

# Local Capacity, Farmed Seaweed, and Village-Owned Enterprises (BUMDes): A Case Study of Village Governance in Takalar and Pangkep Regencies, Indonesia

Syafiuddin Saleh<sup>1,\*</sup>, Lukman Hakim<sup>2</sup>, Fatmawati Fatmawati<sup>2</sup>, Ratnawati Tahir<sup>1</sup>,  
Abdillah Abdillah<sup>3</sup>

<sup>1</sup>Department of Agribusiness, Universitas Muhammadiyah Makassar, Makassar City, Indonesia

<sup>2</sup>Department of Public Administration, Universitas Muhammadiyah Makassar, Makassar City, Indonesia

<sup>3</sup>Department of Government Studies, Universitas Muhammadiyah Makassar, Makassar City, Indonesia

## Email address:

syafiuddin\_saleh@unismuh.ac.id (Syafiuddin Saleh)

\*Corresponding author

## To cite this article:

Syafiuddin Saleh, Lukman Hakim, Fatmawati Fatmawati, Ratnawati Tahir, Abdillah Abdillah. Local Capacity, Farmed Seaweed, and Village-Owned Enterprises (BUMDes): A Case Study of Village Governance in Takalar and Pangkep Regencies, Indonesia. *International Journal of Sustainable Development Research*. Vol. 9, No. 1, 2023, pp. 1-10. doi: 10.11648/j.ijdsr.20230901.11

**Received:** December 7, 2022; **Accepted:** December 26, 2022; **Published:** January 9, 2023

---

**Abstract:** This study aims to understand the approach to economic development through the village institutional development model in Takalar and Pangkep Regencies, Indonesia. This is intended to increase local capacity and economic sustainability by encouraging seaweed production from coastal village communities in improving the economy in Takalar and Pangkep Regencies, Indonesia. This research uses a qualitative-exploratory method with a case study approach to analyze conditions in village-owned enterprises (BUMDes) in Makkasaung Rilangi Laikang Village, Takalar Regency, and independent village-owned enterprises (BUMDes) in Pitusunggu Village, Pangkep Regency, Indonesia. The results of the study show that there are different strategies in the institutional management of Village-Owned Enterprises (BUMDes) in Pitusunggu Village, Pangkep Regency, which are relatively more standardized compared to those carried out by Village-Owned Enterprises (BUMDes) in Makkasaung Rilangi Village, Takalar Regency, Indonesia. This can be seen from the performance of village institutional governance and the utilization of existing resources in the two districts. It is Encouraging economic growth through village institutional approaches such as Independent Village-Owned Enterprises (BUMDes) in Pitusunggu Village, Pangkep Regency & Makkasaung Rilangi Village, Takalar Regency aims to increase the production of seaweed farmers as a superior product that can be sold to coastal communities. Strengthening system components and village institutional principles can increase the income of coastal communities, and increase institutional productivity in seaweed agribusiness activities (production, post-harvest, processing, and marketing). This has proven to have implications for increasing the local capacity of coastal communities in seaweed cultivation so that it can improve the economy of coastal rural communities.

**Keywords:** Social Development, Local Capacity, Village-Owned Enterprises (BUMDes), Farmed Seaweed, Environmental Economics

---

## 1. Introduction

Law Number 23 of 2014 concerning Regional Government and Government Regulation Number 72 of 2005 Villages mandates that in increasing the income of communities and villages in various regions in Indonesia, So that the village government needs to develop what is called Village Owned

Enterprises (BUMDes). This must be adjusted to the needs and potential of the village. This is important considering that the professionalism of the management of Village-Owned Enterprises (BUMDes) is based on the willingness (agreement) of many people (member base), as well as the ability of each member to be independent in meeting their basic needs (self-assistance), both for production purposes (as producers). And consumption (as consumers) must be

carried out professionally and independently. So that it can be concluded simply that the establishment of Village Owned Enterprises (BUMDes) is to increase community income and build the village economy.

