

Pioneering Conservation Efforts with Crowdfunding Scheme for the Sumatran Tiger Conflict

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Abstract

Human-wildlife conflicts present significant challenges in conservation efforts. This study delves into the effectiveness of crowdfunding, intervention mechanisms, and communication initiatives in addressing the human-wildlife conflict, specifically concerning the sumatran tiger. By leveraging data from NGO web platforms, exploratory documentation, national records, and a broad spectrum of literature reviews, we aimed to unravel the nuanced dynamics of these initiatives in the conservation framework. Our findings indicate that while crowdfunding platforms such as the sapu jerat campaign offer innovative fundraising avenues, the harmonized efforts of communication strategies and robust intervention mechanisms create lasting impacts. This study underscores the essence of multifaceted approaches, stressing the value of stakeholder collaborations, including NGOs, local communities, and governmental agencies. Furthermore, this research accentuates the increasing role of digital tools in enhancing conservation efforts, suggesting a paradigm shift in contemporary conservation strategies. Hence, this study offers invaluable insights for conservationists, decision-makers, and NGOs aiming to optimize their strategies in the context of human-wildlife conflicts. At a more detailed level, the intervention mechanisms of the Sumatran Tiger Project demonstrate the importance of adaptive management, inter-agency collaboration, and sustainable financing as key components. This study highlights that the combination of technology, community involvement, strategic planning, and effective storytelling can provide a sustainable future for the sumatran tiger.

Keywords: crowdfunding, sumatran tiger, human-wildlife conflict, communication initiatives, intervention mechanism

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Introduction

Conservation efforts continually navigate the complex relationship between human necessities and the need to protect biodiversity. This delicate equilibrium is becoming more challenging to maintain due to the increasing human population and its impact on fragile ecosystems (Al-Mansoori & Hamdan, 2023; Prastio et al., 2023). This intricate balance has grown increasingly precarious in recent years, with the burgeoning human population and its associated activities intensifying pressures on fragile ecosystems (Jiang et al., 2021; Sahana et al., 2022; Tomczyk & Ewertowski, 2023). The situation is especially critical in biodiversity-rich regions like Sumatra, where the majestic sumatran tiger (Sibarani et al., 2019; Pudyatmoko et al., 2023), a symbol of raw, untamed wilderness, finds itself on the precipice due to habitat degradation and human interventions.

Sumatra, renowned for its dense rainforests and exceptional biodiversity, serves as a significant case study for addressing conservation issues (Masunaga et al., 1998; Kull et al., 2013; Pudyatmoko et al., 2023). The vast, verdant landscapes that once reverberated with the roars of the sumatran tiger now grapple with encroachments (Tilson & Nyhus, 2010), often leading to human-tiger conflicts, forest resource depletion, and a steady decline in the tiger population. This encroachment has led to conflicts between humans and tigers, the depletion of forest resources, and a consequent decline in the tiger population. To tackle these complex issues, various detailed and layered strategies are necessary. Against this backdrop, the *sapu jamaerat* crowdfunding campaign has been introduced as a novel approach to direct funding towards conservation efforts. This campaign seeks to draw on the global community's collective support to aid in preserving the sumatran tiger and

its natural habitat. While the potential of crowdfunding has been recognized globally for various causes (Maehle et al., 2021; von Selasinsky & Lutz, 2021), its specific impact on wildlife conservation in the Sumatran context presents a promising field for further study.

Alongside its financial initiatives, the Sumatran Tiger Project has developed an intervention mechanism designed from an operational perspective to tackle critical conservation issues. This mechanism focuses on improving the management of protected areas, enhancing collaboration between agencies, and encouraging sustainable financial strategies. It aims to offer a comprehensive and strategic solution to the broad challenges faced in conservation efforts. However, the complexity of this approach raises important questions regarding its practical effects, the potential for expansion, and its flexibility in different environments. The significance of structured interventions and the role of communication in conservation efforts have increasingly come to the forefront. The Wildlife Conservation Communication Initiatives (WCCI) highlight the influence that compelling narratives can have on public perceptions, increasing awareness and ultimately catalyzing real-world conservation actions (Abrams et al., 2020; Fernández-Llamazares et al., 2020; Coman et al., 2022). In an era dominated by digital platforms, strategies that leverage communication to mobilize support show great potential. Yet, understanding the full scope of their effectiveness, the specifics of their implementation, and their versatility in adapting to various cultural and socio-economic settings remains an area ripe for exploration.

