

# **ASSESSING LEADERSHIP STRUCTURE AND GOVERNANCE EFFECTIVENESS IN TIARO LOCALLY-MANAGED MARINE AREA, SOLOMON ISLANDS**

**JIMMY BELADE**



**MASTER PROGRAM  
COASTAL AND MARINE RESOURCES MANAGEMENT  
FACULTY OF FISHERIES AND MARINE SCIENCES  
IPB UNIVERSITY  
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Bogor, July 2025

Jimmy Belade  
C2502231802

## SUMMARY

JIMMY BELADE. Assessing Leadership Structure and Governance Effectiveness in Tiaro Locally-Managed Marine Area, Solomon Islands. Supervised by TARYONO and YUSLI WARDIATNO

Coral reef ecosystems in the Solomon Islands provide essential ecological and economic services, yet are increasingly threatened by overfishing, land-based pollution, and governance weaknesses. The Tiaro Locally-Managed Marine Area in West Guadalcanal has experienced ecological decline and social fragmentation, raising concerns over the effectiveness of current marine governance structures.

This study aimed to assess the condition of coral reefs and associated ecosystems, and to evaluate the structure and effectiveness of leadership and governance in the Tiaro marine area. The research also sought to identify governance improvement priorities based on local knowledge and perceptions.

A mixed-methods approach was used, combining ecological surveys of reef and seagrass habitats with participatory governance assessments. Leadership effectiveness was analyzed using Social Network Analysis (SNA) to map relationships among actors, and the Analytic Hierarchy Process (AHP) to prioritize key strategies for improvement.

The results showed significant variation in coral reef health across locations. Suvatara had high coral cover and low bleaching, whereas Kotatave and Kokomu showed severe degradation linked to sediment runoff and outbreaks of the crown-of-thorns starfish. Herbivorous fish were dominant across all sites, while predatory fish were scarce. Seagrass meadows were present at each site, with one dominant species observed.

Leadership networks were found to be fragmented, with poor coordination and limited participation of women in decision-making. Community participants identified the collaborative leadership model as the most suitable for improving governance. Prioritized areas for reform included stakeholder engagement, leadership training, and communication.

A key finding of the study is the clear link between inclusive leadership and improved ecological outcomes. The study recommends formalizing co-management systems, building leadership capacity, enhancing gender inclusion, and applying local ecological indicators in adaptive decision-making. The assessment framework developed can be adapted for use in other locally managed marine areas across the Pacific.

**Keywords:** Analytic Hierarchy Process (AHP), coral reef health, gender inclusion, Locally Managed Marine Areas (LMMAs), marine governance, social network analysis (SNA), Solomon Islands.

## RINGKASAN

JIMMY BELADE. Menilai Struktur Kepemimpinan dan Efektivitas Tata Kelola di Kawasan Perairan Tiaro yang Dikelola Secara Lokal, Kepulauan Solomon. Dibimbing oleh TARYONO dan YUSLI WARDIATNO

Ekosistem terumbu karang di Kepulauan Solomon menyediakan jasa ekologi dan ekonomi yang penting, namun semakin terancam oleh penangkapan ikan yang berlebihan, polusi berbasis daratan, dan kelemahan tata kelola. Kawasan Laut yang Dikelola Secara Lokal Tiaro (LMMA) di Guadalcanal Barat telah mengalami penurunan ekologi dan fragmentasi sosial, sehingga menimbulkan kekhawatiran atas efektivitas struktur tata kelola pesisir saat ini.

Penelitian ini bertujuan untuk menilai kondisi terumbu karang dan ekosistem terkait, serta mengevaluasi struktur dan efektivitas kepemimpinan dan tata kelola di wilayah pesisir Tiaro. Penelitian ini juga berupaya mengidentifikasi prioritas peningkatan tata kelola berdasarkan pengetahuan dan persepsi masyarakat setempat.

