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EMPOWERMENT OF FISHERMAN WIVES THROUGH PROMOTION OF MANGROVE PROCESSED MSMES AT THE PETIK LAUT FESTIVAL, CEMARA BEACH, JEMBER DISTRICT

PEMBERDAYAAN ISTRI NELAYAN MELALUI PROMOSI UMKM OLAHAN MANGROVE PADA FESTIVAL PETIK LAUT, CEMARA BEACH, KABUPATEN JEMBER

Lilik Wahyuni[1)], Qomariyatus Sholihah[2)], Siti Kholifah[3)], Ridwan Danuarta Galisong[*4)], Nur Hikmah Arifin[5)], and Aprilina Arifin[6)]

[1)] Bachelor of Indonesian Language Education Program, Faculty of Cultural Sciences, Brawijaya University
[1,2,3,5,6)] Master Program in Women's Studies, Graduate School, Brawijaya University
[3)] Bachelor of Sociology Program, Faculty of Sociology and Political Science, Brawijaya University
[2,4)] Doctoral Program in Environmental Science, Graduate School, Brawijaya University

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ABSTRACT

This study aims to empower fishermen's wives through the promotion of micro, small, and medium enterprises (MSMEs) focusing on processed mangrove products at the Petik Laut Festival, Cemara Beach, Jember. The research method used is a mixed approach that includes observation, focus group discussion (FGD), and matrix of cross-impact multiplications applied to a classification (MICMAC) analysis. The results of the study indicate that market access, financial literacy, and social networks are key factors in the success of coastal women's economic empowerment. The Petik Laut Festival has proven to be effective in promoting processed mangrove products, expanding market reach, and increasing the competitiveness of local products when viewed from market access. Therefore, it is important to develop women's capacity through entrepreneurship education and access to technology. This empowerment supports poverty alleviation and gender equality, in line with the Sustainable Development Goals (SDGs). Further research is needed to assess the long-term impact of this empowerment strategy.

Keywords: empowerment of fishermen's wives, mangrove MSMEs, Petik Laut Festival, market access, SDGs.

ABSTRAK

Penelitian ini bertujuan untuk memberdayakan istri nelayan melalui promosi usaha mikro, kecil dan menengah (UMKM) olahan mangrove di Festival Petik Laut Pantai Cemara Jember. Metode penelitian yang digunakan adalah pendekatan campuran yang meliputi observasi, Focus Group Discussion (FGD), dan analisis Matrix of Cross Impact Multiplications Applied to a Classification (MICMAC). Hasil penelitian menunjukkan bahwa akses pasar, literasi keuangan, dan jaringan sosial menjadi faktor kunci keberhasilan pemberdayaan ekonomi perempuan pesisir. Festival Petik Laut terbukti efektif dalam mempromosikan produk olahan mangrove, memperluas jangkauan pasar, dan meningkatkan daya saing produk local jika di lihat dari akses pasar. Maka dari itu penting adanya pengembangan kapasitas perempuan melalui pendidikan kewirausahaan dan akses terhadap teknologi. emberdayaan ini mendukung pengentasan kemiskinan dan kesetaraan gender, sejalan dengan tujuan pembangunan berkelanjutan (SDGs). Penelitian lebih lanjut diperlukan untuk menilai dampak jangka panjang dari strategi pemberdayaan ini.

Kata kunci: pemberdayaan istri nelayan, UMKM mangrove, Festival Petik Laut, akses pasar, SDGs.

[*] *Corresponding author: Ridwan Danuarta Galisong, ridwangalisong@student.ub.ac.id*
Institution and its address: Doctoral Program in Environmental Science, Graduate School, Brawijaya University

INTRODUCTION

Sustainable Development Goals (SDGs) are the main agenda promoted by various countries, including Indonesia (Morita et al., 2020). Indonesia, as a country with a vast ocean area and a coastline of 99,093 kilometers, has an important role in several SDGs(Arifin et al., 2020; Guleria, 2020). The important role of Indonesia's SDGs includes Point 1 poverty alleviation, Point 5 gender equality, and Point 8 supporting inclusive economic growth (Kementrian PPN, 2024). In its implementation, women's empowerment in local communities, especially in coastal areas, plays a very significant role (Torre-Castro et al., 2017). This empowerment is not only related to strengthening economic capacity but also involves increasing women's access to resources and opportunities that previously may have been difficult to reach (Leposa, 2020). Coastal Women's Empowerement should be considered as an effective strategy for furthering SDGs at the local level, as it is able to ensure optimal contributions for coastal women's role in their community (Susilowati & Mafruhah, 2023).

