Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

Community Support for Forest Conservation Policies in the Komodo Subdistrict

I Wayan Koko Suryawan[1,2,3*], Imelda Masni Juniaty Sianipar[4], Chun-Hung Lee[2,3,5]

[1]Department of Environmental Engineering, Faculty of Infrastructure Planning, Universitas Pertamina, Jalan Sinabung II, Terusan Simprug, Jakarta, Indonesia 12220
[2]Center for Environmental Solution (CVISION), Universitas Pertamina, Jalan Sinabung II, Terusan Simprug, Jakarta, Indonesia 12220
[3]Center for Interdisciplinary Research on Ecology and Sustainability, College of Environmental Studies and Oceanography, National Dong Hwa University Hualien, Taiwan, ROC 97401
[4]Department of International Relations, Faculty of Social Science and Political Science, Universitas Kristen Indonesia, Jakarta, Indonesia 13630
[5]Department of Natural Resources and Environmental Studies, College of Environmental Studies and Oceanography, National Dong Hwa University, Hualien, Taiwan, ROC 97401

Received November 19, 2024/Accepted May 4, 2025

Abstract

This study delves into the critical determinants that influence community support for forest conservation policies within the Komodo Subdistrict, utilizing a logistic regression analysis to dissect the impact of various socioeconomic and demographic factors on local residents' attitudes toward conservation. A detailed questionnaire was administered to 520 residents to capture perceptions of conservation measures, infrastructure development, and community involvement. Binary logistic regression revealed that the visibility of conservation efforts, including natural landscape protection and eco-friendly infrastructure, significantly influences public support for policies. There was a strong positive correlation between the visibility of conservation actions and community support. This effort includes visible protection of natural landscapes and eco-friendly infrastructure, which has significantly bolstered public approval. Adaptive business operations and local training initiatives were positively correlated with support for conservation policies, suggesting that economically beneficial conservation strategies are more likely to win public favor. Lower income levels were unexpectedly associated with more significant support for conservation policies, which could indicate a reliance on the benefits derived from conservation efforts. Conversely, younger demographic groups and island residents displayed a lower propensity to support existing policies. By aligning conservation efforts with the community's economic and social priorities, policymakers can ensure broader support and sustainable engagement.

Keywords: *forest conservation, community support, policy analysis, Komodo Subdistrict*

**Correspondence author, email*: *i.suryawan@universitaspertamina.ac.id*

Introduction

The evolving regulations governing tourism development in Indonesia's protected areas (Tranter et al., 2022), especially within the Komodo National Park, offer a comprehensive view of the dynamic between conservation efforts and development ambitions. Indonesia's Komodo National Park is a poignant case study in balancing conservation and development. Regulation Number P.48/Menhut-II/2010, introduced in 2010 by the Ministry of Environment and Forestry (MoEF), set a transformative precedent by welcoming private tourism investment within the nation's 54-plus national parks (Ministry of Environment and Forestry, 2010). MoEF revised this legal framework with Regulation Number P.8/MENLHK/Setjen/KUM.1/3/2019 to enhance efficiency and transparency, establishing an online single submission system for license processing (Ministry of Environment and Forestry, 2019). This digital leap aimed to integrate and streamline developmental pursuits without compromising the ecological sanctity of the region. The government's vision for upgrading Rinca Island with facilities inspired by 'Jurassic Park' is a testament to this developmental zeal, seeking to morph the region into a world-class tourism magnet (Gasa et al., 2023). Yet, this vision is not without contention, fueling debates that pivot around the delicate equilibrium of ecosystem preservation and infrastructural evolution.

The literature concerns the unintended ecological repercussions of developments that overstep sustainable growth bounds (Zhang & Zhu, 2020; Ningrum et al., 2023). Amidst this, Indonesia's strategy evolves, seeking to weave together the threads of environmental custodianship with the fabric of touristic and economic aspirations (Utomo et al., 2020; Idris et al., 2021). The unfolding narrative in Komodo National Park embodies the complex interplay of policy

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

shifts, community dialogues, and environmental guardianship. It is an emblematic struggle within the global arena where biodiversity conservation grapples with the socioeconomic thrusts of community progress and national development (Armitage et al., 2020; Nyaupane et al., 2022). This evolving policy, participation, and protection tapestry continues to define the conservation discourse amidst burgeoning developmental pressures. Academic discourses on policy effectiveness frequently hinge on the extent of community support, as observed in cases across various ecological settings (Downes & Marchant, 2016; Alcaraz et al., 2020).

Community support for conservation is often contingent upon the perceived direct benefits of such efforts, as community buy-in is critical for the successful implementation of environmental policies (Nepal et al., 2022; Abukari & Mwalyosi, 2020). At the same time, studies emphasize the socioeconomic diversity within communities for example, in the Komodo Subdistrict (Lasso & Dahles, 2021) highlighting the need for policies that are adaptable to varied local contexts to be effective (Suryawan et al., 2024). A significant knowledge gap remains regarding how younger generations perceive and support conservation, an issue of growing importance given shifting demographic profiles (Chawla, 2020; Edwards & Larson, 2020). Empirical research across regions demonstrates that socioeconomic, pro-social, and pro-environmental factors strongly influence participation in conservation. For instance, in Bolivia, incentive-based programs were more successful when supported by public institutions and when participants had higher awareness of environmental problems, knowledge of potential solutions, and perceived benefits of ecosystem services conservation (Authelet et al., 2021). Similarly, in Japan, social, psychological, and behavioral determinants influenced conservation behavior, with older participants displaying higher levels of awareness, habits, and cultural engagement in water conservation compared to younger cohorts (Singha et al., 2022). Studies in Ghana also reveal the importance of youth attitudes toward pollution and environmental responsibility, broadening understanding in understudied contexts (Kabir & Wiium, 2021). Across Australia, variations in people's orientation toward nature demonstrate that those with differing values and degrees of connection to nature engage in diverse, impactful conservation behaviors, challenging simplistic anthropocentric versus ecocentric stereotypes (Sockhill et al., 2022). In Tanzania, determinants such as socio-demographic and contextual factors shape local perceptions of elephant crop-raiding and influence support for conservation, underscoring the importance of fostering coexistence between humans and wildlife (Mbise, 2025). Comparable findings in Ethiopia reveal that education level, duration of residence, and proximity to ecotourism attractions significantly affect community perceptions of ecotourism impacts (Angessa et al., 2022). Other contexts similarly demonstrate the role of socio-demographic attributes in conservation attitudes and behaviors. In India, attributes such as social identity and community structures shaped valuations of sustainable environmental management in tribal socio-ecological landscapes (Das et al., 2022). In Colorado, the reintroduction of gray wolves illustrates the role of supportive social contexts in shaping conservation outcomes, with public approval emerging from a citizen ballot initiative (Manfredo et al., 2021). Further evidence from Ghana shows that higher education, stronger environmental self-identity, and pro-sustainability orientations predicted more frequent and effective conservation behaviors (Ajibade & Boateng, 2021). Finally, research in Kenya indicates that communities dependent on tourism were more likely to support conservation policies, as tourism provided livelihoods that reinforced conservation-related benefits (Holland et al., 2022). Policy shifts in Komodo National Park expose a critical gap in understanding the long-term ecological impacts of increased tourism and the infrastructure demands placed on sensitive ecosystems. Equally, there is insufficient clarity on how these regulatory changes intersect with the socioeconomic and cultural dynamics of the Komodo Subdistrict's diverse communities. Addressing these dimensions is vital for guiding policy-makers and conservation practitioners, ensuring that conservation strategies remain aligned with community priorities while adapting to emerging challenges (Imelda et al., 2024). The political dimensions of livelihood transformation among the indigenous Ata Modo people further complicate conservation efforts, as multiple institutions have intervened in Komodo Village, reshaping community engagement and governance structures (Afioma, 2024). Existing regulations governing village-scale resource management and varying forms of community participation highlight the institutional complexity of conservation in the region (Hidyarko et al., 2021). Local ecotourism studies similarly underscore the importance of expanding tourism policies beyond the boundaries of the protected area to include diverse stakeholders, thereby ensuring more inclusive and sustainable outcomes (Lasso & Dahles, 2021). At the same time, strict regulations limiting access to Komodo Island have created tensions for local communities, demonstrating how claims to resources and community rights are continually negotiated (Hasanah & Bayo, 2024).

Conservation policies must also account for the ecological dynamics of the region. Research on the physiological adaptations of the Komodo dragon under stress conditions provides critical insights into species resilience and highlights the need to maintain stable habitats (Tomańska et al., 2024). Yet, despite these ecological imperatives, current regulatory approaches often prioritize short-term economic gains through investment incentives and tourism expansion, creating conflicts with long-term sustainable management. To address these tensions, this study investigates the foundations of public support for conservation policies, focusing on how communities perceive both the benefits and drawbacks of existing initiatives. By analyzing the socioeconomic and demographic factors that shape community receptivity, this research contributes to broader debates on reconciling conservation and development. Understanding these dynamics is essential for designing policies that foster ecological sustainability while supporting community well-being—an increasingly urgent challenge in the context of global environmental change.

