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FROM DRUG CENTER TO *SOKA* CRABS AND TILAPIA SALINA CENTER: A Case Study of Community Economic Empowerment at Ex-Drug Base of *Ujoeng Pacu* Village, Lhokseumawe, Aceh, Indonesia

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Abstract. The social resilience of not being a part of drug dealers in the former drug base is determined by their economic welfare. Growing and sustainable economic prosperity is closely related to the existence of an economic business that can be run intensively and in a stable manner. This article aims to explore the process and success of empowering the ex-drug base community in the village of *Ujoeng Pacu*, Muara Satu District, Lhokseumawe City, Aceh-Indonesia. This research was conducted using a qualitative-descriptive approach. The use of this ethnographic method is to understand the socio-cultural events under study which then display the data by describing these events. The data were collected using live-in method, observation, in-depth interviews and document study. This study found that the economic empowerment of the ex-drug base community of *Ujoeng Pacu* village by implementing cultivation of *soka* crabs and tilapia salina succeeded in increasing their economic welfare. The success of this empowerment program is passed through the stages of knowledge transfer, stimulus capital, linking marketing networks and intensive mentoring. Sustainable income and stable welfare have proven to be the main shields for the growth and development of social resilience in the community, and in return they will not be a part of drug traffickers.

Keywords: Community Empowerment, Drugs, *Soka* Crabs, Tilapia Salina, *Ujoeng Pacu*, Lhokseumawe, Aceh Indonesia

1. Introduction

The development of a country starts from its community resilience in carrying out resources to form conditions where they can meet their daily needs. Strengthening this resilience can be obtained through knowledge (Cahyono and Adhiatma 2012), increasing participatory nature (Amanah 2005), providing special skills (Mardikanto and Soebiato 2013), and providing employment opportunities (Darmansah *et al.* 2016b). According to Nasdian (2014), efforts to strengthen community resilience often call as empowerment activities with the ultimate goal of increasing welfare through the utilization and management of available resources. The available resources range from agricultural land, fisheries, forestry, mining materials to other activities in accordance with the potential area where the community live.

This community resilience is dynamic-it can decrease or increase due to internal and external factors. Internal factors are in the form of education and training, community character, natural disasters and climate change. Meanwhile, external factors are government policies, application of technology, cultural assimilation and deviant behavior. In order for the stability of the social resilience of the community from negative actions to be maintained, a strategy that is successful in creating community independence from both the social and economic side is needed. Community empowerment programs are actually development programs oriented towards creating independent societies. It means empowered, which means having the ability and strength to fulfill their own needs. These strengths include aspects of physical, material, economic, institutional, cooperation, intellectual abilities and joint commitment to achieve success.

Indonesia used to be a drug transit country, but today it has changed to be a destination country for drug trafficking which has not only placed Indonesia to become a country that is vulnerable with various social

problems but also threatened Indonesia's future itself. This negative impact once threatened the community of *Ujoeng Pacu* village - one of the villages in city of Lhokseumawe, Aceh. Many of these communities are entangled in the circle of drug dealers and users, which of course causes social vulnerability and reduces the level of welfare. On the other hand, this village has marginal land potential which is very suitable for the development of aquaculture, especially crabs, shrimp and milkfish. After the successful eradication of drugs initiated by Teungku Dayah (Ulama) in late 2014, the people of *Ujoeng Pacu* have consistently maintained their anti-drug attitude. In reality, the social resilience of some of the *Ujoeng Pacu* community does not return to be drug dealers, driven by their economic stability which is obtained from the cultivation of fish and crabs.

In order to maintain the community resilience of the *Ujoeng Pacu*, assistance efforts need to be made in accordance with the character of the community and the potential of existing resources. This village has marginal land in the form of ponds for shrimp and crab cultivation which is traditionally managed by the community. In order to maximize the potential of land resources, it is necessary to provide assistance for community empowerment so that the results obtained are more optimal and are able to become a driving force for improving the community's economy. The target of empowerment at this stage is to introduce polyculture technology by combining the cultivation of soft-shelled crabs and tilapia salina. This is ideal to do considering that people are accustomed to cultivating these two commodities so that it does not become an obstacle in terms of implementation and management in the future. The success of the community empowerment program through the poly-culture system of fishery cultivation was able to remove the negative stigma of Gampoeng *Ujoeng Pacu* from being a drug trafficking center to a crabs and tilapia fishery center.

Literature Review and Theoretical Perspective

Several recent studies related to community empowerment generally focus on the process of structural change and the competence of empowered target communities. As long as the author's search has not been found specifically for studies that focus on the process of changing the community's mentality after being involved in drug trafficking as in this study. In addition to showing significance, this fact is also a novelty for this study. The first closest study is the research conducted by Widjajanti (2011), this study examines the Community Empowerment Model. This research was conducted in *Sumber Rahayu* village, *Limbangan Kendal* district, Central Java. A study which conducted using survey method found that there was a correlation where the higher the empowerment process, the greater the chance to create community empowerment. empowerment requires the development of human capital, and it will be even better if empowerment is supported by the development of the capacity of empowerment actors. The involvement of facilitators as actors of empowerment in overseeing the empowerment process is an important source as a pathway to achieve community empowerment.

The next study was conducted by Meydianawathi and Setyari (2018). This study examined the effectiveness of the implementation of the Indonesian government's poverty alleviation program, especially those aimed at housewives. There are three programs that are the focus of this research, namely Health Insurance for the Poor (ASKESKIN), Direct Cash Assistance (BLT) and Assistance for Poor Students (BSM). This study, which was conducted using quantitative methods in several areas of Bali, found that the housewife-based poverty reduction program consisting of Direct Cash Assistance (BLT) and Health Insurance for the Poor (Askeskin) had a positive impact on household income in Indonesia. On the other hand, the Poor Student Assistance program (BSM) did not have a significant impact on poverty reduction.

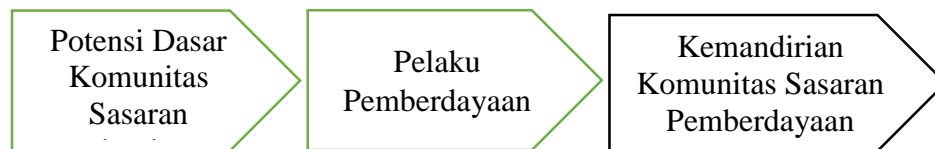
In addition, there is research in Africa conducted by Abukari and Mwalyosi, (2020). This research examines the perceptions of local communities on the impact of forest conservation on family life and community development. This study used an investigative method for the existence of national conservation areas in Tanzania and Ghana national park. This study found that government governance in both countries had a strong influence on the positive perceptions of local communities in national conservation areas on the impact of their better economic life on their households. Conservation area management in Africa that involves the participation of local people has significant support from local communities. Support from local communities is a very important element in supporting the success of conservation area goals. This

fact, apart from having a positive impact on the preservation of conservation areas, also provides sustainable welfare for the economic needs of families and the development of local communities.

Finally, research conducted by Barrios, Browse and Vargas (2020). This study examined the sustainable development and leadership of women in the Caribbean fishing community of Colombia. This study used participatory research method as its foundation. This study found that women's competence in leading is crucial to building community capacity so that sustainable development in fishing communities can take place. This women's leadership capacity has a real impact in building perceptions in every interaction in the community. Based on their capacity, women will easily influence and disseminate education through their various networks which have a positive impact on community development, especially fishing communities.

A number of studies described above show a common thread that sustainable development will provide optimal benefits for the majority of society if the development succeeds in providing sustainable prosperity as well. Sustainable welfare will only occur when people who are marginalized and excluded from the stage of mainstream development are empowered by strengthening their competence and independence in acting and doing business. In short, they are an important part of the development actors themselves. Providing power or strength for the weak so that they have the strength to fight for their existence and actualization is the core point of empowerment.

Freire (1993) calls empowerment is a personal process as well as a social process, a free action that is born from one's own strength, competence, creativity and independence in action. An empowered person is a person who can feel his own strength from within himself and others, especially the power to act and grow into:



Picture 1. Flow of Empowerment Process

The independence of the target community for empowerment includes independence in knowledge, being innovative and creative, acting and controlling what to do. Then the target community is able to think, decide and do something that is deemed appropriate for their strategic interests both in the short and long term, able to produce solutions to the problems faced by using their abilities. The abilities referred to are cognitive, conative, psychomotor and affective abilities as well as other physical / material resources. Community independence can be achieved, of course, requires a learning process. People who follow a good learning process will gradually acquire power, strength or abilities that are useful in the whole and independent decision-making process.