The role of women in coastal communities often receives less attention, despite the key role women plays in regards to their daily life and the economic prosperity in a given household (Kusumawardhani & Susilowati, 2021). One example of coastal women's work that is often forgotten is when the men goes out to sea fishing, their wives would not only take care of household chores but would then also play an active role in managing family businesses, such as processing seafood products and other similar products (Gopal et al., 2020). MSME activities are important since they provide a secondary financial source for the household, especially when considering the uncertainties of sea fishing, this fact would then give women the ability to provide additional income for their families (Sunoko et al., 2022). This is where the role of the wife becomes more complex and challenging since not only she is required to act as a housewife but also as an economic driver in her family and community (Naveed et al., 2023). In the case of the Fishermen's wives in Cemara Beach, they are tasked in producing and managing mangrove-based products that not only have an economic value but should also maintain environmental sustainability.

The Cemara Beach tourist area is one of the most famous tourist areas in Jember and even in East Java (Rohim et al., 2022). Therefore, it is important to develop typical products that can be relied on as souvenirs for tourists. Processed mangrove products are a viable choice considering the abundance of natural resources in the Cemara Beach area (Khoirul et al., 2024). Products such as mangrove chips, mangrove syrup, and various other types of processed mangrove products can be an attractive local specialty for tourists and visitors. These typical souvenirs would not only serve as normal souvenirs but also as a reflection of the crich cultural herritage and creativity of coastal communities in managing existing natural resources. Moreover, these typical souvenirs can be an effective way to increase the economic value of sustainable local resources and reduce dependence on marine products alone (Tjahjono et al., 2022). The Petik Laut Festival, which is routinely held at Cemara Beach, is an important event to promote processed mangrove

products. This festival is not only an event to celebrate local traditions and culture but also a magnet for tourists from Jember, even from Jember Regency (Khoirul et al., 2024). With this festival, local products, such as processed mangroves, could then be introduced towards a wider audience. This would also open potential opportunities for MSMEs for growth and recognition, especially fishermen's wives engaged in mangrove processing production to expand their market. Promotion through this festival can also strengthen local product branding and increase competitiveness towards a wider market, both regionally and nationally (Yang et al., 2020).

An in-depth analysis of the main factors influencing it is necessary to ensure the success of this promotional strategy (Melović et al., 2020). One method that can be used is an analysis using MICMAC software (Wijaya et al., 2020). With MICMAC, it is possible to map and identify interrelated factors and determine their level of influence (Zhao et al., 2024). This analysis is important in formulating the appropriate strategy in order for existing opportunities to be utilized optimally. Factors such as government policy, market access, public awareness of local products, and product quality are aspects that must be considered carefully (Mendo et al., 2021). Although the promotion of processed mangrove products through the Petik Laut festival has great potential, there are still research gaps that need to be filled. Research on how empowering fishermen's wives improves the economic welfare of coastal communities has not been widely conducted. In addition, research on the effectiveness of promotion through cultural events such as the Petik Laut festival is also still limited. In fact, this topic has high relevance in efforts to integrate economic, social, and cultural aspects into a harmonious whole. Therefore, this research is not only important to fill the existing knowledge gap but also to provide real contributions in the field of women's empowerment and the development of a sustainable natural resource-based local economy.

RESEARCH METHODS

This study adopted a mixed-methods approach to evaluate the factors influencing the empowerment of fishermen's wives and the promotion of mangrove-processed MSMEs in Cemara Beach, Jember. Initial data were obtained through field observations to identify relevant variables (Masó et al., 2020). The findings from these observations were enriched with literature studies to explore the identified variables (Panzer & Bender, 2022). Furthermore, a focus group discussion (FGD) was conducted with MSME members and community leaders to validate and formulate ten main variables (Chalabi et al., 2021). To strengthen the data, the researcher also conducted interviews with the village secretary as a representative of the village government. These main factors were then entered into a matrix questionnaire that was distributed to related agencies, such as the Fisheries Agency, Social Service, and Environment and Conservation Agency, to obtain an expert’s view on the matter (Schlüter et al., 2020). Data from several questionnaires filled out by experts were then taken for their mode value to determine the saturation value. The results of the saturation value were entered into the MICMAC software to map and identify key factors based on their relationships and influences (Handika et al., 2024). MICMAC was chosen because it can

effectively determine key factors, making it easier to solve problems. This analysis also aims to formulate effective strategies to increase the empowerment of coastal women and promote processed mangrove products.