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

Methods

Study location and sample The research methodology adopted for this study adheres to rigorous ecological and sociological inquiry standards, particularly within the context of forest conservation in the Komodo Subdistrict (Figure 1). This study is crucial in Komodo National Park due to the region's unique socio-demographic composition, ecological significance, and the ongoing intersection of conservation policies with local livelihoods. TN Komodo is home to diverse ethnic groups, including the Manggarai, Bajo, and migrants from other regions, whose cultural and economic activities are intricately linked to the conservation landscape. The Ata Modo people, the indigenous inhabitants of Komodo Island, face significant livelihood transformations due to shifting policies and increased tourism development, making their participation in conservation efforts essential (Afioma, 2024). Furthermore, Komodo National Park is a protected area that experiences high tourism pressure, regulatory shifts, and conservation challenges (Lasso & Dahles, 2021). The expansion of ecotourism policies beyond the immediate protected area necessitates a deeper understanding of community adaptation and participation in conservation programs (Hidyarko et al., 2021). Additionally, regulatory frameworks influencing access rights, resource management, and local governance structures require alignment with socio-demographic realities (Hasanah & Bayo, 2024). Given these complexities, this study provides valuable insights into how conservation policies can be more effectively integrated with community interests, ensuring long-term ecological and socio-economic sustainability.

According to 2021 demographic data, the total population of Komodo Subdistrict, Manggarai Barat Regency, East Nusa Tenggara, is 55,038 (Badan Pusat Statistik, 2021). With a population density of 55 inhabitants per square kilometer, the subdistrict includes a mix of mainland (Flores Island) and island communities (Komodo, Rinca, and several smaller islands). The administrative center is Labuan Bajo, which serves as the gateway for tourism and conservation governance. The population exhibits ethnic diversity, with Manggarai, Bajo, and other migrant communities engaging in fishing, tourism, and trade. These socio-demographic factors influence conservation attitudes and willingness to participate in adaptive conservation programs, making this region a critical case study (Imelda et al., 2024). To capture this complexity, the study employed a stratified random sampling approach, ensuring representation across demographic groups. The sample size of 520 respondents was determined based on a 5% margin of error, providing a satisfactory level of precision for ecological and social analyses. This level of statistical significance was essential in yielding reliable insights while accommodating the practical constraints of field research.

The measurement techniques were carefully chosen to align with the required data type. Nominal scales, with their non-ordinal nature, were ideal for binary 'Yes/No' questions that addressed the presence or absence of policies and practices. These measures were vital in determining fundamental yet powerful indicators of conservation efforts, such as the existence of natural landscape protection and eco-friendly infrastructure. On the other hand, ordinal scales

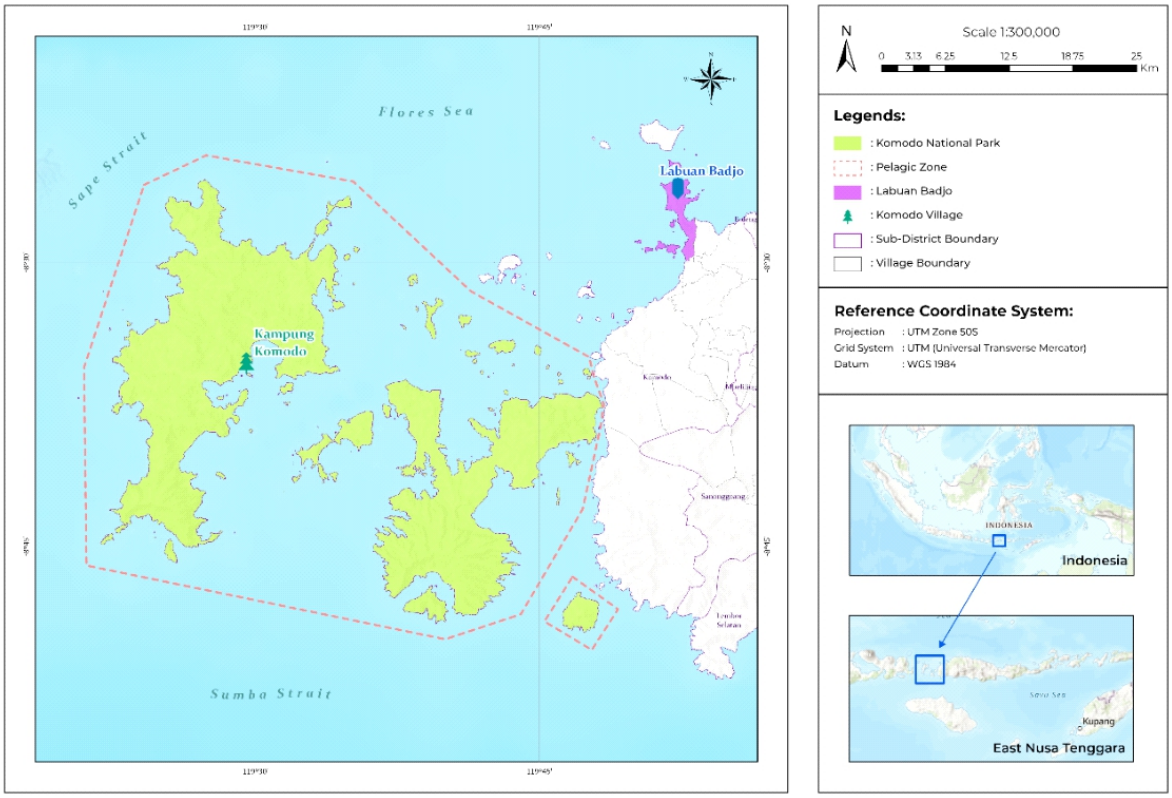

Figure 1 Map of the Komodo Subdistrict showing areas of conservation and tourism development (Suryawan et al., 2024b).

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

were crucial in discerning the gradations in socioeconomic factors, such as income levels and age groups, which may subtly influence conservation behaviors and practices, as shown in Table 1.

Hypothesis development The development of hypotheses in this study is based on the interplay between environmental, socioeconomic, and demographic factors that influence public support for forest conservation policies (Figure 2). Komodo National Park, one of Indonesia's most popular destinations, has undergone significant accessibility developments that affect visitor behavior and conservation dynamics. Research highlights that tourist accessibility in the park can be classified into three dimensions: destination

Table 1 Survey variables and community perspectives on conservation policy

Variable	Scale	Question	Description
Natural landscape protection	Nominal	"Does the area have policies for natural landscape protection? (Yes/No)"	No: Indicates no active measures, suggesting vulnerability to exploitation or mismanagement. Yes: Reflects active conservation initiatives to safeguard forests, possibly involving legal protections and community-led management.
Eco-friendly infrastructure	Nominal	"Is there eco-friendly infrastructure in place to support forest ecosystems? (Yes/No)"	No: Absence of infrastructure mindful of environmental impact, potentially leading to forest degradation. Yes: The presence of infrastructure designed or modified to minimize the ecological footprint supports forest sustainability.
Adaptive operations	Nominal	"Do local businesses practice adaptive operations that consider environmental impacts? (Yes/No)"	No: Operations not considering ecological limits risk forest health and biodiversity. Yes: Operations that adjust business practices to promote environmental stewardship and balance with economic activities.
Local training and support	Nominal	"Is there local training and support available for forest conservation? (Yes/No)"	No: A lack of community knowledge and conservation skills leads to potential unsustainable practices. Yes: A structured approach to community education and empowerment for sustainable forest management.
Gender	Nominal	"What is your gender? (Male/Female)"	Male/Female: Identifies gender-specific contributions and perspectives in forest conservation, crucial for developing inclusive strategies.
Income	Ordinal	"Which income bracket do you fall into? (Below IDR1,000,000, IDR1,000,000 – IDR3,000,000, IDR3,000,001–IDR5,000,000, Above IDR5,000,000)"	Various brackets: Reflects the financial capacity to support conservation and the economic dependence on forest resources.
Age	Ordinal	"Please select your age range. (18–29, 30–39, 40–49)"	Various age groups: Shows the spread of conservation knowledge and openness to adopting conservation practices across generations.
Occupancy (Occupation)	Nominal	"What is your occupation? (e.g., Company employee, NGO worker, Government officer, Educator, Private business owner, Seller, Student, Tourist operator)"	Varied occupations: Assesses how different professional sectors impact and engage with forest conservation.
Settlement	Nominal	"Do you live in an island community or a non-island community?"	Islands community/non-islands community: Highlights conservation challenges specific to isolated or resource-limited communities versus mainland communities.
Support policy	Nominal	"Does the area have a support policy for forest conservation efforts? (Yes/No)"	No: Indicates the absence of formal strategies or programs to assist in forest conservation, potentially leading to a lack of structured support for such initiatives. Yes: Signifies that established policies or programs offer assistance or incentives for forest conservation, reflecting a commitment to reinforcing conservation efforts through policy support.