Previous research has found that local capacities in regionals and regencies in Indonesia address economic and political issues that local residents have to deal with. Where their ability to do so is considered as an indicator of their capacity. It then discusses the impact of their efforts to resolve these issues, and the factors that in each case appear to have determined the nature of local capacity, and its adequacy in addressing specific livelihood and governance issues. So, in the case of Pangkep and Takalar Regencies, conditioning and formulating a model for the institutional development of Village Owned Enterprises (BUMDes) as a local capacity to increase communities welfare of village in Takalar and Pangkep Regencies, Indonesia.

Village-Owned Enterprises (BUMDes) as a newly emerging business institution, cannot be said to be strong and still faces various kinds of challenges and problems, especially in institutions, production capabilities, business diversification, and marketing. So this research makes this case the focus of our research. This research more broadly tries to answer the question of why business groups, like Village-Owned Enterprises (BUMDes), are still unable to institutionalize satisfactorily, penetrate further markets, and be more competitive by diversifying products according to market needs. This research also seeks to answer the question of how far village-owned enterprises (BUMDes) can organize themselves, manage resources and improve the economy of vulnerable communities in rural coastal areas. As stated by Uphoff, N., & Buck, L. [1] and Amiraslani, F. [2] steps to be able to increase a decent standard of living for vulnerable rural communities can be done by strengthening the rural economy-institutions. So it is necessary to find the right model for expanding its development. [2-3]

This study also seeks to answer the question of the extent to which Village Owned Enterprises (BUMDes) can organize themselves, manage resources, and are able to produce sustainably. Furthermore, it is necessary to find the right model for the expansion of its development. This research contributes to the institutional development of Village Owned Enterprises (BUMDes) to increase the income of seaweed farmers as a village governance in rural of Takalar Regency & Pangkep Regency, Indonesia.

## 2. Literature Review

According to Bebbington, A. et al [4] Local Capacity shows quite clearly that the level of local capacity and relative success in converting capacity into effective problem solving varies, not only between provinces but also between villages within a particular regency, and between groups in the village. Reflecting on why these variations occur has implications for how to conceptualize capacity, and the relationship between social capital and political economy in encouraging rural economic growth and the independence of

rural communities [5-6].

