The entrepreneurship capacity building program and empowering fisherwomen Sawohan Village, East Java

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Putri, Vindaniar; Yukihana, Andhita; Shafira, Arsy; Tasya, Arny; and Al-Aufa, Badra (2019). The entrepreneurship capacity building program and empowering fisherwomen Sawohan Village, East Java. *ASEAN Journal of Community Engagement*, 3(2). Available at: [https://doi.org/10.7454/ajce.v3i2.1062](https://doi.org/10.7454/ajce.v3i2.1062)

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The entrepreneurship capacity building program and empowering fisherwomen Sawohan Village, East Java

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Abstract

Research on women in a coastal area tends to focus only on their roles as processors and vendors of fishery products. However, their contribution to the family economy is rarely overlooked. This descriptive study is an initial examination of the fisherwoman's role on household income in Sawohan Village, East Java, Indonesia. The village, which is famous for the fishery products it turns out, is classified as a poor village because the local income is far below the East Java average minimum wage. The purpose of this study is twofold: first, to empower fisherwomen to improve the economy of the family; second, to analyze the factors that influence fisherwomen's intentions to become entrepreneurs as a second income for the household. Entrepreneurship Capacity Building (ECB) methods using a participatory approach were performed to involve fisherwomen in identifying problems, the causal factors of the issues, handling strategies, and developing models for managing the village's problems based on science and technology. A quantitative method, using an in-depth interview based on a questionnaire, was used to determine the factors that influence fisherwomen to become entrepreneurs. Multiple linear regression shows that fisherwomen are significantly affected to become entrepreneurs by self-motivation to earn profits (FP_PRFT), hobbies/pleasure (FP_HOB), and government policy (FL_GOVT). The linear relation between those factors and entrepreneurship intention concludes that fisherwomen voluntarily wish to contribute to household income. The sustainability of this program must be done by providing entrepreneurship assistance and providing knowledge about product marketing.

Keywords: women empowerment, fisherwomen, economy, entrepreneurship, multiple regression.

1. Introduction

Fisher communities are homogenous communities with close relationships in the neighborhood. These close relationships are recognized as bonding social capital (Amir Zal, 2016). There are two categories of fisheries, small-scale and large-scale. Data from 1950 to 2013 indicated that small-scale fisheries produced a more significant proportion of fish for human consumption than industrial fisheries (Teh & Pauly, 2018). Small-scale fisheries are defined as traditional fisheries involving fishing households (as opposed to commercial companies). They use a relatively small amount of capital and energy. They also use small
fishing vessels (if any) that make short fishing trips close to shore, mainly for local consumption (FAO, 1999; Halim et al., 2019).

Small-scale fisheries play many roles in developing countries. Their activities are divided into licensed and unlicensed, full-time or part-time (Sowman & Cardoso, 2010; Belwal, Belwal, & Al Jabri, 2015). In Indonesia, medium to small-scale fisheries are currently not regulated and are excluded from the existing fisheries management instruments. Consequently, they do not require fishing licenses, such as fishing vessel license (Surat Izin Kapal Pengangkut Ikan/SIKPI). However, they are likely have conflicts with other fishers with whom they compete for fishing resources and intermediaries (who negotiate to get them an adequate price in the market) (Bavinck, Jentoft, & Scholtens, 2018; Halim et al., 2019).

In coastal communities such in Sawohan Village, Sidoarjo Regency, East Java, women’s contributions are significant because of their strategic position in fisheries and marine-based activities and in household management. They are responsible for helping the fishermen harvest; they also become retailers, wholesalers, and do everything involved in the cycle of fishery product consumption (S, PA, & DWP, 2012; Diana, 2015; Uzzaman, 2015; Baruadi & Paramata, 2016; Ratri, 2018). FAO (2016) showed that 19% of all people who are directly involved in the fishery primary sector activities such as fishing, and aquaculture are women. On the other hand, in the small-scale fisheries almost half of its workforce are women (Alami & Raharjo, 2017).

The role of women today is not only in the domestic sector but also in the public sector. They are businesswomen, sole proprietorships, employees, shopkeepers, and factory workers. In modern society, women’s status is no longer only as housewives. Furthermore, women’s participation in household decision making is now considered. They are required to participate in helping their husbands support the economy of the family (Salaa, 2015; Mutimukuru-Maravanyika, Mills, Asare, & Asiedu, 2017).

However, the status of fisherwoman has several conceptual problems because of the connection between her economic role and the degree of independence she wields in decision making in the family. Fisherwomen tend to support the economy of the family. At the same time, the woman’s role in the household is also important. However, empowering fisherwomen to improve the economy of their families is a challenge. This is because female
workers are often not paid due to the lack of women’s participation in various activities and the education level, which is generally very low. The socio-cultural values of the community become a barrier for fisherwomen.