2. Research Methods

2.1. Time and Places

Community empowerment activities through the cultivation of intercropping / polyculture systems with *soka* crabs and *tilapia salina* were carried out from March to December 2020, located in *Ujoeng Pacu* Village, Lhokseumawe City, Aceh. The map of the research location is presented as follows:



Picture 2. The location of the *Soka* Crabs cultivation at *Ujoeng Pacu*

2.2. Research Methods

The approach taken in this empowerment activity was carrying out several stages such as explaining some theories, providing field practice, assisting in marketing. At the theoretical stage, all members of the 3 farmer groups were invited to participate as participants in the presentation activity related to the cultivation of soft-shelled crabs and tilapia salina by experts provided by researchers. Each participant was given opportunities to ask questions and discuss with the experts related to all aspects of the cultivation activity. The practical stage is carried out for 1 planting period of soft-shell crabs in 10-15 days. Practice in field was done in 1 pond plot chosen as a cultivation model, participated by all group leaders, and in return they are able to transfer the knowledge and skills to other group members. The participants were accompanied by assistance related to the stages of soft-shell crab cultivation such as feeding, checking and replacing water, harvesting techniques and post-harvest handling. The final stage of this assistance is marketing by connecting the cultivators with *soka* crab collectors both locally and outside the region. This activity was done so that the production can be marketed as soon as possible after harvesting to maintain the quality of soft-shell crabs is still in fresh condition at a selling price that can provide optimal benefits for later cultivators.

2.3. Object of Research

The target of community empowerment through the cultivation of *soka* crabs and tilapia salina is the people of *Ujoeng Pacu*-either directly or indirectly-taking on the role of ex-drug dealers. Meanwhile, the commodity that is used as an object for economic resilience solutions uses mangrove crabs and tilapia salina. This commodity was chosen because the location has a marginal pond that has not been managed optimally. In addition to the location already having pond plots, the availability of water as a medium for cultivation also supports the cultivation of *soka* crabs and tilapia salina with salinity levels ranging from 10 - 15 ppt, dissolved oxygen between 4.86-10.53 mg / l; temperature between 24-26 C; pH between 6.1-8.3; and conductivity between 35-87 $\mu\text{S} / \text{cm}$; and ammonia levels between 0.001-0.3 mg / l.

2.4. Data Analysis

The data collected during the activity was tabulated and then discussed descriptively as a basis for taking the next assistance steps. This needs to be done so that local people can be stimulated to create new economic objects that are more established and have a multiplayer effect.

3. Results and Discussions

3.1. Preparation of Business Groups

The selection and formation of business groups began with discussions with several *Ujoeng Pacu* community leaders including the head of sub-district (Geuchik), the head of village, the chairman of youth organization and several pond owners regarding the plan to form a cultivator group. After conveying the aims and objectives of the empowerment plan, a group leader was chosen to then be assigned to communicate to other pond owners regarding the program plan and to be invited to join as a member. The results of the discussion formed 3 groups of cultivators, each of which consists of 10 people. The names of these groups are *Bungoeng Rabo*, *Bungoeng Lapeng*, and *Tani Jaya*. The next stage carried out by the empowerment team is to help each group have the legality of its establishment through the Decree of the Ministry of Justice and Human Right (Menkumham) Republic of Indonesia. Below are pictures of group establishment meeting:



Picture 3. Discussions with Community Leaders in Establishment Meeting

3.2. Training on Entrepreneurship

In order to enrich the insight and increase the capacity of each group member, provision was carried out through training in the polyculture system of soft-shell crabs and tilapia salina. The training was carried out by presenting resource persons from the empowerment team and taking place directly at the selected pond location for the implementation of activities with an agenda of material exposure, question and answer and sessions to accommodate the aspirations of each participant present. This is done so that activities are more active and participatory so that the training activities are two-way. The goal is that each member at the time of implementing the program will feel ownership and responsibility for the achievement of the success of cultivation activities.

The business training materials carried out include the theory of polyculture system cultivation, land preparation techniques, selection and preparation of seeds / seeds, stocking process, feeding, organism management and maintenance media, pest and disease management, harvesting systems, post-harvest management and production marketing strategies. In order to convince group members to be serious in carrying out activities, the empowerment team also invited participants from the elements that supply seeds (crabs and tilapia salina) and containers for later production. The following is a picture of the training activities carried out in the polyculture system cultivation business.



Picture 4. Training on the polyculture system of *Soka* crabs and *Tilapia salina* cultivation

3.3. Pond Preparation and Seed Spread

The success of cultivation activities is certainly greatly influenced by the accuracy in preparing the ponds that will be used for the maintenance of soft-shelled crab and tilapia salina. At this stage, participants are all involved to actively prepare for the pond including construction of guard houses, installation of electrical installations, cleaning of vegetation growing on embankments, transportation of mud, fencing of the pond area using a net as high as 120 cm to prevent pests, cleaning and laying boxes for placing crabs, liming and fertilizing and filling water. This preparation took about 45 days before stocking the crabs and tilapia salina seeds. The spreading of the seeds is done by adding the tilapia salina first, then the day after that the crabs are spread for the purpose of becoming *soka*. The sources of tilapia salina and *soka* crab seeds come from tilapia salina seeders and crab containers around the location so that they can have a direct positive impact on the existence of community empowerment activities. The number of tilapia seeds that were stocked was 15,000 and 100 kg of crabs for the initial phase of the activity. Crabs seed weights ranged from 100 - 150 g / head and tilapia measuring 5 - 7 cm / head. Pictures of tilapia salina and *soka* crab distribution activities are presented as follows.



Picture 5. Part of cultivation land preparation activities (1: clearing vegetation; 2: building guard houses; 3: preparing and clearing boxes; 4: placing boxes)



Picture 6. Spread (1: Spread (1: *Tilapia salina* seeds and 2: *Soka* Crabs Seeds)

3.4. The Influence of Water Quality on Growth of *Soka* Crabs and *Tilapia*

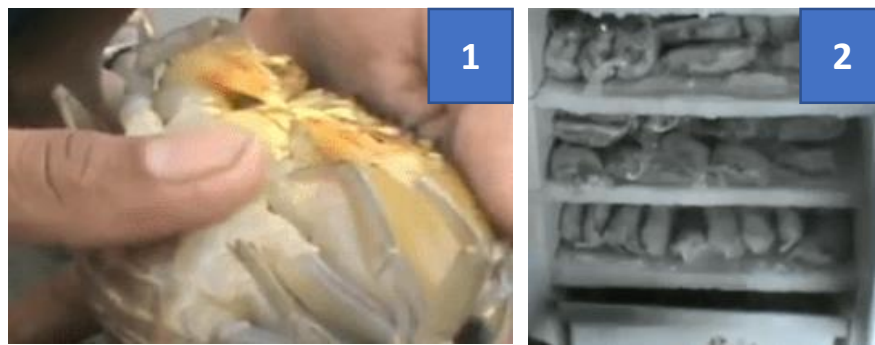
Some of the physical chemical properties of pond water are parameters in aquaculture activities such as solubility of oxygen in water, acidity of pond water, water temperature, water conductivity, and levels of water-soluble ammonia compounds. All of these parameters are used as a reference in aquaculture, especially aquaculture products from ponds around the river flow adjacent to the estuary. As a aquaculture location, in this case Ujung Pacu and its surroundings, the average dissolved oxygen content in pond water that must be owned is between 5.0-10.6 mg / l, where the water acidity (pH) is between 6.7-7 , 5. While the conductivity value of pond water was between 61.70-80.52 $\mu\text{S} / \text{cm}$, the water temperature was around 25-26.30 C, and the content of ammonia compounds dissolved in pond water was around 0.01-0.28 mg / l (Makori *et al.*, 2017).

3.5. Assistance

The *Ujoeng Pacu* community empowerment team is committed to achieving results in accordance with each planning stage that has been made and agreed upon by the assisted group members. For this reason, mentoring activities by team members are carried out periodically every 3-5 days in turn to see and get reports on developments and problems in implementing activities in the field or via telephone communication by group members assigned to manage cultivation for any urgent matters. Assistance activities include checking the availability and provision of feed, checking the quality of media water, preventing disease infections in cultivated organisms, to providing motivation and strengthening commitment to the success of activities. Meanwhile, special assistance during the harvesting of *soka* crabs is carried out after the activity has been running for 10 days until all the crabs that are stocked have succeeded in moulting. *Soka* crabs that are harvested first are stored in a prepared freezer so that they are of good quality until they reach a minimum weight for sale to collectors. Meanwhile, *tilapia salina* harvested after reaching economic weight for sale with a weight range of 200 - 250 g / fish or 4 months after stocking. Pictures of mentoring activities that have been carried out by members of the empowerment team are presented as follows:



Picture 7. Discussion during mentoring activities



Picture 8. *Soka* crabs harvesting activities (1: *Soka* crab; 2: storage in the freezer)

3.6. Social and Economic Benefits of the Program

After the conflict, this village turned into a village center for drug trafficking in the city of Lhokseumawe. This fact was triggered by the loss of jobs of some of the *Ujoeng Pacu* community after peace was born in Aceh. During the conflict between the Indonesian government and the Free Aceh Movement (GAM) they were GAM's "employees". Like employees in general, GAM employees also receive a fixed monthly salary, and often receive a bonus if the nanggroe tax payment they collect from the community exceeds the target set by the GAM elite. After the peace between the Indonesian government and the Free Aceh Movement group through the Helsinki MOU on August 15, 2005, their status as GAM employees disappeared. They changed their status from employees to unemployed. Then the poverty statistics increased sharply in *Ujoeng Pacu* village due to loss of livelihoods. Unemployment and poverty are the main reasons for the conversion of some of the *Ujoeng Pacu* community to become drug dealers.

