

Strengthening of seaweed business institutions through cooperatives in Bulukumba Regency, Indonesia

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Abstract. Cooperatives are one of the supporting sectors for the economy based on a people's economy. Therefore, cooperatives can function well, if there is the institutional strengthening of cooperatives in them, especially regarding seaweed cooperative institutions. The purpose of this study was to determine the potential and strategies for strengthening seaweed business institutions through cooperatives. The method was using qualitative approach method using SWOT analysis. The results of this study indicate that the potential for strengthening the economic institutions of seaweed farmers through cooperatives is quite large through the main strategies: Increasing the quantity & quality of production through increasing the area of seaweed cultivation; Developing partnership; Capital accumulation through the addition of cooperative members; implementing innovation; and implementing priority scale.

1 Introduction

Based on the results of two years of research, it is recommended the establishment of cooperatives to strengthen community economic institutions in the coastal area of Bulukumba Regency, South Sulawesi, Indonesia, which will be realized at the end of 2019 [1,2]. The recommendation refers to the fact that the level of community welfare is low and there are no community economic institutions such as cooperatives, while the maritime resource-based economic potential of the region, especially seaweed, is quite large. Such a situation is a general condition of the economic condition of the Indonesian coastal communities which are rich in maritime economic resources. In line with what was stated [3], seaweed should be the main driver of the coastal region's economy, because Indonesia is the world's number one seaweed exporter but has not yet become a reality. One of the reasons is because of low economic value; sold in the form of raw materials.

Indonesia is a maritime country with enormous resources in the marine and fisheries sector with commodities including tuna, shrimp, skipjack, grouper, and seaweed [4]. Among these commodities, seaweed is a very potential commodity because it is supported

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by the large sea area of 3.25 million km² with a total area of 1,110,900 ha of seaweed cultivation [5]. In addition, this canyon has 555 species or 45 percent of the number of superior species of seaweed in the world [6]. From a total of 29.4 million tons of world seaweed production in 2015, Indonesia's production reached 11.3 million tons or 38 percent [7]. Seaweed is a superior commodity with high economic value and has wide market opportunities, both nationally, regionally and globally. Currently, with advances in science and technology, the use of seaweed is very diverse, both for food and non-food products. Broadly speaking, seaweed derivative products can be grouped into five, namely food, feed, fertilizer, cosmetic products, and pharmaceutical products [8].

South Sulawesi is a province that produces kappaphycus and eucheuma seaweed with 3.25 million tons per year (average), or equal to 33 percent share of national production, but most of that (about 80%) is still in dry form; so that the low price [3]. In the context of South Sulawesi, Bulukumba Regency has an important role or position as the main production center for seaweed. This is due to the maritime natural resource potential of Bulukumba Regency, which has seven out of ten sub-districts located in an area with a long coastline of 138 km and an area of 93,929 hectares of water. The dominant type of seaweed being developed is seaweed commodity (*Euchema cottoni*) and is ranked 5th with a total production of 158 thousand tons / year 2016 in South Sulawesi [2].

However, this position did not make the economic performance of the coastal area of Bulukumba were strong. One of the main reasons is that based on the results of the studies it is concluded that economic institutions have not yet functioned among Bulukumba seaweed farmers and therefore it is recommended that a special study be carried out on efforts to make the institution effective. Responding to the findings above, Busthanul and team in collaboration with the Bulukumba Cooperative Office, at the end of 2019 they succeeded in establishing a cooperative under the name Koperasi Rumput Laut UTARI whose members and management consist of farmers and seaweed businessmen from four sub-districts of seaweed production centers in Bulukumba Regency. However, it is not yet effective in working according to its function. Therefore, assistance (guidance) is needed to streamline its function as a community economic institution by focusing its activities on the economic resources that are owned, in this case seaweed [2].

Cooperatives as an institutions for economic that having of societal values are very much required to increase the welfare of community [9]. A cooperative is a business organization that is owned and operated by an individual for the common interest. Cooperatives are economic activities based on the principle of kinship. In Indonesia, cooperatives are one of the pillars of the economy apart from the government and private sectors [10,11]. Cooperatives as associations for mutual welfare, carry out business and activities in the field of meeting the common needs of their members [12,13].

