The Resilience of Community-Based Tourism on Indonesia’s Gili Trawangan

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Summary
This case study examines the resilience of the system of community-based tourism in Gili Trawangan to changing socio-economic and ecological changes that happened in the early 2000s. In assessing the resilience of the people of Gili Trawangan we apply the seven Principles of Building the Resilience of Social-ecological system, as proposed by the Stockholm Resilience Centre (SRC 2014). From the observation can be seen that the tourism community to collectively demonstrate adaptability two times higher than that of individual tourism. Meanwhile, the results of an assessment of the resilience of the principles of other shows that there is no marked difference, however, people tend to look more vulnerable tourism in adapting to the changes that occur in Gili Trawangan. It can be said that the collaborative approach involving all parties have become important factors that increase the resilience of communities to encourage tourism in Gili Trawangan.

Keywords: Community resilience, Tourism in small islands, Community-based tourism system.

Background
Gili Trawangan, which is located in the northwest of Lombok, east Indonesia and surrounded by coral reefs that support many species of fish and marine life, has created admiration for tourists from various countries. Gili Trawangan tourism began to develop in the early 1980s. With a total population of about 800 people, Gili Trawangan has facilities for tourists of the most diverse. Gili Trawangan offers many options tourism services interesting and fun for visitors. For tourists who love the party atmosphere they can enjoy the party all night on a rotation from one place to other entertainment place. Some of the most popular activities that many tourists do in Gili Trawangan is scuba diving, snorkeling, playing canoe and bird watching. Trawangan is unique because the island is free of motor vehicles, so that tourists can enjoy healthy sports such as cycling, yoga, jogging and also can learn to ride around the island.

As the most productive marine ecosystems and the main object of nautical tourism, unfortunately, coral reef ecosystems in the Gili suffered severe damage due to several factors such as the practices of fishing using bombs and potassium, anchoring on healthy coral reefs, use of Muroami nets in the forbidden zone, and snorkeling and diving sloppy (Bakti et al. 2012). Prior to the current tourism development irresponsible fishermen in Gili Indah was fishing with bombs and potassium, a very fast, cheap and easy way to do, which does not depend on the season. Other causes of damage to coral reefs is anchoring without regard to the health of coral reefs. Muroami net is a device made of fishing nets, which is very damaging for coral reef ecosystems. The impact damage caused by this tool is very significant if carried out continuously. Snorkeling and diving activities are conducted in large quantities often cause damage to coral reefs as a result of being stepped on or kicked by divers.
Damage to coastal ecosystems in Gili Trawangan coupled with the impact of the economic crisis and global warming, as well as security threats after the Bali bombings that killed many foreign tourists in 2001 and 2005, has tested the resilience of Gili Trawangan community. Therefore, in a case study of community resilience in Gili Trawangan, I will examine the relationship between sustainability and resilience in terms of changes for nearly 15 years.

**Specific Change Issues that Require a Resilience Response**

People who live in Gili Trawangan recognizes the needs of their growing economies, want to grow tourism in a way more likely to meet those needs, but take personal responsibility in protecting their environment. But as described earlier, over the past decade, they have seen a decrease in the number of fish in the sea. The fishermen have thrown hand-made bombs into the water as a quick way to get seafood, regardless of the balance of the reef ecosystem. What is worse is that the corals in Gili Trawangan have been destroyed by the storm, down anchors, overfishing and bleaching caused by El Nino in 1997-1998 (Eco Trust 2010; 2012). Damage to coral reefs in Gili Trawangan means potential damage to tourism. If this continues to happen, then the image will be damaged Gili Trawangan tourism and tourist visits will be reduced, which in turn affects the livelihood and source of income of the people. Tourism Gili Trawangan really experiencing tremendous socio-economic blow to the community. Tourist visits dropped drastically, just ten percent of the normal number of visits, and the investment climate for the worse, and many investors are running out of Gili.

Fortunately, in the not too distant future tourism conditions in Gili Trawangan recovered. Security issues can be overcome, coral reef ecosystem restoration using biorock technology has produced sweet fruit, and collaboration among stakeholders has become more harmonious and effective. The improving economic conditions can be seen from the increasingly hectic foreign tourist visit since 2006, which are likely to climb. Tourism Promotion Board of Lombok claimed that tourist arrivals in 2012 has skyrocketed to reach one million people.

Perhaps there are many factors causing the recovery of tourism in Gili Trawangan, but one of his lighters are effective action of stakeholders in adapting to socio-economic and ecological threats that threaten them. Realizing the huge impact that would occur, the community has built a strategy to achieve sustainable vision that has been agreed upon by all stakeholders, among others, by applying the coastal ecosystem restoration efforts with aim of improving the tourism potential of the island, in addition to its role as an ecological function.