Many studies emerge in the intricate tapestry of wildlife conservation (Hunold & Mazuchowski, 2020; Bowie & Quinton, 2022; Liang et al., 2023), when the focus shifts to the sumatran tiger, all emphasizing the urgency of preserving this majestic species and its habitat. However, certain lacunas become palpable upon scrutinizing the prevailing literature and existing conservation strategies. While crowdfunding has revolutionized fundraising across diverse sectors, its specific efficacy in wildlife conservation, as exemplified by the *sapu jerat* crowdfunding campaign, remains uncharted territory. The literature lacks a comprehensive understanding of the narratives that resonate with donors and the long-term viability of such campaigns in

the conservation sector (Nguyen et al., 2022; Sutrisno et al. 2023a).

Furthermore, the comprehensive potential of the Sumatran Tiger Project's Intervention Mechanism has yet to be thoroughly analyzed to understand its overall contribution to conservation goals. Additionally, while the importance of communication in conservation efforts is widely acknowledged, as suggested by the WCCI, there is a scarcity of systematic empirical evidence to back this up. This research seeks to bridge these gaps by providing a detailed, comparative, and all-encompassing study of these conservation initiatives, aiming to enhance the body of knowledge surrounding the conservation of the sumatran tiger and set the stage for future, more effective conservation strategies. Our study intends to scrutinize these three initiatives closely, evaluating their methods, the ways they intersect, and their combined and individual effects on conserving the sumatran tiger. By employing a comparative approach, this research aims to uncover the strengths, challenges, and potential synergies between these efforts, establishing a foundation for informed, impactful, and enduring conservation strategies moving forward.

Methods

Figure 1 outlines the research approach used to examine the effectiveness of crowdfunding and other strategies in sumatran tiger conservation efforts. The study began at Kerinci Seblat National Park (TNKS), Indonesia, noting its ecological importance and the lack of a detailed management plan. For data collection, information was sourced from non-governmental organization (NGO) websites, including public reports and case studies. Further details were obtained from policy documents, white papers, project proposals outlining conservation strategies, and demographic and financial information from national data repositories. The literature review involved critically examining scholarly articles, case studies, and research papers to frame the theoretical context of the study, identify best practices, and recognize gaps in current research. An analysis of donation trends from the "*sapu jerat*" crowdfunding campaign and related initiatives is conducted, evaluating demographic data to understand donor behavior and identify target groups. This step also assessed the impact of communication strategies on

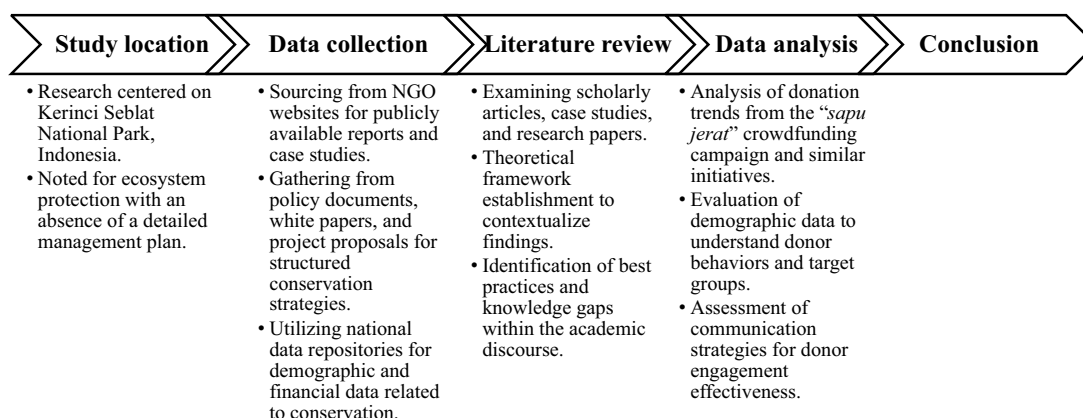


Figure 1 Qualitative approach for evaluating crowdfunding scheme for the sumatran tiger conflict.

donor engagement. The study concludes by synthesizing the collected data, providing insights into the impact of crowdfunding on sumatran tiger conservation projects, and highlighting effective communication tactics.

Study location TNKS, which resides in the sublocation known in full as Indonesia-Sumatran, stands as a notable park in Indonesia and is commonly referred to in English simply as "national park." It falls into category II of the International Union for Conservation of Nature (IUCN)'s management, signifying that its primary functions are the preservation of ecosystems and facilitation of recreational activities, according to the 2018 report by Protected Planet (2018). The park holds official status as a protected area, but the exact year it was designated has not been disclosed. A governmental ministry or agency provides oversight for the park, and it operates under the administration of the Greater Kerinci Seblat National Park Authority. A detailed management plan for the park is not documented, indicating

either the absence of such a plan or the need for an updated one. The designation of international standards as "not applicable" suggests that the park may not be pursuing global recognition, instead prioritizing its significance within Indonesia's conservation efforts, as stated by Protected Planet (2018).

