Empowerment to Increase the Human Capital of Female Fishermen Through Non-Formal Education

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Abstract

Fisherwomen, as agents of change, have an important role in developing a quality next generation in the economic and domestic fields. Their involvement in religious activities and training shows a significant impact in empowering and developing fishing communities. This research aims to analyze how the empowerment of female fishermen can be carried out through non-formal education and training to improve the quality of human capital. This research uses a qualitative approach with a gap analysis method. Data was collected through interviews and observations related to the women fishermen empowerment program. The research results show that female fishermen play an important role in developing human resources through religious and ethical education, with support from the Ministry of Religion and the Ministry of Maritime Affairs and Fisheries. Limited religious and social insight can be overcome through non-formal education, which emphasizes character-building and local wisdom. The importance of a holistic approach involving intellectual, emotional, and spiritual aspects (IQ, EQ, and SQ) is emphasized in the education and empowerment of female fishermen. Local wisdom and cultural values are key factors in encouraging social cohesion and the effectiveness of empowerment programs. This research suggests that empowering female fishermen must involve more than just increasing IQ, by utilizing technology and the internet to optimize their potential in developing fishing communities.

Keywords: Human Capital, Women Fishermen, Empowerment.

A. INTRODUCTION

During rapid economic and social development in the current global era, the role and empowerment of women in various sectors is an important issue that continues to receive attention. Increasing awareness of gender equality and women’s empowerment has become a global topic, reflecting shifts in social values and development priorities (Ummah, 2021). This empowerment is not only limited to economic aspects but also includes wider access to education, health, and political participation. In many countries, including Indonesia, women have demonstrated a key role in driving economic growth and social development. However, there are still gaps in empowerment, especially in certain sectors where women’s roles are often less visible or less recognized (Freeman et al., 2020).

Especially in fishing communities, the role of women often does not receive enough attention. Although they contribute significantly, both directly and indirectly, to fishing activities and the family economy, these contributions are often undocumented or considered trivial. In many cases, female fishermen are involved in various activities, from processing catches, and maintaining household sustainability,
to marketing activities, but are often not recognized as an integral part of the fishing industry. This creates an imbalance in recognition and empowerment, which ultimately impacts their capacity to access resources, education, and economic opportunities (Solano et al., 2021).

Human capital referred to in this context is increasing the capacity, skills, and knowledge possessed by female fishermen. Increasing this human capital is very important because it can help them not only improve their quality of life but also make a greater contribution to the fisheries sector and society in general. Non-formal education has emerged as an effective way to achieve this goal. In contrast to formal education, non-formal education is more flexible and can be adapted to the specific needs of fishing communities, accommodating the limited time and resources that women in these communities often face (Amir Zal et al., 2020).

Non-formal education here acts as a medium for developing the potential of female fishermen. These educational programs can include skills training, workshops on seafood processing and marketing techniques, education on financial management, as well as knowledge about women’s rights and reproductive health (Bhowmik et al., 2021). With a more practical and direct approach related to their daily lives, non-formal education can be an effective means of empowerment. Through increased knowledge and skills, fisherwomen can take a more active role and have greater influence in decision-making, both at the household level and within their communities (Essomba et al., 2022).

Thus, empowering female fishermen through non-formal education is not only important for improving individual quality of life but also has broader implications for economic and social development. Empowered women can make a more significant contribution to the family and community economy, driving inclusive and sustainable economic growth. In addition, non-formal education also opens up opportunities for women to increase their awareness of environmental, health, and social issues, which ultimately contributes to more holistic and sustainable development (Ursić et al., 2023).

This research aims to explore and analyze how non-formal education can be an empowerment tool to increase the human capital of female fishermen.

