013). Heffernan (2022) pointed out that many development failures stem from the separation of local knowledge from the policy-making process (Heffernan, 2022). Mills et al. (2025) assert that CBNRM can only be sustainable in the long term by building a hybrid knowledge mechanism (Mills et al., 2025).

In the Asian context, scholars have begun to exploit regional philosophical foundations to explain sustainability issues. Leach et al. (1999) and later Armitage (2005) emphasised that principles such as harmony between heaven, earth, and humans provide a different conceptual framework compared to the Western model that emphasises control and exploitation (Armitage, 2005; Leach et al., 1999). Brosius et al. (1998) argue that this cultural-knowledge approach opens up the possibility of building new theoretical frameworks in which conservation is not only an economic tool but also an ethical action (Brosius et al., 1998).

The common point in the above debates is the affirmation of the centrality of hybrid knowledge, where indigenous and scientific knowledge coexist and complement each other. However, most of the research is still focused on Africa and South America, while Southeast Asia in general and Vietnam in particular is lacking in systematic studies. This opens up a gap for developing the concept of caring earth practices as a theoretical step linked to the East Asian philosophical framework and the integration of knowledge.

2.4. Research gap

Overall, the literature on community-based natural resource management (CBNRM) and community-based tourism (CBT) has established that local participation can generate both ecological and economic benefits, particularly when institutions are inclusive, knowledge is shared, and livelihood incentives are aligned (Armitage, 2005; Sebele, 2010; Mbaiwa, Thakadu, & Kgathi, 2018; Ostrom, 1990; Sebele, 2010). More recent works have also highlighted persistent challenges such as unequal benefit distribution, the risk of elite capture, and the limited integration of Indigenous and scientific knowledge (Heffernan Scoones, 1999; Heffernan, 2022; Mills et al., 2025). While these debates have been widely documented in Africa and Latin America, Asian contexts remain relatively underexplored, particularly regarding how cultural philosophies shape community engagement with sustainability.

The research gap lies in the absence of a systematic framework that synthesises community-based practices across multiple ecological settings in Asia and interprets them through region-specific philosophical foundations. Existing CBNRM models are largely informed by Western institutional theories, leaving little conceptual space for alternative perspectives. By analysing diverse community initiatives in Vietnam and reframing them through the Eastern notion of harmony between Heaven, Earth, and humans, this study addresses this gap. It develops Caring Earth Practices as a distinct conceptual contribution that situates Asian community practices within global debates on sustainability.

3. Methodology

This study employed a multiple case study design to explore the role of communities in environmental conservation initiatives in Vietnam. The case study method was chosen because it allows for a deep dive into specific contexts and comparisons of similarities and differences between cases (Yin, 2014). This approach is consistent with the aim of generalising the core principles that shape the concept of caring earth practices.

The case selection process was conducted according to the principles of ecological and geographical diversity, ensuring the representation of marine, island, mangrove, and river ecosystems. The five selected case studies include: sea turtle conservation combined with ecotourism in Con Dao Island, coral reef protection in Yen Islet, community tourism to prevent landslides in Ho Islet, a shrimp farming model under a mangrove canopy in Ca Mau, and the “Say no to plastic bags” campaign in the Cham Islands Biosphere Reserve. These cases reflect both the ecological diversity of Vietnam and the ways in which communities participate in conservation through various mechanisms, such as tourism, agriculture, and social mobilisation.

Data were collected from three main sources. First, secondary documents, including policy reports, project management documents, and published academic articles, were collected for each case. Second, domestic media and press sources provide updated information on the progress and results of the initiatives. Third, in some cases, the study consulted interviews and observations that had been conducted within the framework of previous projects by research agencies and NGOs to add depth to the data. Combining multiple data sources allowed for increased reliability and reduced bias for each type of source.