Figure 2 depicts the critical habitat of the sumatran tiger, located in TNKS on the island of Sumatra. This subspecies, the only tiger population left in Indonesia, is listed as critically endangered by the IUCN. The tigers face significant threats from traps laid out by hunters and poachers, endangering their existence despite the species' symbolic representation of strength and calm. In efforts to defend their homes and livestock, local communities have been known to set deadly traps, unintentionally contributing to the tigers' plight. The Sumatran Tiger Project, working in conjunction with Forum Harimau Kita and the United Nations Development Programme (UNDP) in Indonesia, has established the "*sapu jerat*" initiative (Sumatran Tiger

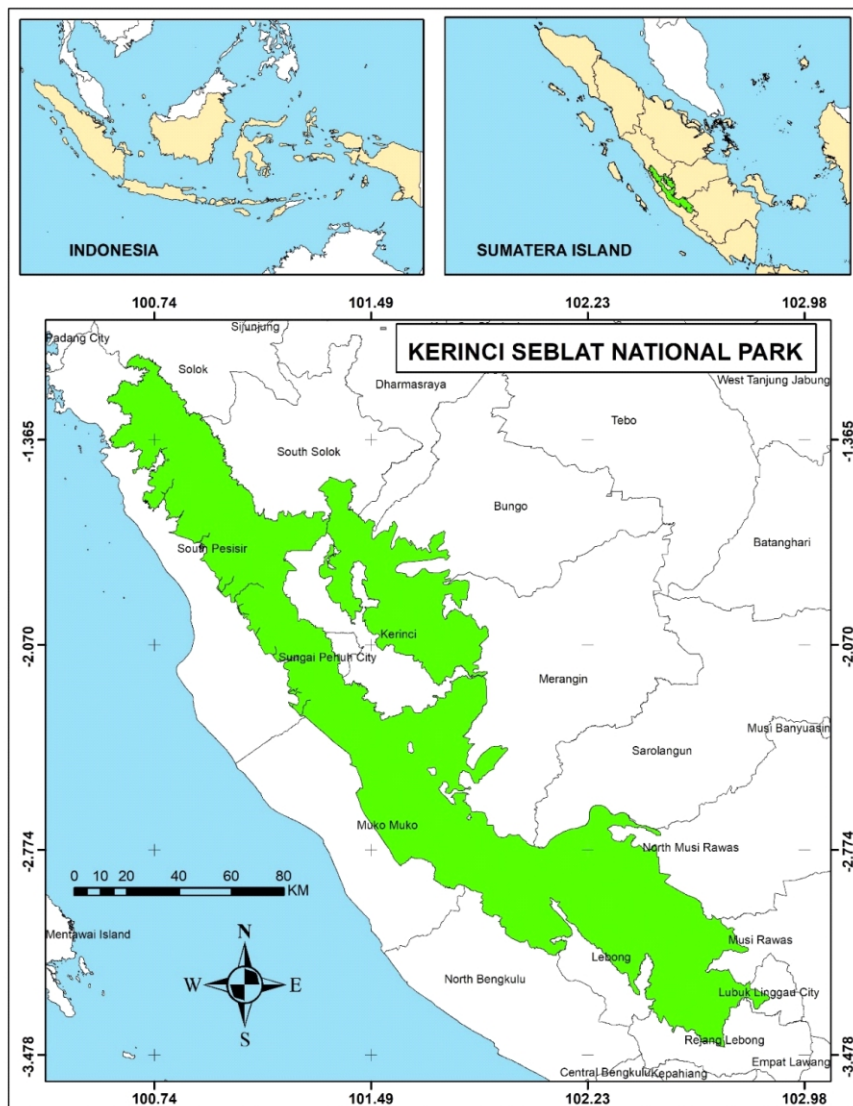


Figure 2 Study location in Kerinci Seblat National Park, Indonesia.

Project, 2017; Panorama Solution, 2018). *Sapu jerat* is not a one-off effort but an ongoing mission that spans various landscapes, providing a recurring financial strategy for wildlife protection.

Data collection In our study, which delves into sumatran tiger conservation, we employed a strategic data collection approach underpinned by a set of carefully crafted criteria designed to ensure the validity and depth of our findings. The choice of data sources was driven by their direct relevance to wildlife conservation, their authoritative nature, and the substantive content they offer. For the selection of NGO websites, we targeted those entities with a significant presence in conservation efforts and a history of impactful project implementation, particularly those focusing on tiger conservation. The rationale behind choosing these sites stemmed from their provision of rich, actionable public data, including annual reports, outcomes of various projects, and reflective case studies. This wealth of information, accessible for public scrutiny, offered an invaluable quantitative and qualitative viewpoint on the intricacies of conservation projects, encompassing funding models, community engagement tactics, and the hurdles encountered during these initiatives.