**Aspects of Resilience and Vulnerability in the Community**

In the light of a sustainable development, according to Garcia (2013) Gili Trawangan is a models of sustainability. They are involved in coral reef restoration work using Biorock technology, environmentally, friendly waste management, turtle habitat conservation as well as bird habitat protection. The collaboration among business and the local through the establishment of Eco Trust has played a significant role the empowerment and capacity building of the local resources. They have been successful in designing adaptation planning strategy to enhance community resilience over external disturbance. Gili Trawangan history cannot be separated with the partnership between entrepreneurs and the locals in the protection of coral reefs and ultimately recovery through the use of Biorock technology. The purpose of the partnership is to mediate a dialogue between all stakeholders in order to develop plans that will be implemented consistently.

The Eco Trust’s role can be summarized as follows: making decisions and oversee the implementation of sustainable tourism strategies; providing guidance and information to the public through public meetings and workshops; setting up a project team to implement sustainability initiatives; managing eco-taxes; providing financial and accountability for decisions made as well as a
mechanism for complaints on environmental management (Eco Trust 2010; 2012, Gracia 2013). So, it can be said that Gili Trawangan is a case study of how the initiative to make the environment a better place to come from within, and bottom to top with the contribution of non-governmental stakeholders, such as the dive shop owners, other businessmen, local university and NGOs. The Biorock reef restoration introduced has effectively provided an important contribution to environmental sustainability, and provide opportunities for economic integration and ecology.

**Resilience Lessons from the Community**

From the results of the author's observation, diving industry entrepreneurs understand the value of healthy coral-Biorock with tourism for their livelihood; while the majority of people support the restoration program for they think the program provides economy benefit as well. The collaboration between entrepreneurs and the locals has a significant effect on the legitimacy of the program. According to Barry (2002) and Light (2002) participatory structure is a key component in efforts to large-scale social change. In the process of participatory decision making, citizens acquire the technical knowledge necessary to make a meaningful contribution. Top-down approach mobilizes supporters as if they were isolated consumers of ideas rather than people. So that this kind of message delivery inhibits the development of collective awareness and mobilization.

They are required to involve the public, especially fishermen, in the planning and monitoring of restoration programs through participatory community action planning tools. I think local community can not be treated as objects for manipulation. Instead, they should be treated as citizens who engage in a dialogue together. As Luke (2005) argues, the core problem with the current environmental movement is a public space narrowing and limited understanding of the public interest. For that we need the public ecology that can involve citizens in a collective effort to balance economic and ecological order. I agree with Nisbet & Scheufele (2009), what is needed is a process of communication that promotes civic engagement and dialogue. People will be more likely to be involved in taking action when they are given full information about a particular risk, and then put in the development of responses to it, than if only given the information or responsibility.

Table 1. Evaluating socio-ecological resilience of community-based tourism system in Gili Trawangan measured by the *seven principles of resilience* (Stockholm Resilience Center 2014)

<table>
<thead>
<tr>
<th>7 Resilience Principles</th>
<th>Gili Trawangan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site / Individual Tourism</td>
</tr>
<tr>
<td>1. Maintains diversity &amp; redundancy</td>
<td>Poor (1)</td>
</tr>
<tr>
<td>2. Manages connectivity</td>
<td>Poor (1)</td>
</tr>
<tr>
<td>3. Manages slow variables &amp; feedbacks</td>
<td>Poor (1)</td>
</tr>
<tr>
<td>4. Fosters complex adaptive systems thinking</td>
<td>Poor (1)</td>
</tr>
<tr>
<td>5. Encourages learning</td>
<td>Some (2)</td>
</tr>
</tbody>
</table>
Based on the description above it is clear that there is a slow change in the socio-economic and ecological Trawangan. This slow change may be caused by the pressure and sudden disruption of the condition of tourism in Gili Trawangan. Gili Trawangan society has managed to recover from the disruption they experienced in the early 2000s. In assessing the resilience of the people of Gili Trawangan we apply the seven Principles of Building the Resilience of Social-ecological system, as proposed by the Stockholm Resilience Centre (SRC 2014). Community resilience assessment is intended to assess the most prominent principles of the seven principles of the SRC, in conjunction with the adaptive capacity of individual and community tourism. For the calculation of scores of individual resilience and tourism communities used a scale of 0 to 4, where 0-None, Poor-1, Some-2, Good-3, High-4. From the observation can be seen that the tourism community to collectively demonstrate adaptability two times higher than that of individual tourism.