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

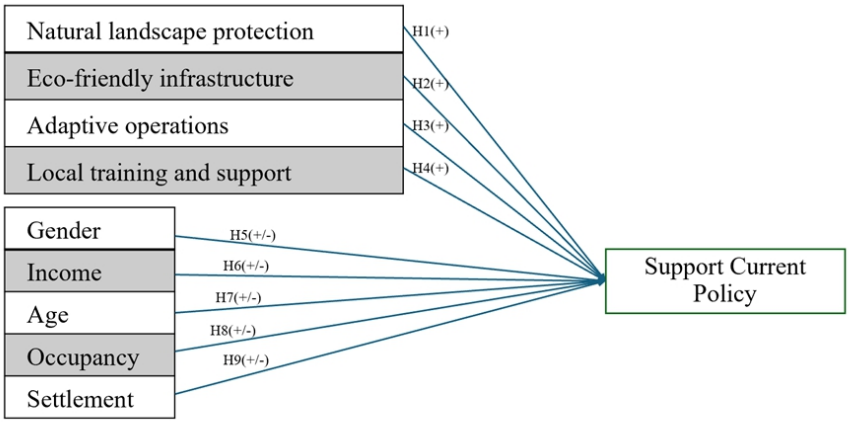

Figure 2 Hypothesized model of community support for conservation policy.

accessibility, individual accessibility, and protected island accessibility. All three dimensions significantly influence visitation decisions, with protected island accessibility acting as a limiting factor (Rahmafitria et al. 2024). Additionally, tourist typologies in Komodo National Park, particularly hedonistic adventure tourists and high-risk hedonistic tourists, have exhibited ignorant behavior toward conservation, further emphasizing the need for policies that balance tourism and environmental sustainability (Rahmafitria et al. 2023). Beyond tourism, the role of ecotourism as a conservation strategy has been questioned, as it must address both the sustainability of natural resources and the socioeconomic needs of local communities. The complex social structure of Komodo's local communities and their economic interdependencies require a nuanced approach to conservation (Lasso & Dahles, 2021). Given these factors, this study hypothesizes that natural landscape protection, eco-friendly infrastructure, adaptive business operations, local training and support programs, income level, age, and residence in island communities impact individuals' willingness to support conservation policies. These factors are expected to shape public attitudes toward conservation initiatives, influencing both participation in conservation efforts and support for existing regulations in Komodo National Park.

- H1 proposes that individuals who observe and acknowledge the presence of active measures for natural landscape protection are more inclined to support current policies. This premise is based on the assumption that when individuals can directly perceive efforts to safeguard natural environments (Domínguez & Luoma, 2020), they may develop a sense of trust and affirmation in the policies that enable such protection.
- H2 asserts that the establishment and visibility of eco-friendly infrastructure contribute positively to the support of conservation policies. It suggests that their confidence in policy efficacy will likely increase when community members witness tangible infrastructural investments that preserve the ecological balance (Suryawan & Lee, 2023), such as green buildings or sustainable waste management systems.
- H3 posits that adopting adaptive operations by local businesses, which reflect a commitment to reducing environmental impacts, will correlate with an increased propensity among the community to back current policies. This relationship is grounded in the belief that adaptive practices align economic activities with environmental sustainability (Abbass et al., 2022), which may bolster policy support.
- H4 centers on the hypothesis that community-based education and resource availability for conservation are influential in garnering policy support. The reasoning is that empowerment through knowledge and skill-building in conservation can lead to greater endorsement of the policies that facilitate such initiatives (McGinnis et al., 2020).
- H5 explores the potential differences in policy support between gender groups. It contemplates that gender may play a role in shaping attitudes towards forest conservation policies, possibly due to differing experiences, perspectives, or priorities in environmental issues across genders.
- H6 examines the relationship between income levels and policy support. It is hypothesized that higher-income individuals may exhibit more substantial support for conservation policies (Stone & Johnson, 2022; Miao et al., 2023), perhaps because financial stability allows for a greater engagement with and investment in environmental issues.
- H7 considers age as a factor in influencing policy support, suggesting that generational differences might manifest in the level of policy endorsement. The hypothesis is that various age groups could have been exposed to different environmental narratives and education levels, which may have shaped their responsiveness to conservation efforts.
- H8 reflects on the impact of occupation on policy support. It is assumed that certain occupations, particularly those related to or impacted by environmental regulations, may influence an individual's perception of and support for policy measures. For example, individuals in environmental sectors may be more supportive due to their

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

direct involvement with the outcomes of these policies (Büchs, 2014).

- H9 contends that the unique environmental conditions and resource availability in island versus non-island communities can lead to differences in policy support. The distinctive ecological challenges island residents face, such as limited land availability or exposure to sea-level rise (Martyr-Koller et al., 2021; Hernández-Delgado, 2024), might shape their views on the adequacy of current conservation policies differently from those in mainland settings.

Data collection This study employed a mixed-methods approach, integrating both quantitative and qualitative data collection techniques to gain a comprehensive understanding of the factors influencing public support for conservation policies in Komodo National Park. A cross-sectional survey was conducted to capture a snapshot of public attitudes and behaviors related to conservation efforts. The survey was designed using insights from previous research on community participation in conservation programs (Imelda et al., 2024; Suryawan et al., 2025a; 2025b) and was pre-tested to ensure clarity and reliability. A stratified random sampling approach was adopted to ensure representative coverage of different socio-demographic groups within the Komodo Subdistrict, considering factors such as income levels, education, age, occupation, and residency (island vs. mainland communities). A total of 520 respondents participated in structured interviews, providing quantitative data on their perceptions of conservation policies, infrastructure development, and community engagement. The sample size was determined based on a 5% margin of error, ensuring statistical significance while accounting for practical field constraints.

In addition to surveys, qualitative data were collected through semi-structured interviews and participant observation to explore deeper insights into community experiences and conservation challenges. Key informant interviews were conducted with local leaders, tourism operators, and conservation practitioners, drawing on previous studies highlighting the importance of local stakeholder engagement in conservation governance (Lasso & Dahles, 2023). This qualitative component provided contextual depth, helping to validate and interpret the quantitative findings. The collected data were analyzed using binary logistic , allowing for an examination of the relationships between socioeconomic, demographic, and environmental factors and public support for conservation policies. The qualitative data were coded thematically, following established frameworks for community-based conservation analysis (Sianipar et al., 2024; Sutrisno et al., 2024). The integration of these methods ensured a rigorous and multidimensional approach, aligning with best practices in conservation policy research.

A range of key factors was examined to determine their influence on conservation support. Natural landscape protection, defined by the perceived importance of preserving Komodo National Park's ecosystems, emerged as a critical determinant "(Imelda et al. 2024). Similarly, eco-friendly infrastructure, including sustainable tourism facilities and conservation-oriented infrastructure, was found to play a significant role in shaping conservation attitudes (Bhushan et al., 2024; Suryawan et al., 2025b). Adaptive business operations, particularly in the tourism sector, reflected the willingness of businesses to embrace conservation-friendly models aligned with environmental sustainability (Rosenstock et al. 2020). Beyond environmental considerations, community engagement was another key factor. Local training and support programs were found to be essential in encouraging participation in conservation education and skill-building initiatives, ensuring that local communities are well-equipped to engage in sustainable practices (Abubakar et al., 2024; Thakur & Kumar, 2024). Socioeconomic factors, including income level, education, and employment in conservation-related industries, also influenced conservation support, as financial stability and knowledge of environmental issues shape individual perceptions of policy effectiveness (Sianipar et al., 2024; Sutrisno et al., 2024). Furthermore, demographic characteristics such as age, gender, and residency (mainland versus island communities) played a critical role in shaping conservation perspectives, as different population groups have varying levels of exposure to conservation policies and tourism development. By integrating these factors, the study provides a comprehensive understanding of the drivers of public support for conservation policies in Komodo National Park. The findings contribute to ongoing discussions on balancing environmental sustainability with socioeconomic development, offering insights that can inform more inclusive and effective conservation strategies.

Data analysis The data analysis phase of the study was marked by a rigorous quantitative approach, utilizing binary logistic regression within the SPSS Version 29 software. This statistical technique was integral for its proficiency in handling binary outcome variables in this case, specifically examining the likelihood of individuals supporting current policy related to conservation practices.

Binary logistic regression is a statistical method that models the relationship between a binary dependent variable and one or more independent variables (Sianipar et al., 2024; Suryawan & Lee, 2024; Sutrisno et al., 2024; Sofiyah et al., 2025). It estimates the probability of a binary response based on the predictors, allowing researchers to assess how different factors influence the likelihood of an event. In this study, the event in question was whether individuals adopted conservation practices, focusing on the impact of their support for current policy. This analysis transcended the mere identification of correlations; it was about probing the predictive capacity and importance of different variables regarding conservation behaviors within the Komodo Subdistrict. The results from logistic regression illuminated which factors had the most substantial linkage with favorable conservation outcomes (Sianipar et al., 2024; Suryawan & Lee, 2024; Sutrisno et al., 2024). Part of this involved interpreting the odds ratios for specific variables, which provided insights into how likely individuals with particular characteristics were to engage in conservation behaviors. Several statistical indices were leveraged to gauge the model's explanatory power and the relationship between the

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

predictors and the outcome variable. These included: 1) The 2 log likelihood provided a measure of the model's fit, with lower values indicating a better fit; 2) Cox & Snell R-square and Nagelkerke R-square are pseudo-R-squared statistics giving a sense of the variance in the dependent variable accounted for by the model; and 3) The percentage indicates the proportion of correct predictions made by the model (Nguyen et al., 2023; Rahman et al., 2025).