Pendekatan metode campuran digunakan, menggabungkan survei ekologi habitat terumbu karang dan lamun dengan penilaian tata kelola partisipatif. Efektivitas kepemimpinan dianalisis menggunakan Analisis Jaringan Sosial (SNA) untuk memetakan hubungan antar pelaku, dan Proses Hirarki Analitik (AHP) untuk memprioritaskan strategi utama untuk perbaikan.

Hasil penelitian menunjukkan variasi yang signifikan dalam kesehatan terumbu karang di berbagai lokasi. Suvatara memiliki tutupan karang yang tinggi dan pemutihan yang rendah, sementara Kotatave dan Kokomu menunjukkan degradasi parah yang terkait dengan limpasan sedimen dan wabah bintang laut mahkota duri. Ikan herbivora dominan di semua lokasi, sementara ikan predator langka. Padang lamun terdapat di setiap lokasi, dengan satu spesies dominan yang diamati.

Jaringan kepemimpinan ditemukan terfragmentasi, dengan koordinasi yang buruk dan terbatasnya partisipasi perempuan dalam pengambilan keputusan. Masyarakat mengidentifikasi model kepemimpinan kolaboratif merupakan model yang paling sesuai untuk meningkatkan tata kelola. Aspek yang diprioritaskan untuk reformasi meliputi keterlibatan pemangku kepentingan, pelatihan kepemimpinan, dan komunikasi.

Temuan utama dari studi ini adalah hubungan yang jelas antara kepemimpinan yang inklusif dan hasil ekologi yang lebih baik. Studi ini merekomendasikan formalisasi sistem pengelolaan bersama, membangun kapasitas kepemimpinan, meningkatkan inklusi gender, dan menerapkan indikator ekologi lokal dalam pengambilan keputusan yang adaptif. Kerangka penilaian yang dikembangkan dapat diadaptasi untuk digunakan di wilayah laut lain yang dikelola secara lokal di seluruh Pasifik.

**Kata kunci:** analisis jaringan sosial (SNA), inklusi gender, kesehatan terumbu karang, Kawasan Perairan yang Dikelola Secara Lokal (LMMAs), tata kelola kelautan, Kepulauan Solomon

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# **ASSESSING LEADERSHIP STRUCTURE AND GOVERNANCE EFFECTIVENESS IN TIARO LOCALLY MANAGED MARINE AREA, SOLOMON ISLANDS**

**JIMMY BELADE**

Thesis  
as one of the requirements to obtain  
Master of Science  
in Coastal and Marine Resources Management

**MASTER PROGRAM  
COASTAL AND MARINE RESOURCES MANAGEMENT  
FACULTY OF FISHERIES AND MARINE SCIENCES  
IPB UNIVERSITY  
BOGOR  
2025**

Thesis Examiner Team:  
1. Dr. Ir. Mohammad Mukhlis Kamal, M. Sc  
2. Prof. Dr. Ir. Ario Damar, M. Si



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Thesis Title : Assessing Leadership Structure and Governance Effectiveness in  
Tiaro Locally-Managed Marine Area, Solomon Islands

Name : Jimmy Belade

NIM : C2502231802

Approved by

Supervisor 1:  
Dr. Taryono, S. Pi, M. Si



Supervisor 2:  
Prof. Dr. Ir. Yusli Wardiatno, M. Sc



Acknowledged by

Head of the Study Program  
Coastal and Marine Resources Management:

Dr. Ir. Zairion, M. Sc  
NIP. 19640703 199103 1003



Dean of Faculty of Fisheries and Marine Sciences

Prof. Dr. Ir. Fredinan Yulianda, M. Sc  
NIP. 19630731 198803 1002



Examination Date: June 20, 2025

Graduation Date:

## PREFACE

This scientific work was conducted from September to November 2024 under the title: *Assessing Leadership Structure and Governance Effectiveness in Tiaro Locally-Managed Marine Area, Solomon Islands*. The motivation behind this research stems from a desire to contribute to the understanding and improvement of governance structure in community-based marine management systems. Hopefully, this work will prove beneficial to those who need it and contribute meaningfully to the advancement of science and local governance practices.

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Bogor, July 2025

*Jimmy Belade*



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