One significant pattern of the assessment results (Table 1) is that the community tourism in Gili Trawangan is much more resilient than its individual tourism. Even the scores of all the principles of resilience indicate that individual tourism is much more vulnerable. The scores of resilience principles such as "Encourages learning", "Broadens participation" and "Promotes polycentric governance systems" obtained by the tourism community is very significant, ie overall 12 to 5. Meanwhile, the results of the assessment on other principles show that there is no significant difference, even though individual tourism tends to look more vulnerable in adapting to the changes that occur in Gili Trawangan.

Conclusion

Based on the results of a case study on community resilience in Gili Trawangan it can be concluded that the relationship between sustainability and resilience is clearly related and intertwined. In the context of Gili Trawangan as has been discussed, greater sustainability can mean greater resistance because a community resilience shown by how well the community continues to meet the expectations of people even in the face of adversity. The implications of this study provide inspiration to better understand the difference between sustainability and resilience in planning and community development approach. To better understand the community resilience, it seems we have to respond to the question of how well people in the three Gili can recover from the loss of tourism businesses and large natural resources that support livelihoods and lifestyles.
References


The Resilience of Community-Based Tourism on Gili Trawangan, Indonesia

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Outline

• Introduction- Why Gili Trawangan (GT)? Demography of Gili Trawangan, Tourist visit statistics, Degradation evident
• Research Question and Objective
• Definition of ecotourism and Resilience
• Resilience thinking and Tourism partnership model
• Challenges to sustainable ecotourism in GT?
• Disturbances on GT sustainability
• The Community adaptation strategies
Case Study Site
• Demography
Economy of NTB Mining (24.27 %) and Agriculture (23.80 %).

Tourism sector (hotel and restaurant; 15.43 %)
INTERNATIONAL TOURIST VISIT FROM 2006 TO 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Visitors</th>
<th>Progress %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>179,666</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>200,170</td>
<td>10.24</td>
</tr>
<tr>
<td>2008</td>
<td>213,926</td>
<td>6.43</td>
</tr>
<tr>
<td>2009</td>
<td>232,525</td>
<td>8.00</td>
</tr>
<tr>
<td>2010</td>
<td>282,161</td>
<td>17.59</td>
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</tbody>
</table>
NATIONAL TOURIST VISIT FROM 2006 TO 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Visitors</th>
<th>Progress %</th>
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<tr>
<td>2006</td>
<td>246,911</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>257,209</td>
<td>4.00</td>
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<tr>
<td>2008</td>
<td>330,575</td>
<td>22.19</td>
</tr>
<tr>
<td>2009</td>
<td>386,845</td>
<td>14.55</td>
</tr>
<tr>
<td>2010</td>
<td>443,227</td>
<td>12.72</td>
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</table>
Research Question

• Little is known about what conditions lead to sustainable and resilient communities and economies. So, what are the conditions needed to build and enhance the resilience and sustainability of community tourism in small island nations?

• What are the avenues of success and critical barriers for resilient and sustainable community tourism development?

• Aims to study the community adaptation strategies in Gili Matra
What is Ecotourism?

World Conservation Union:
“Environmentally responsible travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature (any and accompanying cultural features – both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations”

Concept
• Ecotourism strives to be sustainable – Ecologically, Economically and Socially
• Social equity
• Reallocation to conservation

UNEP 2002
What is Resilience?

• Holling (1973) defines engineering resilience as the ability of systems to return to equilibrium or steady-state after disturbance, which may include natural disasters, such as floods or earthquakes, or social upheaval, such as the banking crisis, war or revolution.

• Ecological resilience is defined as “the magnitude of the disturbance that can be absorbed before the system changes its structure” (Holling, 1996). Ecological resilience focuses on “the ability to persist and the ability to adapt” (Adger 2005).
Resilience thinking?

• Sustainability is the ability to create and maintain adaptive capability, while development is the process of creating, testing and maintaining opportunity (Resilience Alliance, 2007). The combined strength of adaptability and innovation increase a system’s general capacities to absorb internal (e.g. social inequality, political turmoil) and external (e.g. global economic shifts, hurricanes) perturbations.