Ujoeng Pacu's international network of drug dealers and mafia in Malaysia has succeeded in supplying large quantities of drugs to *Ujoeng Pacu*. This fact turned the village of *Ujoeng Pacu* into a drug trafficking center in Lhokseumawe City. Through a network built by dealers they are able to distribute drugs not only to the city of Lhokseumawe but also to North Aceh and Bireuen districts (Nirzalin and M. Nazaruddin, 2017: 4-5).

The success of the collective drug eradication movement initiated by teungku dayah (ulama) in 2014 changed the socio-economic face of the *Ujoeng Pacu* village community (Nirzalin and Yogi Febriandi, 2020: 218). Nowadays, *Ujoeng Pacu* village has changed from a drug economy center village to an economic center for *soka* crabs and Nila Salin. The stability of economic income through the cultivation of *soka* crabs and tilapia salina provides mental and social resilience for residents of the village of *Ujoeng Pacu* not to become involved again as drug dealers.

3.7. Discussions

Darmansah *et al.* (2016a) states that there are two stages carried out in mentoring activities, namely technical and participatory approaches. The technical approach includes mentoring and educating the community regarding the process of cultivating soft-shelled crabs and tilapia salina, starting from pond preparation, seed distribution, maintenance, harvesting and marketing. Meanwhile, a participatory approach is carried out by motivating and involving the community who are members of the fostered group to be fully involved, earnest, and responsible so that they have a sense of belonging to the program in order to succeed and continue. Participatory empowerment models have a high success rate, one of which is activities in the fisheries sector (Zulkarnain, 2015; Kusumastuti and Taufiq 2020; Latief *et al.* 2019) and agriculture and plantations (Cahyono and Adhiatma 2012) are able to increase the skills and income of group members (Hudaibah *et al.* 2017; Aprilia 2019; Riauaty *et al.* 2019; Mardhia *et al.* 2020; Mashur *et al.* 2020) improving the aspect of education (Lailasari *et al.* 2017) increasing bargaining position on fishery production (Putri *et al.* 2010) increasing awareness to preserve the environment (Saidah and Sofia 2016; Suryono *et al.* 2016; Sari *et al.* 2019; Rahman and Pansyah 2019) and being able to maintain social and national resilience for border communities (Pakasi *et al.* 2019).

In addition to the many successes achieved by several community empowerment activities, there are also not a few failures or unsustainable efforts made due to unpredictable weather, pests and diseases that hinder the development of cultivated organisms, the character of some members sometimes hinders group management, low understanding of members about cultivation. and maintenance of organisms and cultivation media that are not optimal (Latief 2013; Prasetya 2015; Sofinisa *et al.* 2015) and sometimes negative impacts arise in the form of conflicts over the use of land and water resources (Rachmawati 2016). According to Kobit (2018) and Farisni *et al.* (2019) the success of empowerment activities is largely determined by the seriousness of the participants, the ability to manage conflict and the ability of participants to adapt to the technology applied.

4. Conclusions and Recommendations

The *Ujoeng Pacu* community empowerment program has had a positive impact on increasing the income of the cultivator community under the auspices of the *Bungong Rabo*, *Bungoeng Lapeng* and *Tani Jaya* groups. This is a relevant solution in order to get rid of the habit of being a drug dealer, which was a common work done by most people several years ago. The success of this empowerment activity cannot be separated from the desire of the people involved to change and assistance from local religious leaders.

The empowerment process was successfully carried out through the steps of transferring knowledge, providing initial capital and connecting farmers to the market (market networking). All of these processes were passed through intensive assistance from the community empowerment team. Through mentoring, it is not only the technical aspects that are directed to be carried out according to the training process by the members of the farmer groups but also more importantly change their mentality. The traditional farmer mentality is slowly being transformed into an entrepreneur mentality.

The high participation of farmer groups members and the support of local Islamic religious leaders (Teungku / ulama) and *Ujoeng Pacu* village government officials made this community empowerment program run well. The most satisfying result is that the development of *soka* crabs and tilapia salina cultivation which succeeded in changing the face of *Ujoeng Pacu* village from a village known as a drug center village from 2007 to 2014 in Lhokseumawe City, it is now getting ready to become a center for *soka* crabs and tilapia salina. This change has a significant meaning in changing the status of some members of the community from the status of unemployment, poor and drug dealers become productive farmers with stable welfare. The stable welfare from the income of the *soka* crab cultivation business and the objective tilapia salina has become the main shield for the people of *Ujoeng Pacu* village not to become involved in drug trafficking networks again.

We recommend that further research will carry out poly-culture activities for other commodities, as well as to carry out cultivation activities simultaneously and to see certain events on religious holidays (Chinese New Year) so that the harvest is able to meet the wishes of the collectors that can increase the selling price to be more competitive with greater income.

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From drug center to *soka* crabs and tilapia salina center: a case study of community economic empowerment at ex-drug base of *Ujoeng Pacu* Village, Lhokseumawe, Aceh, Indonesia

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Abstract. The social resilience of not being a part of drug dealers in the former drug base is determined by their economic welfare. Growing and sustainable economic prosperity are related to the existence of an economic business that can be run intensively and stable. This article aims to explore the process and success of empowering the ex-drug base community in the village of *Ujoeng Pacu*, Lhokseumawe City, Aceh. This research was conducted using a qualitative descriptive approach. The use of this ethnographic method is to understand the socio-cultural events under study which then display the data by describing these events. The data were collected using the live-in method, observation, in-depth interviews, and document study. This study found that the economic empowerment of the ex-drug base community of *Ujoeng Pacu* by implementing the cultivation of *soka* crabs and tilapia salina succeeded in increasing their economic welfare. The success of this empowerment program is passed through the stages of knowledge transfer, stimulus capital, linking marketing networks, and intensive mentoring. Sustainable income and stable welfare have proven to be the main shield for the growth and development of social resilience in the community, and in return, they will not be a part of drug-traffickers.

1. Introduction

The development of a country starts with its community resilience in carrying out resources to form conditions where they can meet their daily needs. Strengthening this resilience can be obtained through knowledge [1] increasing participatory nature [2] providing special skills [3] and providing employment opportunities [4]. According to [7], efforts to strengthen community resilience often call empowerment activities with the ultimate goal of increasing welfare through the utilization and management of available resources. The available resources range from agricultural land, fisheries, forestry, mining materials to other activities by the potential area where the community lives.

This community resilience is dynamic-it can decrease or increase due to internal and external factors. Internal factors are in the form of education and training, community character, natural disasters, and climate change. Meanwhile, external factors are government policies, application of

technology, cultural assimilation, and deviant behavior. For the stability of the social resilience of the community from negative actions to be maintained, a strategy that is successful in creating community independence from both the social and economic side is needed. Community empowerment programs are development programs oriented toward creating independent societies. It means empowered, which means having the ability and strength to fulfill their own needs. These strengths include aspects of physical, material, economic, institutional, cooperation, intellectual abilities and joint commitment to achieve success.

Indonesia used to be a drug transit country, but today it has changed to be a destination country for drug trafficking which has not only placed Indonesia to become a country that is vulnerable with various social problems but also threatened Indonesia's future itself. This negative impact once threatened the community of *Ujoeng Pacu* village - one of the villages in the city of Lhokseumawe, Aceh. Many of these communities are entangled in the circle of drug dealers and users, which of course causes social vulnerability and reduces the level of welfare. On the other hand, this village has marginal land potential which is very suitable for the development of aquaculture, especially crabs, shrimp and milkfish. After the successful eradication of drugs initiated by Teungku Dayah (Ulama) in late 2014, the people of *Ujoeng Pacu* have consistently maintained their anti-drug attitude. In reality, the social resilience of some of the *Ujoeng Pacu* community does not return to be drug dealers, driven by their economic stability which is obtained from the cultivation of fish and crabs.

To maintain the community resilience of the *Ujoeng Pacu*, assistance efforts need to be made by the character of the community and the potential of existing resources. This village has marginal land in the form of ponds for shrimp and crab cultivation which is traditionally managed by the community. To maximize the potential of land resources, it is necessary to assist in community empowerment so that the results obtained are more optimal and can become a driving force for improving the community's economy. The target of empowerment at this stage is to introduce polyculture technology by combining the cultivation of soft-shelled crabs and tilapia salina. This is ideal to do considering that people are accustomed to cultivating these two commodities so that it does not become an obstacle in terms of implementation and management in the future. The success of the community empowerment program through the poly-culture system of fishery cultivation was able to remove the negative stigma of Gampoeng *Ujoeng Pacu* from being a drug trafficking center to crabs and tilapia fishery center.