Increasing the bargaining position to ensure the large role and access of seaweed farmers as the main determinant in the seaweed agribusiness system in Bulukumba is believed to be created through the growth of cooperatives [1]. Agricultural mechanization and institutionalization of agricultural cooperatives can reverse the situation and indirectly contribute to food security [14]. Cooperatives could be considered as the answer to the adversity of the farmer. Based on the issues, the research is aimed to assessing the strategy factors for strengthening of economic institutions through community cooperatives in the coastal area of Bulukumba Regency, Indonesia.

2 Research methodology

This study used a qualitative approach, also called an investigative approach. Qualitative research is produces descriptive data in the form of spoken words or written from people and observable behavior [15]. This research use the SWOT analysis, an approach was used

to study intends to understand the phenomena experienced by the research subject, for example: behavior, motivation, action and obtaining an understanding of how to strengthen seaweed business institutions through cooperatives at the research site. This analysis used factors strengths, weaknesses, opportunities and threats [19].

This method is carried out based on the results of the identification of the external and internal factors of the subject. The identification of strategy involves the manager's point of view, so that can make the analysis can lead to wrong strategy decisions [20]. Comprehensive information about business activities is needed to determine the right strategy. However, in the contrarily determination of the appropriate strategy can be done using a SWOT analysis [21].

Assessment of the performance / role of farmer groups is based on the Minister of Agriculture Decree No.41 / Kpts / OT / 210/1992 which indicators are as follows [9]:

- The ability to plan activities to increase farm productivity (including post-harvest income analysis funds) by implementing appropriate recommendations and optimally utilizing natural resources.
- Ability to implement and comply with agreements with other parties.
- The ability to raise capital and use it rationally.
- Ability to increase the institutional relationship between the group and the KUD
- The ability to apply technology by providing production facilities and utilizing information as well as group cooperation which is reflected in the productivity level of group member farms.

3 Result and discussion

3.1 Farmer institution: role of farmer groups

The role here is defined as something that is an important part of a thing / event [18]. The farmer organizations existence is the central player role. In the coastal area of Bulukumba Regency, although there is very little organic group activity, the tradition of working in a way of mutual cooperation is very massive. This is the social capital of local seaweed farmers. Cooperation within a group can be held and realized and produce results according to our expectations, people want to work together and gather themselves in an organizational container known as farmer groups [2]. Cooperatives are basically formed to achieve a common goal. Therefore, it must be managed transparently, especially regarding finances, and work programs or plans for cooperative activities [17]. With transparent management, it can encourage high participation because all members feel they belong. High participation fosters a sense of togetherness which is reflected in the attitude of kinship and the spirit of mutual cooperation [18].

The inclusion of farmers in a farmer group container is a first step to increase their farming production because farmers are facing obstacles or problems that have been difficult to solve individually and can be resolved through farmer groups. This is possible because the interaction between members who are more involved in farming can increase the diffusion process of new technology so that the knowledge of the ability and willingness of farmers will increase as well. The development of farmer groups is aimed at empowering members to have independent strength, being able to implement innovations, being able to take advantage of the principles of economies of scale and being able to face business risks, so as to be able to obtain a decent level of income and welfare. For this reason, farmers need to be in groups because with groups the coaching process is easier, information is easy to obtain because farmer groups function as learning classes, as production units and a vehicle for cooperation.

3.2 Cooperative strategy analysis

The SWOT analysis is carried out in two steps, namely the identification stage of the SWOT factors and the SWOT analysis stage itself. These strategies can vary but all are aimed at improving the performance of an organization [22]. The first stage is to determine the SWOT factors by taking an inventory of all those that have an influence and choosing the one with the greater influence. In the next (second) stage, namely the SWOT analysis itself, this is to determine the strategies or actions that must be or are recommended to be carried out in order to achieve organizational goals and organizational sustainability in the SWOT Matrix [23].