On the other hand, fisherwomen can potentially increase the economy of the family itself. According to Kusnadi (2006), one element of the social potential to increase the income of coastal communities is women, especially the wives of fishermen. Fisherwomen need the opportunity to actualize themselves (Sridevi, 1989; Baruadi & Paramata, 2016).

The problems faced by local communities are very complex. Fisherwomen want to be entrepreneurs even though they lack skills other than processing fishery products. This can be seen from the field of activities they carry out. Fisherwomen may increase their creativity through handicrafts training and workshops to try businesses other than fishery culinary. Almost every family in the area has a side business producing food and handicrafts. Business intention is influenced by a number of factors, namely, attitudes toward entrepreneurial intention and subjective norm factors (Gelderen et al., 2008; Linan, Rodríguez-Cohard & Rueda-Cantuche, 2011), their level of financial literacy (F. Adi, Sumarwan, & Fahmi, 2018), and personal and external factors (Dion & Edy, 2012; Tisa & Anggadjwita, 2018).

Priyanto (2008) states that internal and external factors influence entrepreneurship. These internal factors come from the self-employed in the form of personal traits, attitudes, willingness, and abilities of the individual. Whereas, external factors are coming from the outside, such as the family environment, the business world, socio-economic, and so on. Internal and external factors influence the growth of entrepreneurial intention. Internal factors originate from the self-employed in the form of personal traits, attitudes, willingness, and individual abilities that can provide the individual strength needed for entrepreneurship. External factors originate outside the self-employed entrepreneurs and can be in the form of elements from the family environment, the business world, the physical environment, the socio-economic environment, opportunities, competitors, government policies, and other elements. Stewart, Watson, Carland, & Carland (1999) added that contextual factors also affect individual entrepreneurial intention (Priyanto, 2008; Suharti & Sirine, 2011; Komsi, 2013).

Empowerment aims to increase the power of the disadvantaged. One group of underprivileged people is made up of women because of gender discrimination and
belonging to a group with primary structural disadvantages. Empowerment must be carried out continuously, comprehensively, and simultaneously. This process will not end with the completion of a program, whether the program is implemented by the government or non-government agencies. Empowerment will continue as long as the community still exists and still wants to empower itself (Dayana, 2013). Shardlow (1998) describes empowerment in principle as encouraging clients (in this case fisherwomen) to determine how to overcome their problems so that they have full awareness and power in shaping their futures (Adi, 2008).

Aritonang in Ihromi, Irianto, & Luhulima (2000) argues that women’s empowerment is an effort to improve women’s ability to develop their capacity and skills to gain access and control over decision-making positions, resources, and supporting structures or pathways. Women’s empowerment is vital for women to get to know their identity, to be more confident, to make the necessary decisions, and to lead. Also, they motivate each other to change and improve their conditions to get a fairer part following universal human values (Aslichati, 2011).

Fisherwomen are responsible for household upkeep, childcare, earning a livelihood, and psycho-social support of the fishers (Lim & Laowapong, 2012). Women’s contribution can ease the economic crisis by searching for alternative income sources outside the fishery sector (Porter & Mbezi, 2010; Koralagama, Gupta, & Pouw, 2017).

Gender equality and women’s empowerment are essential programs in the framework of global and national development. Women’s empowerment and gender equality are linked with sustainable development goals, such as eliminating poverty, achieving zero hunger and malnutrition, and good health and well-being for women and children (Malapit, Meinzen-dick, Martinez, & Yount, 2019). In the Long-term National Development Plan (RPJP) and the Mid-term Regional Development Plan (RPJM), women’s empowerment is one of the priority programs in the framework of national development. This condition increases the position and role of women who are believed to be able to improve the quality of women’s roles and independence to enhance the welfare of families and communities. In other words, empowering women means empowering a nation (Saugi & Sumarno, 2017).

The purpose of this study is to determine how to improve the economic conditions of fishing families in the village of Sawohan in the coastal region of the Sidoarjo Regency. The
family that only depends on sea products is apparently not able to meet its daily needs. This is reflected in the average minimum wage in the village of Sawohan, which is far below normal in the Sidoarjo Regency. As in all other coastal areas, economic conditions and the difficult access to resources are common and challenging problems. Thus, the solution must involve not only fisherwomen but the local government and academics as well.

In collaboration with the Sidoarjo Regency Marine and Fisheries Affairs, we strive to improve the economic conditions of the family in Sawohan Village by providing participatory training (Mutimukuru-Maravanyika, Mills, Asare, & Asiedu, 2017). Using this approach, fisherwomen can practice directly and be creative if they prefer.

2. Methods

2.1 Study Site

Sidoarjo Regency is one of the regencies in East Java province. The capital is Sidoarjo. Sidoarjo Regency is synonymous with the products of fisheries or ponds. The area is known to have a reasonably large number of lakes and the main producer is shrimp ponds. In addition, Sidoarjo Regency is also known as Delta City because it is located between two large branches of the Brantas River, namely Kali Mas and Kali Porong. Sidorajo Regency is divided into three regions. First, the freshwater area located in the middle has 40.81% of the land. This area includes settlement, trade, and government. Secondly, 29.99% of the Sidoarjo Regency area is on the east side and is a coastal area and a fishpond. Finally, in the west 29.20% of the territory is agricultural.