SPSS's role in the analysis was indispensable. Its sophisticated features for managing extensive datasets and executing complex calculations were crucial in dissecting the data intricately. Moreover, SPSS excelled in presenting the findings interpretably through detailed tables and graphs. These visual aids distilled the complex statistical relationships into readily understandable formats, not just to researchers and statisticians but also to a broader audience, including policymakers and stakeholders without a background in statistics. By leveraging such a robust analytical approach, the study provided a snapshot of the current state of conservation in the Komodo Subdistrict. It generated predictive insights that could guide future policy directions and conservation strategies. The systematic use of binary logistic regression within SPSS 29 was a pillar of the study's commitment to analytical excellence and actionable outcomes.

The qualitative component of the study was essential in validating and enriching the quantitative results. Semi-structured interviews with local leaders, tourism operators, and conservation practitioners were transcribed and analyzed thematically to identify recurring patterns and narratives in conservation attitudes. These themes were then cross-referenced with the statistical findings, helping to interpret key quantitative results and providing contextual explanations for statistical trends. This approach ensured that the study did not rely solely on numerical outputs but also considered community perceptions, experiences, and social dynamics influencing conservation policy support. The findings not only quantified key determinants of policy support but also offered rich contextual interpretations, making them highly relevant for informing future conservation strategies and policymaking.

Results

The results presented in Table 2 provide a statistical insight into the factors influencing the support for current policies on forest conservation in the Komodo Subdistrict. The details of the distribution of responses across various demographic and socioeconomic variables. Including perceptions of natural landscape protection, eco-friendly infrastructure, adaptive operations, local training, gender, income, age, occupation, and type of community settlement.

An initial overview reveals that certain variables have a statistically significant association with policy support, as evidenced by the Pearson chi-square test results. This test assesses the independence of two categorical variables, with a lower *p*-value indicating a more significant relationship. Beginning with natural landscape protection, the data indicates that a more significant percentage of respondents who perceive that such measures are in place tend to support current policies. This positive relationship suggests that the community recognizes and values visible efforts in protecting the natural landscape, which translates into policy support.

Table 2 Community support for conservation policy by demographic and environmental variables

No		Variable	Support current policy				Pearson χ^2	df
			No		Yes			
1	Natural landscape protection	No	85	16.35%	176	33.85%	4.773	1
		Yes	62	11.92%	197	37.88%		
2	Eco-friendly infrastructure	No	87	16.73%	176	33.85%	6.073	1
		Yes	60	11.54%	197	37.88%		
3	Adaptive operations	No	96	18.46%	169	32.50%	16.874	1
		Yes	51	9.81%	204	39.23%		
4	Local training and support	No	75	14.42%	149	28.65%	5.274	1
		Yes	72	13.85%	224	43.08%		
5	Gender	Male	73	14.04%	174	33.46%	0.383	1
		Female	74	14.23%	199	38.27%		
6	Income	< IDR1,000,000	7	1.35%	48	9.23%	10.237	3
		IDR1,000,000–IDR3,000,000	48	9.23%	117	22.50%		
		IDR3,000,001–IDR5,000,000	52	10.00%	138	26.54%		
		> IDR5,000,000	40	7.69%	70	13.46%		
7	Age	18–29	59	11.35%	149	28.65%	3.42	2
		30–39	64	12.31%	138	26.54%		
		40–49	24	4.62%	86	16.54%		
8	Occupancy	Company employee	31	5.96%	70	13.46%	3.437	7
		NGO	8	1.54%	29	5.58%		
		Government office	21	4.04%	44	8.46%		
		Educator	1	0.19%	8	1.54%		
		Private business	39	7.50%	106	20.38%		
		Seller	13	2.50%	32	6.15%		
		Student	12	2.31%	25	4.81%		
		Tourist operator	22	4.23%	59	11.35%		
9	Settlement	Islands community	75	14.42%	135	25.96%	9.629	1
		Non-Islands community	72	13.85%	238	45.77%		

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

Similarly, the existence of eco-friendly infrastructure correlates with higher policy support. The statistical significance of this variable underscores the importance of tangible, environmentally conscious developments in cultivating a supportive public stance on conservation policies. Adaptive operations by local businesses are strongly associated with policy support, which can be interpreted as a public endorsement of practices that align business interests with environmental stewardship. This variable showed the most substantial association with policy support, indicating that operational adaptability is a crucial driver of public approval.

Local training and support for conservation are also significantly linked to policy support, emphasizing the role of education and empowerment in fostering a conservation-minded community. The presence of such initiatives appears to be a crucial element in securing public backing for conservation policies. Interestingly, gender does not significantly affect policy support, suggesting that males and females are equally likely to support or oppose current policies in this context. This lack of statistical significance may reflect a gender-neutral perception of policy effectiveness or a balanced representation of both genders in conservation roles.

Income levels, however, do present a significant correlation with policy support, revealing nuances in economic status that might influence conservation engagement. Notably, the data suggests that individuals in higher income brackets support current policies, implying that more significant financial resources may enhance one's ability to engage with and support conservation efforts. Age does not show a significant association with policy support in this dataset. This result might indicate that age-related factors such as generational values or environmental awareness do not distinctly influence the likelihood of supporting current policies in the Komodo Subdistrict.

Occupation, which encapsulates a wide range of professional roles, does not demonstrate a significant statistical link to policy support. This may suggest that occupation alone is not a primary determinant of policy support in this context or that the effects of occupation are complex, requiring further nuanced analysis. Finally, the type of community settlement displays a significant relationship with policy support, with non-island communities showing a higher tendency to support current policies than island communities. This finding could reflect island communities' distinct environmental challenges and resource constraints, which may influence their perceptions of policy adequacy and effectiveness.

Conversely, the lack of significant association between age, gender, and occupation with policy support suggests that these variables alone do not distinctly influence attitudes toward conservation policies within the community. This could imply that conservation issues transcend these demographic barriers or that the complexities of these demographic factors' influence on policy support are not fully captured in a straightforward statistical analysis. The significant difference in policy support between island and non-island communities could imply a need for more tailored policies that account for the unique circumstances of these different community types. For island communities, specific conservation challenges such as vulnerability to climate change may require distinct policy interventions compared to those suitable for non-island communities.

The logistic regression analysis in Table 3 provides a detailed statistical evaluation of how various factors influence public support for current forest conservation policies. The model identifies relationships between predictor variables related to conservation efforts and the dependent variable of policy support among respondents in Komodo Subdistrict. The coefficient for natural landscape protection ($B = 0.396$) suggests that for each unit increase in the perception of natural landscape protection measures, there is a 39.6% increase in the log odds of supporting conservation policies. The corresponding odds ratio (Exp(B) = 1.486) indicates that the presence of such measures increases the likelihood of policy support by approximately 49%. However, the significance level (p-value = 0.056) falls

Table 3 Logistic regression analysis of conservation policy support

Variable	B	S.E.	Wald	df	*p*-value	Exp(*B*)
Natural landscape protection	0.396	0.208	3.640	1	0.056	1.486
Eco-friendly infrastructure	0.461	0.209	4.895	1	0.027	1.586
Adaptive operations	0.779	0.211	13.683	1	0.000	2.179
Local training and support	0.567	0.209	7.361	1	0.007	1.762
Income			7.120	3	0.068	
< IDR1,000,000	0.958	0.467	4.216	1	0.040	2.607
IDR1,000,001–IDR3,000,000	-0.293	0.270	1.174	1	0.279	0.746
IDR3,000,001–IDR5,000,000	-0.129	0.249	0.269	1	0.604	0.879
Age			6.326	2	0.042	
18–29	-0.685	0.299	5.260	1	0.022	0.504
30–39	-0.682	0.292	5.461	1	0.019	0.506
Islands community	-0.484	0.212	5.212	1	0.022	0.616
Constant	0.660	0.338	3.815	1	0.051	1.936
Model summary						
2 Log likelihood	565.791					
Cox & Snell R square	0.098					
Nagelkerke R square	0.140					
Overall percentage	73%					

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

just above the conventional 0.05 threshold, suggesting that while there is a positive trend, the relationship is not statistically conclusive at the standard confidence level.

To complement and contextualize the quantitative findings, semi-structured interviews were conducted with five key informants, including local community members, tourism operators, and conservation practitioners. While the logistic regression model quantified the relationships between variables, qualitative insights helped uncover underlying motivations, perceptions, and challenges that could not be fully explained through statistical analysis alone. Thematic analysis of the interview data revealed three key insights that provided a deeper understanding of the regression results. First, although the regression model indicated a positive association between natural landscape protection and policy support, interviewees emphasized that this support was conditional on economic benefits. Some respondents highlighted that conservation-driven tourism provided new economic opportunities, while others, particularly those reliant on traditional fishing, expressed concerns over restricted resource access, leading to divided opinions on policy effectiveness. Second, while eco-friendly infrastructure showed a strong statistical influence on conservation attitudes, qualitative data revealed issues of unequal infrastructure distribution. Local tourism operators recognized the advantages of improved facilities but noted that government investments predominantly benefited large tourism enterprises, leaving small-scale community businesses with limited access to infrastructure improvements. This uneven development contributed to skepticism about the fairness of policy implementation, as some community members felt marginalized by conservation efforts. Third, despite adaptive business operations emerging as a statistically relevant factor in the regression model, interviews indicated that limited training and financial constraints hindered community adaptation. One conservation practitioner explained that while policies encourage sustainable business practices, many local entrepreneurs lack the necessary knowledge and capital to transition to conservation-friendly models. As a result, despite recognizing the benefits of adaptation, many small businesses struggled to implement the necessary changes, leading to disparities in policy adoption.