Data analysis was conducted using a thematic analysis approach. Data from each case were coded primarily, focusing on factors related to community roles, knowledge used, and the connection between conservation and livelihood. Secondary coding was then conducted to compare the cases and identify common patterns. The analysis was conducted both inductively – from specific data to concepts – and deductively – by comparing the theoretical framework on CBNRM and community-based tourism presented in the overview.

In terms of reliability, this study applied a triangulation strategy between data sources and document types. Simultaneously, the selection of multiple cases with different ecological and geographical characteristics helps increase theoretical generalisation. Instead of seeking statistical representativeness, this study aims at analytical generalisation, that is, drawing out principles that can be extended to similar contexts (Yin, 2014). This approach is consistent with the aim of this study to develop the concept of caring earth practices, which emphasises knowledge integration and community participation in environmental conservation.

4. Results and discussion

4.1. Cases study

Con Dao Island: sea turtle conservation and community awareness

Con Dao is one of the most important sea turtle breeding sites in Vietnam. Conservation activities are led by the National Park Management Board, with the coordination of international projects and the participation of volunteers. This model emphasises multi-layered resource governance, where state, international, and civil society organisations are involved (Armitage, 2005). Volunteers not only directly support monitoring and protecting the breeding grounds but also play a role in spreading awareness in the community, in line with the argument of the intermediary role in CBNRM (Lurie & Hibbard, 2008). In parallel, local communities have exploited the turtle egg-laying tour service as a unique tourism product, demonstrating the

connection between economic benefits and conservation, a core principle of community-based tourism (Sebele, 2010). This approach reflects the hybridisation of scientific knowledge (monitoring turtle behaviour, managing nesting grounds) and local knowledge, thereby strengthening conservation motivation (Agrawal & Gibson, 1999). However, pressures from peak tourism demand and climate change still pose significant challenges, prompting criticism that subsistence-based models can be unsustainable without equitable regulation and capacity-control policies (Leach et al., 1999; Fabricius et al., 2013).

Yen islet: community and coral reef conservation linked to tourism

Hon Yen, recognized as a national scenic spot, is a typical example of community engagement in protecting coral reef ecosystems. Conservation projects have promoted the role of farmers, women, and youth in propaganda activities, sorting waste at the source, and raising awareness about the rational exploitation of marine resources. This is consistent with the argument that diverse social groups increase collective strength and resilience (Bixler & Taylor, 2012; Thakadu 2005). This approach not only creates a social basis for conservation but also integrates community knowledge with a scientific orientation on reef ecology, reflecting the hybrid model of knowledge highlighted by Brosius, Tsing, and Zerner (1998). Simultaneously, linking conservation with community-based tourism development has opened up economic opportunities for residents, consistent with the view that economic benefits are a driving force for community commitment to conservation (Mbaiwa, Thakadu, & Kgathi, 2018). However, previous research has shown that if benefits are not distributed equitably, community-based tourism can reproduce inequality (Heffernan, 2022; Leach et al., 1999). The Hon Yen experience shows that, although the community has become the central actor, long-term sustainability still depends on maintaining equitable benefits and community governance capacity to control tourism pressure.

Ho islet: community tourism as a tool to draw attention to alluvial land conservation

Con Ho, a small islet on the Co Chien River, is facing serious erosion, threatening the existence of the entire area with only 12 households living there. In response, approximately nine households have joined in providing community tourism services with the support of the government and consultants. The experiential activities revolve around cuisine, orchards, and the Mekong Delta river landscape. Notably, the main motivation of the community is not simply economic, but also a way to raise the attention of stakeholders to promote investment in embankments and erosion prevention. This reflects the role of community tourism as a socio-political discourse to give a voice to disadvantaged communities, similar to the argument of Brosius, Tsing, and Zerner (1998) on the cultural-political function of CBNRM. Simultaneously, the integration of traditional knowledge of sedimentation with technical advice has created a hybrid form of knowledge, demonstrating the ability of communities to use tourism tools to sustain their livelihoods and seek environmental justice. However, the economic benefits are modest, and sustainability depends heavily on government commitment to infrastructure investment, prompting criticisms of the model's limitations when communities lack strong institutional power (Fabricius et al., 1999; Fabricius et al., 2013).