2. Literature Review and Theoretical Perspective

Several recent studies related to community empowerment generally focus on the process of structural change and the competence of empowered target communities. As long as the author's search has not been found specifically for studies that focus on the process of changing the community's mentality after being involved in drug trafficking as in this study. In addition to showing significance, this fact is also a novelty for this study. The first closest study is the research conducted by [8], this study examines the Community Empowerment Model. This research was conducted in *Sumber Rahayu* village, *Limbangan Kendal* district, Central Java. A study conducted using a survey method found that there was a correlation where the higher the empowerment process, the greater the chance to create community empowerment. Empowerment requires the development of human capital, and it will be even better if empowerment is supported by the development of the capacity of empowerment actors. The involvement of facilitators as actors of empowerment in overseeing the empowerment process is an important source as a pathway to achieve community empowerment.

The next study was conducted [9]. This study examined the effectiveness of the implementation of the Indonesian government's poverty alleviation program, especially those aimed at housewives. Three programs are the focus of this research, namely Health Insurance for the Poor (ASKESKIN), Direct Cash Assistance (BLT) and Assistance for Poor Students (BSM). This study, which was conducted using quantitative methods in several areas of Bali, found that the housewife-based poverty reduction program consisting of Direct Cash Assistance (BLT) and Health Insurance for the Poor (Askeskin) had

a positive impact on household income in Indonesia. On the other hand, the Poor Student Assistance program (BSM) did not have a significant impact on poverty reduction.

Also, there is research in Africa conducted [10] This research examines the perceptions of local communities on the impact of forest conservation on family life and community development. This study used an investigative method for the existence of national conservation areas in Tanzania and Ghana national park. This study found that government governance in both countries had a strong influence on the positive perceptions of local communities in national conservation areas on the impact of their better economic life on their households. Conservation area management in Africa that involves the participation of local people has significant support from local communities. Support from local communities is a very important element in supporting the success of conservation area goals. This fact, apart from having a positive impact on the preservation of conservation areas, also provides sustainable welfare for the economic needs of families and the development of local communities.

Finally, research was conducted [11]. This study examined the sustainable development and leadership of women in the Caribbean fishing community of Colombia. This study used a participatory research method as its foundation. This study found that women's competence in leading is crucial to building community capacity so that sustainable development in fishing communities can take place. This women's leadership capacity has a real impact on building perceptions in every interaction in the community. Based on their capacity, women will easily influence and disseminate education through their various networks which have a positive impact on community development, especially fishing communities.

Several studies described above show a common thread that sustainable development will provide optimal benefits for the majority of society if the development succeeds in providing sustainable prosperity as well. Sustainable welfare will only occur when people who are marginalized and excluded from the stage of mainstream development are empowered by strengthening their competence and independence in acting and doing business. In short, they are an important part of the development actors themselves. Providing power or strength for the weak so that they have the strength to fight for their existence and actualization is the core point of empowerment. Calls empowerment is a personal process as well as a social process, a free action that is born from one's strength, competence, creativity and independence in action. An empowered person is a person who can feel his strength from within himself and others, especially the power to act and grow into [12]:

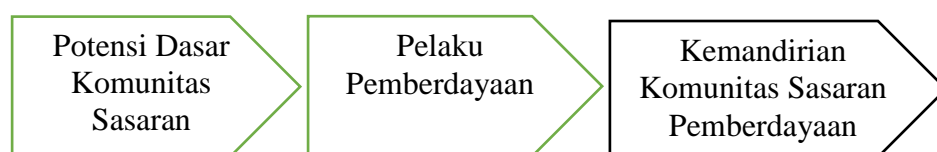


Figure 1. The flow of the Empowerment Process.

The independence of the target community for empowerment includes independence in knowledge, being innovative and creative, acting and controlling what to do. Then the target community can think, decide and do something that is deemed appropriate for their strategic interests both in the short and long term, able to produce solutions to the problems faced by using their abilities. The abilities referred to are cognitive, conative, psychomotor and affective abilities as well as other physical/material resources. Community independence can be achieved, of course, requires a learning process. People who follow a good learning process will gradually acquire power, strength or abilities that are useful in the whole and independent decision-making process.

2. Research Methods

2.1. Time and Places

Community empowerment activities through the cultivation of intercropping / polyculture systems with *soka* crabs and tilapia salina were carried out from March to December 2020, located in *Ujoeng Pacu* Village, Lhokseumawe City, Aceh. The map of the research location is presented as follows:



Figure 2. The location of the *Soka* Crabs cultivation at *Ujoeng Pacu*.

2.2. Research Methods

The approach taken in this empowerment activity was carrying out several stages such as explaining some theories, providing field practice, assisting in marketing. At the theoretical stage, all members of the 3 farmer groups were invited to participate as participants in the presentation activity related to the cultivation of soft-shelled crabs and tilapia salina by experts provided by researchers. Each participant was given opportunities to ask questions and discuss with the experts related to all aspects of the cultivation activity. The practical stage is carried out for 1 planting period of soft-shell crabs in 10-15 days. Practice in the field was done in 1 pond plot chosen as a cultivation model, participated by all group leaders, and in return, they are able to transfer the knowledge and skills to other group members. The participants were accompanied by assistance related to the stages of soft-shell crab cultivation such as feeding, checking and replacing water, harvesting techniques and post-harvest handling. The final stage of this assistance is marketing by connecting the cultivators with *soka* crab collectors both locally and outside the region. This activity was done so that the production can be marketed as soon as possible after harvesting to maintain the quality of soft-shell crabs is still in fresh condition at a selling price that can provide optimal benefits for later cultivators.

2.3. Object of Research

The target of community empowerment through the cultivation of *soka* crabs and tilapia salina is the people of *Ujoeng Pacu*-either directly or indirectly-taking on the role of ex-drug dealers. Meanwhile, the commodity that is used as an object for economic resilience solutions uses mangrove crabs and tilapia salina. This commodity was chosen because the location has a marginal pond that has not been managed optimally. In addition to the location already having pond plots, the availability of water as a medium for cultivation also supports the cultivation of *soka* crabs and tilapia salina with salinity levels ranging from 10 - 15 ppt, dissolved oxygen between 4.86-10.53 mg / l; temperature between 24-26 C; pH between 6.1-8.3; and conductivity between 35-87 $\mu\text{S} / \text{cm}$; and ammonia levels between 0.001-0.3 mg / l.

2.4. Data Analysis

The data collected during the activity was tabulated and then discussed descriptively as a basis for taking the next assistance steps. This needs to be done so that local people can be stimulated to create new economic objects that are more established and have a multiplayer effect.

3. Results and Discussions

3.1. Preparation of Business Groups

The selection and formation of business groups began with discussions with several *Ujoeng Pacu* community leaders including the head of sub-district (Geuchik), the head of the village, the chairman of the youth organization and several pond owners regarding the plan to form a cultivator group. After conveying the aims and objectives of the empowerment plan, a group leader was chosen to then be assigned to communicate to other pond owners regarding the program plan and to be invited to join as a member. The results of the discussion formed 3 groups of cultivators, each of which consists of 10 people. The names of these groups are *Bungoeng Rabo*, *Bungoeng Lapeng*, and *Tani Jaya*. The next stage carried out by the empowerment team is to help each group have the legality of its establishment through the Decree of the Ministry of Justice and Human Rights (Menkumham) Republic of Indonesia. Below are pictures of the group establishment meeting:



Figure 3. Discussions with Community Leaders in Establishment Meeting.

3.2. Training on Entrepreneurship

To enrich the insight and increase the capacity of each group member, provision was carried out through training in the polyculture system of soft-shell crabs and tilapia salina. The training was carried out by presenting resource persons from the empowerment team and taking place directly at the selected pond location for the implementation of activities with an agenda of material exposure, question and answer and sessions to accommodate the aspirations of each participant present. This is done so that activities are more active and participatory so that the training activities are two-way. The goal is that each member at the time of implementing the program will feel ownership and responsibility for the achievement of the success of cultivation activities.

The business training materials carried out include the theory of polyculture system cultivation, land preparation techniques, selection and preparation of seeds/seeds, stocking process, feeding, organism management and maintenance media, pest and disease management, harvesting systems, post-harvest management and product marketing strategies. To convince group members to be serious in carrying out activities, the empowerment team also invited participants from the elements that supply seeds (crabs and tilapia salina) and containers for later production. The following is a picture of the training activities carried out in the polyculture system cultivation business.



Figure 4. Training on the polyculture system of *Soka* crabs and *Tilapia salina* cultivation.

3.3. Pond Preparation and Seed Spread

The success of cultivation activities is certainly greatly influenced by the accuracy in preparing the ponds that will be used for the maintenance of soft-shelled crab and tilapia salina. At this stage, participants are all involved to actively prepare for the pond including the construction of guardhouses, installation of electrical installations, cleaning of vegetation growing on embankments, transportation of mud, fencing of the pond area using a net as high as 120 cm to prevent pests, cleaning and laying boxes for placing crabs, liming and fertilizing and filling water. This preparation took about 45 days before stocking the crabs and tilapia salina seeds. The spreading of the seeds is done by adding the tilapia salina first, then the day after that the crabs are spread to become *soka*. The sources of tilapia salina and *soka* crab seeds come from tilapia salina seeders and crab containers around the location so that they can have a direct positive impact on the existence of community empowerment activities. The number of tilapia seeds that were stocked was 15,000 and 100 kg of crabs for the initial phase of the activity. Crabs seed weights ranged from 100 - 150 g / head and tilapia measuring 5 - 7 cm/head. Pictures of tilapia salina and *soka* crab distribution activities are presented as follows.