3.2.1 Analysis of cooperative internal factors

Internal factor analysis consists of strength and weakness factors which are input factors for qualitative SWOT analysis. Although this method is easy, it is quite effective in determining the strategy. Subjectivity is also one of the characteristics of this method [24,25]. This factor analysis aimed to find various strengths and weaknesses factors in the cooperative that obtained from the results of interviews and discussions with the stake holders especially business actors and respondents at the research area.

a. Strength

Strength is an internal factor that exists in the cooperative which can be used to develop its business field. The strengths of the institution depend on the strength factors of the resources and capabilities that potentially be used as the basis for developing the institution's competitive advantage; as follows:

- The large number of seaweed farmers is a potential member of the cooperative
- The amount of seaweed produced by farmers is quite large
- Strong group work tradition

b. Weaknesses

Weakness is something that causes one business activity to be unable to compete with other business fields. In some cases, the weakness for a business may be strength for other areas of the same business. Weakness is something that is weak against something that can have an adverse effect on business activities. The weaknesses in the cooperative are as follows:

- Limited working capital
- Human resources for business management (management) are still weak
- Lack of facilities in the cooperative.

3.2.2 Analysis of external factors

External factors consist of opportunities and threats from the cooperative. The factors resulting from the results of interviews and discussions with the respondents of this study, especially the business actors out of the member of cooperatives, including the big business corporate in Makassar.

a. Opportunity

Opportunities is the external environment factors that might produce alternatives benefits for an institution to achieve business growth and determine its sustainability forward. In this case of the research, the opportunities were as follows:

- The potential of natural resources/cultivated land can still be maximized
- Huge market demand

- The existence of market opportunities with high and stable prices due to gaining the trust of large companies.

b. Threats

An external environment change can also make a threat to the institution. The threats comes from external factors of cooperatives in this case of the study were as follows:

- Business competition and quality requirements are getting tougher
- Uncertainty in the price of seaweed is clear
- The existence of middlemen who are potential competitors to cooperatives.

Based on the analysis of internal and external factors described above, these factors are then analyzed using a SWOT analysis matrix (strengths, weakness, opportunity, threats) to formulate a strategy for strengthening the seaweed business institution through cooperatives in Bulukumba Regency. Henceforth applied and applied for the development of farmer groups and cooperatives. Based on the factors analysis above we formulated some strategies for strengthening the economic institution in the coastal area of Bulukumba Regency in the SO, WO, ST, and WT strategies provided in Table 1.

Table 1. SWOT matrix strategy for institutional strengthening of seaweed business through cooperatives

INTERNAL	STRENGTH (S)	WEAKNESS (W)
EXTERNAL	<ol style="list-style-type: none"> 1. Adequate cooperative; the very large number of seaweed farmers is a potential member of the cooperative 2. The amount of seaweed produced by farmers is quite large 3. Strong group work tradition 	<ol style="list-style-type: none"> 1. Limited working capital 2. Human resources for business management are still weak 3. Lack of facilities in the cooperative
OPPORTUNITY (O)	STRATEGY SO	STRATEGY WO
<ol style="list-style-type: none"> 1. The potential of natural resources/cultivated land can still be maximized 2. Huge market demand in the world 3. The existence of market opportunities with high and stable prices due to gaining the trust of large companies 	<ol style="list-style-type: none"> 1. Increasing the quantity & quality of production through increasing the area of seaweed cultivation 2. Developing upstream and downstream/ marketing sector partnerships 3. Strengthening cooperative business management 	<ol style="list-style-type: none"> 1. Capital accumulation through the addition of Cooperative members 2. Adding supporting facilities (warehouses and processing machines) 3. Improving the quality of human resources through training
THREATS (T)	STRATEGY ST	STRATEGY WT
<ol style="list-style-type: none"> 1. Business competition and quality requirements are getting tougher 2. Uncertainty in the price of seaweed is clear 3. The existence of middlemen who are potential competitors to cooperatives 	<ol style="list-style-type: none"> 1. Creating/implementing innovations to produce quality products according to market demand. 2. Utilization of field agricultural extension to socialize cooperatives 3. Invite business people to join cooperatives. 	<ol style="list-style-type: none"> 1. Implementing a priority scale for the procurement of production facilities 2. Optimizing land use to increase production 3. Raising sources of capital, especially with partner companies/markets.

