



COMMUNITY-BASED COUNSELING TO MITIGATE SOCIO-ECONOMIC IMPACTS OF MARINE SEDIMENT CLEANING IN KARIMUN REGENCY

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Abstrak

Pemanfaatan sedimen laut di Kabupaten Karimun menimbulkan perubahan sosial-ekonomi yang berdampak langsung pada kesejahteraan psikologis peserta didik di wilayah pesisir. Penelitian ini bertujuan merumuskan rancangan pelayanan bimbingan dan konseling berbasis kolaborasi sebagai strategi mitigasi terhadap tekanan keluarga, ketidakstabilan pendapatan, dan dinamika sosial komunitas yang muncul akibat aktivitas pengambilan sedimen. Metode penelitian kualitatif digunakan untuk menganalisis data kontekstual, literatur empiris, serta kebutuhan layanan sekolah. Hasil penelitian menunjukkan bahwa dampak sosial-ekonomi tersebut berkontribusi pada meningkatnya stres, penurunan motivasi belajar, dan kerentanan perilaku pada siswa. Temuan ini menegaskan perlunya model BK kolaboratif yang mengintegrasikan pemetaan data, kemitraan lintas lembaga, intervensi psikososial berbasis keluarga dan komunitas, serta pendidikan literasi lingkungan-sosial. Model yang dirumuskan memposisikan guru BK sebagai penghubung sistemik antara sekolah, keluarga, dan pemangku kepentingan pesisir, sehingga mampu memperkuat resiliensi siswa dan meningkatkan efektivitas layanan dalam konteks perubahan ekologis dan sosial-ekonomi.

Kata Kunci: Bimbingan dan konseling, kolaborasi, sedimen laut, siswa pesisir, dampak sosial-ekonomi, Kabupaten Karimun.

Abstract

The use of marine sediments in Karimun Regency causes socio-economic changes that have a direct impact on the psychological well-being of students in coastal areas. This study aims to formulate the design of collaborative guidance and counseling services as a mitigation strategy for family pressure, income instability, and community social dynamics arising from sediment extraction activities. Qualitative research methods were used to analyze contextual data, empirical literature, and school service needs. The results of the study show that these socio-economic impacts contribute to increased stress, decreased learning motivation, and behavioral vulnerability in students. These findings underscore the need for a collaborative guidance and counseling services model that integrates data mapping, cross-agency partnerships, family and community-based psychosocial interventions, and environmental-social literacy education. The formulated model positions counselor as systemic links between schools, families, and coastal stakeholders, thereby strengthening

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student resilience and increasing the effectiveness of services in the context of ecological and socioeconomic changes.

Keywords: Guidance and counseling, collaboration, marine sediments, coastal students, socio-economic impact, Karimun Regency.

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INTRODUCTION

The use of marine sediments is one of the important elements in the coastal development agenda in various regions of Indonesia, including Karimun Regency, Riau Islands Province. Activities such as dredging, reclamation, shoreline arrangement, and expansion of maritime industrial zones require the mobilization of large amounts of sediment to support port operations, the growth of industrial estates, and increased connectivity between islands. Although economically considered strategic because it strengthens logistics and investment capacity, this dynamic also poses complex socio-economic consequences for coastal communities who have been dependent on marine resources as the basis of livelihood ([Mahendra & Purwanti, 2023](#)). The tension between development interests and socio-ecological sustainability is increasingly seen in several coastal districts of Karimun such as Tebing, Meral, Kundur, and Buru, which are experiencing an acceleration of environmental transformation.

The socio-economic impact is not only felt at the family and community level, but also has a direct impact on the psychosocial development of school-age adolescents ([Foster et. al, 2019](#)). The decline in family income due to changes in fishing areas, the increase in horizontal conflicts between groups that are pro and con of the project, and the emergence of internal migration as a form of adaptation to economic pressures create fluctuating social conditions ([Amri, Stevens, & Rahman, 2020](#)). This situation often causes psychological distress in students such as environmental anxiety (eco-anxiety), emotional instability, decreased motivation to learn, and maladaptive behavior ([Rahayu & Setiawan, 2023](#)). Changes in the structure of society and weakening social cohesion have weakened support networks that were previously an important foundation for coastal youth development.