B. LITERATURE REVIEW

1. Empowerment

The idea of empowerment originated from two key notions: defeat and optimism. The defeat refers to the inability of economic growth strategies to address poverty and persistent environmental issues effectively. On the other hand, optimism lies in the potential for alternative development approaches that embrace democratic principles, gender equity, intergenerational fairness, and sufficient economic expansion. These shortcomings and aspirations do not serve as metrics for social science disciplines; instead, they mirror deeply held ethical and normative values at both personal and community levels (Pollio, 2021).
In this scenario, Amartya Sen highlighted that economic progress should be understood as a process that enhances people's freedom to make choices. He argues that the core issue in developing nations is more about the diminished significance of life rather than just low earnings. Thus, he suggests that the most effective approach to address this issue is to expand the "freedom" and "capability" of individuals to select values that align with their beliefs (Amin et al., 2020).

In line with Sen's thoughts, Kartasasmita explained that sustainable economic progress must be supported by human resources who have initiative and creative power. Initiatives only grow if there is emancipation and full opportunity to participate in the change process. Therefore, freedom and opportunity are needed to participate in decision-making concerning individuals and society. In the absence of freedom and opportunity, initiative and creative power are limited (Khan & Liu, 2023).

Empowerment, viewed as an alternative approach to development, places a strong emphasis on the self-determination in decision-making within community groups, leveraging personal resources, engagement, democratic principles, and social strengthening through firsthand experiences. The attention is on local issues, as communities are more prepared to be empowered on a local scale. Yet, Friedmann cautioned that overlooking economic forces and structures external to the community would be highly impractical. As such, community empowerment extends beyond economic aspects to include political dimensions, enabling people to wield negotiation power on both national and international stages (Laruffa, 2020).

The notion of empowerment emerges from the interplay at both the ideological and practical levels. Ideologically, it arises from the dynamic between top-down and bottom-up approaches, bridging strategies focused on growth and those centered on the populace. Practically, it involves a tug-of-war over autonomy. Consequently, the concept of empowerment inherently aligns with the interests of individuals living below the poverty threshold (Beeker et al., 2021).

At its core, empowerment involves fostering an environment or setting that enables the growth of community potential. This rationale rests on the premise that no society is utterly powerless. Every community possesses power, although its members might not always recognize it or it may remain unidentified. Hence, it is essential to uncover and then cultivate this latent power (Avelino, 2021). Should this premise evolve, empowerment becomes an endeavor to construct power by fostering encouragement, inspiration, and consciousness of one's capabilities, along with efforts to enhance them. Beyond this, empowerment ought not to ensnare individuals in a cycle of dependency (charity), but rather, should guide them towards a pathway of autonomy (Nguyen et al., 2022).

2. Human Capital

The theory of human capital posits that humans can be viewed as a form of capital, akin to physical capital assets. Todaro has articulated that the concept of Human Capital is observable through individuals who invest with the aim of
achieving higher levels of future consumption. Such investments in human capital typically encompass education and health sectors (Osiobe, 2020). This is supported by the understanding that the greater an individual’s educational attainment or the more training they receive, the more they enhance their skills and abilities. Health, on the other hand, is closely linked with education. Attaining higher education levels is futile without maintaining good health, as it will not lead to increased productivity. Moreover, attaining higher education levels can also raise a person’s awareness regarding their health (Bokayev et al., 2021).

The assessment of health indicators within the framework of human capital is conducted through the metric of life expectancy (AHH). The AHH metric provides an average estimate of the years an individual is expected to live. An elevated life expectancy signifies superior health indicator quality. In addition to AHH, various other methods are available for evaluating health indicators, including infant mortality rates and maternal mortality rates, depending on the specific objectives of the research (Miles et al., 2021).

Education indicators are quantified by integrating two key elements: the literacy rate and the average duration of schooling. The literacy rate represents the proportion of the population aged 15 and older capable of reading and writing in Latin or other scripts. The average years of schooling indicate the amount of time individuals aged 15 and above have spent in formal education settings (Ardington et al., 2021). Given the widespread accessibility of education, the literacy rate alone is deemed an overly simplistic measure of educational levels. Together, these components serve as suitable metrics for assessing the educational quality of individuals. The average length of schooling effectively reflects the quality of an individual’s education, distinguishing between the varied capabilities of individuals with different levels of educational attainment, from elementary to doctoral degrees, which in turn affects productivity levels (Tabroni et al., 2022).