Our exploration into policy documents, white papers, project proposals, and other official records was guided by the authenticity and comprehensive coverage of conservation strategies and policies. Sourced from established governmental and authoritative NGOs, these documents are treasure troves of information, charting the course of conservation efforts through time, elucidating regulatory frameworks, and providing insight into the socio-economic dynamics at play in conservation. National data repositories were another cornerstone of our research, providing overarching statistical data. These databanks were selected based on their official status and the scope of data they encompass, ranging from the demographics of communities adjacent to conservation sites to the financial commitments made by governments and NGOs towards conservation efforts.

Our literature review was mainly grounded in peer-reviewed academic journals indexed in recognized databases such as Web of Science (WoS), Scopus, and Sintia. These platforms were chosen for their rigorous vetting processes, ensuring the credibility and scholarly value of the articles reviewed. The literature sourced from these databases provided a solid theoretical underpinning for our research, allowing us to benchmark our study against.

Data analysis The data analysis segment of our study was principally grounded in an extensive review of the existing literature. This critical examination enabled us to uncover established patterns in how donations fluctuate, focusing on the intricacies of documented fundraising campaigns and their varying degrees of success. In particular, we compared the outcomes of the "*sapu jerat*" crowdfunding campaign against recognized benchmarks, identifying moments of increased or decreased donor activity. Such fluctuations were often linked to significant external events or notable achievements within these campaigns, offering insights into what might influence donors' willingness to contribute. Additionally, the literature provided valuable demographic

insights, pinpointing specific groups with a historical propensity for giving. This information is critical to strategizing future campaigns, suggesting which demographics may be more receptive to conservation fundraising efforts. Our literature review also examined engagement strategies, shedding light on the efficacy of different communication methods in maintaining and boosting donor interest.

Results and Discussion

***Sapu jerat* crowdfunding campaign** Crowdfunding as a model for financing projects has burgeoned in recent years (Talukder & Lakner, 2023; Xue et al., 2023). From arts to technology startups, the public has become more involved in financially backing endeavors they believe in. The *sapu jerat* crowdfunding campaign offers a compelling case of how such a model can be implemented in wildlife conservation, particularly concerning the human-wildlife conflict. Compared with conventional funding mechanisms, crowdfunding introduces immediate public accountability (Torkanovskiy, 2019; Peng, 2020; Daniele, 2021). The *sapu jerat* campaign's innovative approach to funding resonates (Olsen, 1983; Roychaudhuri et al., 2017) and highlights the rise of alternative funding strategies in conservation efforts. Traditionally, conservation projects relied on governmental grants, NGOs, and philanthropic sources (Berger et al., 2019; Blackwatters et al., 2023). However, this campaign underscores the public's potential role in accelerating conservation initiatives.

In traditional models, funds are usually allocated by large bodies or entities, often through bureaucratic processes. In contrast, crowdfunding presents a more democratized approach, primarily through a local online platform like KitaBisa.com (Parahita, 2019; Rakhmawati, 2020; Sidiq et al., 2021). Given that this campaign pioneered a local online crowdfunding platform popular among younger demographics, it merges technological advancement with philanthropy, targeting a segment that's typically tech-savvy and environmentally aware. Previously, some discussed the advantages of crowdfunding over conventional financing methods (Golić, 2014; Rossi, 2014; Obiora & Csordás, 2017). The democratized approach, devoid of bureaucratic labyrinths, empowers individuals to take charge and directly influence projects.

The utilization of the funds generated is noteworthy. By allocating the money to sponsor six teams in Kerinci Seblat National Parks, they successfully eliminated 49 harmful traps, a testament to the efficiency and direct impact such campaigns can bring about. Such tangible outcomes can further encourage participation in future initiatives as donors witness direct results from their contributions. The campaign's success on social media aligns with the conclusions emphasizing the pivotal role digital platforms play in modern advocacy (Gelfgren et al., 2022; Suryawan & Lee, 2023). Such platforms amplify messages and foster global participation, enabling campaigns to reach targets at unprecedented speeds.

The campaign's massive social media traction, with over 45,292 shares, underscores the significant role that digital platforms play in modern advocacy and fundraising. In line with literature that attests to the power of virality, the

campaign reached 120% of its target. Such figures suggest a potent combination of resonant messaging, digital platform utilization, and an engaged audience. The campaign has opened doors for the public to contribute directly to addressing human-wildlife conflicts, epitomizing a new era of 'people and public partnerships'. Such partnerships could be the cornerstone of future conservation efforts, marrying grassroots participation with governmental or institutional oversight. The success of the *sapu jerat* campaign could inspire similar initiatives, building on the synergy of public involvement and technology. The emergence of 'people and public partnerships' is reminiscent of the public engagement models (Nguyen et al., 2021; 2022). As Nguyen et al. 2021; 2022) suggest, integrating public involvement with institutional mechanisms can enhance efficiency and heightened accountability.

