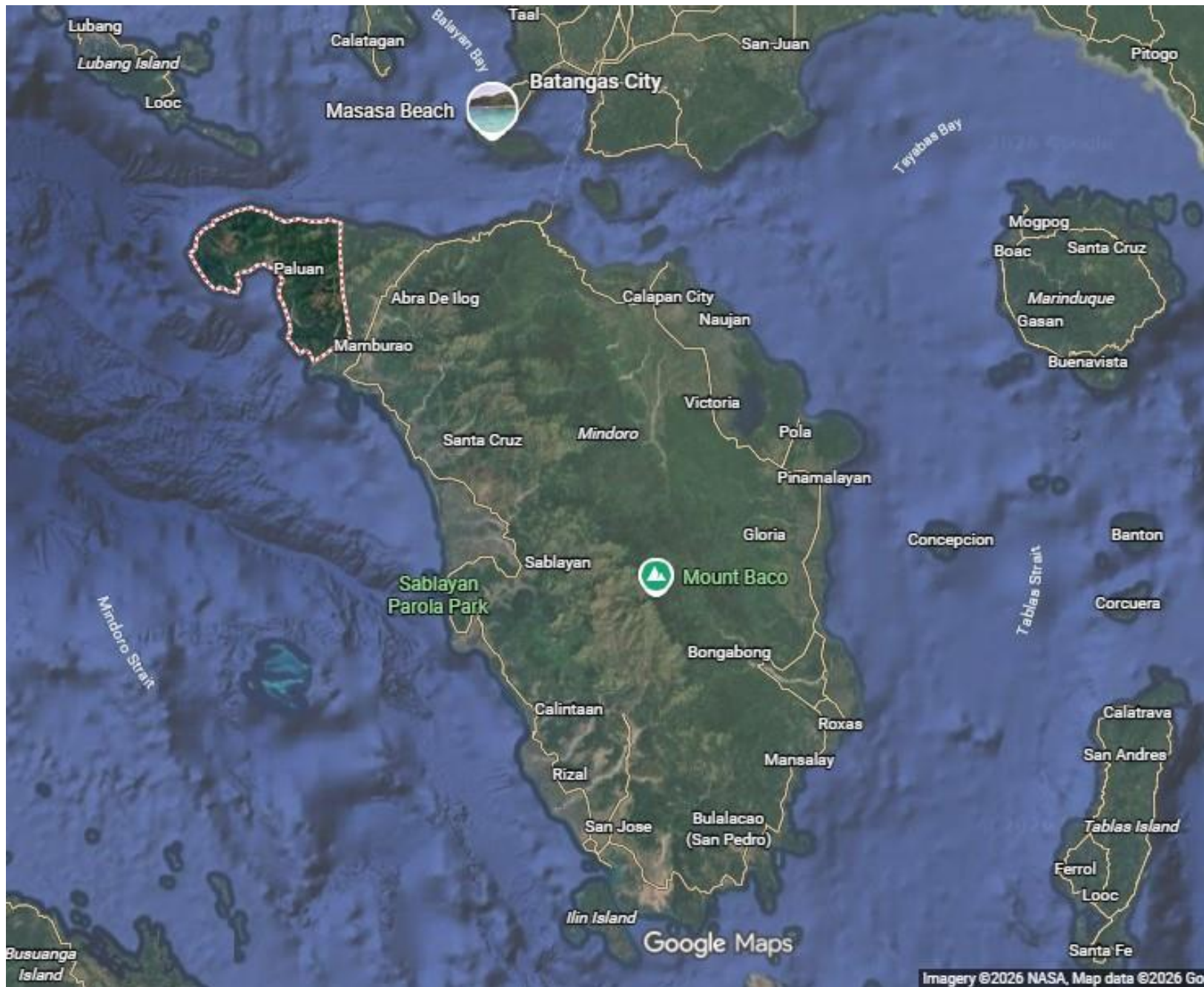


**Sustainability Practices and Community Resilience:
Mapping Indigenous Wisdom for Urban Development
through Lived Experiences of Iraya Mangyans**