➢ Conceptualization of systems in this manner is known as resilience thinking
Tourism partnership model (Selin and Chavez 1995 in Graci 2014)
### Challenges to Sustainable Ecotourism in Gili Trawangan

<table>
<thead>
<tr>
<th>CHALLENGES</th>
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<tbody>
<tr>
<td>1. Overpopulation</td>
</tr>
<tr>
<td>2. Forest Degradation</td>
</tr>
<tr>
<td>3. Watershed health</td>
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<tr>
<td>4. Biodiversity threats</td>
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<tr>
<td>5. Gender inequity</td>
</tr>
<tr>
<td>6. Poor spatial planning</td>
</tr>
<tr>
<td>7. Lack of training</td>
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<tr>
<td>8. Lack of leadership (mediator, facilitator)</td>
</tr>
<tr>
<td>9. Sanitation</td>
</tr>
<tr>
<td>10. Safe drinking water</td>
</tr>
<tr>
<td>11. Tourist Safety</td>
</tr>
<tr>
<td>12. Ecosystem/coral reef degradation</td>
</tr>
</tbody>
</table>
Disturbances on Gili Trawangan Sustainability

DISTURBANCES

• Global warming creates bleaching
  (Coral reef degradation & Beach erosion)
• Illegal/overfishing
• Social issues (westerners vs. Locals; Local poor majority)
• Security disturbance (Bali Bombing in 2002 & 2005 & 171 Case)
• Economic crisis
• Bad practices in waste management

➢ Reduced tourist visits
The Community Adaptation Strategy

- Establishment of GiliEcoTrust for Collaboration
- Utilization of local resources
- Marketability
- Island Security
- Gender
- Traditional ecological knowledge
- Local community empowerment
- Respect of local culture/resources
- Local economic/land tenure
- Sustaining the well-being of local community
Socio-ecological resilience of community-based tourism system in Gili Trawangan, measured by the 7 Principles of Resilience based on SRC (2014)
Scale/Score: None-0, Poor-1, Some-2, Good-3, High-4

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<td>5. Encourages learning</td>
<td>4</td>
</tr>
<tr>
<td>6. Broadens participation</td>
<td>4</td>
</tr>
<tr>
<td>7. Promotes polycentric governance systems</td>
<td>4</td>
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</table>
What has been done?

Establishment of Gili EcoTrust- Responsible for

• Broadens participation & encourages learning
• Promotes polycentric governance systems
• Introduces eco tax for ecosystem services
• Marine ecosystem restoration & waste management
• Biorock training/workshop for coral restoration
• So much...
Utilization of Local Resources
Operates Island Security &

• Extremely important to long-term market sustainability
• Bali bombing (2002): 202 deaths
• Bali bombing (2005): 20 deaths
• Centralized enforcement vs. “awig-awig”

Approach

• Promote local incentive for maintaining tourist security
• Encourage use of “awig-awig” in local law enforcement
• Work with community leaders to incorporate tourist security into “awig-awig”
Gender Equity & Traditional Ecological Knowledge

• Most Lombok women are uneducated, illiterate, and do not speak English
  • Prevents opportunities for women in ecotourism ventures.
  • Mainstreaming gender into ecotourism & sustainable development approach

• Successful ecotourism in a community must train women in ways that allows them to participate.

• Life skills training for women in Lombok could take on many forms: Literacy, craftsmanship, cooking, agriculture

• Protection against biopiracy and exploitation of traditional knowledge of the community.
  • Community management of ecotourism resource which caters to use of traditional knowledge.
  • Choice in conservation programs they support
  • Types of tourism they deem acceptable with parameters of TEK.
Local Community Empowerment & Respect of Local Culture and Resources

• Indigenous communities must retain control of ecotourism development.
• Right of prior informed consent
• Community control of tourism types, conservation programs
• Community input on costs and benefit distribution amongst stakeholders.
• Developing a political structure to incorporate input from all groups.
  • Including women and youth.
• Tourists should understand the local lifestyle and traditions
• Ecotourism provides the opportunity to meet and interact with local communities
• Ecotourism encourages pride in traditions, culture, and traditional knowledge
• Ecotourism should not interfere with traditional customs.
  • This can happen when community members commit all of their time to ecotourism ventures and no longer practice customs

(UNEP 2002)
Local Economic/Land Tenure & Sustaining Community Well-Being

• Involving community and local business owners, bottom up approach
• Brings economic gains to a community
• Equitable distribution of wealth within a community.
• Justified when benefits are sufficient for the entire community.
• Benefits only seen by a few residents
  • No incentive for conservation
• Importance of community land tenure
  • Ensures community conservation of the natural resources.

• Acknowledgement of the importance of social dimension in regards to tourism experience
• Ecotourism maintains or enhances community as individuals and families work together to build a successful ecotourism venture.
• Some funds used to improve the community such as schools, infrastructure, or health facilities
• Turtle hatchery
• Coral reef restoration
Bird Watching
Infrastructure development
Waste management:
Gili Clean Up day very first Friday
Future Research

Study the public perception on the condition of natural resources, fisheries and tourist visit as well as perceptions on coastal resource management, knowledge of regulatory, compliance and participation in GT Management
References