Sawohan Village is in Buduran Subdistrict, Sidoarjo Regency, East Java. This village has a total area of 940,594 Ha. This village has a boundary in the south bordering Balongdowo Village, a boundary in the west bordering Bluru Village Sidoarjo District. The east is bordered by Gebang Village, and in the north, it is bordered by Karanggayam Village, Sidoarjo District.

Sawohan Village can be reached by land or by waterway. However, land routes can only be used during the dry season—traveling overland through pond embankments whose width is only about 30cm. Thus, not everyone can go by embankments. If they are not careful, they will most likely can fall into a large, deep lake. While the waterway can be traversed using a motorboat (the surrounding community calls it a barito) which takes 45 to 60 minutes.
In 2017, there were 187 families, approximately 65% belong in the category of low-income families in Buduran Subdistrict. BPS-Statistic Indonesia (2019) stated that poverty is defined as an economic inability to fulfil the basics of food and non-food necessities measured in terms of expenditure. So, a capable family in this context is a family that has a higher income than its costs to live. Even though they are in the Sidoarjo Regency, which has a regional minimum wage above average, there are still several disadvantaged areas that need to be developed, such as in the Sawohan Village (Shofiyah, 2014; Badan Pusat Statistik Sidoarjo, 2017, 2018; Badan Pusat Statistik, 2019).

2.2 Community Engagement Program

The program for empowering fisherwomen through entrepreneurship programs is closely related to the conditions and needs of the community, its programs, and its science and technology applications for to solving problems in the community. The Entrepreneurship Capacity Building (ECB) method is used to solve problems in the area of entrepreneurship. The ECB model is suitable for accelerating the entrepreneurial skills in the rural community in the fields of agribusiness, industry, and trade. The appropriate program is used through empowerment and assistance to develop the entrepreneurial spirit (personal factors) of fisherwomen (Kurana, 2008; Xaythanith, 2012; Witariadi et al., 2015).

Collins, Smith, & Hannon (2006) stated that the ECB method provides a synergistic learning method to act in a situation or environment with a holistic approach. Their study concludes that the right atmosphere is the key to learning about entrepreneurship. They suggest that a safe atmosphere is initiated from synergistic learning methods, which make it easier for participants to share their experience in a positive way (Xaythanith, 2012).

Entrepreneurial Capacity Building includes participants being involved directly in the program. This is called a participatory approach. This approach takes significant roles in developing innovative solutions to address development challenges (Mutimukuru-Maravanyika, Mills, Asare, & Asiedu, 2017). In this paper, the participatory approach is undertaken with the Sawohan Village fisherwomen community, which is embedded with the Universitas Indonesia Community Engagement Program, Science and Technology for Community scheme. (See Figure 1.)
The implementation of the Community Engagement Program consisted of three stages; input, process, and output stage. The input stage is the condition and problem identification of Sawohan Village. The process stage is the community engagement activities that were carried out in July 2018. The output stage is the mentoring activity from the process stage so that the outcomes can be created as expected.

The output target of the science and technology program in this community service represented in Table 1.
2.3 Approach and Method

The preparatory phase started in 2017. In May 2018, the team started to collect the data, and the main part of the study was conducted in July 2018. The total period of this study was from May 2018 until November 2018. An initial phase was conducted to identify the potential study site and to collect the baseline information for this study to construct the questionnaire. This phase included meetings with the Sidoarjo Regency Marine and Fisheries Officer and visiting fisherwoman communities in Sidoarjo Regency to investigate the prior situation in the site. Data were collected using focus group discussions (FGD), participant observation, and secondary data from the office of BPS-Statistic Indonesia. The study participants consisted of the leaders of fisherwomen’s communities, the Sawohman Village chief, and authorities from the Sidoarjo Regency Marine and Fisheries Office. There were 15 informants involved the FGD. Problems with identification and the sustainability of this program to empower fisherwomen were established as the result of this first phase.
The total population of fisherwomen in Sawohan Village is 63. According to Martono (2012), the number of subjects can be determined using the calculation of the Lemeshow Formula for known populations (Syaiful & Bahar, 2017). With an estimated proportion of 10%, a community engagement participant sample numbered 23 fisherwomen. Then, a semi-structured questionnaire was used to interview with all the participants concerning their eagerness to help their family's economy through entrepreneurship.