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Photos from Jacob Maentz





**Urban development prioritizes speed
(Dense urban scenes)**



MANGYAN
MINDORO, Philippines



**Indigenous knowledge is sidelined
(Indigenous landscape)**





Research Gap

This study highlights the limited recognition and integration of Indigenous sustainability practices, particularly those of the Iraya Mangyans, in contemporary discussions on sustainability, urban development, and policy. Despite their long-standing systems of environmental stewardship, collective governance, resilient livelihoods, and cultural knowledge transmission, these practices remain underexplored as potential models for strengthening sustainability and resilience in broader, especially urban, contexts.



The study aims to examine the indigenous sustainability practices of the Iraya Mangyan community and explore how these forms of indigenous wisdom may inform urban sustainability frameworks, strengthen resilience, and encourage cross-cultural knowledge exchange for more inclusive sustainability policy development.



- **To systematically document** the sustainability practices and resilience strategies of the Iraya Mangyan community.
- **To analyze** the cultural significance and practical effectiveness of the Iraya Mangyan's sustainability practices and resilience strategies.
- **To explore and propose** how the documented indigenous sustainability practices can be adapted and integrated into urban development contexts.

- **Can you describe some of the traditional practices your community follows to manage natural resources, such as water, land, or forests?**

May mga kaugalian ba ang komunidad ng Iraya Mangyan na sinusunod sa pangangalaga sa mga likas na yaman tulad ng tubig, lupa, at kagubatan?

- **In what ways do these practices support the economic well-being of the community, such as through agriculture or other livelihood activities?**

Sa paanong paraan nakatutulong ang mga katutubong kaugalian sa kalagayang pang-kabuhayan ng komunidad tulad halimbawa sa agrikultura at iba pa na gawaing pang-kabuhayan?

- **How have these traditional practices helped your community overcome social or environmental challenges in the past?**

Paano nakatulong sa mga nakalipas na panahon ang mga tradisyunal na kaugalian ng mga Iraya mangyan para mapagtagumpayan ng inyong komunidad ang mga hamong pang-lipunan o pang-kapaligiran?

- **What aspects of your community's traditional practices do you think could be beneficial in an urban setting?**

Ano'ng aspeto ng tradisyunal na kaugalian ng komunidad ng Iraya Mangyan ang sa palagay mo ay kapaki-pakinabang sa kalagayang pang-urban o pang-siyudad?

- **What opportunities do you see for sharing your community's wisdom with others to promote sustainability and resilience in cities?**

Anu-anong mga pagkakataon o oportunidad ang nakikita mo sa pagbabahagi ng mga Iraya Mangyan sa ibang mga tao para isulong sa mga siyudad ang pagsusustine at katatagan na tinataglay o makikita sa inyong mga katutubong kaalaman?



METHODOLOGY

Community Voices



Narratives



Themes



Insights



Qualitative



Key Informant Interviews



Thematic Analysis



- **Environmental stewardship as ethical responsibility**
- **Collective governance and social cohesion**
- **Adaptive livelihood strategies**
- **Cultural continuity and intergenerational knowledge transmission**
- **Spiritual ecology and moral regulation of resource use**
- **Applicability of indigenous practices in urban contexts**
- **Knowledge exchange and indigenous-informed sustainability**

