

New Path For Fishermen Institutional Indonesia In Industry4.0

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ABSTRACT

The strategy to local resources is an overview of development management. It tries to answer developmental challenges in the form of poverty, the deterioration of the environment, the lack of public participation. Local resource management is a people centered development planning mechanism that emphasizes social learning technology and program formulation strategies that aim to improve community capacity through capacity building. A number of points in the management of local resources include: (1) Institutional strengthening that meets the needs of the fishing community at the local level and has an identity and recognized role (2) Management of local resources strengthens the ability to direct and address assets in the local fishing community to meet their needs (3) Strengthening institutions with the support of autonomous and independent fishermen organizations by utilizing modern technology. This study wants to try to provide a basis and analysis in strengthening the institutional (capacity building) of the Coastal Fishermen of Surabaya East Java in order to advance, independent and prosper.

Keywords: Capacity Building-Fishermen-Independent and Prosper

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INTRADUCTION

In reality, the people around coastal area work as fishermen. Fishermen is a hereditary work in which the management used by fishermen still uses traditional customs, limited education and networks, lack of assistance and almost no planning at various stages. Under these conditions, fishermen's businesses are not prospective, because they always depend on the season, market conditions, working capital, fishing facilities which lead to high-cost economic businesses. If further elaborated, it actually boils down to the potential of human resources and fishermen's capacity building which is very limited, thus it becomes an obstacle to sustainable fishermen's progress, moreover in the current industry 4.0.

The major marine and fisheries actors are the majority of small-scale businesses thus they lack access to development and the institutional model aims more at the active role of the community as the subject of development in the region. The main groups of effective and good marine and fisheries actors must possess the following 5 characteristics:

- 1) It is an effective small group (about 20 people) to work together with technology learning, fisheries business management and so on
- 2) Make decisions and take responsibility for their implementation.
- 3) Producing and maintaining the preservation of natural resources and;
- 4) Other activities that involve a common interest
- 5) Have the same interests especially in the field of fisheries. (Coil, January 23, 2018)

Some programs such as 1 Million Sovereign Fishermen designed by the Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia aims to increase the economic sovereignty of Indonesian fishermen through the support of technology 4.0. That way, this scheme will increase the utilization of marine resources

and 7 percent to a minimum of 17 percent. As well as reducing the national poverty rate by 25 percent, and increasing Indonesia's maritime sovereignty by involving fishermen as the frontline guards of state sovereignty. This program must be fully supported by all parties so that it runs optimally and sustainably (KKP Data 2017).

The context becomes a hope for a number of Indonesian fishermen in total of 2.7 Million (KKP Data 2017), over time the numbers are reduced because interest in becoming fishermen is low. The majority of fishermen with nearly 3 million are on the threshold of the poverty line and account for 25 percent of the national poverty rate. This is contrary to the fact that the fisheries sector is one of the sectors that contribute the highest income (KKP Data 2017).

Such as the fishermen in the Kenjeran coastal area, Surabaya, East Java, the research location shows an interesting area of fishermen. Based on the Surabaya City Zoning Plan (RZWP) for 2012-2032, the east coast area (east coast of Surabaya) is generally a muddy beach and faces the Madura Strait, the land area is largely dominated by tourism activities, fishing settlements, fisheries and ecosystems of mangrove forests while the territorial waters are limited to capture fisheries activities and marine tourism activities, shooting zones and sea mines. (RZWP Surabaya City, 2012-2032)

The problems of fishermen in the Kenjeran coastal area, Surabaya, East Java are: First, there is no fish port but a unique and colorful fishing village, which has the potential to attract tourists to come to the fishing village of Kenjeran. Secondly, the community is very constrained by marketing their catch fish. Usually the catch is only marketed within the fishermen's own environment, and many also sell their fish to collectors. Third, the low level of education among Kenjeran coastal residents, it is necessary to build synergy between the government, the business world, and the community in order to provide

equitable and quality educational services for Kenjeran coastal communities. (RZWP Surabaya City, 2012-2032) This factor is the concern of all parties so that Kenjeran coastal fishermen move quicker, want to learn and adjust together to face the challenges of the current industrial era. The problem is the internal factors, namely the fishermen themselves, and external factors where the prevailing market mechanism places fishermen as end users in their activities. It is necessary to increase human resources through the concept of capacity building in answering the goals of a smarter, more advanced, prosperous and sustainable fishing community.