The questionnaire was based on Priyanto (2008), Suharti & Sirine (2011), and Komsi (2013). The independent variables are the personal/internal factors (FP) which include business opportunities and personal motivation. Other independent variables are environmental/external factors (FL) that include the family environment and the socio-economic environment determined using the same measurement tools. The dependent variable is entrepreneurial intention, also from Priyanto (2008), Suharti & Sirine (2011), and Komsi (2013). The framework is shown in Figure 2.
This research uses quantitative methods. Data was collected used by distributing questionnaires and conducting in-depth interviews with fisherwomen during the research activities. The demographics and status of fish ponds questions were based on Belwal, Belwal, & Al Jabri (2015) because the respondents were quite similar. Whereas, the entrepreneurial intention variables were based on Priyanto (2008), Suharti & Sirine (2011), and Komsi (2013). The list of the research questions is presented in the table 2.
Table 2. List of Research Questions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Questions</th>
<th>Scale Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics of respondent</td>
<td>4</td>
<td>Nominal &amp; ordinal</td>
</tr>
<tr>
<td>Status of fishponds</td>
<td>5</td>
<td>Ordinal</td>
</tr>
<tr>
<td>Personal factors of entrepreneurship</td>
<td>4</td>
<td>Likert</td>
</tr>
<tr>
<td>Environmental factors for entrepreneurship</td>
<td>5</td>
<td>Likert</td>
</tr>
<tr>
<td>Intention in entrepreneurship</td>
<td>3</td>
<td>Likert</td>
</tr>
</tbody>
</table>

Therefore, the hypotheses of this study are:

a. \( \text{H}_{1a} \): Internal (personal) business opportunities positively influence the entrepreneurial intention of fisherwomen in Sawohan Village, East Java.

\( \text{H}_{1b} \): Internal factors (personal) of earning extra profit/money influence the entrepreneurial intention of fisherwomen in Sawohan Village, East Java.

\( \text{H}_{1c} \): Internal factors (individual) of certain hobbies/pleasures positively affect the entrepreneurial intentions of fisherwomen in Sawohan Village, East Java.

\( \text{H}_{1d} \): Internal (personal) factors like the risks and challenges of entrepreneurship positively affect the entrepreneurial intentions of fisherwomen in Sawohan Village, East Java.

b. \( \text{H}_{2a} \): External (environmental) factors of the family positively affect the entrepreneurial intention of fisherwomen in Sawohan Village, East Java.

\( \text{H}_{2b} \): External (environmental) factors from friends positively affect the entrepreneurial intention of women fishermen in Sawohan Village, East Java.

\( \text{H}_{2c} \): External (environmental) factors of government policy positively affect the entrepreneurial intention of fisherwomen in Sawohan Village, East Java.
H2d: External (environmental) capital assistance from the government/non-government organizations positively influences the entrepreneurial intention of fisherwomen in Sawoahan Village, East Java.

H2e: External (environmental) training/training modules positively affect the entrepreneurial intention of fisherwomen in Sawoahan Village, East Java.

Data analysis in this study uses multiple linear regression with the following formula and the variables are defined in Table 3.

\[
INTN_{i,t} = \beta_0 + \beta_1 (FP_{OPPR})_{i,t} + \beta_2 (FP_{PRFT})_{i,t} + \beta_3 (FP_{Hoby})_{i,t} + \beta_4 (FP_{RITT})_{i,t} + \beta_5 (FL_{FAMS})_{i,t} + \beta_6 (FL_{FRND})_{i,t} + \beta_7 (FL_{GOVT})_{i,t} + \beta_8 (FL_{FUND})_{i,t} + \beta_9 (FL_{TRNG})_{i,t} + \epsilon_{i,t}
\]

Table 3. List of Variables

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Variable</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTN_{i,t}</td>
<td>Entrepreneurial Intention</td>
<td>Have an entrepreneurial intention.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have entrepreneurial confidence.</td>
</tr>
<tr>
<td>\beta_0</td>
<td></td>
<td>Have a successful entrepreneurial belief.</td>
</tr>
<tr>
<td>\beta_1, \beta_2, \beta_3,</td>
<td></td>
<td>A constant</td>
</tr>
<tr>
<td>\beta_4, \beta_5, \beta_6,</td>
<td></td>
<td>The coefficient of each variable.</td>
</tr>
<tr>
<td>\beta_7, \beta_8, \beta_9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP_{OPPR}_{i,t}</td>
<td>Personal factors of entrepreneurship</td>
<td>The intention in business opportunities.</td>
</tr>
<tr>
<td>FP_{PRFT}_{i,t}</td>
<td></td>
<td>Entrepreneurial intention due to profit/money.</td>
</tr>
<tr>
<td>FP_{Hoby}_{i,t}</td>
<td></td>
<td>Entrepreneurial intention due to certain hobbies / pleasures.</td>
</tr>
<tr>
<td>FP_{RITT}_{i,t}</td>
<td></td>
<td>Entrepreneurial intention due to liking risk and challenges.</td>
</tr>
<tr>
<td>FL_{FAMS}_{i,t}</td>
<td></td>
<td>Family factor.</td>
</tr>
<tr>
<td>FL_{FRND}_{i,t}</td>
<td></td>
<td>Friend factor.</td>
</tr>
<tr>
<td>FL_{GOVT}_{i,t}</td>
<td>Factors of the entrepreneurial environment</td>
<td>Government factor</td>
</tr>
<tr>
<td>FL_{FUND}_{i,t}</td>
<td></td>
<td>Capital factor from the government.</td>
</tr>
<tr>
<td>FL_{TRNG}_{i,t}</td>
<td></td>
<td>Other factors of institution / entrepreneur training / capital / support.</td>
</tr>
</tbody>
</table>