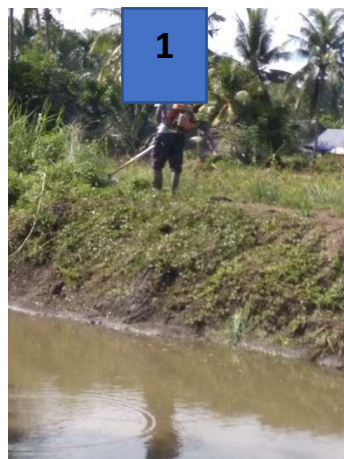




Figure 5. Part of cultivation land preparation activities (1: clearing vegetation; 2: building guardhouses; 3: preparing and clearing boxes; 4: placing boxes).



Figure 6. Spread (1: Spread (1: *Tilapia salina* seeds and 2: *Soka Crabs* Seeds)).

3.4. The Influence of Water Quality on Growth of *Soka Crabs* and *Tilapia*

Some of the physical-chemical properties of pond water are parameters in aquaculture activities such as solubility of oxygen in water, the acidity of pond water, water temperature, water conductivity, and levels of water-soluble ammonia compounds. All of these parameters are used as a reference in aquaculture, especially aquaculture products from ponds around the river flow adjacent to the estuary. As an aquaculture location, in this case Ujung Pacu and its surroundings, the average dissolved oxygen content in pond water that must be owned is between 5.0-10.6 mg / l, where the water acidity (pH) is between 6.7-7.5. While the conductivity value of pond water was between 61.70-80.52 $\mu\text{S} / \text{cm}$, the water temperature was around 25-26.30 $^{\circ}\text{C}$, and the content of ammonia compounds dissolved in pond water was around 0.01-0.28 mg / l [13].

3.5. Assistance

The *Ujoeng Pacu* community empowerment team is committed to achieving results by each planning stage that has been made and agreed upon by the assisted group members. For this reason, mentoring activities by team members are carried out periodically every 3-5 days in turn to see and get reports on developments and problems in implementing activities in the field or via telephone communication by group members assigned to manage cultivation for any urgent matters. Assistance activities include

checking the availability and provision of feed, checking the quality of media water, preventing disease infections in cultivated organisms, providing motivation and strengthening commitment to the success of activities. Meanwhile, special assistance during the harvesting of *soka* crabs is carried out after the activity has been running for 10 days until all the crabs that are stocked have succeeded in molting. *Soka* crabs that are harvested first are stored in a prepared freezer so that they are of good quality until they reach a minimum weight for sale to collectors. Meanwhile, tilapia salina harvested after reaching economic weight for sale with a weight range of 200 - 250 g / fish or 4 months after stocking. Pictures of mentoring activities that have been carried out by members of the empowerment team are presented as follows:



Figure 7. Discussion during mentoring activities.

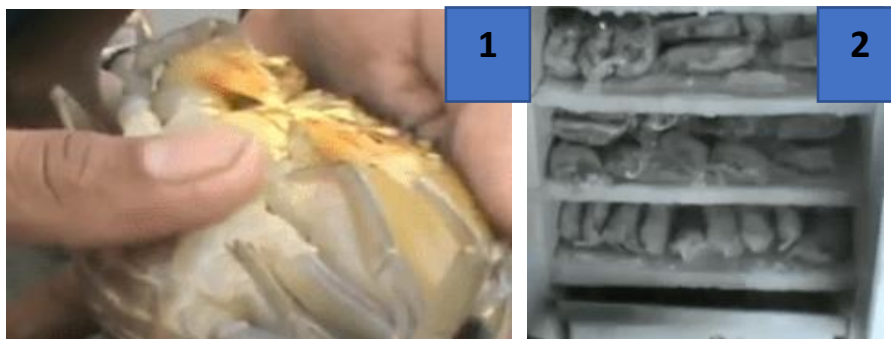


Figure 8. *Soka* crabs harvesting activities (1: *Soka* crab; 2: storage in the freezer)

3.6. Social and Economic Benefits of the Program

After the conflict, this village turned into a village center for drug trafficking in the city of Lhokseumawe. This fact was triggered by the loss of jobs of some of the *Ujoeng Pacu* community after peace was born in Aceh. During the conflict between the Indonesian government and the Free Aceh Movement (GAM) they were GAM's "employees". Like employees in general, GAM employees also receive a fixed monthly salary, and often receive a bonus if the nanggroe tax payment they collect from the community exceeds the target set by the GAM elite. After the peace between the Indonesian government and the Free Aceh Movement group through the Helsinki MOU on August 15, 2005, their status as GAM employees disappeared. They changed their status from employees to unemployed. Then the poverty statistics increased sharply in *Ujoeng Pacu* village due to the loss of livelihoods. Unemployment and poverty are the main reasons for the conversion of some of the *Ujoeng Pacu* community to become drug dealers.

Ujoeng Pacu's international network of drug dealers and mafia in Malaysia has succeeded in supplying large quantities of drugs to *Ujoeng Pacu*. This fact turned the village of *Ujoeng Pacu* into a drug trafficking center in Lhokseumawe City. Through a network built by dealers they can distribute drugs not only to the city of Lhokseumawe but also to North Aceh and Bireuen districts [14]

The success of the collective drug eradication movement initiated by *teungku dayah* (ulama) in 2014 changed the socio-economic face of the *Ujoeng Pacu* village community [15]. Nowadays, *Ujoeng Pacu* village has changed from a drug economy center village to an economic center for *soka* crabs and Nila Salin. The stability of economic income through the cultivation of *soka* crabs and tilapia salina provides mental and social resilience for residents of the village of *Ujoeng Pacu* not to become involved again as drug dealers.

3.7. Discussions

States that there are two stages carried out in mentoring activities, namely technical and participatory approaches [16]. The technical approach includes mentoring and educating the community regarding the process of cultivating soft-shelled crabs and tilapia salina, starting from pond preparation, seed distribution, maintenance, harvesting and marketing. Meanwhile, a participatory approach is carried out by motivating and involving the community who are members of the fostered group to be fully involved, earnest, and responsible so that they have a sense of belonging to the program to succeed and continue. Participatory empowerment models have a high success rate, one of which is activities in the fisheries sector [17,18,19] and agriculture and plantations [20] are able to increase the skills and income of group members [21,22,23,24,25] improving the aspect of education [26] increasing bargaining position on fishery production [27] increasing awareness to preserve the environment [28,29,30,31] and being able to maintain social and national resilience for border communities[32].

In addition to the many successes achieved by several community empowerment activities, there are also not a few failures or unsustainable efforts made due to unpredictable weather, pests and diseases that hinder the development of cultivated organisms, the character of some members sometimes hinders group management, low understanding of members about cultivation. and maintenance of organisms and cultivation media that are not optimal [33,34,35] and sometimes negative impacts arise in the form of conflicts over the use of land and water resources [36]. According to [37, 38] the success of empowerment activities is largely determined by the seriousness of the participants, the ability to manage conflict and the ability of participants to adapt to the technology applied.

4. Conclusions and Recommendations

The *Ujoeng Pacu* community empowerment program has had a positive impact on increasing the income of the cultivator community under the auspices of the *Bungong Rabo*, *Bungoeng Lapeng* and *Tani Jaya* groups. This is a relevant solution to get rid of the habit of being a drug dealer, which was a common work done by most people several years ago. The success of this empowerment activity cannot be separated from the desire of the people involved to change and assistance from local religious leaders.

The empowerment process was successfully carried out through the steps of transferring knowledge, providing initial capital and connecting farmers to the market (market networking). All of these processes were passed through intensive assistance from the community empowerment team. Through mentoring, it is not only the technical aspects that are directed to be carried out according to the training process by the members of the farmer groups but also more importantly change their mentality. The traditional farmer mentality is slowly being transformed into an entrepreneur mentality. The high participation of farmer groups members and the support of local Islamic religious leaders (*Teungku / ulama*) and *Ujoeng Pacu* village government officials made this community empowerment program run well. The most satisfying result is that the development of *soka* crabs and tilapia salina cultivation which succeeded in changing the face of *Ujoeng Pacu* village from a village known as a drug center village from 2007 to 2014 in Lhokseumawe City, it is now getting ready to become a

center for *soka* crabs and tilapia salina. This change has a significant meaning in changing the status of some members of the community from the status of unemployment, poor and drug dealers become productive farmers with stable welfare. The stable welfare from the income of the *soka* crab cultivation business and the objective tilapia salina has become the main shield for the people of *Ujoeng Pacu* village not to become involved in drug trafficking networks again.

We recommend that further research will carry out poly-culture activities for other commodities, as well as to carry out cultivation activities simultaneously and to see certain events on religious holidays (Chinese New Year) so that the harvest can meet the wishes of the collectors that can increase the selling price to be more competitive with greater income.