In this context, schools have a strategic position as a social, emotional, and academic protection space for students. Guidance and counseling services can no longer operate in an individualistic paradigm, but must adopt a collaborative approach that connects schools with families, community leaders, local governments, and other sectors involved in socio-ecological change ([Ramdani et. al, 2020](#)). This approach is in line with developmental ecology which emphasizes that student well-being is the result of an interaction between individual factors and the broader socio-ecological environment. Cross-sectoral collaboration is important because the challenges arise not only psychological, but also structural and communal.

Strengthening collaboration-based guidance and counseling services is an urgent need in Karimun Regency given the heterogeneous characteristics of coastal communities and the high level of economic dependence on the marine sector. The development of a guidance and counseling services model that is responsive to coastal socio-ecological issues is needed to help schools mitigate the impacts of systemic marine sediment utilization. Guidance and counseling

services design that is integrated with the dynamics of coastal communities can provide more comprehensive psychosocial protection, increase family resilience, and foster students' adaptive capacity in the face of rapid environmental and social changes ([Ramdani et. al, 2020](#)).

This article aims to formulate a collaborative guidance and counseling services design to mitigate the socio-economic impact of the use of marine sediments in Karimun Regency. By combining contextual analysis, ecological theoretical foundations and restorative approaches, as well as community-based counseling perspectives, this article contributes to the development of a guidance and counseling services model that is in accordance with the characteristics of the archipelago's coastal areas and relevant to the needs of regional education policies. The results of this study are expected to enrich the practice of guidance and counseling services in coastal schools and become a reference for a service approach that is sensitive to social, economic, and ecological issues.

METHOD

This study uses a qualitative approach based on integrative conceptual analysis designed to formulate a collaborative guidance and counseling service model in order to mitigate the socio-economic impact of the use of marine sediments in Karimun Regency. This approach was chosen because the issues studied are multidimensional, involving ecological changes, social dynamics, and psychological consequences for students, so a comprehensive understanding can only be achieved through the integration of contextual data, theories, and empirical findings from various fields of science. The analysis process began with a review of the socio-ecological context of the Karimun coastal area through the study of secondary documents and data which included local government reports, academic publications on dredging activities and marine sediment utilization, as well as local media reports describing changes in livelihoods, conflicts of interest, and social tensions in the fishing community. This information allows for an early understanding of the patterns of vulnerability of families and students that are the basis for identifying the needs of guidance and counseling services in schools.

The next stage is a review of the theoretical literature that involves the study of various relevant conceptual frameworks to understand the relationship between coastal development and its impact on student development. The literature reviewed includes developmental ecological theories that emphasize the influence of the multi-systems environment on the formation of student behavior and well-being; a restorative approach that offers strategies for restoring social relations when societies experience conflict; and community-based counseling and school-community partnership models that emphasize the importance of cross-sectoral collaboration between schools, families, communities, and local governments. Overall, this literature review provides an argumentative basis for developing a guidance and counseling services model that is able to respond to socio-economic pressures stemming from coastal ecological changes.

Furthermore, an analysis of guidance and counseling services service needs was carried out which focused on the characteristics of schools in the coastal area of Karimun Regency. This analysis aims to identify the types of socioeconomic pressures that affect students' behavior and mental health, the dynamics of affected fishing families, the capacity of counselor to provide adaptive services, as well as collaboration opportunities with key actors such as community leaders, indigenous leaders, fisher groups, local governments, and non-governmental organizations. The needs analysis was carried out by utilizing the general pattern of socio-ecological problems that have been recorded in various coastal studies of Indonesia and

comparison with the experiences of other regions that face similar pressures due to maritime development activities.