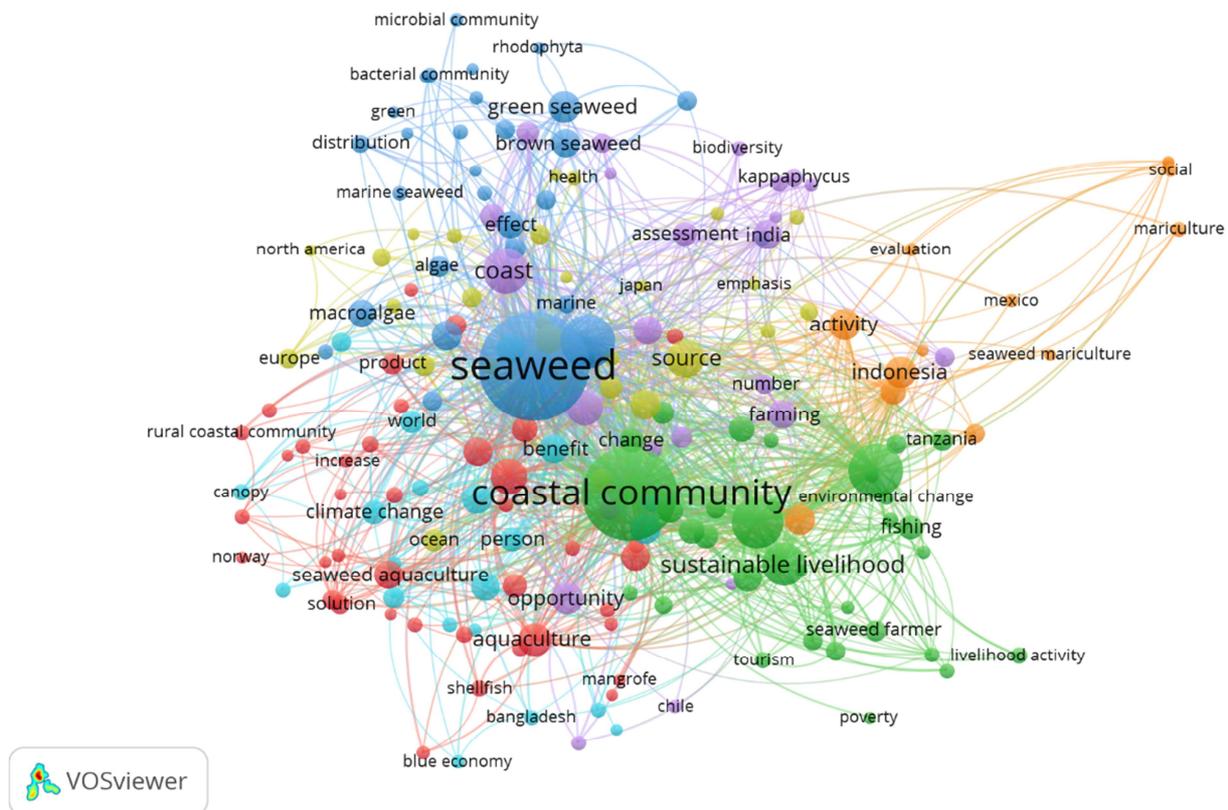
Seaweed is a relatively new export product for Indonesia. South Sulawesi is one of Indonesia's seaweed production centers. South Sulawesi's seaweed production in 2014 totaled 2.88 million tons, with Cottoni financial reporting for 1.93 million tons, Grasilaria accounting for 0.83 million tons, and Spinosum accounting for approximately 0.12 million tons [7-8]. The enormous potential of seaweed as an income stream for coastal communities must be developed [9-10]. Not only is seaweed important for regional income and the economy, but it can also be a source of income for coastal communities [9-11]. South Sulawesi seaweed is primarily exported to the Philippines, China, Taiwan, and Hong Kong. South Sulawesi seaweed production value reached Rp 3,198 trillion in 2014 [3, 7, 12].

The pillar of this Village-Owned Enterprises (BUMDes) institution is a village socio-economic institution that is truly capable of being a commercial institution that can compete outside the village. Village-Owned Enterprises (BUMDes) as a people's economic institution and commercial institution, first of all in favor of meeting the needs (productive and consumptive) of the community through distribution services for the provision of goods and services [13-17]. This is manifested in the procurement of community wholeness that is not burdensome such as the price is more expensive and easy to get and profitable. In this case, Village-Owned Enterprises (BUMDes) as a commercial institution still pays attention to efficiency and effectiveness in the activities of the real sector and financial institutions [15-18]. Village-Owned Enterprises (BUMDes) business units in agribusiness activities in rural areas need to become strong institutions or be able to be competitive if the business units have strong institutions as well. This institution is a determinant of the progress of the Village-Owned Enterprises (BUMDes) business unit. In figure 1 below, the results of the identification and analysis of research on seaweed cultivation will be carried out in encouraging the welfare of coastal communities based on the findings, research problems, and strategies developed by previous research. The data used is sourced from the google scholar database in the range of 2011-2022 as many as 500 research documents with the keywords seaweed and sustainable livelihoods of coastal communities, the results of analysis and identification through VosViewer divide seven clusters.