Ca Mau province: shrimp-forest farming model and expansion into ecotourism

Ca Mau, with the largest area of mangrove forests in the country, has developed an ecological shrimp farming model under the canopy of mangrove and aquifer forests, which has been improved into a system combining sustainable aquaculture and ecotourism. Local people not only maintain extensive shrimp and crab farming with little chemicals but also expand into experiential services such as canoeing through the forest, visiting mangrove ecosystems, and participating in traditional fishing. This model clearly reflects the principle of linking conservation and livelihoods: income from internationally certified organic shrimp ensures economic value, while tourism services spread knowledge of forest protection and strengthen local identities. This is similar to the observation of Sebele (2010) and Mbaiwa, Thakadu, and Kgathi (2018), who found that economic benefits directly linked to conservation are the driving force for maintaining community commitment. Simultaneously, the participation of businesses and management agencies in eco-certification creates a hybrid mechanism of knowledge and power, consistent with Mills et al. 's (2025) analysis of sustainability when there is multi-stakeholder synchronisation. The Ca Mau model also affirms the caring earth practices framework, where communities are not only beneficiaries but also forest protection subjects, linking ecological responsibility with economic bargaining power. However, dependence on international markets and the risk of over-commercialisation of tourism remain challenges that must be carefully managed to avoid reproducing inequalities (Heffernan, 2022; Leach et al., 1999).

Cham islands biosphere reserve: from destructive exploitation to community-based biosphere models

The Cham Islands Biosphere Reserve is a prominent example of the transition from unsustainable resource exploitation to community-based biosphere governance. After being recognised by UNESCO as a World Biosphere Reserve, the Cham Islands Biosphere Reserve – Hoi An has become a multi-layered governance space where the government, community, and international conservation organisations work together to protect both marine and riverine ecosystems and the Hoi An heritage area. The most obvious change has occurred at the community level: many households have switched from relying on destructive fishing to providing ecotourism and community learning services. This illustrates Sebele's (2010) argument that when economic benefits are directly linked to resource status, communities have strong incentives to conserve resources.

The “Say no to plastic bags” model is a symbol of this process. Through the community communication campaign, people changed their consumption behaviour and became active collaborators in the patrolling and restoration of marine ecosystems. The combination of indigenous knowledge about resources with science about marine ecosystems created a hybrid knowledge mechanism, consistent with the arguments of Agrawal and Gibson (1999) and Brosius, Tsing and Zerner (1998). As a result, conservation activities were not only based on administrative imposition but also became social practices, where the community both participated in the tourism business and directly protected resources.

The Cham Islands Biosphere Reserve also clearly reflects the principles of equity and multi-stakeholder institutional capacity that many international CBNRM studies have emphasised (Armitage, 2005; Fabricius et al., 2013). The benefits of tourism are distributed more

widely, creating incentives for different social groups to participate. However, as critics have pointed out (Heffernan, 2022; Leach et al., 1999), the risks of inequality and commercialisation remain, especially as visitor numbers increase rapidly. The Cham Islands Biosphere Reserve shows that caring earth practices can become a sustainable ecological governance framework, but long-term sustainability requires mechanisms to balance interests and closely monitor tourism pressures.

4.2. Discussion

The five cases in Vietnam show a diverse spectrum of community practices, from endemic species conservation (Con Dao) to coastal ecosystem protection (Hon Yen), alluvial land conservation (Con Ho), combining ecological aquaculture with mangrove forests (Ca Mau), and transforming the socio-economic structure in the biosphere (Cham islands biosphere reserve). This diversity creates a typical picture for verifying theoretical arguments on community-based natural resource management (CBNRM) and community-based tourism.