Figure 3 illustrates the core organizational challenges encountered by conservation projects in Sumatra, offering a visual encapsulation of the barriers faced. Several parallels and distinctions emerge after juxtaposing existing literature on global conservation challenges. Figure 3 underscores a deficiency in planning and coordination among stakeholders in Sumatra. Comparative literature (Riedmiller & Carter, 2001; Alexander et al., 2021; Mthembu & Chasomeris, 2023), highlights similar coordination challenges in conservation projects, attributing them to bureaucratic red tape and diverse stakeholder interests. However, Sumatran initiatives appeared to suffer from a lack of concerted effort among governmental and civil bodies. External influences, such as international NGOs with differing priorities, further hamstrung them.

Sumatran Tiger Project's intervention mechanism The Sumatran Tiger Project is a significant effort to tackle the complex issues surrounding tiger conservation. With its structure divided into three main components, the project adopts a comprehensive strategy to reduce the threats facing tiger populations. An in-depth analysis of each component,

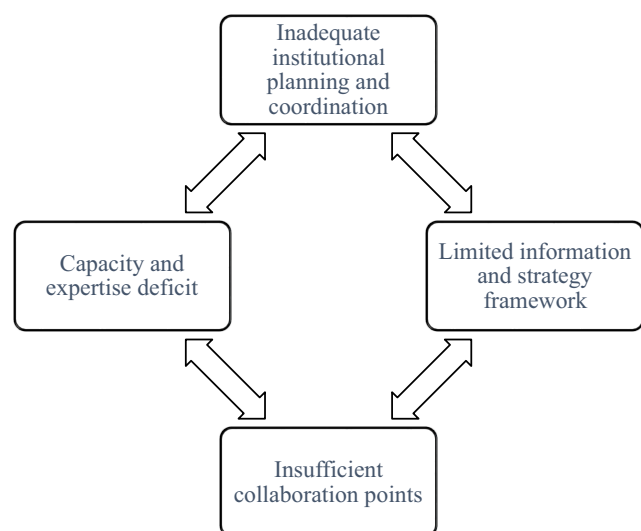


Figure 3 Core organizational challenges encountered by conservation projects in Sumatra.

presented in Figure 4, offers detailed insight into their roles and the nuanced challenges they address. The first component focuses on revitalizing Key Protected Area Management Institutions responsible for safeguarding protected zones. Strengthening the organizations in charge of conserving these vital ecosystems is fundamental to successful conservation. This belief is widely supported within the conservation community, with a consensus that creating and managing protected areas are crucial for preserving biodiversity (Ghosh-Harihar et al., 2019; Gao et al., 2020; Ma et al., 2020; Wang et al., 2020). A central strategy is implementing enhanced adaptive management, an approach characterized by systematic, iterative decision-making amid uncertainties, aiming to clarify these uncertainties over time through diligent monitoring (Suryawan and Lee 2023; Sutrisno et al. 2023b). The Ministry of Environment and Forestry is set to adopt this flexible strategy, which permits institutions to evolve based on the outcomes of their interventions. This adaptive management is designed to accommodate change, tailoring policies to meet evolving conservation needs (Wamsler et al., 2020; Eshuis & Gerrits, 2021).

The constant change in natural environments and the emergence of new threats require regular updates and revisions to existing management plans. These adjustments are based on fresh data, new threats, and the latest tools in conservation. Effective patrolling on the ground is a crucial measure against poachers and illegal loggers (Booth et al., 2021). Moreover, consistent monitoring and evaluation are essential for assessing the effectiveness of conservation strategies, optimizing resource allocation, and ensuring the achievement of conservation goals, which are underlined (Cook-Patton et al., 2021; Skidmore & Wheaton, 2022). These processes allow for necessary adjustments and adaptability when facing the dynamic challenges of conservation.

Establishing Inter-Sectoral Coordination Systems for Priority Landscapes (Component 2) aims to create an integrated conservation strategy encompassing various agencies. Conservation efforts require a holistic approach beyond the protection of individual species to include ecosystem health, human-wildlife conflict resolution, and the promotion of sustainable economic practices. Successful conservation initiatives typically stem from well-coordinated efforts across sectors. Other studies have emphasized that successful conservation outcomes are often the result of coordinated actions across different sectors (Gordon et al., 2020; Birnie-Gauvin et al., 2023). Biodiversity management partnerships address many issues, from illegal wildlife trade to conflicts between humans and tigers, providing a comprehensive defense against threats to Sumatran tigers. Prioritizing data-driven decisions, the project utilizes extensive assessments to guide and monitor conservation interventions, underlining the importance of empirical evidence in conservation effectiveness.