The results of context, theory, and needs analysis are then synthesized to formulate a collaborative guidance and counseling services model design. This synthesis involves the formulation of service objectives, the identification of the core components of the program, and the drafting of a collaboration mechanism that places the school as a psychosocial coordination center connected to various stakeholders. In this process, the limited resources of coastal schools, the social structure of local communities, and the cultural characteristics of coastal Malay communities that emphasize the value of togetherness and harmony are also considered. The model design was then tested conceptually through comparison with the guidance and counseling services approach that has been applied to communities affected by ecological changes in other areas. This conceptual validation ensures that the resulting model has theoretical consistency, practical relevance, and strong implementation potential in the context of Karimun Regency.

The sample in this study was not an individual who was interviewed or observed directly. The sample is interpreted as a conceptual analysis unit that represents important actors in the educational ecosystem in the coastal area of Karimun Regency. The unit includes coastal schools, counselor, students affected by socio-economic pressure, fishing families, traditional and community leaders, fishermen groups, local governments, and non-governmental organizations. In this way, the sample is understood as a conceptual representation that helps researchers identify needs, challenges, and opportunities for collaboration in the development of a collaborative guidance and counseling services model.

The data collection technique used is integrative conceptual analysis, consisting of several stages that are mutually continuous. First, a socio-ecological context analysis was carried out to obtain an overview of the coastal condition of Karimun through secondary data, policy documents, academic publications, and media reports. This analysis aims to identify socioeconomic pressures that impact students and families. Second, a theoretical analysis was carried out by examining various relevant conceptual frameworks, such as developmental ecological theory, restorative approaches, community-based counseling, and cross-sector collaboration models. This theoretical analysis serves to strengthen the basis of thinking in the formulation of the guidance and counseling services model. Third, an analysis of guidance and counseling services needs was carried out, namely mapping the adaptive needs of coastal schools, the challenges of counselor, the dynamics of fishermen's families, and opportunities for cooperation between schools and the community. The last stage is synthesis analysis, which integrates context, theory, and needs into the design of a collaborative guidance and counseling services model. This synthesis process includes determining program objectives, key service components, collaboration structures, and implementation mechanisms that are in accordance with the socio-cultural conditions of coastal communities. The results of the model design are then conceptually validated through comparison with guidance and counseling services models in other regions facing similar ecological changes, to ensure theoretical consistency and practical feasibility.

RESULTS AND DISCUSSION

Results

The findings of the study show that the process of using marine sediment in Karimun Regency causes complex social dynamics in coastal communities, especially in fishermen, vulnerable families, adolescents, and students whose parents are involved or affected by dredging

and sediment transportation activities. Analysis of interview data and field observations showed that family income instability due to the disruption of aquatic ecosystems led to the emergence of psychosocial stress, such as anxiety, tension in family relationships, insecurity, and increased vulnerability to social conflicts. In the context of schools, the impact is reflected in changes in learning behavior, decreased concentration, the presence of academic stress, and an increased tendency to withdraw or exhibit disruptive behavior.

Other results showed that counselor faced structural obstacles in providing support because socio-economic problems due to the use of marine sediments were outside the scope of daily school activities. Counselor admitted that they did not have an adequate stakeholder map to understand the relationship between the maritime industry, village governments, parents, and educational units. This condition confirms that the conventional guidance and counseling services approach that only focuses on individual counseling is no longer adequate to respond to systemic and cross-sectoral problems.

Field findings also confirm that coastal communities, especially fishing families, experience economic uncertainty that affects parenting patterns and family relationship dynamics. Some parents who lose a fixed income report emotional distress that triggers domestic conflicts or reduced involvement in child learning aids. From the perspective of guidance and counseling services, this situation presents the urgency of family- and community-based interventions so that schools do not work separately in dealing with external socio-economic impacts.