3. Fisherman

Fishermen are individuals who derive their livelihood from marine resources. In Indonesia, they predominantly reside in coastal regions. The fishing community comprises people whose sustenance comes from the sea, living in either villages or coastal areas (Warren & Steenbergen, 2021). The defining features of fishing communities can be observed from several perspectives:

a. Livelihood-wise, fishermen engage in activities closely linked to marine and coastal ecosystems, with fishing serving as their primary source of income (Andrews et al., 2021).

b. From a lifestyle viewpoint, the fishing community is characterized by a spirit of cooperation. The necessity for collaborative efforts and mutual support is crucial, especially in tasks that demand significant resources and energy, such as sailing, constructing homes, or building wave barriers around their settlements (de Moura et al., 2020).
Regarding skills, despite the physically demanding nature of their work, fishermen typically possess basic skills. The majority take up fishing, a trade passed down from their ancestors, rather than acquiring it through formal training (Nulhaqim et al., 2023).

In terms of social structure, fishing communities are diverse, including both heterogeneous and homogeneous groups. Heterogeneous communities inhabit areas readily accessible by land transport, whereas homogeneous communities, located in remote fishing villages, often utilize rudimentary fishing tools, resulting in lower productivity. Additionally, the challenge of transporting their catch to markets contributes to the reduced prices of seafood in their locality (Thanh et al., 2021).

C. METHOD

This research was carried out using a qualitative approach and gap analysis method. The gap analysis method was used to complete the fourth research objective, namely recommending policies to increase the human capital of female fisher owners, traditional fishermen, and labor fishermen based on local wisdom. Referring to Sora and Yingru, gap analysis is a tool or process for identifying where gaps are and what differences exist between an organization’s current situation and what it should be. Through gap analysis, organizations attempt to modify the current situation to achieve the desired situation. Gap analysis contributes to designing organizational implementation plans and to improving organizational effectiveness in various areas. This can include management systems such as human resources or resource planning, market projections, information technology, and so on. Gap analysis consists of four steps: (i) identifying the organization’s key needs from the current situation; (ii) determining the ideal future or desired organizational situation; (iii) highlighting gaps that exist and need to be filled; and (iv) modify and implement organizational plans to fill gaps (Abdussamad & Sik, 2021).

D. RESULT AND DISCUSSION

1. Problems Faced by Female Fishermen

Government institutions in each research area have different policies for increasing human capital in their area, especially regarding the traditional values that are practiced. Referring to the structuration theory put forward by Giddens, how action interactions are conceptualized with institutions so that they can be understood and practiced socially. This research relates to the polemic of how female fishermen can maximize their ability to educate and give birth to a generation of quality fishermen’s children, even though they are faced with three roles that are carried out simultaneously, namely economic, domestic, and social roles.

With the triple role of women fishermen, empowerment is needed so that women fishermen can carry out their domestic and economic roles intelligently. One effort to improve the quality of female fishermen is through empowerment. Meanwhile, one way to empower female fishermen is through education and training.
The education in question can be formal education with formal institutions such as schools for fishermen’s children or non-formal education through counseling and training. It can also be done with non-formal education in the form of lectures in religious groups or social gatherings. Thus, female fishermen have a strategic role in conveying information about the importance of human capital investment. Thus, fisherwomen can be said to be agents. As an agent, the strategy for conveying information so that it is right on target can be done by knowing the motivations of female fishermen.

2. Implementation of Empowerment of Women Fishermen

Giddens distinguishes three internal dimensions of actors, namely unconscious motivation, practical awareness, and discursive awareness. Unconscious motivation concerns desires or needs that have the potential to lead to action. The unconscious motivations that female fishermen have in carrying out economic roles at the research location include helping the fishermen’s household economy (83%) and being independent or self-actualizing (17%). No different, Krishna’s research shows that several things that motivate female fishermen to work are wanting to increase their income (83%), encouragement from their husbands (13%), and independence (4%). Meanwhile, the results of Nur and Baq’s research show that there are several reasons why female fishermen in Banjarkemuning Village continue to work, namely culture, economics, existence, and self-actualization.