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**4. Bukti Konfirmasi Artikel Accepted
(19 November 2020)**



universitas
MALIKUSSALEH
The Blessing University

Prama Hartami <prama.hartami@unimal.ac.id>

Letter of Acceptance INCOFIMS From Drug Center to Soka Crab and Tilapia Salina Center (Case Study of Community Economic Empowerment of Ex-Drug Base of Ujoengacu Village, Lhokseumawe City, Aceh, Indonesia)

1 pesan

incofims@fpk.unair.ac.id <incofims@fpk.unair.ac.id>

19 November 2020 pukul 11.07

Kepada: prama.hartami@unimal.ac.id

Dear Prama Hartami ;,

We hope this email finds you well.

We would like to thank you for your participants as a presenter in The 3rd International Conference on Fisheries and Marine Science (INCOFIMS), 10 September 2020.

Your full paper has been accepted by our editor incofims 2020, and we have submitted submit your article to IOP Publishing Ltd (IOP Conference Series: Earth and Environmental Science) on 18 November 2020

Article Details

=====

Type: Fullpaper

Contribution ID in INCOFIMS 2020: 668

ID File in IOP: INCOFIMS 2020 (81).pdf

Title: From Drug Center to Soka Crab and Tilapia Salina Center (Case Study of Community Economic Empowerment of Ex-Drug Base of Ujoengacu Village, Lhokseumawe City, Aceh, Indonesia)

First Name Author: Nirzalin

Corresponding Author: prama.hartami@unimal.ac.id

In addition, please accept our apology if there is any misconduct during the event. We highly hope you can join us again for the 4th INCOFIMS 2021.

If you have any questions, do not hesitate to contact us.

With best regards,

**5. Bukti Konfirmasi Review Dan
Hasil Review Kedua
(17 Maret 2021)**



Prama Hartami <prama.hartami@unimal.ac.id>

IOP Revision

1 pesan

International Conference on Fisheries and Marine Sciences Universitas Airlangga

17 Maret 2021 pukul

<incofims@fpk.unair.ac.id>

18.18

Kepada: Prama Hartami <prama.hartami@unimal.ac.id>

Dear Mr. Prama
warm greetings from INCOFIMS committee.

I would like to inform you, that IOP has contacted me about your manuscript.
Please revise your manuscript. We notice that your reference number 6 and 7 is missing in references (page 9)

Your deadline is 18 March 2021. Please include dwiyp@fpk.unair.ac.id while replying
we are looking forward to hearing from you soon

--

#Warm Regards

Secretariat

(InCoFIMS) International Conference on Fisheries and Marine Sciences

"Challenges and strategies for the development of sustainable aquaculture and fisheries"**INCOFIMS 2020 (81).docx**

438K

**6. Bukti Konfirmasi Submit Revisi Kedua
Dan Artikel Yang Diresubmit
(18 Maret 2021)**

Manuscript Revision

3 pesan

Prama Hartami <prama.hartami@unimal.ac.id>

18 Maret 2021 pukul 10.03

Kepada: incofims@fpk.unair.ac.id

Here I attach the article revision for related corrections about:
"reference number 6 and 7 is missing in references"
Thank you very much for your information.

Salam hormat,
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**INCOFIMS 2020 (81)_Revision.docx**

431K

Prama Hartami <prama.hartami@unimal.ac.id>

18 Maret 2021 pukul 10.10

Kepada: Nirzalin Nirzalin <nirzalin@unimal.ac.id>

Salam hormat,
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[Kutipan teks disembunyikan]

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431K

International Conference on Fisheries and Marine Sciences Universitas Airlangga

18 Maret 2021 pukul

<incofims@fpk.unair.ac.id>

10.33

Kepada: Prama Hartami <prama.hartami@unimal.ac.id>

Terimakasih. Telah kami terima
[Kutipan teks disembunyikan]

--

#Warm Regards

Secretariat

(InCoFIMS) International Conference on Fisheries and Marine Sciences

"Challenges and strategies for the development of sustainable aquaculture and fisheries"

From drug center to *soka* crabs and tilapia salina center: a case study of community economic empowerment at ex-drug base of *Ujoeng Pacu* Village, Lhokseumawe, Aceh, Indonesia

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Abstract. The social resilience of not being a part of drug dealers in the former drug base is determined by their economic welfare. Growing and sustainable economic prosperity is closely related to the existence of an economic business that can be run intensively and in a stable manner. This article aims to explore the process and success of empowering the ex-drug base community in the village of *Ujoeng Pacu*, Muara Satu District, Lhokseumawe City, Aceh-Indonesia. This research was conducted using a qualitative-descriptive approach. The use of this ethnographic method is to understand the socio-cultural events under study which then display the data by describing these events. The data were collected using live-in method, observation, in-depth interviews and document study. This study found that the economic empowerment of the ex-drug base community of *Ujoeng Pacu* village by implementing cultivation of *soka* crabs and tilapia salina succeeded in increasing their economic welfare. The success of this empowerment program is passed through the stages of knowledge transfer, stimulus capital, linking marketing networks and intensive mentoring. Sustainable income and stable welfare have proven to be the main shields for the growth and development of social resilience in the community, and in return they will not be a part of drug traffickers.

1. Introduction

The development of a country starts from its community resilience in carrying out resources to form conditions where they can meet their daily needs. Strengthening this resilience can be obtained through knowledge [1] increasing participatory nature [2] providing special skills [3] and providing employment opportunities [4]. According to [7], efforts to strengthen community resilience often call as empowerment activities with the ultimate goal of increasing welfare through the utilization and management of available resources. The available resources range from agricultural land, fisheries, forestry, mining materials to other activities in accordance with the potential area where the community live.

This community resilience is dynamic-it can decrease or increase due to internal and external factors. Internal factors are in the form of education and training, community character, natural disasters and climate change. Meanwhile, external factors are government policies,application of technology, cultural assimilation and deviant behavior. In order for the stability of the social resilience

of the community from negative actions to be maintained, a strategy that is successful in creating community independence from both the social and economic side is needed. Community empowerment programs are actually development programs oriented towards creating independent societies. It means empowered, which means having the ability and strength to fulfill their own needs. These strengths include aspects of physical, material, economic, institutional, cooperation, intellectual abilities and joint commitment to achieve success.

Indonesia used to be a drug transit country, but today it has changed to be a destination country for drug trafficking which has not only placed Indonesia to become a country that is vulnerable with various social problems but also threatened Indonesia's future itself. This negative impact once threatened the community of *Ujoeng Pacu* village - one of the villages in city of Lhokseumawe, Aceh. Many of these communities are entangled in the circle of drug dealers and users, which of course causes social vulnerability and reduces the level of welfare. On the other hand, this village has marginal land potential which is very suitable for the development of aquaculture, especially crabs, shrimp and milkfish. After the successful eradication of drugs initiated by Teungku Dayah (Ulama) in late 2014, the people of *Ujoeng Pacu* have consistently maintained their anti-drug attitude. In reality, the social resilience of some of the *Ujoeng Pacu* community does not return to be drug dealers, driven by their economic stability which is obtained from the cultivation of fish and crabs.

In order to maintain the community resilience of the *Ujoeng Pacu*, assistance efforts need to be made in accordance with the character of the community and the potential of existing resources. This village has marginal land in the form of ponds for shrimp and crab cultivation which is traditionally managed by the community. In order to maximize the potential of land resources, it is necessary to provide assistance for community empowerment so that the results obtained are more optimal and are able to become a driving force for improving the community's economy. The target of empowerment at this stage is to introduce polyculture technology by combining the cultivation of soft-shelled crabs and tilapia salina. This is ideal to do considering that people are accustomed to cultivating these two commodities so that it does not become an obstacle in terms of implementation and management in the future. The success of the community empowerment program through the poly-culture system of fishery cultivation was able to remove the negative stigma of Gampoeng *Ujoeng Pacu* from being a drug trafficking center to a crabs and tilapia fishery center.

2. Literature Review and Theoretical Perspective

Several recent studies related to community empowerment generally focus on the process of structural change and the competence of empowered target communities. As long as the author's search has not been found specifically for studies that focus on the process of changing the community's mentality after being involved in drug trafficking as in this study. In addition to showing significance, this fact is also a novelty for this study. The first closest study is the research conducted by [8], this study examines the Community Empowerment Model. This research was conducted in *Sumber Rahayu* village, *Limbangan Kendal* district, Central Java. A study which conducted using survey method found that there was a correlation where the higher the empowerment process, the greater the chance to create community empowerment. empowerment requires the development of human capital, and it will be even better if empowerment is supported by the development of the capacity of empowerment actors. The involvement of facilitators as actors of empowerment in overseeing the empowerment process is an important source as a pathway to achieve community empowerment.