The striking similarity is that in all cases, the community is no longer considered a beneficiary but an active agent in conservation. This confirms Ostrom's (1990) classic argument that communities can self-organise to maintain common resources (Ostrom, 1990), and also extends to tourism and livelihoods (Mbaiwa et al., 2018; Sebele, 2010). Both Con Dao and Hon Yen demonstrate a link between economic interests and conservation behaviour. However, while Con Dao relies heavily on co-governance mechanisms involving the state and international projects (Armitage, 2005), Hon Yen demonstrates the strength of self-organised community groups, especially among women and youth. This difference suggests that CBNRM can operate effectively in both multilevel and community-based models, adding to the academic debate on the relative roles of the state and community in resource governance (Agrawal & Gibson, 1999; Fabricius et al., 2013).

In Con Ho, community tourism is not only for livelihood purposes but also has a socio-political strategy, that is, a tool to attract attention and mobilise investment to prevent landslides. The way the community turns tourism into a discourse demanding the right to protect resources confirms Brosius, Tsing, and Zerner's (1998) observation that resource governance is always linked to power and symbolism (Brosius et al., 1998). Ca Mau presents a different model, where indigenous knowledge of mangroves is integrated with internationally certified science, creating an economic-ecological value chain. This case strongly reflects the knowledge hybridisation argument emphasised by Mills et al. (2025). The Cham Islands Biosphere Reserve, with its UNESCO biosphere reserve, illustrates a multi-layered institutional structure (Armitage, 2005), in which the community is encouraged to change its behaviour from exploitation to conservation while also benefiting from ecotourism services. This comparison also reveals common constraints: pressure from overtourism (Con Dao, Cham islands biosphere reserve), inequality of benefits (Hon Yen, Con Ho), and the risk of dependence on international markets (Ca Mau). These challenges resonate with academic criticisms that CBNRM and community-based tourism can reproduce inequitable relationships without equitable distribution mechanisms (Heffernan, 2022; Leach et al. 1999). Thus, the Vietnamese cases both confirm universal principles and reveal limitations that must be overcome.

The novelty of this study lies in synthesising and comparing diverse cases within a national framework rather than focusing on a single case. Unlike previous fragmented studies (Le, 2008), the current study allows for generalisation into three core principles: community-centredness, knowledge hybridisation, and conservation-livelihood balance. This overview not only adds to the international scholarship on CBNRM but also contributes to the caring earth practices framework in the East Asian context, where the community and harmony of heaven, earth, and humans are highly valued. This is a new point in terms of concept and a value that previous studies have not yet systematised.

4.3. Caring earth practices framework: restructuring CBNRM in the philosophy of harmony of heaven–earth–human

Classical studies on CBNRM (Agrawal & Gibson, 1999; Armitage, 2005; Ostrom, 1990) often revolve around three main theoretical axes: (1) institutions and governance rules, (2) resources and ecological context, and (3) communities and social dynamics. Drawing from Vietnamese practice, this study proposes the caring earth practices framework, restructuring these three axes in light of the East Asian philosophy of Harmony of Heaven–Earth–Human to create a regionally distinctive CBNRM theoretical variant.

First, Heaven (Heaven) is associated with the axis of institutions and governance. In Western CBNRM, this axis emphasises appropriate institutional designs to address common resource issues. Caring Earth practices expand this axis by recognising that all institutions must follow natural laws: the biological cycles of species, climate change, tidal rhythms, and seasonality of livelihoods. For example, turtle viewing schedules in Con Dao or coral reef access hours in Hon Yen are all built on heavenly time. Thus, Heaven incorporates the dimension of natural laws into CBNRM theory as a norm for regulating institutions instead of considering institutions as social products.

Second, Earth (land) is linked to the axis of resources and ecological context. In the standard approach, resources are often classified according to their properties (forests, seas, rivers, and land) and shared attributes (common pool resources). Caring Earth practices add the dimension of Earth, that is, considering resources not only as material reserves but also as living spaces, landscapes, and identities associated with the communities. Con Ho with alluvial land or Ca Mau with mangrove forests demonstrate that resource conservation is synonymous with preserving landscapes and habitats. Geography thus shapes the specificity of CBNRM in East Asia by emphasising the harmonious relationship between resources and people in the cultural-ecological space.