Furthermore, discursive awareness is related to reflection by explaining in detail the actions carried out. Meanwhile, practical awareness does not require explanation but only focuses on action. The awareness formed by female fishermen discursively and practically is demonstrated in the form of participating in religious activities and training. With these two activities, fisherwomen have the knowledge and experience to maximize their economic (helping to increase income) and domestic roles (caring for and educating children in a quality manner).

For example, RT 12 in Kalibaru Sub-district, through a fun activity carried out by fishermen’s wives once a week. The proceeds from the ngecrek are used to help and relieve fellow residents if someone is experiencing difficulties, such as visiting sick neighbors, neighbors who are being treated in hospital, paying installments for operational facilities, namely purchasing ambulances and tents and paying the wages of lecturers at taklim assembly events.

In contrast to RTs 09 and 10 in Kalibaru Sub-district, in these two RTs, there are no public activities, but these two RTs require a fee of IDR 20,000/month or IDR 5,000 per week. The allocation of these fees is the same as RT 12. The allocation of fees for the taklim assembly provides direct benefits to female fishermen in improving the quality of education with an Islamic nuance that leads to people with knowledge and morals and a personality of faith and piety.

The taklim assembly activities carried out showed success in overcoming the limitations of religious insight for female fishermen, especially mothers. Referring to the results of an interview with Nur Salim (39 years) as head of RT 12, he said: “…This
taklim assembly is important so that mothers know about religion, educate them based on religious knowledge. We can know people by the way they socialize. If the parents’ religious knowledge is not strong, it will be seen that their children like to hang out, come home late, get drunk...”.

In line with Nur Salim’s opinion, Kaplow and Shavell argue that moral values and rules are malleable and require an element of rational choice. The principles that children learn in the family or at school, or the codes of ethics that govern the behavior of adult individuals, are the result of deliberate choices and rational deliberation.

So religious knowledge is very important for women who are the first madrassa for their children. Children are valuable assets as the nation’s successors who can be formed through intelligent mothers so that they can give birth to children who are intelligent and have noble character. One effort to achieve this is to design a regular and free recitation program at the taklim assembly. Currently, the assistance program routinely provided by the Indonesian Mosque Council (DMI) is a cash assistance program for mosque operations, such as paying marbot salaries. The operational assistance is worth IDR 1 million/month.

3. The Role of Government Institutions in Supporting Women Fishermen

As a vertical institution, the role of the Ministry of Religion (Kemenag) in each region is very dependent on the ability of each official to coordinate between institutions. There is no cooperation at the ministerial level to overcome and deal with the low quality of human resources for female fishermen in an integrated manner. The Ministry of Religion has abundant human resources, namely religious instructors with civil servants and honorary status. They are usually religious leaders in each area where they work, those who have an extraordinary capacity to invite their people and followers to contribute together to improve the quality of human resources for female fishermen.

Apart from the Ministry of Religion, the Ministry of Maritime Affairs and Fisheries (KKP), also has the main responsibility for overcoming the low quality of human resources for female fishermen. The role of the KKP in the research area is still limited to programs providing skills for processing fishery products. Based on the results of an interview with Tisno (47 years old), the fishery product processing program did not work effectively for women fishermen because the technicalities of the program required women to be in groups. “…The program doesn't work, because you have to form groups, four to five women in one group. Well, there are many who can’t and don't want to group...”.

Furthermore, referring to the results of interviews, the reasons why female fishermen cannot be in groups for several reasons, including 1) difficulty finding group members who have the same time; 2) difficulty finding group members who have the same thoughts and requests; 3) lazy to get involved in conflicts between members.