Furthermore, developing Sustainable Financing Mechanisms for Biodiversity Management (Component 3) introduces financial sustainability into conservation efforts. Financial limitations pose significant challenges to conservation projects (Beer, 2022). This argues for the

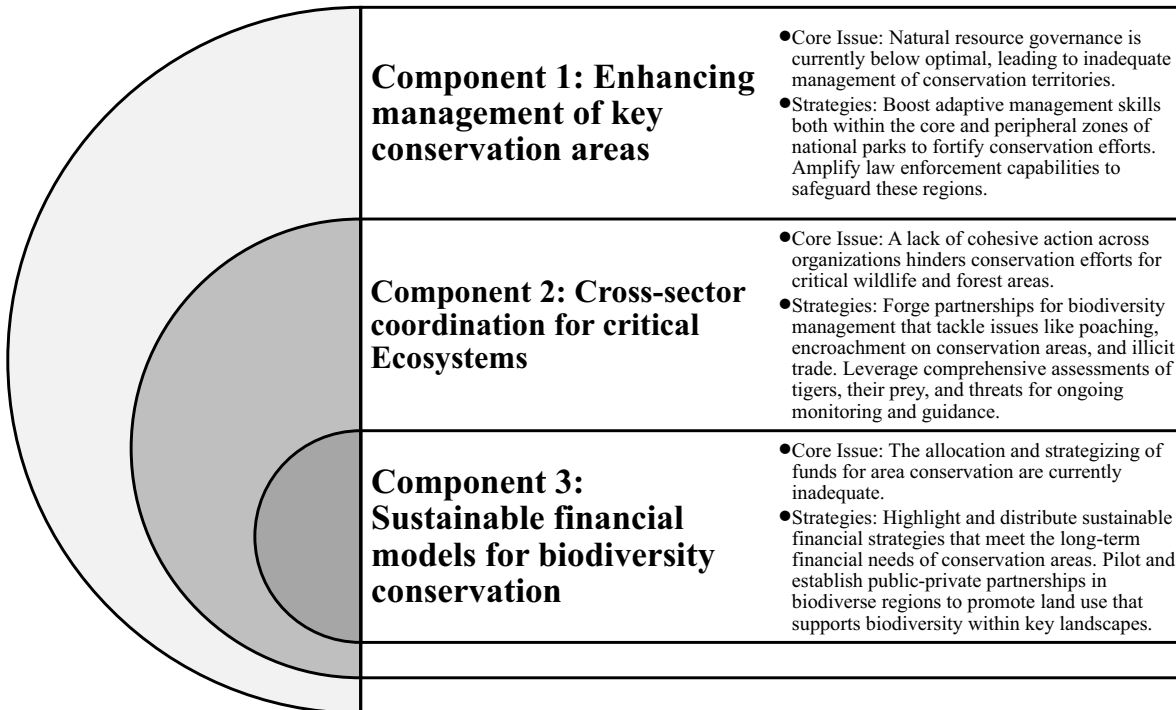


Figure 4 Sumatran tiger primary components intervention mechanism.

necessity of innovative financing mechanisms in the field. Exploring diverse funding sources, including environmental taxes, green bonds, or conservation trust funds, is critical for the sustained success of conservation activities. Collaboration with the private sector opens up new funding opportunities and resources, highlighting the potential to align conservation objectives with economic goals (Henderson, 2001). Through its comprehensive tri-component structure, the Sumatran Tiger Project presents a well-rounded strategy for conserving tigers in Sumatra. Each component integrates smoothly with the others, providing a holistic approach to tackling the ecological, administrative, and financial hurdles inherent in large-scale conservation projects.

Wildlife conservation communication initiatives The Sumatran Tiger Communication Initiatives (STCI) present a strategic plan aimed at conserving the critically endangered sumatran tiger by engaging in comprehensive outreach, capacity enhancement, and forming strategic alliances (as illustrated in Figure 5). This method shows both parallels and distinctions when compared to similar strategies discussed in conservation communication literature.

Awareness campaigns are pivotal in educating a broad spectrum of stakeholders about the critical status of the sumatran tiger and ongoing conservation measures. Led by a dedicated Communication and Reporting Specialist, this component involves creating various informational tools, such as animations, brochures, and newsletters, utilizing both digital and traditional media for widespread engagement. This tactic aligns with the findings of researchers who have noted the growing significance of using diverse media to connect with different audiences (Wu et al., 2018; Feddema et