The concept of capacity building is the correct solution for institutional strengthening of coastal fishermen. Grindle's (2007) opinion in capacity development has dimensions of focus and type of activity. Dimensions of focus and types of activities consist of (1) dimensions of human resource development with a focus: professional personnel and technical abilities and types of activities such as training, working climate conditions. (2) Dimensions of organizational strengthening with a focus on management to improve the success of roles and functions, such as, organizational culture, leadership and communication, and (3) the role of government, such as the basis and rules, policies for fishermen.

Institutional characteristics of the main actors of fishermen can be seen from the condition of the community and resource management which includes: the application of technology is developed by taking into account the specific conditions of the location, participatory and familial approaches, regional approaches and regional approaches.

The above problems need to be assessed that strengthening fishing communities needs a new path to face the industry 4.0, namely the concept of capacity building. With the concept of capacity building the fishing community is expected to increase the work ethic, the spirit of togetherness, furthermore the fishing community is able to contribute to increasing sustainable economic growth for families, and regions.

REVIEW OF RELATED LITERATURE

According to Eade (1997), there are five aspects that underlie the good governance to reinforce an organization. First, government's capability to function and implement policies. Second, their responsibility and transparency when making decision. Next, community's involvement in the democratic action. The fourth aspect

is government's awareness of poverty and equity. Last but not least is the engagement to market-oriented economic practices. The attempt to upgrade the government institution and its members is done through the capacity building aiming at implementing the good governance. The capacity building generally develops some aspects including government activities management, community involvement, private sector growth, and network with other parties.

Milen (2006) explains the definition of capacity building as quoted from UNDP and the Canadian International Development Agency (CIDA). It is a course to improve one, group, organization, or community's skill of performing primary tasks and function, finding solutions to a problem, setting and achieving the predetermined objectives, and satisfying the needs of development in a larger and sustainable background.

The concept of capacity building above is relevant to what Grindle (2007) believes. According to his definition, it is an attempt to promote various methods to make the government's conduct more efficient, effective, and responsive. The government should be more efficient in terms of time and resources to achieve the objectives. Meanwhile, effective means the implementation of business should be relevant to the result that is going to be achieved. And responsive suggests the integration of needs and capabilities to achieve the objectives. In addition, Grindle (1997) also believes that there are three dimensions, focuses, and types of conducts underlying the capacity building. First, the development of human resources aiming at improving personnel's professional and technical capabilities. They can be achieved by implementing activities like training, hands-on practice, and recruitment. Second, the organizational development focusing on the management aims to accomplish organizational role and function. Incentive system and personnel equipment are two examples to achieve the organizational development. Last is rebuilding the institution along with its system and major architecture. It includes changes of political, economic, and constitutional policies and rules.

As a method to boost efficiency, effectiveness, and responsiveness, the capacity building should focus on improving the human resources, strengthening the organization, and reorganizing the institution. Table 2 shows the dimensions, focus, and types of activities in capacity building.

Table 1. Dimensions, Focus, and Types of Activities in Capacity Building

Dimensions	Focus	Types of Activities
Human Resources Development	<ul style="list-style-type: none"> Quantity of professionals Technical personnel 	<ul style="list-style-type: none"> Training Salary Work atmosphere
Organizational Strengthening	<ul style="list-style-type: none"> Management system to improve performance of specific task and function <ul style="list-style-type: none"> Microstructure 	<ul style="list-style-type: none"> Managerial structure Organizational culture <ul style="list-style-type: none"> Incentive system Leadership Communication
Institution Reform	<ul style="list-style-type: none"> Institutions and system Macrostructure 	<ul style="list-style-type: none"> Rules of the game for economic and political regimes <ul style="list-style-type: none"> Policy and legal amendment Constitutional reform