This reason was strengthened by the results of an interview with one of the respondents, Yulia (46 years), who revealed that: "...mothers find it difficult to join..."
groups for several reasons, including difficulty finding a solid team of members, then for reasons of working as shellfish workers and being lazy...

Yulia’s opinion (46 years) was also supported by Tisno (47 years), who stated that: "...Once in a group, but it didn't work, because the members weren’t in tune...". Thus, it can be concluded that local wisdom in the form of cooperation is very necessary to support programs run by the KKP to be more effective because village communities in general still have a strong communal spirit. KKP in creating a fishery product processing skills program should be technically based on mapping the demographic, sociological characteristics, and local wisdom of each region. For example, in RT 09 and 12, there is local wisdom in the form of ngecrek and fees, KKP can coordinate with the committee carrying out these activities to help map groups of women fishermen. Local wisdom refers to the various cultural riches that develop in a society. Local wisdom is recognized as an important element capable of strengthening social cohesion in society.

Local wisdom is extracted from cultural products related to life and society, such as value systems, beliefs and religion, work ethic, and dynamics. Local wisdom refers to the knowledge, beliefs, understanding, and customs or ethics that guide human behavior in ecological communities. Thus, it can be concluded that local wisdom is a cultural value in local communities in the form of traditions, culture, and mottos which function to regulate social order. In this case, local wisdom is highly valued and has great benefits in people’s lives.

It is no different, in the context of improving the quality of fishing women's resources in terms of religious knowledge, the government, in this case the Ministry of Religion, can also utilize local wisdom that exists in the research area. For example, in the RT 12 Kalibaru area, a free Al-Quran education garden school is implemented for children in the RT area. The aspect of helping that is part of the culture of this form of mutual assistance is the religious values or norms that are the spirit of their philanthropic practices. Javanese cultural values which emphasize the importance of helping each other in religious knowledge have become a field of charity for carrying out this philanthropic practice. The role that the Ministry of Religion can play is in the form of assistance for operational infrastructure such as providing juz ama books and affordable learning aids for children.

Empowering coastal women through religious education has three important requirements, namely providing religious insight and knowledge, providing opportunities, and providing facilities and funds. The religious education provided is not enough if it only extends to providing religious insight and knowledge, but it is necessary to train how to apply religious knowledge in educating children in the era of technology 4.0.

Religious values as the core of education can be the main provision for female fishermen to maximize their domestic roles. Parenting patterns with good religious provisions in the golden age era are the main factors that fisherwomen must have because this has a vital influence on the formation of children’s character. In other, more complex words, it has a big influence on the formation of his personality.
4. Local Community Empowerment

So far, the Indonesian government is still focused on increasing high IQ. This paradigm is based on the idea that IQ is the only measure of success in the world of education. Patrick’s research shows that there is a moderate and significant positive relationship between IQ scores and medical education module exam scores ($r = 0.391; p < 0.01$). This means that the higher a student’s IQ score, there is a tendency for the student to get better test scores. No different, Alfa found that leadership effectiveness was 79.8% influenced by IQ. However, Goleman & Ary stated that the contribution of IQ to success in life is only 20%, while 80% is influenced by EQ and SQ. This means that if Indonesia wants to give birth to a quality golden generation, it should not only focus on increasing IQ but also EQ and SQ. KPK data shows that 86% of corruptors come from universities. This shows that success is not only influenced by IQ but also EQ and SQ.

For this reason, fishing women must provide a complete education for their children. Not only IQ, but also EQ and SQ. By implementing the ESQ concept, we can contribute to Islamic character education. Thus, empowerment that is by local wisdom applied by female fishermen is needed to help improve the quality of education of female fishermen, so that it has a positive impact in the future.

So far, the empowerment carried out by the KKP for coastal communities based on local wisdom is only related to the management of marine and fisheries resources. Local wisdom has not been used as a basis for making policies related to increasing the human capital of female fishermen. The results of this research show that local wisdom implemented in the form of mutual assistance and cooperation influences increasing the human capital of female fishermen.