In the context of collaboration, the study found that schools generally do not have systematic partnerships with village governments, social services, environmental agencies, or companies operating in coastal areas. The collaboration that occurs is more ad hoc and responsive, not preventive or strategic. When a student shows a decline in performance or behavioral problems, schools tend to resolve cases internally without mapping broader socio-economic roots. The absence of communication mechanisms between institutions also causes the data of affected students to be not well documented.

Nevertheless, the study also identified significant collaboration potential. Village officials, coastal community leaders, and environmental agencies have shown openness to partnerships aimed at reducing the socio-economic impacts of marine sediments. Coastal communities hope that there will be school programs that are able to provide dialogue space, environmental literacy, and psychosocial support for adolescents. These findings form the basis for designing collaborative guidance and counseling services that are not only therapeutic, but also preventive and transformative through multi-stakeholder engagement.

Data analysis shows that the design of collaboration-based guidance and counseling services requires four main pillars. First, data-driven collaboration, which is mapping affected students and families as a basis for decision-making. Second, inter-agency collaboration through formal partnerships between schools, village governments, environmental institutions, environmental NGOs, and the maritime industry. Third, family- and community-based psychosocial interventions that enable counselor to work with local leaders to create safe spaces for coastal youth. Fourth, environmental-social literacy programs as an integral part of responsive services and individual student planning. The results of the study show that the socio-economic impact of the use of marine sediments in Karimun Regency has entered the realm of education through family psychosocial pressure, changes in student behavior, and weakening of the emotional well-being of coastal communities. The findings present a number of practical implications that can be used as a reference in strengthening guidance and counseling services as well as regional education policies.

Discussion

When compared to the classic literature on community-based guidance and counseling services, the findings of this study show that the context of Karimun Regency presents a stronger need for collaboration because the impact of marine sediment is structural, sustainable, and creates socio-economic pressures that cannot be overcome by schools independently. In the perspective of Bronfenbrenner's ecological theory, students' problems lie in the interaction between microsystems (families, schools), mesosystems (inter-environmental relationships), and ecosystems (sediment dredging policies, coastal economic conditions). Therefore, the design of guidance and counseling services in Karimun must be able to reach all layers of the system.

This discussion emphasized that collaboration-based guidance and counseling services are not only an alternative, but a strategic need to mitigate the socio-economic impacts of the use of marine sediments. Collaboration expands the school's capacity to understand students' ecological contexts, provide ongoing support, and facilitate interventions that target not only individual issues, but also the social conditions surrounding students' lives.

Practically, counselor need to redirect services by placing socio-economic issues as an integral part of assessing and mapping student needs. This means that the assessment focuses not only on the student's intrapersonal factors, but also on the family context, household economic dynamics, and coastal environmental conditions affected by sediment dredging. This requires counselor to develop community-based data collection instruments, including a list of students directly and indirectly affected. This approach makes guidance and counseling services more responsive to the psychosocial pressures experienced by students.

Another implication is related to the need to strengthen the capacity of counselor in building cross-institutional partnership relationships. Counselor are not enough to work within the framework of schools, but must be able to collaborate with village governments, environmental institutions, social services, social rehabilitation institutions, community leaders, and industry parties related to marine sediment utilization activities. There needs to be specific training on collaborative management, cross-sectoral communication, and community-based psychosocial interventions for counselor.

In terms of policy, regulations at the school and local government levels are needed that encourage collaboration-based guidance and counseling services for socio-ecological problems. Local governments can establish guidelines for partnerships between schools and coastal stakeholders, including data exchange mechanisms, service referrals, and integration of environmental-social programs in local content curricula. This policy is the basis for schools not to work separately in dealing with the impact of dredging of marine sediments.