RESULT AND DISCUSSION

Observation Results, Literature Review and FGD Validation

The following are ten main factors that emphasize the empowerment aspect of fishermen's wives based on the results of observations, literature reviews, and FGD validation in the context of promoting mangrove-processed MSMEs in Cemara Beach, Jember Regency:

Table 1. Important Factors

Factor	Abbreviation	Description
Leadership and Decision Making	LDM	Involvement of fishermen's wives in the decision-making process within the family and community, which includes business management and active roles in local organizations (Adjei & Arthur, 2022).
Financial Education and Literacy	FEL	Access to adequate financial education and literacy, which enables fishermen's wives to understand financial management, fund management, and business planning (Kusumawardhani & Susilowati, 2021).
Access to Information and Technology	AIT	The ability to access information and technology relevant to their business, including the use of digital technology for marketing and networking (Candraningrat et al., 2021).
Social Networks and Community Solidarity	SNCS	Strengthening social networks among fishermen's wives and supportive communities, which can provide emotional support, resource sharing, and business collaboration (Freeman & Svels, 2022).
Self-Confidence and Independence	SCI	Increasing the self-confidence and independence of fishermen's wives through the development of skills, knowledge, and recognition of their contribution to the family and community economy (Hatim et al., 2022).
Gender Role Balance	GRB	Encouraging gender role balance in the family and community, where fishermen's wives have equal rights and opportunities in taking on economic and social roles (Tantoh et al., 2021).
Social Recognition and Family Support	SRFS	social recognition of fishermen's wives' economic contributions and support from their families, which can increase their motivation and commitment to the business (Rahim et al., 2021).
Market Access and Economic Opportunities	MAEO	Opening wider market access and economic opportunities for fishermen's wives so that they can develop their businesses sustainably (Chen et al., 2020).
Entrepreneurship Education	EE	Increasing access to entrepreneurship education focused on developing small and micro enterprises, which enables fishermen’s wives to start and grow their businesses effectively (Wang & Peng, 2020).
Equitable Access to Resources	EAR	Ensuring equal access to resources such as land, credit, and other support services, which are essential to support fishermen’s wives’ businesses and strengthen their position in the local economy (Lawless et al., 2021).

These factors focus more on strengthening fishermen’s wives’ position and capacity in the economy and social life, which is expected to increase their overall empowerment.

Calculate from MDI

MDI stands for Matrix of Direct Influence. In data analysis, MDI is used to identify the main determinants of a system (Hu et al., 2024). MDI (Matrix of Direct Influence) is used to measure the influence between variables on a scale of 0 to 3, where 0 means no influence and 3 indicates a

strong influence (Lohana, 2021). This study aims to identify key factors in the economic empowerment of fishermen's wives through the promotion of mangrove-processed MSMEs at the Cemara Beach Petik Laut Festival, Jember. The questionnaire was filled out by stakeholders who are experts in coastal social empowerment to determine the relationship between variables and find the main factors that need to be focused on.

- **Stability**

Matrix stability is an analysis of the validity of filling in the matrix pattern by experts. The ideal matrix stability is around 100%. The stability of the MDI (Matrix of Direct Influence) follows the number of iterations suggested by the MICMAC application based on the processed data (Riniwati et al., 2023). The assessment of the stability of the influence and dependence of the variables is carried out at the last iteration, and the results determine whether the matrix achieves a good level of stability or not.