Eco-friendly infrastructure yields a coefficient (B = 0.461) that translates into a 58.6% higher likelihood of policy support, given its odds ratio (Exp(B) = 1.586). This result is statistically significant (p-value = 0.027), affirming that investments in infrastructure that minimize environmental impact serve practical sustainability goals and enhance public endorsement of policy measures. Adaptive operations display the most robust positive relationship (B = 0.779) with policy support, signaling a more than twofold increase in the odds of support (Exp(B) = 2.179) for those acknowledging such business practices. The variable's p-value (p-value = 0.000) demonstrates a highly significant relationship, underscoring the importance of businesses' environmental adaptability in public perception and policy support.

Local training and support also show a significant positive effect (B = 0.567) on policy support, with a p-value of 0.007. The implication is that community-oriented education and resources are not merely facilitative of conservation efforts but are directly correlated with the support of policies designed to preserve natural landscapes. Income, particularly at the lowest bracket of less than IDR1,000,000, is significantly associated with policy support (Exp(B) = 2.607; p-value = 0.040). This finding suggests a complex relationship between economic status and environmental policy, potentially indicating that lower-income individuals perceive a benefit from or feel more aligned with current conservation policies. Regarding age, the 1829 and 3039 age brackets show a negative tendency towards policy support (B = -0.685 and B = -0.682, respectively) with statistical significance (p-value = 0.022 and p-value = 0.019, respectively). This reflects a generational divide in the perception of conservation policy effectiveness or a differing prioritization of environmental issues among younger demographics. Island community residency is associated with a reduced likelihood of policy support (B = -0.484; Exp(B) = 0.616; p-value = 0.022), highlighting these communities' distinct needs or perspectives and suggesting a possible disconnect between current policy measures and the environmental realities of island residents.

The model's constant (B = 0.660), while not reaching conventional levels of statistical significance (p-value = 0.051), suggests a baseline propensity towards policy support among the general population when all other variables are held constant. The overall model's fit is considered moderate, with Nagelkerke's R^2 value indicating that 14% of the variance in policy support can be explained by the model with a decent level of explanatory power in the context of social science research, where R^2 values tend to be lower than in physical sciences due to the complexity and variability of human behavior. The overall percentage correctly classified by the model stands at 73%, indicating a satisfactory predictive capability within the dataset. This level of prediction is precious for policymakers and conservation practitioners who require empirical evidence to guide the refinement of existing policies or the development of new initiatives.

Discussion

One of the most significant findings of this research is the strong positive relationship between visible conservation efforts, such as natural landscape protection, and policy support, reinforcing the principles of community forest support theories and community-based conservation frameworks. This aligns with previous studies emphasizing that conservation efforts are most effective when they are tangible, directly experienced by the community, and integrated into local governance structures (Abubakar et al., 2024; Lee, 2024). The marginal yet notable significance of natural landscape protection as a predictor of policy support suggests that visibility and accessibility are key determinants of community engagement, a finding that echoes the theory of environmental governance, which stresses that the perceived benefits of conservation must be clearly communicated and physically observable. From a community-based conservation perspective, this research provides empirical evidence supporting the idea that public

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

engagement in conservation policies is enhanced when the community can witness direct ecological improvements (Western et al., 1994; Shandas & Messer, 2008; Beh et al., 2013). The connection between visible conservation efforts and policy endorsement aligns with findings from sustainable tourism studies (Bushell & Bricker, 2016; Nguyen et al., 2023), which highlight that destination appeal and environmental protection are mutually reinforcing. In conservation-driven tourism models, well-maintained natural landscapes not only support biodiversity but also enhance economic opportunities for communities (Ermekbaeva & Kang, 2024), fostering a sense of shared responsibility for conservation outcomes.

The implication of these findings suggests that policymakers and conservation practitioners must prioritize visibility and transparency in conservation efforts. Public perception of conservation effectiveness is often shaped by what they can directly observe and experience (Bethmann et al. 2018), reinforcing the importance of community-centered conservation governance. Clear signage, well-publicized conservation initiatives, and community engagement events serve as effective tools to bridge the gap between policy implementation and public understanding. This approach resonates with participatory governance models, which argue that inclusive conservation efforts, where the public is actively involved in both decision-making and implementation, lead to higher policy acceptance and long-term sustainability ' (Wamsler et al., 2020; 2022; Suryawan et al., 2025b). This study contributes to the broader discourse on sustainable tourism and environmental governance by demonstrating that policy acceptance is not solely determined by regulatory measures but is significantly influenced by the visibility of conservation benefits. When local communities can see the positive outcomes of conservation policies, they are more likely to view them as legitimate and worthy of support. This aligns with sustainable tourism models that advocate for integrated landscape management approaches (Plummer & Fennell, 2009), where tourism, conservation, and community livelihoods are harmonized to create socially inclusive and ecologically resilient destinations. The role of eco-friendly infrastructure in garnering policy support also highlights the importance of sustainable development practices within the district. The statistically significant relationship between the existence of environmentally conscious infrastructure and public approval of conservation policies reflects a growing public awareness of the need for infrastructure that minimizes environmental impact. Investments in green buildings, renewable energy systems, and sustainable transportation not only demonstrate a commitment to reducing ecological footprints but also signal to the community that conservation goals are being taken seriously. This can enhance the credibility of conservation policies, making them more palatable to the public. The practical implications of this finding suggest that future conservation initiatives should prioritize integrating eco-friendly infrastructure as a core component. Transparency in conservation efforts and their beneficial impacts can reinforce public support and trust in the policies set forth by the government or conservation authorities (Oduor, 2020; Ponte et al., 2021). Moreover, the significant relationship between adaptive operations by local businesses and policy support indicates a need for policies that encourage or incentivize environmentally adaptive and responsible business practices. Such policies could include tax breaks, grants, or recognition programs for businesses that adopt sustainable practices (Iqbal et al., 2025 Purwandani & Michaud, 2021; DiBella et al., 2023; Hegab et al., 2023; Wiredu et al., 2024). This not only aids in conservation efforts but also aligns economic development with ecological sustainability.

Adaptive operations by local businesses emerged as one of the most robust predictors of policy support, indicating a strong public preference for business practices that align with environmental stewardship. This finding underscores the importance of involving the private sector in conservation efforts. Businesses that adapt their operations to include sustainable practices not only benefit from public approval but also contribute to the broader conservation agenda. The positive perception of adaptive business practices suggests that the community values enterprises that prioritize environmental responsibility, viewing them as integral partners in conservation. This dynamic creates a synergistic relationship where businesses can leverage their sustainable practices to gain public trust and support, while conservation policies benefit from the enhanced credibility provided by private sector involvement. Policymakers could harness this by incentivizing environmentally adaptive business practices through tax breaks, recognition programs, or grants aimed at supporting sustainable innovation. Local training and support for conservation efforts are also significantly associated with higher levels of policy support, emphasizing the critical role of education and community empowerment. Providing resources and educational programs that equip community members with knowledge and skills related to conservation fosters a deeper understanding and appreciation for environmental policies. This finding aligns with broader theories of community-based conservation, which argue that local involvement and capacity-building are essential for the success of conservation initiatives. When communities are actively engaged and have access to the necessary tools and knowledge, they are more likely to take ownership of conservation efforts, leading to more sustainable and long-lasting outcomes. The direct correlation between local training and policy support underscores the need for targeted educational interventions that focus on the benefits of conservation, practical skills for sustainable resource management, and the importance of collective action in protecting natural ecosystems. The involvement of local communities in the conservation process can lead to better outcomes and ensure that conservation strategies are grounded in local knowledge and needs (Ainsworth et al., 2020; Kadykalo et al., 2021).

The influence of socio-demographic factors, particularly income levels, on policy support presents an intriguing dimension to the discussion. The data suggest that lower-income individuals tend to support conservation policies more readily, potentially perceiving these policies as aligned with their own interests or beneficial to their livelihood. This

Jurnal Manajemen Hutan Tropika, *31*(3), 185–200, September 2025
EISSN: 2089-2063
DOI: 10.7226/jtfm.31.3.185

Scientific Article
ISSN: 2087-0469

may reflect a broader trend where economically disadvantaged communities recognize the value of environmental resources more acutely, as they may rely more directly on these resources for subsistence. Alternatively, this could indicate that lower-income groups see conservation policies as a means to address issues such as environmental degradation that disproportionately affect them. Policymakers should consider how conservation policies can be designed or communicated to be inclusive and beneficial across all income levels, ensuring that policies do not disproportionately affect any single group and that conservation benefits are shared equitably (Bhattarai et al., 2021; Parker et al., 2022).