Source: Author (2019)
3. Results and Discussion

The implementation framework illustrated in Figure 1 is described in detail in Section 3.1 and 3.2. Data were analyzed using multiple linear regression. The quantitative result is presented to acknowledge possible trends and to provide baseline studies for the future.

3.1. Demographic of the Respondent

The profile of research respondents in Sawohan Village is shown in Figure 3. The total participants were 25 fisherwomen. Meanwhile, there were 19 valid respondents (76%). A total of six questionnaires were invalid due to incorrect filling or incomplete data.

Based on Figure 3, all participants were female (100%) with ages ranging from 21–50 years. Most respondents were elementary school graduates. Meanwhile, around 37% continued their education at junior high school (SMP) and until graduation. This data is slightly different from the regional report that states that the educational level of the majority of women is high school or the equivalent (Badan Pusat Statistik Sidoarjo, 2017). However, if education level is related to the occupation of the Sawohan villagers (Figure 4),...
the majority of women who chose the profession of housewives did so because their educational level is quite low. **Belwal, & Al Jabri, (2015)** stated that fisher families tend to have lower levels of formal education than the general population, even in countries having high standards of education.

The monthly income of the 53% respondent in Sawohan Village is approximately Rp. 1,000,001 to Rp. 1,500,000. This income is under the minimum wage in Sidoarjo Regency in 2018, which was Rp 3,577,428.68 (**Agus, 2019**). **Shofiyah (2014)** states that based on 2017 data, 121 households in this village were still in the category of low-income families because the family income in Sawohan Village came from only one source. Also, there are people who have an income of less than Rp. 500,000/month in the Sawohan Village area.

**Fig. 4 Occupation of Sawohan Village people in 2016.**
Source: sid.sidoarjokab.go.id (2019)

According to data from the Local Government of Sawohan Village, most women have education levels of senior high school or equivalent. Connected with the data in Figure 4, the number of women who chose to be housewives is due to women's low educational level. Nonetheless, this cannot be a reason for fisherwomen to be housewives. With the improvement of skills and motivation to work, it is possible that fisherwomen can contribute more to the family economy.
The difficulty with fisherwomen developing a fish cracker business makes it a challenging business to create. Under these conditions, an alternative solution to the problem of empowering fisherwomen in Sawohan Village is to develop other skills besides processing fishery products to improve the family economy.

Table 4. Fisheries Status of Sawohan Village in 2018

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative Frequency %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Status</td>
<td>Full time</td>
<td>9</td>
<td>69.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>2</td>
<td>15.4</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Occasional</td>
<td>2</td>
<td>15.4</td>
<td>100</td>
</tr>
<tr>
<td>Frequency of farming/month</td>
<td>Everyday</td>
<td>6</td>
<td>46.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4–8 times</td>
<td>2</td>
<td>15.4</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>1–2 times</td>
<td>5</td>
<td>38.5</td>
<td>100</td>
</tr>
<tr>
<td>Ownership Status</td>
<td>Collaboration</td>
<td>1</td>
<td>7.7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Worker</td>
<td>12</td>
<td>92.3</td>
<td>100</td>
</tr>
<tr>
<td>Experience as fisherman</td>
<td>More than 10 years</td>
<td>8</td>
<td>61.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6–10 years</td>
<td>2</td>
<td>15.4</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>&gt;5 years</td>
<td>3</td>
<td>23.1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Everyday</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Frequency of harvesting</td>
<td>1–2 times/ week</td>
<td>1</td>
<td>7.7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1–2 times/ month</td>
<td>12</td>
<td>92.3</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Author (2019)

The table above stated that most of the fishermen in the village of Sawohan only work in other people's pond farms. All the fishermen are working on somebody's pond land (92.3%), and the rest are working together in one pond (collaborative pond land). Moreover, Sawohan Village fishers mostly work on the pond land every day, whereas the harvesting frequency is only 1–2 times a month.

3.2. Community Engagement Activities

Fishery product processing by fisherwomen in Sawohan Village has indeed been carried out even though it is not well developed. They usually produce smoked milkfish, fish
crackers, fishcakes, and other fishery products. However, these products are hard to develop because the ingredients for making cracker dough are hard to obtain. Besides, the raw materials for making fish crackers are so costly that fisherwomen rely only on the unsold fish from their catch, which is a low-quality product.

