

The Sociological Dynamics of Coastal Communities : Adaptation Strategies of Untia Fisherman Amid Seasonak Uncertainty

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ABSTRACT

Seasonal uncertainty and extreme weather, particularly during the west wind season, pose major challenges to the livelihoods of small-scale fishermen. This study aims to identify and analyze the sociological and economic adaptation strategies employed by fishermen in Untia Fishing Village, Makassar City. Using a descriptive quantitative approach, data were collected via questionnaires from 95 randomly selected fishermen respondents. Data analysis utilized descriptive statistics and multiple linear regression to identify factors influencing the intensity of adaptation. The results show that Untia fishermen employ three main forms of adaptation: active adaptation (job diversification), passive adaptation (reduction in consumption expenditures), and social network adaptation (utilization of punggawa-sawi relationships). Social network adaptation dominates the fishermen's choices. Statistically, perceptions of seasonal severity and the strength of social capital significantly influence the intensity of adaptation strategy implementation. In conclusion, the survival of Untia fishermen relies heavily on social solidarity and structural resilience within their community.

INTRODUCTION

Geographically and sociologically, the livelihoods of coastal communities are highly dependent on ecological conditions and environmental sustainability. Global climate change and extreme weather have triggered an ecological crisis that impacts the sustainability of livelihoods in the small-scale fisheries sector. This phenomenon is clearly felt in the fishing settlement of the Untia neighborhood, Makassar City. In this area, increasingly unpredictable seasonal patterns and hydrometeorological weather anomalies have led to drastic fluctuations in catch yields. This condition is not merely an operational constraint but a direct threat that creates acute economic vulnerability for local fishermen. Furthermore, the coastal area of Makassar also faces massive pressure from physical transformation and port infrastructure development that restricts their ecological space, thereby compounding the economic burden on the Untia fishing community.

Increasingly extreme natural conditions reveal a new sociological reality: technical instruments (such as conventional boats and fishing gear) are no longer sufficient to serve as the sole livelihood support for fishermen. This limitation in physical and technological adaptive capacity sociologically forces fishing communities to modify their social and economic behavioral structures to ensure their families' survival. These modifications take the form of livelihood paradigm shifts (adaptation strategies), such as diversifying income sources outside the fisheries sector, involving women in productive economic structures, and utilizing communal social capital. These changes are not only individual but also create a restructuring of social relations within the fishing community as it strives to survive the dual pressures of climate and financial constraints.

Based on the issues above, this study aims to map the most dominant typology of adaptation strategies implemented by the fishing community in the Untia neighborhood. In addition, this study also aims to statistically test the determinant factors such as income level, social capital, or fishing experience that significantly drive the intensity of these adaptation



choices. Through this approach, the research is expected to bridge the literature gap regarding the resilience of coastal communities in urban areas and provide a strong empirical foundation for formulating empowerment policies.

METHOD

Dynamics of Coastal Communities: Discusses the sociological characteristics of fishermen who face high risk, are seasonally dependent, and have a distinctive social stratification structure (employers and workers).

Concept of Adaptation Strategies: Utilizes a theoretical framework of adaptation (e.g., from Suharto or Ellis) that divides survival strategies into three categories: Active Adaptation, Passive Adaptation, and Network Adaptation.

The Punggawa-Sawi System: A literature review of a local institution unique to the Bugis-Makassar people that serves a dual function as both a system of exploitation and a social safety net during times of crisis

RESULT

A. Typology of Adaptation Strategies Among Untia Fishermen

Of the 95 respondents, the study mapped the main tendencies of the community in coping with lean periods (seasons of high waves):

Table 1. Distribution of Primary Adaptation Strategy Choices (N=95)

Adaptation Categories	Type of Action	Frequency	Percentage (%)
Active Adaptation	Temporary change of occupation (day laborer, motorcycle taxi driver); wives join in selling goods.	22	23.2%
Passive Adaptation	Reducing the standard of consumption of side dishes, postponing home repairs.	31	32.6%
Community-Based Adaptation	Borrowing money or basic necessities from a Punggawa (landlord) or relatives.	42	44.2%
Total		95	100%

Sociological Discussion A:

Table 1 shows that Network Adaptation (44.2%) is the most dominant strategy. Sociologically, this demonstrates that the Untia fishing community has not yet been fully rational-individualized. They still rely heavily on traditional patronage (punggawa-sawi) as their primary safety net rather than seeking employment in the formal sector.

B. Testing the Influence on Adaptation Intensity (Multiple Linear Regression)

This study also examined what drives fishermen to adopt adaptation strategies intensively.

Variable X1: Perception of Seasonal Uncertainty
Variable X2: Social Institutional Support/Local Norms

Variable Y: Intensity of Adaptation Actions

Table 2. Partial Test Results (t-Test)

Variable	Beta Coefficient	Calculated t	Significance Value	Notes
(Constant)	12.450	3.102	0.003	-
Seasonal Uncertainty (X1)	0.542	5.340	0.000	Significant

Social Support (X2)	0.315	3.218	0.002	Significant
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Coefficient of Determination (R^2) = 0.615

Sociological Discussion B:

1. The significance value of X1 (0.000) indicates that the more difficult the weather is to predict, the more drastically fishermen modify their behavior. Natural uncertainty compels rational action.
2. The R^2 value of 0.615 indicates that 61.5% of the variation in the adaptation levels of Untia fishermen can be explained by the severity of the weather anomalies they experience and the strength of social support in their community.

Conclusion

The sociological dynamics of the fishing community in Untia Village demonstrate a high degree of adaptive flexibility when facing seasonal uncertainty. Unlike urban communities, which tend toward individualism during economic crises, the fishermen of Untia choose “Network Adaptation” as their primary defense, in which the *punggawa-sawi* institution plays an instrumental role. Statistically, extreme weather conditions have been shown to prompt fishermen to rekindle their mechanical solidarity. Local governments are advised not to view fishermen solely as economic subjects, but rather as social entities whose defense mechanisms are rooted in communal culture.

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