Conversely, the generational divide in policy support, with younger respondents less likely to endorse current conservation efforts, highlights a critical gap that needs to be addressed. This generational discrepancy may be attributed to differing priorities or levels of environmental awareness among younger individuals, who may view existing policies as outdated or insufficiently aligned with contemporary sustainability challenges. This points to the potential need for policy development that explicitly addresses the values and priorities of younger generations (Balezentis et al., 2020; Yamane & Kaneko, 2021), possibly through incorporating social media in conservation efforts and by emphasizing long-term sustainability goals (Liang et al., 2021).

The distinction between island and non-island community responses to conservation policies highlights the need for tailored policy approaches that reflect the unique environmental and social contexts of different community types. Island residents' lower support for current policies suggests that they face distinct challenges, such as greater vulnerability to climate change impacts and limited access to resources, which may not be adequately addressed by existing conservation measures. This calls for a more nuanced policy framework that considers the specific needs and constraints of island communities. Policymakers should engage directly with these communities to understand their needs and develop targeted policies addressing climate change impacts, resource scarcity, and geographic isolation (Newman et al., 2020; Leal Filho et al., 2021).

This study contributes to the growing body of knowledge on community-based conservation, sustainable tourism, and environmental governance by introducing new conceptual insights into how socioeconomic, environmental, and policy-related factors shape conservation support in protected areas. The findings offer a novel framework for understanding the multidimensional influences that drive public endorsement of conservation policies, emphasizing the interconnected roles of demographic attributes, conservation efforts, and policy visibility in fostering sustainable ecotourism development (Figure 3).

One of the key contributions of this research is the integration of conservation visibility theory with policy support mechanisms. The study highlights that natural landscape protection, eco-friendly infrastructure, adaptive business operations, and local training programs significantly influence public perception and acceptance of conservation policies. Unlike previous research that focuses primarily on regulatory enforcement, this study demonstrates that policy success is strongly linked to how conservation initiatives are communicated (Lo et al., 2006; Nie, 2008; Greiner & Gregg, 2011; Short, 2021). This aligns with environmental governance theories, which argue that conservation effectiveness is enhanced when communities can visibly engage with and benefit from sustainability initiatives. Another novel finding of this study is the role of adaptive business operations in bridging the gap between economic and ecological sustainability. While existing research acknowledges the importance of sustainable business models, this study provides empirical evidence that businesses integrating adaptive environmental practices are perceived as legitimate stakeholders in conservation governance.

The concept of "business-driven conservation legitimacy", introduced in this study, suggests that when private enterprises actively participate in sustainable tourism, they enhance the credibility of conservation efforts and increase public policy support. This highlights the potential for public-private partnerships in conservation governance, where businesses serve as active contributors to both economic and environmental sustainability. The study also advances community forest support theories by revealing that public support for conservation is influenced by demographic attributes such as gender, income, age, and settlement type. While past research has examined general attitudes toward conservation, this study identifies distinct patterns in conservation support across different population segments. For instance, lower-income groups were found to be more supportive of conservation policies, possibly due to their direct dependence on natural resources for livelihoods.

In contrast, younger generations showed lower policy support, suggesting a disconnect between traditional conservation messaging and contemporary sustainability expectations. These findings call for tailored conservation policies that resonate with the economic priorities and generational perspectives of different community groups. A further theoretical contribution is the introduction of the "policy visibility and engagement model", which

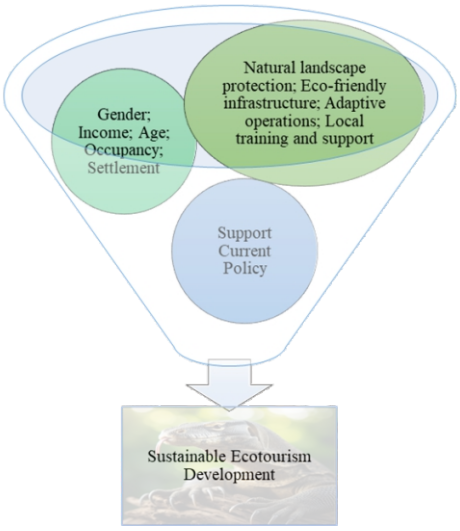

Figure 3 Conceptual diagram of sustainable ecotourism development influence.

emphasizes that successful conservation policies must be both visible and participatory. The study demonstrates that policy endorsement is not solely a function of ecological awareness but also of how conservation initiatives are presented, communicated, and perceived as beneficial. Conservation programs that lack visible impact or community involvement risk failing to gain sufficient public trust and support. This insight has critical implications for sustainable tourism governance, where community participation, transparency, and benefit-sharing must be prioritized to ensure policy success.

Conclusion

This study provides several important insights into the factors that influence public support for forest conservation policies in the Komodo Subdistrict. Unlike many earlier studies, the findings show that lower-income groups, rather than being less supportive of conservation due to immediate economic needs, actually express stronger endorsement of conservation efforts. This suggests that economically disadvantaged communities view conservation as a safeguard for their long-term livelihoods and ecological stability, making clear the need to integrate economic security with conservation planning. The study also highlights the importance of visible conservation actions such as protecting landscapes, maintaining natural habitats, and building eco-friendly infrastructure, which increase trust, strengthen policy legitimacy, and encourage broader participation. Business-led initiatives that combine tourism development with conservation goals further illustrate how aligning local economic interests with environmental priorities can enhance both sustainability and community acceptance. At the same time, differences across demographic groups were evident, as younger individuals and island residents showed lower levels of support, signaling the need for policies that specifically address youth concerns and the unique challenges of small island communities. Taken together, these findings demonstrate that public support for conservation is shaped by a combination of economic incentives, generational values, and visible benefits, not just ecological awareness. By introducing socioeconomic-driven and business-led models of conservation support, this study contributes to theories of environmental governance, sustainable tourism, and community-based conservation, while offering practical guidance for policymakers to design more inclusive, effective, and context-sensitive strategies that balance conservation goals with community well-being in Komodo National Park.

References

Abbass, K., Qasim, M. Z., Song, H., Murshed, M., Mahmood, H., & Younis, I. (2022). A review of the global climate change impacts, adaptation, and sustainable mitigation measures. *Environmental Science and Pollution Research*, *29*, 42539–42559. https://doi.org/10.1007/s11356-022-19718-6

Abubakar, A. A., Al-Mamary, Y. H., Singh, H.P., Singh, A., Alam, F., & Agrawal, V. (2024). Exploring factors influencing sustainable human capital development: Insights from Saudi Arabia. *Heliyon*, *10*(16), Article e35676. https://doi.org/10.1016/j.heliyon.2024.e35676

Abukari, H., & Mwalyosi, R. B. (2020). Local communities' perceptions about the impact of protected areas on livelihoods and community development. *Global Ecology and Conservation*, *22*, Article e00909. https://doi.org/10.1016/j.gecco.2020.e00909

Afioma, G. (2024). Political dimensions of livelihood transformation of the indigenous Ata Modo people in Komodo National Park, Indonesia [thesis]. Colorado: Colorado State University.

Ainsworth, G. B., Redpath, S. M., Wilson, M., Wernham, C., & Young, J. C. (2020). Integrating scientific and local knowledge to address conservation conflicts: Towards a practical framework based on lessons learned from a Scottish case study. *Environmental Science and Policy*, *107*, 46–55. https://doi.org/10.1016/j.envsci.2020.02.017

Ajibade, I., & Boateng, G. O. (2021). Predicting why people engage in pro-sustainable behaviors in Portland Oregon: The role of environmental self-identity, personal norm, and socio-demographics. *Journal of Environmental Management*, *289*, Article 112538. https://doi.org/10.1016/j.jenvman.2021.112538

Alcaraz, K. I., Wiedt, T. L., Daniels, E. C., Yabroff, K. R., Guerra, C. E., & Wender, R. C. (2020). Understanding and addressing social determinants to advance cancer health equity in the United States: A blueprint for practice, research, and policy. *CA: A Cancer Journal for Clinicians*, *70*, 31–46. https://doi.org/10.3322/caac.21586

Angessa, A. T., Lemma, B., Yeshitela, K., & Endrias, M. (2022). Community perceptions towards the impacts of ecotourism development in the central highlands of Ethiopia: The case of Lake Wanchi and its adjacent landscapes. *Heliyon*, *8*(2), Article e08924. https://doi.org/10.1016/j.heliyon.2022.e08924

Armitage, D., Mbatha, P., Muhl, E. -K., Rice, W., & Sowman, M. (2020). Governance principles for community-centered conservation in the post-2020 global biodiversity framework. *Conservation Science and Practice*, *2*, Article e160. https://doi.org/10.1111/csp2.160

Authelet, M., Subervie, J., Meyfroidt, P., Asquith, N., & Ezzine-de-Blas, D. (2021). Economic, pro-social and pro-environmental factors influencing participation in an incentive-based conservation program in Bolivia. *World Development*, *145*, Article 105487. https://doi.org/10.1016/j.worlddev.2021.105487

Badan Pusat Statistika Kabupaten Manggarai Barat. (2024). *Kabupaten Manggarai Barat dalam angka 2024*. BPS Kabupaten Manggarai Barat.