Third, Nhan (human) is linked to the axis of community and social dynamics. CBNRM studies have traditionally focused on cooperative behaviour, social capital, and economic motivation. Caring earth practices add the dimension of Nhan, emphasising solidarity, will, and cultural-ethical norms as the foundation for maintaining conservation. The Cham Islands Biosphere Reserve shows that people abandon overexploitation not only for economic benefits but also because of the belief that resources are the source of life. Nhan in this framework affirms that conservation is a cultural and ethical action, creating new social norms that are more sustainable than the short-term benefits.

The three dimensions of Heaven–Earth–Human, when attached to the three core axes of CBNRM, create a new conceptual variation: CBNRM with an Asian identity. In this variation, institutions (Heaven), resources (Earth), and communities (Human) do not operate separately but are intertwined in a harmonious manner. This is the new contribution of the caring earth practices framework: maintaining the familiar theoretical structure of CBNRM while incorporating Asian philosophy to expand the explanation of sustainability.

The applicability of the Caring Earth Practices Framework extends beyond specific cases in Vietnam. In terms of research, this framework can be used as a cross-context comparative analysis tool for future studies. By asking whether a community practice achieves harmony between Heaven (natural law), Earth (resources – landscape), and Humans (community – culture – ethics), scholars can assess the sustainability and replicability of conservation models. This makes the caring earth practices framework not only descriptive but also predictive and normative, complementing CBNRM theory, which focuses more on institutional design.

In terms of policy, this framework can serve as a guide for sustainable development programs in Asia. At the national level, it helps to formulate environmental policies based on the principle of nature; that is, all interventions must be in accordance with ecological laws. At the local level, it encourages the integration of indigenous knowledge with science to create hybrid solutions to local problems. At the community level, it promotes equity and cultural-ethical norms as drivers of conservation. With this approach, caring earth practices are not only an academic concept but also a practical roadmap for designing conservation and ecotourism projects that are consistent with East Asian philosophy and can contribute to the global discourse on sustainable development.

4.4. Contributions

Theoretical contributions

This study contributes to the international scholarship on community-based natural resource management (CBNRM) and community-based tourism by generalising the Vietnamese experience within the Caring Earth Practices framework. This study makes four notable contributions.

First, this study extends CBNRM theory from the scope of traditional resource management to tourism and livelihood development. The cases in Con Dao, Hon Yen, Con Ho, Ca Mau and Cham islands biosphere reserve show that communities not only manage forests, seas or land but also design and regulate tourism services associated with resources. This complements previous studies that have focused on monodisciplinary resource exploitation (Armitage, 2005; Dulyakasem et al., 2026; Ostrom, 1990; Rolha et al., 2021).

Second, the study affirms that the hybridisation of indigenous and scientific knowledge is not only a supporting factor but also a central organising principle of community practice. The case data demonstrate that local knowledge thrives only when it is linked to science, from citizen monitoring in Hon Yen to international accreditation in Ca Mau. This reinforces and extends the

arguments of Agrawal and Gibson (1999) and Mills et al. (2025) and positions hybrid knowledge as a new conceptual pillar (Agrawal & Gibson, 1999; Mills et al., 2025).

Third, this study develops the conservation-livelihood trade-off argument by emphasising intra-community equity. While previous studies have focused on the relationship between conservation and economic benefits (Mbaiwa et al., 2018; Sebele, 2010), the Vietnamese cases show that conservation motivation is sustainable only when benefits are widely and transparently distributed. This is an important conceptual advance that adds a distributive equity dimension to the existing theory.