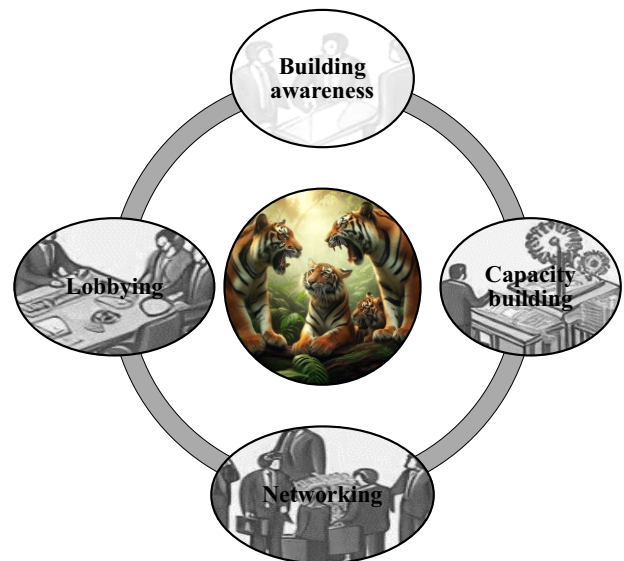


Figure 5 Sumatran tiger communication initiatives (STCI).

al., 2020; Shaw et al., 2022; Bergman et al., 2022). Unlike some approaches that focus heavily on traditional media, STCI employs an extensive mix of digital and traditional channels to ensure comprehensive coverage.

Regarding capacity building, STCI seeks to empower various stakeholders, including media personnel and park staff, with the knowledge and skills necessary to propagate the conservation message effectively. This initiative plans to host training sessions and provide educational resources to understand the project's goals better. This strategy echoes the insights regarding the significance of training in grassroots

conservation efforts (Goodwin, 1998; Norris, 2001). However, STCI takes a broader approach by targeting a more comprehensive array of stakeholders.

The STCI networking component is designed to build a robust support system to enhance the project's outreach and communication efforts. The process begins with selecting potential network members, who are then engaged through specific training sessions and media-related events. Regarding content creation, these network members' contributions are closely monitored and incorporated into the project's reports. This deliberate communication network construction aims to ensure that Sumatran tiger conservation information is consistently and reliably disseminated across a broad audience. The STCI's strategy of forming a network that includes influencers, bloggers, and park staff aligns with the concepts (Tylianakis et al., 2010; Alexander et al., 2016; Anyango-van Zwieten et al., 2019), which emphasize the effectiveness of utilizing local influencers to extend the reach of conservation efforts. Nonetheless, STCI distinguishes itself by implementing a more structured approach to training and engaging its network, in contrast to the more organic, community-driven models suggested by some researchers.

In parallel, the lobbying aspect of STCI seeks to impact policy and decision-making processes by highlighting key issues and challenges affecting the Sumatran tiger. Through the presentation of compelling evidence and arguments, the initiative aims to sway policies and decisions toward favorable outcomes for tiger conservation. This strategy is supported by research that stresses the significance of using customized communication tools to influence policymakers (Maas et al., 2019).

The transition towards utilizing modern communication platforms marks a critical evolution in conservation efforts, particularly in their capacity to captivate a broad and notably younger audience (Confos & Davis, 2016; Odgers & Jensen, 2020). This trend is vividly demonstrated in the strategies employed by the STCI, where adopting these cutting-edge tools has been noted to significantly broaden the reach and enhance engagement, especially with younger demographics. Such an approach reflects a modern, proactive stance in conservation communication, aligning STCI with recent scholarly observations. While the STCI shares several strategies common across wildlife conservation communication efforts, it distinguishes itself through a unique blend of techniques. This includes a diverse array of media channels, a commitment to inclusive training, the establishment of structured networks, and detailed lobbying efforts, all collectively representing a progressive, comprehensive method of advancing the cause of conservation communication.

Conservation strategies The advent of the digital age has significantly enhanced conservation efforts by expanding their reach, increasing public participation, and facilitating the flow of funds. The *sapu jerat* crowdfunding campaign exemplifies this progress by providing an online platform that allows people worldwide to support conservation projects financially. This modern approach to fundraising has become increasingly popular, as platforms like Kickstarter and GoFundMe demonstrate, with a global community

actively contributing to the success of various initiatives (Blaseg et al., 2020; Liu & Shestak, 2021; Ansink et al., 2022). In contrast, the Sumatran Tiger Project focuses on direct, tangible conservation actions on the ground. It establishes solid frameworks for systematically allocating resources, enhancing governance, and fostering stakeholder collaboration. This method mirrors the strategy of initiatives such as the African Elephant Project, which has shown that direct, systematic efforts can significantly impact conservation (Conley, 2019).