To help the family economy, a housewife named Ibu Rupa (27) chose the side job of peeling shrimp and fish that are the basic ingredients of making fish crackers in large factories. Her husband is fishermen who works in a pond field. The salary received by Ibu Rupa for peeling a kilogram of shrimp and fish each is Rp. 3,000.00. These benefits are relatively low compared to the energy that must be spent by Mrs. Rupa.

The community engagement activity carried out with 25 fishermen women in Sawohan Village was divided into three activities. These activities were explained by a keynote speaker who has experience in women’s empowerment motivation. The aim of this socialization is to help all fisherwomen realize the significance of their role in the household. Also, it helps them understand the definition of entrepreneurship and how to start a small business in their community. The result of these activities could be seen from interviews conducted by students after the entrepreneurship development program was finished. The activities are:

a. Socialization. The socialization activities were carried out to provide knowledge about exploring self-potential and to introduce the world of entrepreneurship to fisherwomen. During this time, they only played a role in helping the work of the fishermen (husbands) in managing ponds. Many things can be done by fisherwomen to produce something in their spare time. This activity began with interviews about the fisherwomen’s hobbies and talents.

b. Mentoring. This activity is carried out by providing training in making handicrafts, namely, they painted a veil and made a brooch from a ribbon. We choose to make handicrafts because the process can be done in groups and the students worked together following the CES method.

c. Workshop. The workshop was carried out through a handicraft’s creativity competition. This activity is used to motivate people to develop their abilities. Crafts that were made by fisherwomen were compared. The winner of the competition was entitled to get gifts from the community service, and the handicrafts are marketed by
the community service in Jakarta. Thus, the goal of this program is to capture the talents of fisherwomen in the field of crafts. The results of the handicraft workshop can be seen in the pictures in Figure 5. The respondents that shown in the Figure 5 are already have their consent.

![Handicraft Workshop Results](image)

**Fig. 5** Results of the implementation of the Science and Technology Program for the community service of the Sawohan Village community in 2018.

*Source: Author (2019)*

During the implementation, participants were also given lessons on making motifs that could reflect the area. There were images of many birds called Goak, found along the way to Sawohan Village. Alternatively, there were pictures of farm results, such as small tilapia, shrimp, or crabs.

Along with the socialization activities, mentoring, and workshops, fisherwomen could not only understand the importance of their role in the family but could also develop their potential to improve the family’s economy. Fisherwomen are accustomed to making only fishery products of reduced quality because middlemen deny them the high-quality raw materials from the ponds.

The evaluation was carried out after all the activities were done. This stage was necessarily to determine what goals were accomplished based on predetermined indicators (See Table 1.). Furthermore, it is important to discuss the program’s sustainability so that, the fisherwomen can ultimately realize improved income. The results are shown in Table 5.
Table 5. IbM Community Engagement Program of Sawohan Village through ECB programs

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Program/Activity</th>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fisherwomen do not have skills other than processing marine products into fish crackers.</td>
<td>Mentoring</td>
<td>Able to make a business plan that allows it to be run both collectively and individually.</td>
<td>The fisherwomen community of Sawohan Village collectively made a business plan.</td>
</tr>
<tr>
<td>2.</td>
<td>Lack of training and workshop to explore the creativity of fishermen other than processing fishery products.</td>
<td>Mentoring</td>
<td>Able to produce a handicraft that has economic value.</td>
<td>Fisherwomen created and sold handicraft such as painted veil and brooch to the visitors.</td>
</tr>
<tr>
<td>3.</td>
<td>Poor knowledge about the importance of women’s role in the household to improve the economy of the family.</td>
<td>Workshop</td>
<td>Able to identify the roles that fisherwomen can be to improve the welfare of their families.</td>
<td>The fisherwomen added a new role as a second income generator for their family by selling handicraft.</td>
</tr>
</tbody>
</table>

Source: Author (2019)

The community engagement program is very likely to be a multi-year event, given the complexity of the problems and the development potential of the region. As one of the main supported cities of Surabaya, Sidoarjo Regency is a very important industrial area. The inclusion of this district in the East Java Regional Development Unit (SWP) is proof of its importance. Sidoarjo Regency’s economic resources come from large industries, services, and small industries. However, few people know that Sidoarjo Regency has tourism potential.
because it is as beautiful as Malang, East Java. The location of this regency, which is the connecting city between Surabaya and Malang means Sidoarjo Regency is often visited by Surabaya City residents on their way to various destinations in Malang City. Sidoarjo Regency, therefore, as an attractive tourist destination has not been well developed.

3.3. Effect of Personal Factors and Environmental Factors on Entrepreneurial Intention

Most of the participants in community engagement are eagerness to be entrepreneurs either because they can make a profit, have the new opportunities, or because of their friends (See Figure 6.). However, only seven respondents answered that they wanted to become an entrepreneur because they like risk and challenges. Moreover, respondents complained about the obstacles to building a business such as access to the city, which is very difficult. They argued that the regional government still does not pay enough attention to coastal communities.