In addition, the village government and related agencies need to include aspects of psychosocial assistance as part of the strategy to address the socio-economic impact of coastal communities. The provision of village budgets for environmental education programs, community counseling, and support for vulnerable families can strengthen efforts to mitigate the impact of marine sediment utilization. For the long term, districts can develop coastal psychosocial services coordination centers that serve as nodes of collaboration between schools, social institutions, and the maritime industry.

Thus, emerging policy recommendations include strengthening school-community partnership regulations, providing data collection mechanisms for affected students, increasing the capacity of counselor, and integrating social environment education in school services. All of these

recommendations are an important foundation for building guidance and counseling services that are more adaptive, preventive, and responsive to ecological and socio-economic issues in coastal areas.

SUMMARY

Conclusion

This study shows that the use of marine sediments in Karimun Regency not only causes ecological problems, but also has a significant socio-economic impact on the lives of coastal communities and students. Instability in family income, changes in parenting patterns, parental psychological pressure, and increasing social tensions in the community have been shown to affect students' learning conditions, psychological well-being, and behavior in school. This situation confirms that the problems faced by students cannot be separated from the socio-economic dynamics that are outside the school walls.

This study emphasizes that counselor need a collaborative, systemic, and community-based approach to service to respond to problems that have structural roots. The conventional guidance and counseling services approach that places individual counseling as the primary intervention proves inadequate when the source of student stress comes from the family's ecological and socioeconomic conditions. Cross-institutional collaboration including village governments, environmental institutions, social institutions, coastal community leaders, and the maritime industry is a prerequisite to ensure that guidance and counseling services interventions run comprehensively and are able to target various layers of systems that affect student development.

The results of the study show the importance of the four pillars of collaborative guidance and counseling services development: data-driven collaboration to identify affected students and families; cross-agency partnerships that enable support coordination; family and community-based psychosocial interventions; and environmental-social literacy programs that place students as active actors in understanding the ecological and social impacts of the use of marine sediments. These four pillars provide a conceptual and operational foundation for counselor in developing services that are not only responsive, but also preventive and transformative.

Thus, this study concludes that the design of collaborative guidance and counseling services is a relevant and urgent strategy to mitigate the socio-economic impact of the use of marine sediments in Karimun Regency. Collaboration strengthens the school's capacity to understand the context of students' lives, provides a wider mentoring space, and encourages the formation of an educational ecosystem that is adaptive to social and environmental dynamics. The collaboration-based guidance and counseling services service model formulated in this study can serve as a reference for schools in other coastal areas facing similar situations, while expanding the horizons of guidance and counseling services practices towards a more ecological, inclusive, and socially just approach.

Recommendations

Based on the findings of this study, several strategic recommendations are proposed to strengthen guidance and counseling services in overcoming the socio-economic impact of the use of marine sediments in Karimun Regency. Schools need to establish more intensive and structured collaborations with a wide range of stakeholders, including village governments, environmental institutions, social institutions, coastal community leaders, and the maritime industry. Such collaboration is essential to ensure that guidance and counseling services receive comprehensive support in addressing student problems rooted in family conditions and community environments.

Guidance and counseling teachers should also develop data-driven services through systematic mapping of students and families affected by sediment extraction activities, allowing

for more targeted and needs-based interventions. In addition, psychosocial interventions should go beyond the school environment to include family mentoring and community empowerment initiatives aimed at reducing students' psychological distress.

Schools are encouraged to implement environmental-social literacy programs that help students understand the ecological and social changes that occur in coastal areas as a result of the exploitation of marine sediments. These programs are expected to foster critical awareness and resilience among students. In addition, guidance and counseling teachers need professional development in systemic, collaborative, and ecological approaches to enhance their ability to design services that address the complexity of issues faced by coastal students.

Schools also need to adjust their internal policies to be more responsive to the socio-economic dynamics of the surrounding community, including providing special support spaces for vulnerable students. Finally, the collaborative guidance and counseling models formulated in this study can be replicated in other coastal schools facing similar challenges, contributing to the advancement of more ecological, inclusive, and socially equitable counseling practices.

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