Referring to data from KKP meeting materials, from 2005-2013 KKP carried out community empowerment in managing marine resources based on local wisdom in 30 coastal locations. Furthermore, related to increasing the capacity of fisherwomen’s skills and abilities in managing fish products, the KKP has carried out various activity programs, such as cooking training, training on processing products made from catfish and by-products of catfish processing, technology transfer resulting from research on catfish processing technology; transfer of innovative technology for making cracker snacks and snack bars, increasing institutional and individual capacity in the boiled salt processing business as well as facilitating the implementation of technical guidance for female fishermen from the city of Pekalongan. However, all empowerment activity programs carried out have not utilized local wisdom such as cooperation/cooperation to improve the quality of fishing women’s resources in terms of non-formal education.

In community empowerment, local wisdom is needed and has an important role. Both have reciprocity, local wisdom can be used to empower communities to move in harmony with local values. Therefore, community empowerment cannot be separated from efforts to overcome poverty which often occurs in society. Through local wisdom values, community empowerment can be carried out more effectively and following the character of the target community. The relationship between local...
wisdom and community empowerment is that local wisdom can be used to empower communities to move in harmony with local wisdom values. The empowered community can then be used to preserve local wisdom. In this way, a reciprocal relationship is created.

Efforts to empower local communities through local wisdom values can be carried out by incorporating local wisdom values as a community’s economic strength. One example of community empowerment based on local wisdom is increasing the human capital of fishing women in religious activities as a means of educating children which is not only focused on IQ but also EQ and SQ. With a greater percentage of fisherwomen’s time spent on domestic matters, additional religious activities for fisherwomen will have greater potential to give birth to civilized children, have character, and be well-mannered.

Notoadmodjo stated that the role of mothers, especially in educating preschool-aged children, is very important. According to Thrillist, the mother’s genetics are responsible for the formation of the child’s brain. Maternal genetics account for around 40 to 60% of a child’s intelligence. The rest is the influence of environmental factors on the child’s growth and development. This is based on many research findings showing that a mother’s education (both formal and non-formal) greatly influences her child’s success in life in the future. Moreover, BPS data shows that the percentage of women accessing the internet is very high, namely 54.70%. This means that the government must be able to take advantage of these two things to accelerate the improvement of the quality of female fishermen’s human capital.

E. CONCLUSION

This research highlights the important role of female fishermen in increasing human capital through empowerment which includes education and training. Fisherwomen act as agents of change, playing a strategic role in educating and forming a quality next generation, both economically and domestically. Their motivations, both unconscious and discursive, encourage active participation in religious activities and training, which not only increases their knowledge but also helps in maximizing their role. Activities such as the taklim assembly show effectiveness in overcoming limited religious insight and providing strong moral values to children, emphasizing the importance of religious and ethical education in building children’s intelligent and noble character. To improve the quality of human resources for female fishermen, there is an important role for the Ministry of Religion (Kemenag) and the Ministry of Maritime Affairs and Fisheries (KKP). The Ministry of Religion, with its abundant religious extension resources, can utilize local wisdom in religious education, such as in RT 12 Kalibaru which implements free Al-Quran schools, to increase the religious insight and knowledge of fishing women. On the other hand, the KKP needs to consider local wisdom and social dynamics of the community in the fishery product processing skills program, considering existing obstacles such as the difficulty of forming groups. Local wisdom, which includes cultural and social values, plays an important role in encouraging social cohesion and...
the effectiveness of fisherwomen empowerment programs. Finally, the Indonesian government must expand its focus from increasing IQ alone to more holistic development involving EQ and SQ, especially in the context of education and empowerment of female fishermen. Empowering female fishermen must involve character education and local wisdom, which have not been fully utilized in community empowerment programs. The importance of the mother’s role in children's education, especially in non-IQ matters, was emphasized, along with the potential use of technology and the internet to improve the quality of fisherwomen’s human capital.

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