![Factor Chart](image)

**Figure 6** Factors that influence fisherwomen to be entrepreneurs.

*Source: Author (2019)*

The family economy is very closely related to the welfare of the household. The income received from work at the ponds largely depends on weather conditions and seasons, which makes household income uncertain. There are also contributions from other household members. In this case, the wife can overcome uncertainty to maintain the stability of the family economy. However, the wife’s participation in the family economy cannot be realized
without the support of other family members (husband and children). Therefore, improving the economy is a shared family responsibility.

A simple regression analysis was carried out to analyze the entrepreneurial intention of fisherwomen. There are two independent variables that affect the entrepreneurial intention of women entrepreneurs in Sawohan Village. The independent variables are personal factors (FP) and environmental factors (FL), while the dependent variable is the entrepreneurial intention. Table 6 represents the results of the regressions.

Table 6. Regression Results Influence of Internal (Personal) and External (Environmental) Factors on Entrepreneurial Intention in Fishermen in Sawohan Village, East Java, in 2018

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.560</td>
<td>0.469</td>
<td>0.098</td>
<td>3.327</td>
</tr>
<tr>
<td>FP_PLUG</td>
<td>0.072</td>
<td>0.151</td>
<td>0.556</td>
<td>0.479</td>
</tr>
<tr>
<td>FP_LABA</td>
<td>0.574</td>
<td>0.162</td>
<td>0.326</td>
<td>3.541</td>
</tr>
<tr>
<td>FP_HOBB</td>
<td>0.246</td>
<td>0.129</td>
<td>0.047</td>
<td>1.911</td>
</tr>
<tr>
<td>FP_RITT</td>
<td>-0.172</td>
<td>0.139</td>
<td>-0.261</td>
<td>-1.237</td>
</tr>
<tr>
<td>FL_KLRG</td>
<td>0.039</td>
<td>0.139</td>
<td>0.047</td>
<td>0.277</td>
</tr>
<tr>
<td>FL_TMAN</td>
<td>-0.187</td>
<td>0.144</td>
<td>-0.241</td>
<td>-1.299</td>
</tr>
<tr>
<td>FL_PMRT</td>
<td>0.351</td>
<td>0.109</td>
<td>0.574</td>
<td>3.225</td>
</tr>
<tr>
<td>FL_MDAL</td>
<td>-0.074</td>
<td>0.159</td>
<td>-0.114</td>
<td>-0.462</td>
</tr>
<tr>
<td>FL_PLTH</td>
<td>-0.525</td>
<td>0.183</td>
<td>-0.729</td>
<td>-2.866</td>
</tr>
<tr>
<td>R Square</td>
<td>0.900</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FCal</td>
<td>9.015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant</td>
<td>0.002</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 5%
**Significant at 10%

Source: Author’s Processed Product (2019)

Based on the results of regression with the independent variables, personal factors and environmental factors on the dependent variable of entrepreneurial intention, the coefficient of determination of this regression model is 0.8. This means that personal factors and environmental factors can explain 80% of the effect on the entrepreneurial intentions of
fisherwomen in Sawohan Village. The other 20% can be explained by factors other than personal and environmental factors that cannot be summarized in this regression model. In addition, personal factors and environmental factors together significantly influenced the entrepreneurial intention of fisherwomen in Sawohan Village. This can be seen from the significance value (0.002) < probability value (0.05).

Regression analysis is used to test the hypotheses. On the results of the hypotheses H1a–H1d, the FP_LABA variable has a significance level < 5% (0.006) with a coefficient value of 0.574, so that H1b is accepted. The FB_HOBB variable has a significance level of 0.088 so that the H1c theory is taken at an alpha level of 10% with a coefficient of 0.264. It can be concluded that the personal/internal factors that influence the entrepreneurial intentions of fisherwomen in the village of Sawohan are the intention to earn extra money and interest in certain hobbies fisherwomen.

Based on the results of the hypothesis 2 tests, the FL_PMRT variable has a significance of 0.010, which means that the variable significantly influences the entrepreneurial intention of women fishermen at an alpha level of 5% with a coefficient value of 0.351. Thus, the H2c hypothesis can be accepted. Meanwhile, the FL_PLTH variable has a significance of < 5% (0.019) with a coefficient value of -0.525. Even though the FL_PLTH variable significantly influences the entrepreneurial intention of women fishermen, the FL_PLTH variable has a negative coefficient that makes the H2e hypothesis unacceptable. Therefore, external/environmental factors that influence the entrepreneurial importance of women in fishing in the village of Sawohan, East Java, are government policies.