Source: Grindle (1997: 9)

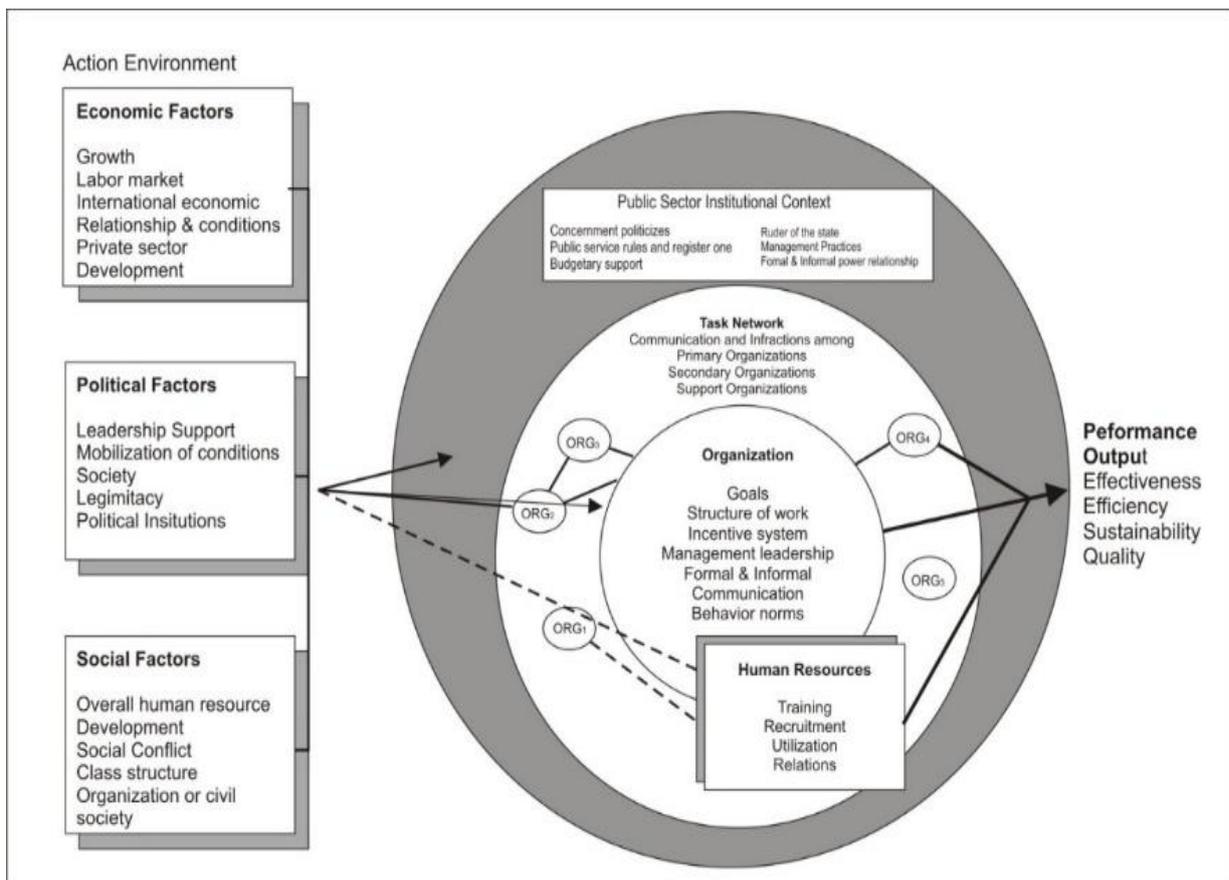
The research finding by Grindle (1997) studying about the capacity building in public organizations in some

developing countries like Morocco, Ghana, Bolivia, Thailand, and Sri Lanka reveals that there are some