4. Conclusion

The potential for strengthening the economic institutions of seaweed farmers through cooperatives is quite large through the main strategies: Increasing the quantity & quality of production through increasing the area of seaweed cultivation; developing partnership; Capital accumulation through the addition of cooperative members; implementing innovation; and implementing priority scale.

References

1. N. Busthanul, P. Diansari, I. Sumase, N. M. V. Sulianderi, M. Syafiuddin, and I. Muhtar, in *Adv. Environ. Biol.* (2020), p. 17.
2. N. Busthanul, P. Diansari, I. Summase, A. Amiruddin, N. Lanuhu, N. M. Viantika, S. Yusuf, and M. G. Permadi, *IOP Conf. Ser. Earth Environ. Sci.* **343**, 012110 (2019).
3. Kementerian Kelautan dan Perikanan, *Kelautan Dan Perikanan Dalam Angka 2017* (Pusat Data, Statistik, dan Informasi, Jakarta Pusat, 2018).
4. T. L. Kepel, D. D. Suryono, H. L. Ati, R. N. A., Salim, and A. A. Hutahaean, *J. Kelaut. Nas.* **12**, 19 (2017).
5. R. I. Khaldun, *J. Sos. Polit.* **3**, 99 (2017).
6. Suparmi and A. Sahri, *Univ. Islam Sultan Agung* **XLIV**, 95 (2009).
7. FAO, *Globefish Res. Program.* **124**, 120 (2018).
8. Kementerian Kelautan dan Perikanan Republik Indonesia, *Rumput Laut Dan Pemanfaatannya* (Jakarta, 2016).
9. W. Setianingsih, *Medan Int. Conf. Econ. Bus. Appl.* 2019 (2019).
10. Kusumantoro, *Din. Pendidik. Unnes* **5**, 147 (2010).
11. T. Murwaji and A. H. Robby, *PADJADJARAN J. Ilmu Huk. (Journal Law)* **4**, 454 (2018).
12. C. F. Sitepu and H. Hasyim, **7**, 59 (2018).
13. N. L. M. Mahendrawati, I. N. P. Budiarta, I. W. W. Antara, and C. S. Mandasari, *Int. J. Community Serv. Learn.* **4**, 297 (2020).
14. V. Milovanovic and L. Smutka, *J. Co-Op. Organ. Manag.* **6**, 11 (2018).
15. Sugiyono S, *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D* (CV Alfabeta, Bandung, 2017).
16. Susanto, D. Wisadirana, and M. Sholih, *Wacana J. Soc. Humanit.* **20**, (2017).
17. R. Skyrius, G. Kazakevičienė, and V. Bujauskas, *Int. J. Interact. Multimed. Artif. Intell.* **2**, 31 (2013).
18. Mustangin, N. P. Islami, D. Kusniawati, B. Setyaningrum, and E. Prasetyawan, *Int. J. Community Serv. Learn.* **2**, 77 (2018).
19. L. E. Quezada, E. A. Reinao, P. I. Palominos, and A. M. Oddershede, *Procedia Manuf.* **39**, 786 (2019).
20. B. Phadermrod, R. M. Crowder, and G. B. Wills, *Int. J. Inf. Manage.* **44**, 194 (2019).
21. H. H. Chang and W. C. Huang, *Math. Comput. Model.* **43**, 158 (2006).
22. T. Sammut, Bonnici, and D. Galea, *New Ventur. Creat.* 373 (2015).
23. D. Prasetya, Iskandarini, and Salmiah, *J. Agric. Agribusiness Socioeconomics* 1 (2013).
24. J. Zhou, P. He, Y. Qin, and D. Ren, *Sustain. Cities Soc.* **20**, (2019).

25. Ş. Şeker and M. Özgürler, *Procedia - Soc. Behav. Sci.* **58**, 1544 (2012).