The next study was conducted [9]. This study examined the effectiveness of the implementation of the Indonesian government's poverty alleviation program, especially those aimed at housewives. There are three programs that are the focus of this research, namely Health Insurance for the Poor (ASKESKIN), Direct Cash Assistance (BLT) and Assistance for Poor Students (BSM). This study, which was conducted using quantitative methods in several areas of Bali, found that the housewife-based poverty reduction program consisting of Direct Cash Assistance (BLT) and Health Insurance for the Poor (Askeskin) had a positive impact on household income in Indonesia. On the other hand, the Poor Student Assistance program (BSM) did not have a significant impact on poverty reduction.

In addition, there is research in Africa conducted [10] This research examines the perceptions of local communities on the impact of forest conservation on family life and community development. This study used an investigative method for the existence of national conservation areas in Tanzania and Ghana national park. This study found that government governance in both countries had a strong influence on the positive perceptions of local communities in national conservation areas on the impact of their better economic life on their households. Conservation area management in Africa that involves the participation of local people has significant support from local communities. Support from local communities is a very important element in supporting the success of conservation area goals. This fact, apart from having a positive impact on the preservation of conservation areas, also provides sustainable welfare for the economic needs of families and the development of local communities.

Finally, research conducted [11]. This study examined the sustainable development and leadership of women in the Caribbean fishing community of Colombia. This study used participatory research method as its foundation. This study found that women's competence in leading is crucial to building community capacity so that sustainable development in fishing communities can take place. This women's leadership capacity has a real impact in building perceptions in every interaction in the community. Based on their capacity, women will easily influence and disseminate education through their various networks which have a positive impact on community development, especially fishing communities.

A number of studies described above show a common thread that sustainable development will provide optimal benefits for the majority of society if the development succeeds in providing sustainable prosperity as well. Sustainable welfare will only occur when people who are marginalized and excluded from the stage of mainstream development are empowered by strengthening their competence and independence in acting and doing business. In short, they are an important part of the development actors themselves. Providing power or strength for the weak so that they have the strength to fight for their existence and actualization is the core point of empowerment.

[12] calls empowerment is a personal process as well as a social process, a free action that is born from one's own strength, competence, creativity and independence in action. An empowered person is a person who can feel his own strength from within himself and others, especially the power to act and grow into:

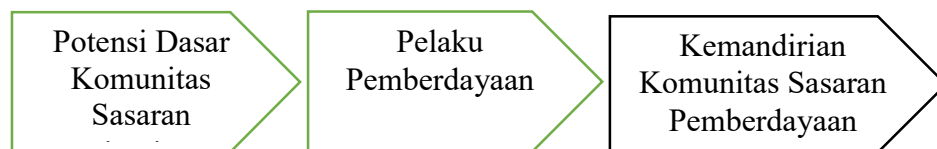


Figure 1. Flow of Empowerment Process.

The independence of the target community for empowerment includes independence in knowledge, being innovative and creative, acting and controlling what to do. Then the target community is able to think, decide and do something that is deemed appropriate for their strategic interests both in the short and long term, able to produce solutions to the problems faced by using their abilities. The abilities referred to are cognitive, conative, psychomotor and affective abilities as well as other physical / material resources. Community independence can be achieved, of course, requires a learning process. People who follow a good learning process will gradually acquire power, strength or abilities that are useful in the whole and independent decision-making process.

2. Research Methods

2.1. Time and Places

Community empowerment activities through the cultivation of intercropping / polyculture systems with *soka* crabs and tilapia salina were carried out from March to December 2020, located in *Ujoeng Pacu* Village, Lhokseumawe City, Aceh. The map of the research location is presented as follows:



Figure 2. The location of the *Soka* Crabs cultivation at *Ujoeng Pacu*.

2.2. Research Methods

The approach taken in this empowerment activity was carrying out several stages such as explaining some theories, providing field practice, assisting in marketing. At the theoretical stage, all members of the 3 farmer groups were invited to participate as participants in the presentation activity related to the cultivation of soft-shelled crabs and tilapia salina by experts provided by researchers. Each participant was given opportunities to ask questions and discuss with the experts related to all aspects of the cultivation activity. The practical stage is carried out for 1 planting period of soft-shell crabs in 10-15 days. Practice in field was done in 1 pond plot chosen as a cultivation model, participated by all group leaders, and in return they are able to transfer the knowledge and skills to other group members. The participants were accompanied by assistance related to the stages of soft-shell crab cultivation such as feeding, checking and replacing water, harvesting techniques and post-harvest handling. The final stage of this assistance is marketing by connecting the cultivators with *soka* crab collectors both locally and outside the region. This activity was done so that the production can be marketed as soon as possible after harvesting to maintain the quality of soft-shell crabs is still in fresh condition at a selling price that can provide optimal benefits for later cultivators.

2.3. Object of Research

The target of community empowerment through the cultivation of *soka* crabs and tilapia salina is the people of *Ujoeng Pacu*-either directly or indirectly-taking on the role of ex-drug dealers. Meanwhile, the commodity that is used as an object for economic resilience solutions uses mangrove crabs and tilapia salina. This commodity was chosen because the location has a marginal pond that has not been managed optimally. In addition to the location already having pond plots, the availability of water as a medium for cultivation also supports the cultivation of *soka* crabs and tilapia salina with salinity levels ranging from 10 - 15 ppt, dissolved oxygen between 4.86-10.53 mg / l; temperature between 24-26 C; pH between 6.1-8.3; and conductivity between 35-87 μ S / cm; and ammonia levels between 0.001-0.3 mg / l.

2.4. Data Analysis

The data collected during the activity was tabulated and then discussed descriptively as a basis for taking the next assistance steps. This needs to be done so that local people can be stimulated to create new economic objects that are more established and have a multiplayer effect.

3. Results and Discussions

3.1. Preparation of Business Groups

The selection and formation of business groups began with discussions with several *Ujoeng Pacu* community leaders including the head of sub-district (Geuchik), the head of village, the chairman of youth organization and several pond owners regarding the plan to form a cultivator group. After conveying the aims and objectives of the empowerment plan, a group leader was chosen to then be assigned to communicate to other pond owners regarding the program plan and to be invited to join as a member. The results of the discussion formed 3 groups of cultivators, each of which consists of 10 people. The names of these groups are *Bungoeng Rabo*, *Bungoeng Lapeng*, and *Tani Jaya*. The next stage carried out by the empowerment team is to help each group have the legality of its establishment through the Decree of the Ministry of Justice and Human Right (Menkumham) Republic of Indonesia. Below are pictures of group establishment meeting:



Figure 3. Discussions with Community Leaders in Establishment Meeting.

3.2. Training on Entrepreneurship

In order to enrich the insight and increase the capacity of each group member, provision was carried out through training in the polyculture system of soft-shell crabs and tilapia salina. The training was carried out by presenting resource persons from the empowerment team and taking place directly at the selected pond location for the implementation of activities with an agenda of material exposure, question and answer and sessions to accommodate the aspirations of each participant present. This is done so that activities are more active and participatory so that the training activities are two-way. The goal is that each member at the time of implementing the program will feel ownership and responsibility for the achievement of the success of cultivation activities.

The business training materials carried out include the theory of polyculture system cultivation, land preparation techniques, selection and preparation of seeds / seeds, stocking process, feeding, organism management and maintenance media, pest and disease management, harvesting systems, post-harvest management and production marketing strategies. In order to convince group members to be serious in carrying out activities, the empowerment team also invited participants from the elements that supply seeds (crabs and tilapia salina) and containers for later production. The following is a picture of the training activities carried out in the polyculture system cultivation business.



Figure 4. Training on the polyculture system of *Soka* crabs and *Tilapia salina* cultivation.

3.3. Pond Preparation and Seed Spread

The success of cultivation activities is certainly greatly influenced by the accuracy in preparing the ponds that will be used for the maintenance of soft-shelled crab and tilapia salina. At this stage, participants are all involved to actively prepare for the pond including construction of guard houses, installation of electrical installations, cleaning of vegetation growing on embankments, transportation of mud, fencing of the pond area using a net as high as 120 cm to prevent pests, cleaning and laying boxes for placing crabs, liming and fertilizing and filling water. This preparation took about 45 days before stocking the crabs and tilapia salina seeds. The spreading of the seeds is done by adding the tilapia salina first, then the day after that the crabs are spread for the purpose of becoming *soka*. The sources of tilapia salina and *soka* crab seeds come from tilapia salina seeders and crab containers around the location so that they can have a direct positive impact on the existence of community empowerment activities. The number of tilapia seeds that were stocked was 15,000 and 100 kg of crabs for the initial phase of the activity. Crabs seed weights ranged from 100 - 150 g / head and tilapia measuring 5 - 7 cm / head. Pictures of tilapia salina and *soka* crab distribution activities are presented as follows.

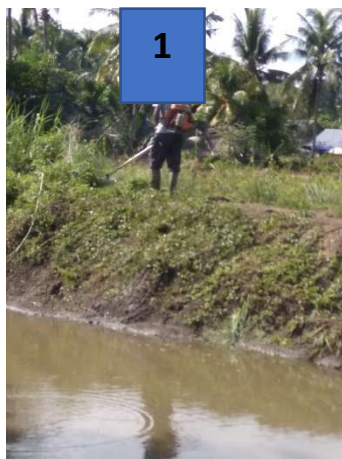




Figure 5. Part of cultivation land preparation activities (1: clearing vegetation; 2: building guard houses; 3: preparing and clearing boxes; 4: placing boxes).