**Conceptual Model:
Indigenous-informed Urban
Sustainability Model**



Objectives of the Study	Interview Questions	Emerging Themes from Results	Verbatim Statement / Participant Quote
1. To systematically document the sustainability practices and resilience strategies of the Iraya Mangyan community.	Q1: Can you describe some of the traditional practices your community follows to manage natural resources such as water, land, or forests?	Environmental Stewardship as Ethical Responsibility	“We take only what is needed because the forest also needs to live for our children.”
	Q2: In what ways do these practices support the economic well-being of the community?	Adaptive Livelihood Strategies	“We do not rely on one source of income; farming, gathering, and trading help us survive.”
	Q3: How have these traditional practices helped your community overcome social or environmental challenges in the past?	Collective Governance and Social Cohesion	“Decisions are discussed until everyone agrees because peace in the community is important.”
2. To analyze the cultural significance and practical effectiveness of the Iraya Mangyan’s sustainability practices and resilience strategies.	Q1 & Q3	Cultural Continuity and Intergenerational Knowledge Transmission	“Children learn by watching and joining us; this is how they remember who they are.”
		Spiritual Ecology and Moral Regulation of Resource Use	“Before planting or harvesting, we ask the spirits for guidance; it is respect that keeps us safe.”
3. To explore and propose how the documented indigenous sustainability practices can be adapted and integrated into urban development contexts.	Q4: What aspects of your community’s traditional practices could be beneficial in an urban setting?	Applicability of Indigenous Practices in Urban Contexts	“Our practices of sharing and cooperating could help cities manage resources better.”
	Q5: What opportunities exist for sharing your community’s wisdom with others to promote sustainability	Knowledge Exchange and Indigenous-Informed Sustainability	“We want others to learn from how we care for the forest and land.”

Key Findings	Recommendations
<p>1. Sustainability is practiced holistically; environmental care is both ethical and intergenerational, embedded in kinship and moral obligations rather than efficiency-driven logic. Selective harvesting, rotational farming, and protection of sacred sites demonstrate lived ethics and long-term ecological stewardship.</p>	<p>Establish systematic documentation (digital archives, community records, field observations) of environmental practices to preserve knowledge and support future research.</p>
<p>2. Livelihood strategies are deliberately diversified, promoting socio-ecological flexibility and resilience. The combination of subsistence farming, gathering, and informal trade reduces vulnerability and strengthens economic stability, reflecting adaptive socio-ecological practices.</p>	<p>Develop programs or workshops supporting livelihood diversification, emphasizing adaptability and resilience in both indigenous and urban contexts.</p>
<p>3. Participatory and consensus-based governance fosters social cohesion, trust, and coordinated responses to challenges. Shared labor, communal deliberation, and dialogue-based conflict resolution enhance community adaptive capacity.</p>	<p>Integrate community-based participatory governance models into urban planning initiatives to foster collaboration, trust, and resilience.</p>
<p>4. Knowledge is transmitted through observation, storytelling, and communal participation, maintaining cultural identity and environmental ethics across generations. This supports adaptive capacity and resilience by preserving sustainability practices and socio-cultural values.</p>	<p>Implement educational programs, workshops, or urban community activities that incorporate intergenerational knowledge-sharing methods to preserve and transmit sustainability practices.</p>
<p>5. Spiritual beliefs and rituals guide ethical interactions with nature, internalizing resource management norms. Spiritual ecology complements ethical stewardship and governance, fostering both ecological balance and community cohesion.</p>	<p>Encourage the incorporation of ethical or moral guidelines inspired by indigenous spiritual ecology into urban sustainability programs to promote responsible resource use.</p>
<p>6. Core principles of ethical stewardship, cooperative governance, and adaptive livelihood strategies can inform urban sustainability planning. Practices suggest relational, ethics-driven, and participatory approaches rather than purely technical or top-down interventions.</p>	<p>Pilot urban sustainability programs that integrate these principles, such as community gardening, cooperative resource management, and experiential environmental learning.</p>
<p>7. Indigenous knowledge can inform urban sustainability through education, cultural exchange, and collaborative policy development. Engagement of Indigenous knowledge holders ensures ethical, culturally sensitive, and ecologically grounded urban interventions.</p>	<p>Organize cross-cultural workshops, policy dialogues, and collaborative educational programs to share indigenous wisdom and inform sustainable urban development strategies.</p>

Policy Implications for Urban Sustainability



Environmental Governance

- Indigenous Ecological Stewardship

- Green Infrastructure & Climate Adaptation



Participatory Governance

- Collective Decision-Making

- Inclusive Urban Planning



Knowledge & Livelihood Integration

- Knowledge Exchange & Education

- Sustainable Livelihood Programs

Bridging Knowledge and Sustainability Practices



Indigenous Practices



Urban Implications



Sustainability is relational.



Maraming Salamat!