Finally, this study introduces the concept of caring earth practices as a new conceptual framework in the East Asian context. This framework is linked to the philosophy of harmony between heaven, earth, and humans, viewing conservation not only as an economic tool but also as a cultural and ethical act. This positioning helps expand the international discourse on sustainable development, which has long been heavily influenced by Western management thinking.

Practical and policy implications

The findings contribute to theory and have important implications for environmental governance practice and sustainable development policy.

First, the cases in Vietnam show that placing the community at the centre of conservation initiatives is a prerequisite for sustaining resources. The models in the Con Dao, Hon Yen, and Cham Islands Biosphere Reserve demonstrate that communities are not only beneficiaries but also co-creators of social norms, tourism management, and resource monitoring. Therefore, policies must continue to empower communities substantially, including the right to access, manage, and benefit from resources.

Second, combining indigenous and scientific knowledge requires clear institutionalisation mechanisms. Citizen monitoring initiatives in Hon Yen or international certification for the shrimp-forest model in Ca Mau can only be successful when there is official recognition from the government and businesses. Policies should design tools to support knowledge hybridisation, such as community training programs on monitoring skills or legal frameworks for local knowledge-based ecological certification.

Third, the economic benefits of conservation initiatives must be distributed equitably to sustain community momentum. Cases such as Hon Yen and Con Ho show the risk of internal inequalities undermining conservation commitment, while Cham islands biosphere reserve demonstrates that transparent distribution mechanisms can create social consensus. This suggests that policy should focus on benefit-sharing mechanisms, from community funds, prioritising services for participating households, and transparency in project revenues and expenditures.

Finally, the caring earth practices models in Vietnam demonstrate the key role of integrating conservation into broader socio-economic development strategies. Con Ho has used community tourism as a tool to mobilize investment in landslide prevention, while Ca Mau has turned

ecological certification into a competitive advantage in the international market. This suggests that policy should not consider conservation as a separate field but should be integrated into key economic sectors, such as agriculture, tourism, and trade.

Thus, the practical and policy implications of this study are the need to build a multi-layered mechanism: the state plays a coordinating role, the community is the centre of implementation, science provides support tools, and businesses create economic incentives for the community. This coordination ensures a sustainable development path in the context of Vietnam and Asia more broadly.

Conclusion

This study analyzed five typical cases in Vietnam – Con Dao, Hon Yen, Con Ho, Ca Mau and Cham islands biosphere reserve – to explore how communities participate in resource conservation and sustainable tourism development. The cases show that, despite different ecological contexts and motivations, communities play a central role in constructing social norms, cross-fertilising knowledge, and linking conservation with livelihood. By comparing and contrasting with international scholarship on CBNRM and community-based tourism, the study systematised the caring earth practices framework, a new approach that reflects Vietnamese practice and has broader generalisation value.

The most important theoretical contribution of this study is the restructuring of CBNRM according to the Eastern philosophy of the Harmony of Heaven-Earth-Human. Instead of focusing solely on institutions, resources, and communities, as in classical studies, the caring earth practices framework links each axis to a philosophical dimension: Heaven represents natural laws and institutional adaptation; Earth reflects resources, landscapes, and living spaces; and Human emphasises the role of communities with cultural and ethical standards. This connection has expanded CBNRM theory in a way that both maintains the core structure and adds philosophical depth, thereby forming a CBNRM variant with an East Asian identity.

In practice, the Caring Earth Practices framework provides guidance for designing and evaluating community-based conservation models. When applied to initiatives, this framework allows us to determine whether a practice has achieved a balance between Heaven-Earth-Human, thereby helping to adjust policies towards sustainability. Simultaneously, this framework affirms that conservation is not only an economic tool but also a cultural and ethical action linked to community identity.

The results of this study suggest that Vietnam can be considered a living laboratory for the formation of caring earth practices, thereby opening up the potential for application to many other contexts in Asia. In the future, the next research direction could focus on comparing this model with cases in Southeast Asia, South Asia, or Northeast Asia to verify and complete the caring earth practices framework as a new contribution to the theory and practice of global sustainable development.

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