Figure 6. Spread (1: Spread (1: *Tilapia salina* seeds and 2: *Soka* Crabs Seeds).

3.4. The Influence of Water Quality on Growth of *Soka* Crabs and *Tilapia*

Some of the physical chemical properties of pond water are parameters in aquaculture activities such as solubility of oxygen in water, acidity of pond water, water temperature, water conductivity, and levels of water-soluble ammonia compounds. All of these parameters are used as a reference in aquaculture, especially aquaculture products from ponds around the river flow adjacent to the estuary. As a aquaculture location, in this case Ujung Pacu and its surroundings, the average dissolved oxygen content in pond water that must be owned is between 5.0-10.6 mg / l, where the water acidity (pH) is between 6.7-7 , 5. While the conductivity value of pond water was between 61.70-80.52 $\mu\text{S} / \text{cm}$, the water temperature was around 25-26.30 C, and the content of ammonia compounds dissolved in pond water was around 0.01-0.28 mg / l [13].

3.5. Assistance

The *Ujoeng Pacu* community empowerment team is committed to achieving results in accordance with each planning stage that has been made and agreed upon by the assisted group members. For this reason, mentoring activities by team members are carried out periodically every 3-5 days in turn to see and get reports on developments and problems in implementing activities in the field or via telephone communication by group members assigned to manage cultivation for any urgent matters. Assistance

activities include checking the availability and provision of feed, checking the quality of media water, preventing disease infections in cultivated organisms, to providing motivation and strengthening commitment to the success of activities. Meanwhile, special assistance during the harvesting of *soka* crabs is carried out after the activity has been running for 10 days until all the crabs that are stocked have succeeded in moulting. *Soka* crabs that are harvested first are stored in a prepared freezer so that they are of good quality until they reach a minimum weight for sale to collectors. Meanwhile, tilapia salina harvested after reaching economic weight for sale with a weight range of 200 - 250 g / fish or 4 months after stocking. Pictures of mentoring activities that have been carried out by members of the empowerment team are presented as follows:



Figure 7. Discussion during mentoring activities.

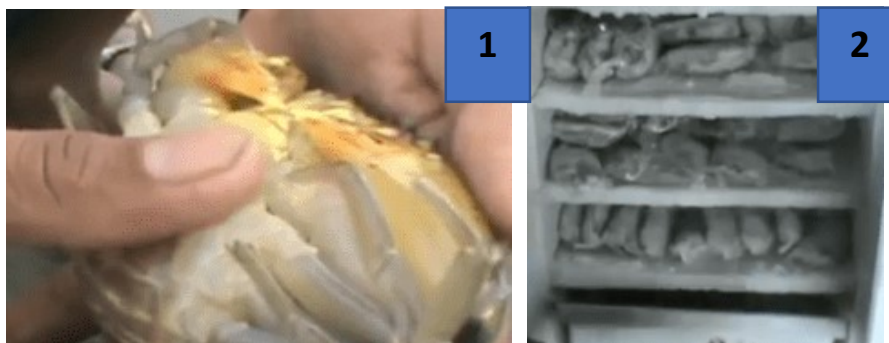


Figure 8. *Soka* crabs harvesting activities (1: *Soka* crab; 2: storage in the freezer)

3.6. Social and Economic Benefits of the Program

After the conflict, this village turned into a village center for drug trafficking in the city of Lhokseumawe. This fact was triggered by the loss of jobs of some of the *Ujoeng Pacu* community after peace was born in Aceh. During the conflict between the Indonesian government and the Free Aceh Movement (GAM) they were GAM's "employees". Like employees in general, GAM employees also receive a fixed monthly salary, and often receive a bonus if the nanggroe tax payment they collect from the community exceeds the target set by the GAM elite. After the peace between the Indonesian government and the Free Aceh Movement group through the Helsinki MOU on August 15, 2005, their status as GAM employees disappeared. They changed their status from employees to unemployed. Then the poverty statistics increased sharply in *Ujoeng Pacu* village due to loss of livelihoods. Unemployment and poverty are the main reasons for the conversion of some of the *Ujoeng Pacu* community to become drug dealers.

Ujoeng Pacu's international network of drug dealers and mafia in Malaysia has succeeded in supplying large quantities of drugs to *Ujoeng Pacu*. This fact turned the village of *Ujoeng Pacu* into a drug trafficking center in Lhokseumawe City. Through a network built by dealers they are able to distribute drugs not only to the city of Lhokseumawe but also to North Aceh and Bireuen districts [14]

The success of the collective drug eradication movement initiated by teungku dayah (ulama) in 2014 changed the socio-economic face of the *Ujoeng Pacu* village community [15]. Nowadays, *Ujoeng Pacu* village has changed from a drug economy center village to an economic center for *soka* crabs and Nila Salin. The stability of economic income through the cultivation of *soka* crabs and tilapia salina provides mental and social resilience for residents of the village of *Ujoeng Pacu* not to become involved again as drug dealers.

3.7. Discussions

[16] states that there are two stages carried out in mentoring activities, namely technical and participatory approaches. The technical approach includes mentoring and educating the community regarding the process of cultivating soft-shelled crabs and tilapia salina, starting from pond preparation, seed distribution, maintenance, harvesting and marketing. Meanwhile, a participatory approach is carried out by motivating and involving the community who are members of the fostered group to be fully involved, earnest, and responsible so that they have a sense of belonging to the program in order to succeed and continue. Participatory empowerment models have a high success rate, one of which is activities in the fisheries sector [17,18,19] and agriculture and plantations [20] are able to increase the skills and income of group members [21,22,23,24,25] improving the aspect of education [26] increasing bargaining position on fishery production [27] increasing awareness to preserve the environment [28,29,30,31] and being able to maintain social and national resilience for border communities[32].

In addition to the many successes achieved by several community empowerment activities, there are also not a few failures or unsustainable efforts made due to unpredictable weather, pests and diseases that hinder the development of cultivated organisms, the character of some members sometimes hinders group management, low understanding of members about cultivation. and maintenance of organisms and cultivation media that are not optimal [33,34,35] and sometimes negative impacts arise in the form of conflicts over the use of land and water resources [36]. According to [37,38] the success of empowerment activities is largely determined by the seriousness of the participants, the ability to manage conflict and the ability of participants to adapt to the technology applied.

4. Conclusions and Recommendations

The *Ujoeng Pacu* community empowerment program has had a positive impact on increasing the income of the cultivator community under the auspices of the *Bungong Rabo*, *Bungoeng Lapeng* and *Tani Jaya* groups. This is a relevant solution in order to get rid of the habit of being a drug dealer, which was a common work done by most people several years ago. The success of this empowerment activity cannot be separated from the desire of the people involved to change and assistance from local religious leaders.

The empowerment process was successfully carried out through the steps of transferring knowledge, providing initial capital and connecting farmers to the market (market networking). All of these processes were passed through intensive assistance from the community empowerment team. Through mentoring, it is not only the technical aspects that are directed to be carried out according to the training process by the members of the farmer groups but also more importantly change their mentality. The traditional farmer mentality is slowly being transformed into an entrepreneur mentality. The high participation of farmer groups members and the support of local Islamic religious leaders (Teungku / ulama) and *Ujoeng Pacu* village government officials made this community empowerment program run well. The most satisfying result is that the development of *soka* crabs and tilapia salina cultivation which succeeded in changing the face of *Ujoeng Pacu* village from a village known as a drug center village from 2007 to 2014 in Lhokseumawe City, it is now getting ready to become a

center for *soka* crabs and tilapia salina. This change has a significant meaning in changing the status of some members of the community from the status of unemployment, poor and drug dealers become productive farmers with stable welfare. The stable welfare from the income of the *soka* crab cultivation business and the objective tilapia salina has become the main shield for the people of *Ujoeng Pacu* village not to become involved in drug trafficking networks again.

We recommend that further research will carry out poly-culture activities for other commodities, as well as to carry out cultivation activities simultaneously and to see certain events on religious holidays (Chinese New Year) so that the harvest is able to meet the wishes of the collectors that can increase the selling price to be more competitive with greater income.

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**7. Bukti Konfirmasi Artikel Published Online
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1 pesan

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5 April 2021 pukul 09.44

Kepada: prama.hartami@unimal.ac.id

Dear Nirzalin,

We hope this email finds you well. We would like to thank you for your participants as presenter in The 3rd International Conference on Fisheries and Marine Science (INCOFIMS), 10 September 2020.

Your full paper has been published by IOP Publishing Ltd (IOP Conference Series: Earth and Environmental Science).

The following is the IOP INCOFIMS link

<https://iopscience.iop.org/issue/1755-1315/718/1>

In addition, please accept our apology if there is any misconduct during the event. We highly hope you can join us again for the 4th INCOFIMS 2021.

If you have any questions, do not hesitate to contact us.

#Warm Regards

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