Table 2. MDI Stability

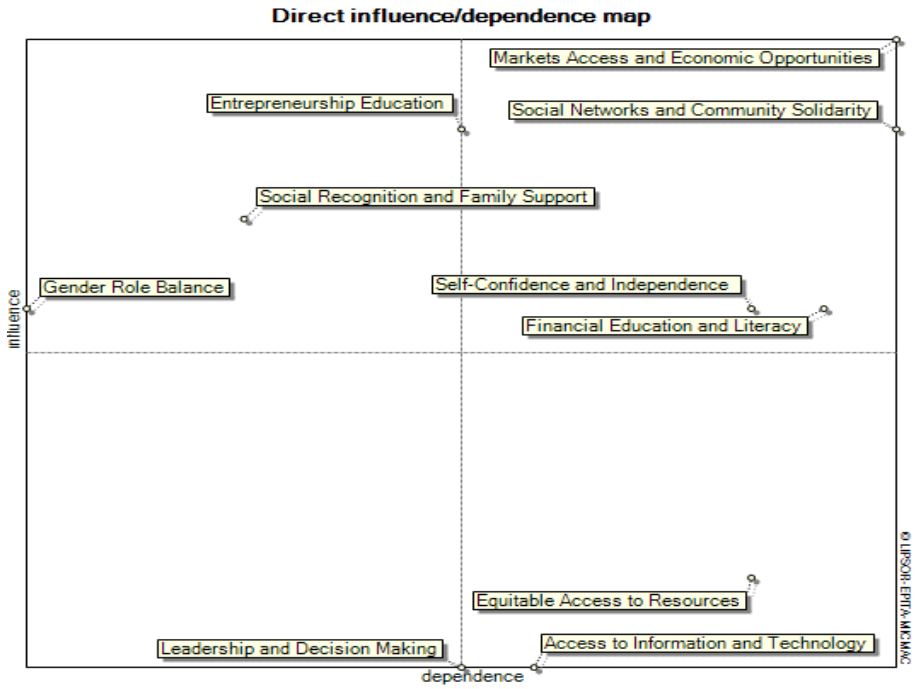
Iteration	Influence	Dependence
1	100%	88%
2	97%	100%

Source: MICMAC Analysis Results (2024)

Based on the MDI stability results from the MICMAC application, two iterations are recommended. After two iterations, the stability of the variable influence reaches 97%, while the stability of the variable dependence reaches 100%. This shows that the matrix has a very good stability because its value is close to reaching 100%.

Direct Influence/Dependence Map

Variables in quadrant I reflect key variables that are highly influential with little dependency, making them crucial to the system. Quadrant II contains relay variables, which are highly influential but also highly dependent, often reflecting system instability. Quadrant III is filled by dependent variables, which are highly dependent and sensitive to changes in key variables and relay variables. Meanwhile, quadrant IV includes excluded variables, which have minimal impact and do not significantly affect system performance (Agrawal, 2020; Bashir & Ojiako, 2020; Ebrahimi et al., 2024).



Source: MICMAC Analysis Results (2024)

Figure 1. Direct Influence/Dependence Map

The following is a classification of the notations of the results of the quadrant system, which is explained by the table below:

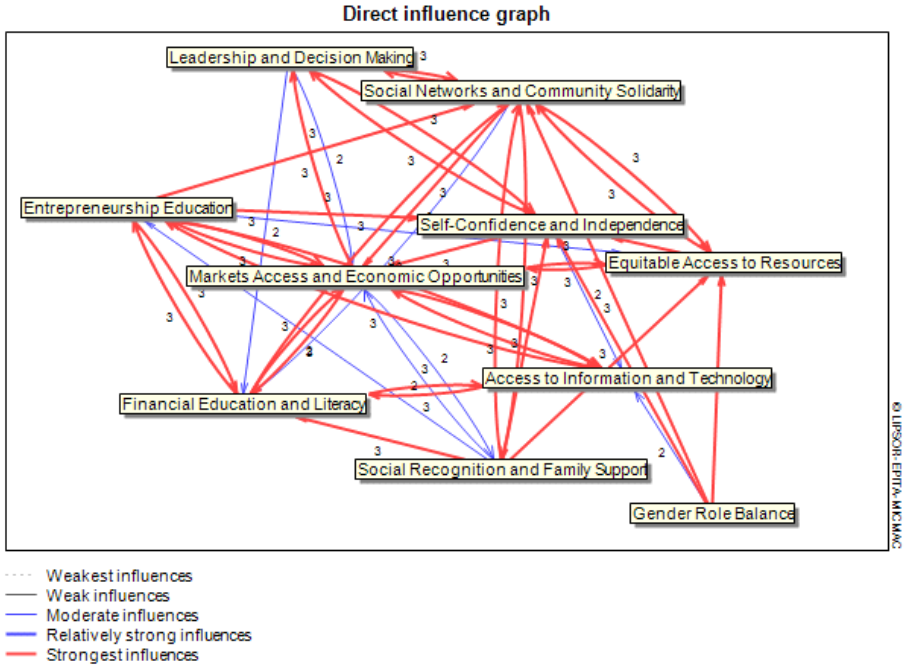
Table 3. Quadrant Result Classification

Rank	Factor	Quadrant	Information
1	Social Recognition and Family Support	1	Most influential and not influenced by other factors
2	Gender Role Balance	1	Most influential and not influenced by other factors
3	Self-Confidence and Independence	2	Influenced and influenced by other factors
4	Financial Education and Literacy	2	Highly influential but also influenced by other factors
5	Entrepreneurship Education	2	Highly influential but also influenced by other factors
6	Social Networks and Community Solidarity	2	Highly influential but also influenced by other factors
7	Market Access and Economic Opportunities	2	Highly influential but also influenced by other factors
8	Equitable Access to Resources	3	Slightly influential and quite strongly influenced by other factors
9	Leadership and Decision Making	3	Slightly influential and quite strongly influenced by other factors
10	Access to Information and Technology	3	Slightly influential and quite strongly influenced by other factors

Based on the results of the MICMAC analysis in Figure 1, the variables related to the economic empowerment of coastal women can be classified into four quadrants. In quadrant 1 (influence), the variables Social Recognition and Family Support (SRFS) and Gender Role Balance (GRB) play an important role because they have a significant influence on other variables, making them key variables that control the dynamics of the system. In quadrant 2 (relay), variables such as self-confidence and independence (SCI), financial education and literacy (FEL), entrepreneurship education (EE), social networks and community solidarity (SNCS), and market access and

economic opportunities (MAEO) show high influence but are also highly dependent on other variables, reflecting the complex relationships and interactions between these elements in the success of the economic empowerment of fishermen's wives. Quadrant 3 (dependence) includes variables such as Equitable Access to Resources (EAR), Leadership and Decision Making (LDM), and Access to Information and Technology (AIT), which, although influential, are highly dependent on other variables to function effectively. There are no variables included in quadrant 4 (autonomous), which means that all variables discussed have a high influence or dependence in the system, without any variables that are independent or have a low influence. This shows that key variables in the economic empowerment of coastal women are often related to the balance of gender roles and family social support, which significantly affect the success of community empowerment initiatives (Rahim et al., 2021; Tantoh et al., 2021).

Direct Influence Graph

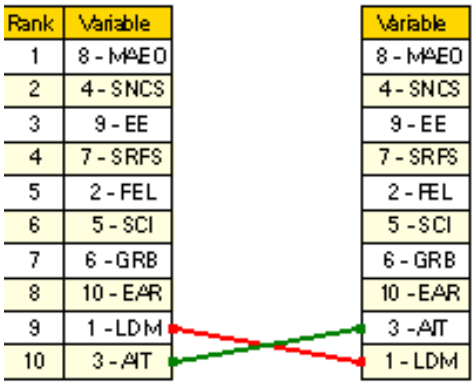


Source: MICMAC Analysis Results (2024)

Figure 2. Direct Influence Graph MDI

Direct Influence Graph MDI in Figure 2 shows the relationship between variables in empowering fishermen's wives in Jember, East Java. Based on the MDI matrix, the Markets Access and Economic Opportunities (MAEO) variable is the most influential key factor, indicated by the red line indicating a strong influence on other variables. Markets Access and Economic Opportunities (MAEO) has a major impact on the success of economic empowerment of fishermen's wives, especially in Cemara Beach, making it a key variable in increasing market access and economic opportunities for them. Better market access significantly increases economic opportunities and the competitiveness of MSMEs, which ultimately strengthens women's economic empowerment in the coastal sector (Candraningrat et al., 2021; Chen et al., 2020).

List variable sorted by influence

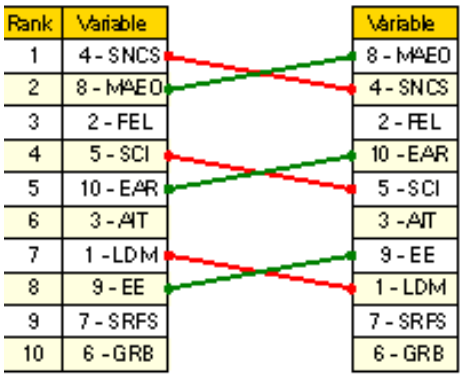


Source: MICMAC Analysis Results (2024)