essential aspects that determine the success of public organizations. First, it is the action environment. The government runs the country's activities based on the economic, political, and social aspects. Those aspects also affect the performance improvement. The second aspect is the public sector institutional context. It involves factors such as procedures to be implemented by the public servants, activities done by the governments, and responsibilities to finish the tasks. Next aspect is the task network dimension. The task network determines the extend to which the individuals can be responsible of their jobs. Organizations with similar objectives and performance level make a good task network. The fourth aspect is the organizational dimension. It refers to the

organization developments and resolution to issues rising during the process. The organization development includes objectives, structures, practices, properties, and leadership styles to achieve the objectives. The organization product and behavior of its members are generally affected by them. The last important aspect is human resource dimension. It pays attention to the human resource quality in terms of individual and institutional experiences and education backgrounds. Managerial and professional capabilities as well as being quick and responsive are qualities to be possessed by the human resource. Figure .1 displays the dimensional framework of institutional capacity.

Figure 1. Dimensional Framework of Institutional Capacity



Source: Grindle (1997: 9)

The figure reflects the institutional capacity and structure being cooperative and supportive in order to achieve their objective effectively.

RESEARCH METHOD

This research uses descriptive qualitative approach which aims to understand a social situation, events, roles, interaction and groups. The location of study is located in the Kenjeran coastal fishermen in Surabaya East Java. The total number of the Kenjeran coastal fishermen groups consisted of 5 groups namely group 1-5. As for the informants in this research are the Head and members of Fishermen 1-5 Groups, Head of RT, RW, village, village apparatus, Related Agency and Community Figure. Data collection techniques were done through observation, in-depth interviews and documentation in order to get primary data and secondary data. Data analysis techniques was done using qualitative analysis with the stages of data collection, reduction, classification, analysis and reporting.

RESULTS AND DISCUSSION

The role of internet technology has now become a tool for various changes in all lines of life even until now on the industry 4.0. In the industry 4.0 has evident that every work process is demanded to be more efficient through fast and sophisticated automation and computerization. Thus, the demands and mastery of technology have continued to grow to play an important role in the midst of global competition. Indonesia, with its potential in human and natural resources, should be able to become a superior country in the industry 4.0. But until now our ability to master technology is still lagging behind. Our science and technology capacity is still in class-3, where more than 75% of technology needs are imported (UNDP, 2010). Meanwhile, the speed of our internet connection is still inferior compared to countries like Singapore, Thailand, Malaysia, Vietnam, Brunei and Philippines. Even sadder, the assessment of digital competitiveness in improving the economy and efficiency in various fields, in 2018 Indonesia was ranked 62 out of 63 countries (IMD, 2018). These conditions undoubtedly put Indonesia in a newly literate country to welcome the industry 4.0 (WEF, 2018).

However, it does not rule out the possibility for the development sector to be able to apply the industry 4.0, one of the potential is the fisheries sector (fisheries and marine), the application of these applications is not yet massive and often experiences technical obstacles. Therefore in practice, the fishermen and fisheries and marine businesses are still mostly using traditional technology. The application of industry 4.0 for fishermen and the fisheries-marine sector is able to further explore potentials, streamline resources, increase productivity and added value, expand market and capital access, and modernize organizations and management (Suseno, 2015).

The results of research in the Kenjeran Coastal Fishermen in Surabaya, East Java show that in the industrial era 4.0 which was busy becoming a conversation and the demands did not have an impact on the demands of fishermen to move to change and take the facilities. This is because the access and budget constraints and facilities have not made it possible to use technology in the fishing community institutions and fishermen activities. In addition, capacity building in institutional empowerment

of the Kenjeran Coastal Fishermen in Surabaya, East Java in the industry 4.0 is not optimal and still needs attention from related parties such as government, universities, NGOs and mutual concern in internal fishermen. Aspects of capacity building research in the institutional empowerment of the Kenjeran Coastal Fishermen in Surabaya, East Java are as follows:

1) Strengthening Fishermen Human Resources

The importance of human resources lately has increasingly received attention and attention from various parties, both from the public sector and the private sector. Various seminars, training courses and workshops, and the like, have been organized and all of which emphasize human resources even more in the current industry 4.0. All parties have just realized how important human resources are for institutions and organizations such as the fishing community institutions. In developing the institutional human resources of the fishing community is very important, because managing the institutional resources of the fishing community is essentially the future of Indonesia. Therefore, the preparation of competent human resources is very important and needed to succeed in the success of the development of fishermen (marine and fisheries). The stigma of fishermen and coastal communities as the lower class or included in the poor category is still inherent. There is a habit that is still happening and carried out by the fishing community is to spend the profits of the catch quickly. The mindset they use is still fixed on the traditional mindset, assuming there are still many fish that can be caught at sea despite the fact that the supply of fish in the sea is very limited.

Kenjeran Coastal Fishing Community Surabaya, East Java consists of 5 groups with a total membership of approximately 1000 (one thousand) members. The number will continue to decrease and increase in line with the conditions and expectations of Kenjeran Coast in Surabaya East Java. The existence in strengthening fishermen's human resources has been running through the Kenjeran fishermen organization since 2011. Various programs and assistance have been carried out by the government and the private sector, studies and research, seminars and FGDs, thus real progress can already be felt by Kenjeran Coastal Fishermen in Surabaya, East Java. Kenjeran Coastal Fishermen Surabaya East Java today is not only fishermen but also a new tourist attraction for the community; even the handicrafts are quite developed. However, in strengthening community institutions through capacity building aspects, it is still not optimal to be a program and a means to progress both internal fishermen individuals and fishermen institutions. The results showed that each fisherman tended to be individualistic in addressing the fishermen's problems. The existence of communities, organizations and community institutions received less attention. Thus the level of mastery, education, experience, and atmosphere of fishermen with each other is different, and the groups are different from one another.

The results of the interview with the Chairman of Group 1 Kenjeran Coastal Fishermen in Surabaya East Java are as follows:

"The level of education, experience, skills, use of tools, the atmosphere of fishermen with each other is indeed inadequate and uneven, especially with unknown technology. This is because of the current limitations. The existence of organizations such as fishing groups

has not been maximally employed and its role. They still think individually, while the organization is only the wind when needed. We actually want a maximum, but this human resource and enthusiasm needs to be approached. (Interview 5 July 2019).

The target of improving the quality of institutional resources of the Kenjeran Coastal Fishermen community by moving the organization and membership of fishermen does not appear to be the main measure, but rather on a seasonal basis without continuation. The instruments used in the development and training process also lack support. Therefore, it is not surprising that the frequency and number of fishermen attending the training did not significantly influence the increase in work ethics and views in fishing activities.

Modernization in the development of human resources of Kenjeran Coastal Fishermen must be done so that the utilization of Kenjeran Coastal resources by fishermen can be optimized. This is very necessary, for efforts to strengthen, and move the institutional community of Kenjeran Coastal Fishermen to be more active, optimal, sustainable and have superior power both individually and organizations in advancing Kenjeran Coastal Fishermen, ready to face the challenges of the industrial era, so as to improve the welfare of fishing communities and bequeath the wealth of fishermen to their children and grandchildren in the future.

2) Strengthening Fishermen Community Organizations

In the capacity building of fishing communities is an organizational system that shows the system of relationships and division of tasks that occur within an organization of fishermen groups. The complexity handled by the Kenjeran Coastal Fishermen community, the number of existing units determines the effectiveness of the implementation of fishermen activities and the achievement of the goal of providing better services to fellow fishermen. The wheels of a good organization are those that are able to spin quickly in the sense of being able to adjust the development of community needs. For this reason, the organization of Kenjeran Coastal Fishermen must have a clear vision and main function of its equipment in accordance with the potential of its resources so that the program of activities can provide outputs and impacts that are of great benefit to the Kenjeran Coastal Fishermen. In strengthening the organization as one of the institutional strengthening of the fishing community where it is done using indicators; including organizational culture, leadership and communication which are binding in the implementation of the Kenjeran Coastal Fishermenn community organization.