Balezentis, T., Ribasauskiene, E., Morkunas, M., Volkov, A., Streimikiene, D., & Toma, P. (2020). Young farmers' support under the Common Agricultural Policy and sustainability of rural regions: Evidence from Lithuania. *Land Use Policy*, *94*, Article 104542. https://doi.org/10.1016/j.landusepol.2020.104542

Beh, A., Bruyere, B. L., & Lolosoli, S. (2013). Legitimizing local perspectives in conservation through community-based research: A photovoice study in Samburu, *Kenya. Society & Natural Resources*, *26*(12), 1390–1406. https://doi.org/10.1080/08941920.2013.805858

Bethmann, S., Simminger, E., Baldy, J., & Schraml, U. (2018). Forestry in interaction. Shedding light on dynamics of public opinion with a praxeological methodology. *Forest Policy and Economics*, *96*, 93–101. https://doi.org/10.1016/j.forpol.2018.08.005

Bhattarai, B. R., Morgan, D., & Wright, W. (2021). Equitable sharing of benefits from tiger conservation: Beneficiaries' willingness to pay to offset the costs of tiger conservation. *Journal of Environmental Management*, *284*, Article 112018. https://doi.org/10.1016/j.jenvman.2021.112018

Bhushan, S., Dincă, I., & Shikha, S. (2024). Evaluating local livelihoods, sustainable forest management, and the potential for ecotourism development in Kaimur Wildlife Sanctuary, India. *Frontiers in Forests and Global Change*, *7*, Article 1491917. https://doi.org/10.3389/ffgc.2024.1491917

Bushell, R., & Bricker, K. (2017). Tourism in protected areas: Developing meaningful standards. *Tourism and Hospitality Research*, *17*(1), 106–120. https://doi.org/10.1177/1467358416636173

Büchs, M. (2014). The role of environmental organisations in supporting carbon reduction: Comparing direct and indirect involvement. *Environmental Politics*, *23*, 1003–1022. https://doi.org/10.1080/09644016.2014.921456

Chawla, L. (2020). Childhood nature connection and constructive hope: A review of research on connecting with nature and coping with environmental loss. *People and Nature*, *2*, 619–642. https://doi.org/10.1002/pan3.10128

DiBella, J., Forrest, N., Burch, S., Rao-Williams, J., Ninomiya, S. M., Hermelingmeier, V., & Chisholm, K. (2023). Exploring the potential of SMEs to build individual, organizational, and community resilience through sustainability-oriented business practices. *Business Strategy and the Environment*, *32*, 721–735. https://doi.org/10.1002/bse.3171

Domínguez, L., & Luoma, C. (2020). Decolonising conservation policy: How colonial land and conservation ideologies persist and perpetuate indigenous injustices at the expense of the environment. *Land*, *9*(3), Article 65. https://doi.org/10.3390/land9030065

Downes, T., & Marchant, T. (2016). The extent and effectiveness of knowledge management in Australian community service organisations. *Journal of Knowledge Management*, *20*, 49–68. https://doi.org/10.1108/JKM-11-2014-0483

Edwards, R. C., & Larson, B. M. H. (2020). When screens replace backyards: Strategies to connect digital-media-oriented young people to nature. *Environmental Education Research*, *26*, 950–968. https://doi.org/10.1080/13504622.2020.1776844

Ermekbaeva, I., & Kang, S. (2024). What encourages pro-environmental behavior by tourists? Insights from the protection motivation theory. *Environment, Development and Sustainability*, *2024*. https://doi.org/10.1007/s10668-024-05419-2

Gasa, F. M., Chandra, P. H., Ngalu, R., & Luru, M. N. (2023). The jurassic park project in Rinca Island is a hyperreality for the government of Indonesia. *AIP Conference Proceedings*, *2680*(1), Article 020108. https://doi.org/10.1063/5.0126505

Greiner, R., & Gregg, D. (2011). Farmers' intrinsic motivations, barriers to the adoption of conservation practices and effectiveness of policy instruments: Empirical evidence from northern Australia. *Land Use Policy*, *28*(1), 257–265. https://doi.org/10.1016/j.landusepol.2010.06.006

Hasanah, M., & Bayo, L. N. (2024). Twin brothers: Claim-making strategies by the Ata Modo in the tourism development project of Komodo National Park, West Manggarai. *International Quarterly for Asian Studies* (*IQAS*), *55*(2), 173–195.

Hegab, H., Shaban, I., Jamil, M., & Khanna, N. (2023). Toward a sustainable future: Strategies, indicators, and challenges for implementing sustainable production systems. *Sustainable Materials and Technologies*, *36*, Article e00617. https://doi.org/10.1016/j.susmat.2023.e00617

Hernández-Delgado, E. A. (2024). Coastal restoration challenges and strategies for small island developing states in the face of sea level rise and climate change. *Coasts*, *4*(2), Article 65. https://doi.org/10.3390/coasts4020014

Hidyarko, A. I. F., Gayatri, A. C., Rifa, V. A., Astuti, A., Kusumaningrum, L., Mau, Y. S., & Setyawan, A. D. (2021). Reviews: Komodo National Park as a conservation area for the komodo species (*Varanus komodoensis*) and sustainable tourism (ecotourism). *International Journal of Tropical Drylands*, *5*(1), 27–40. https://doi.org/10.13057/tropdrylands/t050105

Holland, K. K., Larson, L. R., Powell, R. B., Holland, W. H., Allen, L., Nabaala, M., Tome, S., Seno, S., & Nampushi, J. (2021). Impacts of tourism on support for conservation, local livelihoods, and community resilience around Maasai Mara National Reserve, Kenya. *Journal of Sustainable Tourism*, *30*(11), 2526–2548. https://doi.org/10.1080/09669582.2021.1932927

Idris, Adi, K. R., Firmansyah, R., Nadhianty, A., Mobaroq, M. H., Putri, P. G., Pratama, A. S., & Wahono, E. R. (2021). Developing smart tourism using virtual reality as a tourism promotion strategy in Indonesia. *GeoJournal of Tourism and Geosites*, *35*(2), 332–337. https://doi.org/10.30892/gtg.35210-656

Imelda, I. M. S., Lee, C. -H., Wang, H. -J., & Kim, D. -C. (2024). Unraveling factors influencing local willingness to participate in sustainable komodo conservation and protected area tourism. *Forest and Society*, *8*(2), 350–371. https://doi.org/10.24259/fs.v8i2.32880

Iqbal, S., Ashraf, H. A., Ali, T., & Khalid, M. (2025). Green intellectual capital and environmental and social sustainability: The mediating effects of financial condition. *Social Science Review Archives*, *3*(1), 1607–1618. https://doi.org/10.70670/sra.v3i1.465

Kabir, R. S., & Wiium, N. (2021). Positive youth development and environmental concerns among youth and emerging adults in Ghana. In R. Dimitrova, & N. Wiium (Eds.), *Handbook of positive youth development: Advancing research, policy, and practice in global contexts* (pp. 81–94). Springer, Cham. https://doi.org/10.1007/978-3-030-70262-5_6

Kadykalo, A. N., Cooke, S. J., & Young, N. (2021). The role of western-based scientific, Indigenous, and local knowledge in wildlife management and conservation. *People and Nature*, *3*, 610–626. https://doi.org/10.1002/pan3.10194

Lasso, A. H., & Dahles, H. (2021). A community perspective on local ecotourism development: Lessons from Komodo National Park. *Tourism Geographies*, *25*(2–3), 634–654. https://doi.org/10.1080/14616688.2021.1953123

Leal Filho, W., et al. (2021). Climate change adaptation on small island states: An assessment of limits and constraints. *Journal of Marine Science and Engineering*, *9*, Article 602. https://doi.org/10.3390/jmse9060602

Lee, H. (2024). Strategic types, implementation, and capabilities: Sustainability policies of local governments. *Public Administration*, *102*(1), 264–284. https://doi.org/10.1111/padm.12917

Liang, X., Lu, Y., & Martin, J. (2021). A review of the role of social media for the cultural heritage sustainability. *Sustainability*, *13*(3), Article 1055. https://doi.org/10.3390/su13031055

Lo, C. W. H., Fryxell, G. E., & Wong, W. W. H. (2006). Effective regulations with little effect? The antecedents of the perceptions of environmental officials on enforcement effectiveness in China. *Environmental Management*, *38*(3), 388–410. https://doi.org/10.1007/s00267-005-0075-8

Martyr-Koller, R., Thomas, A., Schleussner, C.-F., Nauels, A., & Lissner, T. (2021). Loss and damage implications of sea-level rise on Small Island Developing States. *Current Opinion in Environmental Sustainability*, *50*, 245–259. https://doi.org/10.1016/j.cosust.2021.05.001

McGinnis, G., Harvey, M., & Young, T. (2020). Indigenous knowledge sharing in Northern Australia: Engaging digital technology for cultural interpretation. *Tourism Planning and Development*, *17*, 96–125. https://doi.org/10.1080/21568316.2019.1704855

Miao, N., Sharif, A., Ozturk, I., & Razzaq, A. (2023). How do the exploitation of natural resources and fiscal policy affect green growth? Moderating role of ecological governance in G7 countries. *Resources Policy*, *85*, Article 103911. https://doi.org/10.1016/j.resourpol.2023.103911

Ministry of Environment and Forestry. (2010). Peraturan Menteri Kehutanan Nomor P.48/menhut-II/2010 tahun 2010 tentang Pengusaha Pariwisata Alam di Suaka Margasatwa, Taman Nasional, Taman Hutan Raya dan Taman Wisata Alam.