Figure 3. List Variable Sort by Influence

Based on Figure 5, the order of variables in the MDI matrix shows that Markets Access and Economic Opportunities (MAEO) remains the most influential variable, confirming its central role in the economic empowerment of fishermen's wives in Cemara Beach, Jember Regency. Social networks and Community Solidarity (SNCS) also remain in second place, confirming the importance of social networks in empowerment. Significant changes occurred in variables 9 and 10, where Leadership and Decision Making (LDM) was shifted by Access to Information and Technology (AIT). This change reflects the greater impact of the AIT variable compared to LDM, as studied in the literature highlighting the role of information access in empowerment (Candraningrat et al., 2021).

List Variable Sorted by Dependence

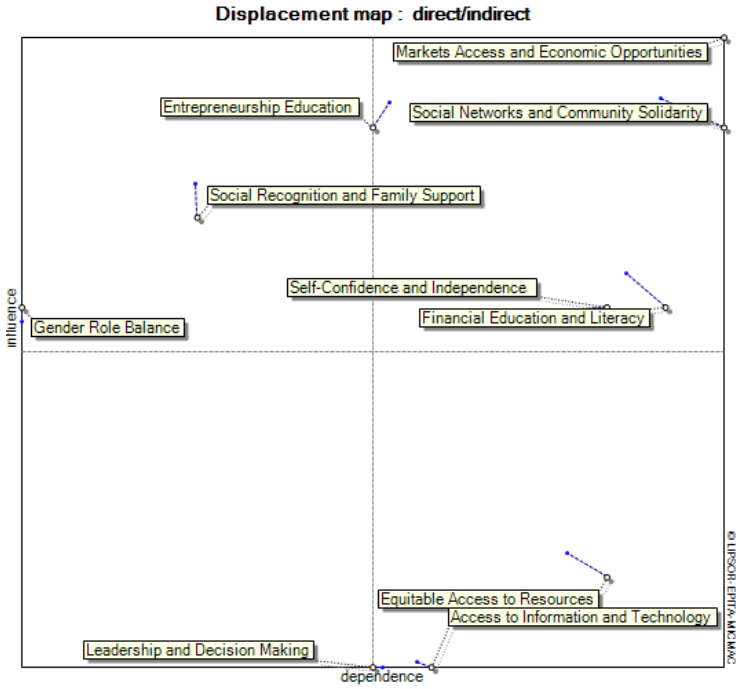


Source: MICMAC Analysis Results (2024)

Figure 4. List Variable Sort by Dependence

Based on the order of variables in the MDI matrix, significant ranking changes occurs when indirect influences were considered in the analysis of economic empowerment of fishermen's wives in Cemara Beach. The variable that was previously ranked 1, Social Networks and Community Solidarity (SNCS), was shifted to Markets Access and Economic Opportunities (MAEO), which now ranks highest. Other variables, such as self-confidence and independence (SCI) and leadership and decision-making (LDM), also shifted due to dependency and indirect influences from other variables, indicating the complexity of the relationships in the system. These changes emphasize the importance of indirect influences in determining the overall impact of variables and can help stakeholders design more effective empowerment strategies (Deininger et al., 2020).

Displacement Map



Source: MICMAC Analysis Results (2024)

Figure 5. Displacement Map

Changes in the position of variables from MDI to MII can be monitored through a displacement map, which depicts the shift of variables in a quadrant and shows whether the variable has increased, decreased, or remained the same in the long term (Lohana & Lohana, 2021). The displacement map analysis shows that most of the shifts in each variables occurs within the same quadrant, with no changes in the position of variables across quadrants. One of the significant changes identified was the shift in the social networks and community solidarity (SNCS) variable, which experienced a significant change in position, indicating an important change in its influence in the system. This map emphasizes the complexity of the relationships between variables and the importance of considering indirect influences in system analysis (Hu et al., 2024).