The test results reveal that the desire to obtain additional income, confidence in hobbies and pleasures, and the existence of policies from the government that support businesses positively influence entrepreneurial intention. This result is in line with the research of Priyanto (2008), Suharti & Sirine (2011), and Komsi (2013) that states that there are external and internal factors that affect one’s entrepreneurial intention. Meanwhile, external factors of training/training modules have a negative influence on entrepreneurial intention. This means that training/training modules make fisherwomen’s entrepreneurial intentions decrease. These results are not in agreement with the research of Priyanto (2008), Suharti & Sirine (2011), and Komsi (2013). Therefore, the regression model of this study is:
\[ INTN_{lt} = 1.56 + 0.574(FP_{PRFT})_{lt} + 0.246(FP_{Hoby})_{lt} + 0.351(FL_{GOVT})_{lt} + \varepsilon_{lt} \]

The family economy is very closely related to the welfare of the household. The income received from farming is highly dependent on weather conditions and the seasons which has an uncertainty impact on household income. If the household has another income contributor—in this case, it is the wife—her income may overcome this uncertainty so that family economic stability can be maintained. However, the wife’s participation in the family economy cannot be realized without the support of other family members (husband and children). Therefore, economic improvement is a shared responsibility in a family.

Unfortunately, families who grow up in the coastal area assume that economic issues, low education, and low health standards are natural things and are regarded as fate. Therefore, they do not have to try to change the situation. They do not feel tired and frustrated with their condition. This phenomenon is called fatalism. The coastal area could have enormous wealth through fishing activities, tourism, and marine ecology. In Indonesia is especially true because it is in the archipelago area. Many coasts can be explored in Indonesia. If this industry could be developed, fisherwomen and fishers would not have to live in poverty (Cahaya, 2015; Wekke & Cahaya, 2015).

As other scholars have admitted, women’s involvement in fishery production is valued only in terms of their contribution to the total catch and the value-added to the local economy (Harper, Zeller, Hauzer, Pauly, & Sumaila, 2013). However, women are also involved in activities from catching and processing fish to sales and finance matters. In other countries, women’s empowerment has been crucial to achieving the sustainability of socio-economic development. It may mean increase children can get more schooling. Awareness of domestic violence may be increased, social justice may be ensured, and community well-being and economic growth may be enhanced (Lentisco & Lee, 2015; Koralagama, Gupta, & Pouw, 2017).

Furthermore, government as policymaker needs to be more responsible in supporting women’s role in the household so that there is recognition from the community about the role the wife plays in improving the welfare of the household. Moreover, there needs to be concrete steps that minimize discrimination toward women. Fisherwomen’s husbands need
more consideration toward their wives so that there is better cooperation between husbands and wives, especially in terms of the division of household tasks. The husband should use some of his free time to help the wife with the household chores (S, PA, & DWP, 2012).

4. Conclusions

The role of fisherwomen in improving the family economy is crucial. The dual status of women as housewives and working women is now standard, especially considering fishermen's wives. The community engagement program has succeeded in increasing the role of fisherwomen in the family and in improving the family economy. Through mentoring activities, fisherwomen have the skills to make handicrafts like brooches with simple materials or beautiful veils painted with specific motifs. Through workshop activities, fisherwomen can produce goods with economic value. This research concluded that the entrepreneurial intention of fisherwomen is influenced by the motivation to earn extra money, to pursue specific hobbies, and by government policies. The higher the profit, the higher the intention in pursuing a hobby. Also, the more positive the policies from the government that support the entrepreneurship of fisherwomen, the higher the entrepreneurial intention of fisherwomen in Sawohan Village, East Java.

Research on fisherwomen in Indonesia, especially on the Java island is still few to discuss at the international level. However, access to villages is tough. Also, economic inequality is tremendous, the level of education is still low compared to other regions in East Java. As a maritime country, the role of fisherwomen in Indonesia is undoubtedly huge. So that, the results of this study can be a reference for the government and non-government organizations in developing the economy of coastal communities.

Acknowledgements

Our gratitude to the Directorate of Research and Community Service of the University of Indonesia for their trust in providing community engagement, science and technology for the community scheme. Also, the Sidoarjo Regency Marine and Fisheries Officer, and to our speaker, Dr Ida Nurhayati, S.H., M.H for sharing knowledge and empowering fisherwomen in order to get a more decent life. Last, all the people of Sawohan Village for their cooperation in the community engagement and research process.
Author Contribution

Vindaniar Y. Putri, conceived of the presented idea. While Badra Al-Aufa developed the theory as a baseline study to construct the questionnaire. Arny Tasya and Arsya Shafira interviewing the correspondents then performed the computation. Badra Al-Aufa and Andhita Y Rahmayanti verified the analytical method. Vindaniar Y Putri encouraged Badra Al-Aufa to investigate the factors that influence fisherwomen’s intention to become entrepreneurs and supervised the findings of this works. All authors discussed the results and contributed to the final manuscript.

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https://doi.org/10.1016/s2212-5671(15)00962-4

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