One of the solutions in carrying out the Kenjeran Coastal Fishermen community organization is through strengthening community institutions based on the development of a centralized area to encourage growth, and strengthening fishing communities. Efforts to improve these institutions need to be an institutional organization of the fishing community, namely the organizational culture, leadership and communication models carried out in managing the Kenjeran Coastal Fishermen community organization.

The results of the interview with the Head of Group 3 Kenjeran Coastal Fishermen as follows:

"n carrying out the organization, there are obstacles in the field including: in the unity in leadership and

work culture carried out by the management of the fishing group. We are gradually making efforts to strengthen and keep the wheels of the organization in Kenjeran Coastal Fishermen, our obstacle is the proper arrangement of fishermen and administrators who want to work sincerely and lightly, but currently that is the obstacle. (Interview, 5 July 2019).

The aspect of strengthening fishing community organizations is the dimension of organizational structure with regard to who has to implement or do what has been decided. The aspect that must be regulated is the division of work units including duties, functions and responsibilities within the organization. Therefore the quality of fishermen and institutional fishing communities will be better, stronger and can meet the general objectives of the Kenjeran Coastal Fishermen community.

3) The Government's Role in Strengthening Fishermen

Kenjeran coastal area is a potential area, because this area is a center of population activity. Kenjeran Beach is one of the potential areas to be developed as a trade and service area, tourism and commercial area. In advancing Kenjeran Coastal Fishermen, the City Government of Surabaya has developed this area to be very interesting

- a) Tourism Development. These are Kenjeran beach, Ria Kenjeran beach, Bulak park, Kenjeran theme park, Kenjeran education park, Kenjeran Kya-Kya tour, four-face god statue, Sanggar Agung temple, Tian Ti pagoda, entertainment and sports, kite festival & boat ornamental, Kenjeran circuit, Kenjeran waterpark. As well as culinary tours and souvenirs, shellfish trinkets, fish crackers, smoked fish (grilled fish). All tourism activities in the Kenjeran coastal area can be developed and have the potential to attract visitors and can benefit local residents.
- b) Improving the Quality of Facilities of Fishermen Housing in Kenjeran. Improving the quality of the environment of urban settlements is carried out systematically by applying the principles of revitalization in the form of environmental improvement and rebuilding. The development of fishermen settlements back on new land which is located close to the shoreline thus it will produce a new face of fishing settlements that are far from slums and facilities and infrastructure that support fishing settlements and coastal activities in general.
- c) Making coastal schools. Considering that coastal management by the community is lacking, such as not caring about the future of Kenjeran coast by throwing all garbage into the sea and also septic tanks dumped into the sea causing dirty sea filled with rubbish, there needs to be a program like a coastal school, how to use, develop and develop preserving coastal areas so as not to harm anyone and can still be used for ever.
- d) Coastal infrastructure development. From the problem of fishermen boats parked at the Kenjeran Beach which decreases a beach's aesthetic, as well as the lack of management and sales of marine products such as fish and

shrimp, the development strategy can be done with the construction of a fishing port which is also a Fish Auction Site. In addition to being a fishing port for fishing boats, fishing ports are also a place for fishermen to sell their catch, can be a place of fish auctioning, a place for fish canning, as well as a place for smoked fish and other processed fish. Thus with the existence of fishing port, fishing boats can be more neat and structured and the processing and sale of sea products can be improved. (Surabaya City RZWP, 2012-2032)

But along with the program there are also problems, including the following:

- a) Problems of the City Government of Surabaya with the fishing communities of Kenjeran. Namely the plan to evict the land in the fisherman settlement area of Kenjeran because there will be a plan for the construction of the Surabaya Eastern Outer Ring Project to be carried out in stages. Initially, it began with the construction of the Suramadu Toll Bridge access up to Mount Anyar. The total toll road to be built is 17 kilometers long with 60 meters wide that will cross several areas such as Kenjeran-Bulak-Mulyorejo-Sukolilo-Rungkut-Gunung Anyar, but until now there has been no meeting point between the community and the government.
- b) The Bulak Fish Center in Kenjeran is an area that is expected to become a new icon in Surabaya in marketing fishery products in the Kenjeran and Bulak areas, but in the existing condition the Bulak Fish Center is actually out of buyers and sellers due to its expensive rental prices, and the lack of visitors thereby reducing the seller's profit.
- c) The absence of a Temporary Disposal Site in the Kenjeran fishing settlement, the community throws away all the rubbish in the sea and makes the sea dirty with trash as well as the transportation of trash is irregular thus making the people choose to dispose of the trash at sea, because their perception of trash thrown into the sea will disappear along with ocean currents, so they don't need to struggle to get rid of trash even though it actually makes the sea full of waste.
- d) Kenjeran coastal residential is a densely populated area, seedy and with relatively narrow pathways. In addition to the influence of floods due to the rise of seawater surface would often occur during rainy season.
- e) There is no fishing port making fishermen park their boats on the shores of the beach closest to their house and make the boats seem messy. There are still some houses of residents, especially on the beach that do not have a septic tank that human waste and house waste are both channeled all into the sea.
- f) The lack of optimum management of capture fisheries or aquaculture Capture fisheries is of mainstay effort especially for the people in the eastern coastal city of Surabaya. However, in the business of catching fish, the fishermen experience problems, namely the community

is very constrained by marketing their catch fish. Usually the catch is only marketed within the fishermen's own environment, and many also sell their fish to collectors. The fishermen on the east coast of Surabaya want a place for fish processing, because there is less smoke in the Bulak Fish Center, they only process the fish by sunning in front of the house along the Kenjeran settlement. (Surabaya City RZWP, 2012-2032)

In advancing Kenjeran Coastal Fishermen, Surabaya City Government has implemented an interesting development program and facilities, but there are also problems that occur around Kenjeran Coastal Fishermen. The development process and the role of the Surabaya City Government should be balanced and sustainable in an optimal and good way. In this process not only has the project orientation, but more importantly is the role of strengthening the institutional community of the Kenjeran Coastal Fishermen through capacity building.

CONCLUSION

The new era of industry 4.0 is how to strengthen and make ready as well as the availability of standard facilities such as internet. For the world of fishermen it would be a new experience to be able to realize. This is nonetheless one of those sectors that can advance to increase the welfare of fishermen themselves and contribute to the economic progress of the government. However, what happened in the Kenjeran Coastal Fishermen, Surabaya, East Java, has not been maximized in strengthening and continuing.

The results showed: (1) Institutional strengthening of the Kenjeran Coastal Fishermen community in Surabaya, East Java is not optimal to be an institutional program for fishermen. The existence of fishermen groups, communities, organizations and community institutions received less attention. Therefore the level of mastery, education, experience, and atmosphere of fishermen with each other is different, therefore it impacts on the quality of the capacity building of Kenjeran Coastal Fishermen, Surabaya, East Java. (2) The institutional organization of the Kenjeran Coastal Fishermen community in Surabaya, East Java has not implemented a good organizational system, namely in strengthening the organizational structure to carry out what has been decided. In the division of work units including duties, functions and responsibilities within the organization have not been created properly. This is due to the weak leadership and organizational culture of the Kenjeran Coastal Fishermen, Surabaya City, East Java. (3) The role of the Surabaya City Government is very strategic in advancing Kenjeran Coastal Fishermen in Surabaya, East Java. The real program is the development of tourism and infrastructure around the Kenjeran Coastal Fishermen. The development should be balanced and sustainable in an optimal and good manner, not merely project oriented, but more importantly is to provide assistance and institutional strengthening through capacity building around the Kenjeran Coastal Fishermen in Surabaya, East Java.

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