The economic empowerment of fishermen's wives in coastal areas, especially in Cemara Beach, Jember, shows the importance of women's roles in supporting the family and community economies. When their husbands goes to the sea, the fishermen's wives would not only do domestic work but also actively manage mangrove-based businesses. Processed products such as mangrove chips and syrup are an important source of additional income, especially when sea catches are uncertain. This initiative shows the complexity of the role of coastal women, who not only act as housewives but also as agents of economic change in their communities (Riniwati et al., 2023). Based on existing studies, empowering coastal women is an important effort to achieve sustainable development goals (SDGs), especially related to poverty alleviation, gender equality, and inclusive economic growth (Sudirman & Susilawaty, 2022). To understand more deeply about the empowerment of coastal women, it can be compared with several previous studies that discuss similar topics. The following are some journals that are used as comparisons for this study:

1. Budiyanto et al., (2022), review the importance of mangrove fruit and its transformation into functional food, which can be an important source of income for the economy. In his study, it was explained that mangrove fruit has great potential as a high-value food ingredient, especially with the phytochemical content and secondary metabolites that play a role in the development of functional foods. This is in line with the empowerment of fishermen's wives in Cemara Beach who process mangrove products such as chips and syrup. The development of mangrove-based products not only improves the family economy but also supports food security at the local level (Analuddin et al., 2019).
2. Niswah et al., (2021), discusses the Asset-Based Community Development (ABCD) approach in the development of MSMEs in Kampung Mina Mangrove, Wonorejo. This approach focuses on developing local assets and encouraging communities to optimize existing resources. In the context of empowering fishermen's wives in Cemara Beach, the ABCD approach is very relevant because it emphasizes the importance of community participation in managing local potential, such as mangroves. This approach allows communities to not only rely on external assistance but also utilize existing assets, such as mangrove processing skills and strong social networks among MSME actors. In line with research Andriamahery & Qamruzzaman, (2022), women's empowerment can be focused on developing social networks and financial access, which are very important for business sustainability.
3. Nafi'ah et al., (2023), discusses efforts to increase environmental awareness in Cemara Beach through a beach cleanup movement and promotion of environmentally friendly tourism. This study shows the relationship between environmentally-based tourism and local community economic empowerment. In this case, the Petik Laut Festival, which is held regularly at Cemara Beach, is not only an event to preserve local culture but also a medium for promoting mangrove-based MSME products. Promotion through cultural events like this opens up great opportunities for local products to gain wider recognition and increase competitiveness in a larger market (Lita et al., 2020).

To further understand the factors that influence the success of economic empowerment of fishermen's wives, an analysis using the MICMAC software is highly relevant (Handoyo et al., 2020). MICMAC helps in mapping the relationship between the different variables that plays a role in improving the welfare of fishermen's wives, such as market access, financial literacy, and strengthening social networks. The results of the analysis show that the variables of market access and economic opportunities are the most influential factors in supporting the sustainability of coastal women's businesses. In addition, financial literacy is also an important factor in strengthening women's capacity to better manage their businesses (Sultan & Sultan, 2020). This shows that the balance between personal capacity development and access to wider economic opportunities is achievable.

Empowerment of coastal women is not only related to increasing income but also expanding women's roles in economic decision-making at the community level. Further studies are needed to

understand the long-term impacts of this empowerment, especially through the promotion of processed mangrove products at cultural events such as the Petik Laut Festival, unfortunately this study is still limited (Baruah & Gaudet, 2022). However, by using the right approach such as the ABCD method and the use of MICMAC analysis, this empowerment can be a model of sustainability for other coastal communities in Indonesia. More importantly, the combination of economic, social, and cultural aspects will play a major role in the success of holistic empowerment of coastal women (Heckwolf et al., 2021). Empowering women in Cemara Beach through processing mangrove products and promoting them at cultural events does have a great potential in supporting the family and community's economy. However, further studies are needed to understand the long-term impacts of these initiatives, especially through a more in-depth analysis of the role of festivals and the strengthening of social networks and market access.

CONCLUSION AND SUGGESTION

Conclusion

Empowering fishermen's wives through the promotion of mangrove-processed MSMEs at Cemara Beach, Jember, has significantly improved the family's economy. This study highlights that key success factors include market access, financial literacy, and social networks. The Petik Laut Festival is an effective platform for introducing local products, increasing market visibility and competitiveness. However, further research is needed to evaluate the long-term impact of these empowerment efforts as well as the effectiveness of cultural festivals in promoting coastal women's economic independence. This initiative is in line with the goals of poverty alleviation and gender equality.

Suggestion

Further research should be conducted with a focus on increasing market access and financial literacy for coastal women. Evaluation of the impact of product promotion through cultural festivals as a whole to should also be conducted with the goal to measure the effectiveness of empowerment strategies and develop initiatives that support sustainable economic independence.

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