Ministry of Environment and Forestry. (2019). Peraturan Menteri Lingkungan Hidup dan Kehutanan Nomor P.8/menlhk/setjen/kum.1/3/2019 tahun 2019 tentang Pengusahaan Pariwisata Alam di Suaka Margasatwa, Taman Nasional, Taman Hutan Raya, dan Taman Wisata Alam.

Nepal, S. K., Lai, P. -H., & Nepal, R. (2022). Do local communities perceive linkages between livelihood improvement, sustainable tourism, and conservation in the Annapurna Conservation Area in Nepal? *Journal of Sustainable Tourism*, *30*, 279–298. https://doi.org/10.1080/09669582.2021.1875478

Newman, R. J., Capitani, C., & Courtney-Mustaphi, C. (2020). Integrating insights from social-ecological interactions into sustainable land use change scenarios for small islands in the Western Indian Ocean. *Sustainability*, *12*(4), Article 41340. https://doi.org/10.3390/su12041340

Nguyen, V. V., Nguyen, H. T. T., Phan, T. T. T., & Lee, C. -H. (2023). Determinants of locals' willingness to participate in human–elephant conflict management: Evidence from Dong Nai Biosphere Reserve, Vietnam. *Trees, Forests and People*, *14*, Article 100435. https://doi.org/10.1016/j.tfp.2023.100435

Nie, M. (2008). The underappreciated role of regulatory

enforcement in natural resource conservation. *Policy Sciences*, *41*(2), 139–164. https://doi.org/10.1007/s11077-008-9060-4

Ningrum, D., Raven, R., Malekpour, S., & Moallemi, E. A. (2023). Transformative potential in sustainable development goals engagement: Experience from local governance in Australia. *Global Environmental Change*, *80*, Article 102670. https://doi.org/10.1016/j.gloenvcha.2023.102670

Nyaupane, G. P., Poudel, S., & York, A. (2022). Governance of protected areas: An institutional analysis of conservation, community livelihood, and tourism outcomes. *Journal of Sustainable Tourism*, *30*, 2686–2705. https://doi.org/10.1080/09669582.2020.1858089

Oduor, A. M. O. (2020). Livelihood impacts and governance processes of community-based wildlife conservation in Maasai Mara ecosystem, Kenya. *Journal of Environmental Management*, *260*, Article 110133. https://doi.org/10.1016/j.jenvman.2020.110133

Rahman, A., Sofiyah, E. S., Sianipar, I. M. J., Edwisafira, A., Suhardono, S., Lee, C. -H., Nguyen, V. V., & Suryawan, I. W. K. (2025). Evaluating tourist importance-performance and support for development in Komodo National Park. *Environmental Challenges*, *20*, Article 101229. https://doi.org/10.1016/j.envc.2025.101229

Rosenstock, T. S., Lubberink, R., Gondwe, S., Manyise, T., & Dentoni, D. (2020). Inclusive and adaptive business models for climate-smart value creation. *Current Opinion in Environmental Sustainability*, *42*, 76–81. https://doi.org/10.1016/j.cosust.2019.12.005

Parker, B. G., Jacobsen, K. S., & Vucetich, J. A. (2022). Towards equitable conservation: Social capital, fear, and livestock loss shape perceived benefit from a protected area. *Journal of Environmental Management*, *319*, Article 115676. https://doi.org/10.1016/j.jenvman.2022.115676

Plummer, R., & Fennell, D. A. (2009). Managing protected areas for sustainable tourism: Prospects for adaptive co-management. *Journal of Sustainable Tourism*, *17*(2), 149–168. https://doi.org/10.1080/09669580802359301

Ponte, S., Noe, C., & Mwamfupe, A. (2021). Private and public authority interactions and the functional quality of sustainability governance: Lessons from conservation and development initiatives in Tanzania. *Regulation & Governance*, *15*(4), 1270–1285. https://doi.org/10.1111/rego.12303

Purwandani, J. A., & Michaud, G. (2021). What are the drivers and barriers for green business practice adoption for SMEs? *Environmental Systems and Decisions*, *41*, 577–593. https://doi.org/10.1007/s10669-021-09821-3

Shandas, V., & Messer, W. B. (2008). Fostering green communities through civic engagement: Community-based environmental stewardship in the Portland area. *Journal of the American Planning Association*, *74*(4), 408–418. https://doi.org/10.1080/01944360802291265

Short, J. L. (2021). The politics of regulatory enforcement and compliance: Theorizing and operationalizing political influences. *Regulation & Governance*, *15*(3), 653–685. https://doi.org/10.1111/rego.12291

Sianipar, I. M. J., Lee, C. -H., Wang, H. -J., & Kim, D. -C. (2024). Unraveling factors influencing local willingness to participate in sustainable Komodo conservation and protected area tourism. *Forest and Society*, *8*, 350–371. https://doi.org/10.24259/fs.v8i2.32880

Sockhill, N. J., Dean, A. J., Oh, R. R., & Fuller, R. A. (2022). Beyond the ecocentric: Diverse values and attitudes influence engagement in pro environmental behaviours. *People and Nature*, *4*(6), 1500–1512. https://doi.org/10.1002/pan3.10400

Sofiyah, E. S., Sianipar, I. M. J., Rahman, A., Caesarina, N. P., & Suhardono, S. (2025). Adaptive governance in the water-energy-food-ecosystem nexus for sustainable community sanitation. *World Development Sustainability*, *6*, Article 100220. https://doi.org/10.1016/j.wds.2025.100220

Stone-Johnson, C., & Weiner, J. (2022). Theorizing school leadership as a profession: A qualitative exploration of the work of school leaders. *Journal of Educational Administration*, *60*(4), 386–402. https://doi.org/10.1108/JEA-05-2021-0112

Suryawan, I. W. K., Gunawan, V. D., & Lee, C. -H. (2024). Assessing the importance-performance analysis of adaptive capacity programs for sustainable mangrove conservation in the Taman Nasional Bali Barat conservation area. *Ocean and Coastal Management*, *257*, Article 107345. https://doi.org/10.1016/j.ocecoaman.2024.107345

Suryawan, I. W. K., Rahman, A., Suhardono, S., Nguyen, V. V., & Lee, C. H. (2025a). Green-blue workforce readiness for mangrove conservation: Community competency clusters and participatory drivers in Indonesia. *Forest Policy and Economics*, *178*, Article 103593. https://doi.org/10.1016/j.forpol.2025.103593

Suryawan, I. W. K., Suhardono, S., Gunawan, V. D., Lee, C. H., Nguyen, V. V., & Rahman, A. (2025b). Factors influencing community segmentation and participation in ecotourism of Bali Barat National Park. *Pertanika Journal of Social Sciences & Humanities*, *33*(3), 1287–1316 . https://doi.org/10.47836/pjssh.33.3.16

Sutrisno, A. D., Lee, C.-H., & Suryawan, I. W. K. (2024). Examining community desire to change for adaptive transition in post-mining ecological sustainability. *The Extractive Industries and Society*, *20*, Article 101537.

https://doi.org/10.1016/j.exis.2024.101537

Thakur, A., & Kumar, A. (2024). Community engagement and education for Eco-Conscious health. In P. K. Prabhakar, & W. Leal Filho (Eds.), *Preserving health, preserving earth: The path to sustainable healthcare* (pp. 81–102). Springer, Champ. https://doi.org/10.1007/978-3-031-60545-1_5

Tranter, S. N., Estradivari, Ahmadia, G. N., Andradi-Brown, D. A., & Muenzel, D. (2022). The inclusion of fisheries and tourism in marine protected areas to support conservation in Indonesia. *Marine Policy*, *146*, Article 105301. https://doi.org/10.1016/j.marpol.2022.105301

Utomo, S. H., Wulandari, D., Narmaditya, B. S., Ishak, S., Prayitno, P. H., Sahid, S., & Qodri, L. A. (2020). Rural-based tourism and local economic development: Evidence from Indonesia. *GeoJournal of Tourism and Geosites*, *31*(3), 1161–1165. https://doi.org/10.30892/gtg.31330-553

Wamsler, C., Mundaca, L., & Osberg, G. (2022). Rethinking political agency: The role of individuals' engagement, perceptions and trust in transitioning to a low-carbon transport system. *Journal of Cleaner Production*, *360*, Article 132197. https://doi.org/10.1016/j.jclepro.2022.132197

Western, D., Wright, R. M., & Strum, S. C. (Eds.). (1994). *Natural connections: perspectives in community-based conservation*. Island Press.

Wiredu, J., Yang, Q., & Sampene, A. K. (2024). The effect of green supply chain management practices on corporate environmental performance. *Business Strategy and the Environment*, *33*, 2578–2599. https://doi.org/10.1002/bse.3606

Yamane, T., & Kaneko, S. (2021). Is the younger generation a driving force toward achieving the sustainable development goals? *Journal of Cleaner Production*, *292*, Article 125932. https://doi.org/10.1016/j.jclepro.2021.125932

Zhang, S., & Zhu, D. (2020). Have countries moved towards sustainable development or not? Definition, criteria, indicators, and empirical analysis. *Journal of Cleaner Production*, *267*, Article 121929. https://doi.org/10.1016/j.jclepro.2020.121929