Positioned between these approaches is the WCCI. These initiatives aim to connect digital outreach capabilities with real-world conservation efforts, crafting narratives that influence behaviors, shape policies, and alter general perceptions about conservation. Crowdfunding campaigns like *sapu jerat* benefit from the immediacy of digital platforms, where incoming funds are quickly allocated to conservation projects, leading to prompt, visible results. As funds pour in, they're directed toward conservation endeavors, yielding quick, tangible results. This efficiency is supported by the fact that the success of crowdfunding efforts largely depends on their ability to deliver swift outcomes (Belavina et al., 2020; Bai et al., 2023). However, the Sumatran Tiger Project represents a strategic approach focused on long-term impact. While its immediate effects may be less apparent, its overarching goal is to achieve systemic changes that will ensure the sustainability of conservation efforts. This approach is akin to that of the Amazon Rainforest Conservation efforts, prioritizing a comprehensive and sustained strategy for environmental preservation (Brouwer et al., 2022; Moutinho & Azevedo-Ramos, 2023). Each of these strategies appeals to different audiences. The online nature of the *sapu jerat* campaign allows it to engage a global audience, underscoring the power of the internet to mobilize support from around the world for conservation causes.

Limitations and future research The present study ventured into the intricate landscape of wildlife conservation, particularly emphasizing the *sapu jerat* crowdfunding campaign, the Sumatran Tiger Project's intervention mechanism, and the WCCI. However, it's pertinent to recognize the inherent limitations of such a focused approach. While these initiatives offer a rich tapestry of insights, the study, under its scope, might not encompass the entirety of global and regional efforts. This omission, unintentional as it may be, could shape a limited narrative, potentially sidelining other seminal efforts in the realm of conservation.

Moreover, the pronounced emphasis on the Sumatran Tiger Project introduces a regional slant to the findings. As different terrains and regions come with unique conservation challenges influenced by diverse socio-cultural, political, and environmental factors, the applicability of these findings across varied geographies remains a question. This regional lens is further exacerbated by the potential pitfalls of relying heavily on digital literature sources. While they offer a wealth of information, the absence of ground reports or firsthand accounts might mask nuances crucial to a comprehensive understanding. It's also essential to consider

the ever-evolving landscape of conservation. Factors like changing climate patterns, socio-political upheavals, and technological innovations continually redefine the conservation narrative, potentially making some aspects of this study less applicable. Similarly, the cultural and socio-economic dynamics of the regions in focus might not have been dissected in detail despite their crucial role in conservation outcomes.

Peering into the future, it's evident that more expansive research is the need of the hour. Delving into a broader spectrum of conservation efforts from diverse global corners can offer a more holistic perspective. Detailed case studies can elucidate the micro-level intricacies of each initiative, revealing the challenges and best practices that broad-spectrum analyses often overlook. A multi-stakeholder approach that integrates the perspectives of local communities, policymakers, and conservationists could enrich the research canvas, offering multifaceted insights. These voices can lead to more authentic narratives, especially from the ground.

One pivotal area of future exploration should be the tangible impact of conservation initiatives. Metrics that evaluate biodiversity recovery, habitat restoration, or shifts in local human behaviors could offer a clear-eyed assessment of an initiative's success or potential areas of improvement. Another promising avenue is exploring technology's role in conservation, examining its integration, benefits, and potential challenges. However, one of the most pressing future research domains, especially considering this study's limitations, is understanding the socio-cultural dynamics of conservation. How local cultures perceive, adapt, or resist conservation efforts can reveal valuable insights. Lastly, future research must pivot towards the 'willingness to participate' assessments from local communities. These assessments can gauge the community's intrinsic motivations, challenges, and perspectives, providing a more grounded understanding of conservation's on-the-ground realities. Understanding this willingness can lead to more community-centric, inclusive, and practical future conservation strategies.

Conclusion

In the ever-evolving realm of wildlife conservation, this study has illuminated novel pathways that harness the synergy of traditional conservation strategies and modern technological interventions. *Sapu jerat* crowdfunding campaign's success underscores the potential of mobilizing public support through online platforms, showcasing that communities worldwide can be rallied to support causes as urgent as sumatran tiger's conservation with the correct narrative. On a more granular level, the Sumatran Tiger Project's intervention mechanism elucidates the criticality of multi-dimensional strategies, emphasizing adaptive management, inter-agency collaboration, and sustainable financing as the three pivotal pillars. The indispensable role of communication, championed by the WCCI, reaffirms the adage that the efficacy of any conservation initiative is inextricably tied to its narrative's strength and reach. However, as the study became more profound, it unearthed layers of complexity. While these initiatives have shed light

on new horizons, challenges persist. The nuances of community engagement, the sustainability of crowdfunding as a long-term conservation strategy, and the measurable impact of communication campaigns are still unclear. While the study bridged several gaps by presenting a more holistic picture of contemporary sumatran tiger conservation strategies, it also underscores the journey ahead. Although profoundly insightful, the lessons from this research also serve as a clarion call for more immersive, inclusive, and iterative conservation strategies. Like any intricate puzzle, preserving the sumatran tiger requires individual pieces and the intricate art of piecing them together. As highlighted in this research, the confluence of technology, community, strategy, and narrative might be the recipe for a sustainable future for sumatran tiger.

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