In Figure 1 the first cluster (red) related to the challenges of coastal and coastal ecosystems of cities, demand for employment, environmental interactions, industry, improving the handling of mangrove management and community organizations of pesisir villages, seaweed cultivation, seaweed biomass, seaweed cultivation, seaweed harvesting, and coastal village development solutions [19] the second cluster (green) relates to the adaptation of coastal communities about sustainability and bringing about environmental changes by seaweed cultivation in coastal areas, has a positive impact on the region and improves the economy of coastal communities, reduces poverty, sustainable livelihoods of villages, and brings about tourism growth [9, 20]; the third cluster (blue) is related to algae and bacteria, bioremediation, brown seaweed,

distribution of green seaweed, ulva growth of green seaweed already in various countries such as the Philippines of South Africa, seaweed growth is also influenced by macroalgae, seaweed, microbial communities and the potential of red seaweed and green seaweed [21-22]; the fourth cluster (yellow) deals with the chemical composition on the coastline by the seaweed industry in countries such as the northern Philippines and Japan, as well as the consumption of edible seaweed, emphasis, food security, sea macroalgae, nutritional value, remote coastal communities, risks of the seaweed industry and seaweed production [23-24]; the fifth cluster (purple) deals with alternative livelihoods, biodiversity assessment, coastal waters, cultivated diversity, doty, agriculture, bays, seaweed resources, seaweed species,

and utilization, wealth [9, 25]; the sixth cluster (light blue) deals with additions, benefits, blue economy, climate change, contributions, ecosystem services, habitats, local community incomes, coral reefs, the role of coastal communities in the management of coastal ecosystem resources [25-26]; the seventh cluster (orange) deals with coastal village activities, household economic evaluation, seaweed cultivation and small-scale fisheries [10, 27]. Through this identification, it can be seen that there is a need for a model of a Village-Owned Enterprises (BUMDes) institutional development strategy that encourages increased added value, marketing, and seaweed production for the livelihoods of coastal communities and the sustainability of the environmental sustainability of coastal areas.



**Figure 1.** Identification and analysis of research issues (Source: Processed through VosViewer, 2022).

This study aims to identify conditions and formulate an institutional development model for Village Owned Enterprises (BUMDes) to increase local capacity to encourage seaweed production which leads to welfare in coastal village communities in Takalar and Pangkep Regencies, Indonesia. This study specifically looks at local capacity in improving institutional performance and community participation in developing village superior products in Takalar and Pangkep Regencies, Indonesia.

### 3. Methods

This study was conducted in the Takalar Regency area and the Pangkep Regency area of South Sulawesi Province, Indonesia. As a center for producing seaweed waters and ponds. This research

method uses a qualitative-exploratory with a Case Study approach in Village-Owned Enterprises (BUMDes) Makkasaung Rilangi Laikang Village, Takalar Regency, and Village-Owned Enterprises (BUMDes) Mandiri Pitusunggu Village, Pangkep Regency, Indonesia about identifying conditions and formulating strategies for institutional development of Village-Owned Enterprises (BUMDes) to increase. increase local capacity to encourage seaweed production which leads to welfare in coastal village communities in Takalar and Pangkep Regencies, Indonesia. In collecting data in addition to conducting general observations and interviews with seaweed farming communities and parties who understand the situation of coastal communities, in-depth interviews and evidence collection or documentation related to seaweed cultivation, postharvest, and marketing activities as a whole were carried out at Village-Owned Enterprises (BUMDes)

specializing in managing seaweed. The next stage is to identify the institution and management of Village-Owned Enterprises (BUMDes) which will be the focus of observation and conduct interviews that are designed in a semi-structured manner. After the data is collected, the data is then compiled and reduced, processed, and analyzed to obtain conclusions and solutions. In the following year, the research design used more qualitative approaches although they continued to analyze the data quantitatively as needed. To reduce bias, a triangulation process is carried out, namely source triangulation and method triangulation. Triangulation of sources is done by cross-testing the data with facts from the observations of different researchers and the results of other studies. While the limited method triangulation was carried out using several methods in data collection, namely the literature study method through collecting, reducing, presenting, and verifying data from several related research articles, official documents of the East Luwu Regency government, East Luwu. The District Government website and added by utilizing data seekers such as Nvivo 12 pro and VosViewer to get the best conclusions. As shown in figure 2 below:

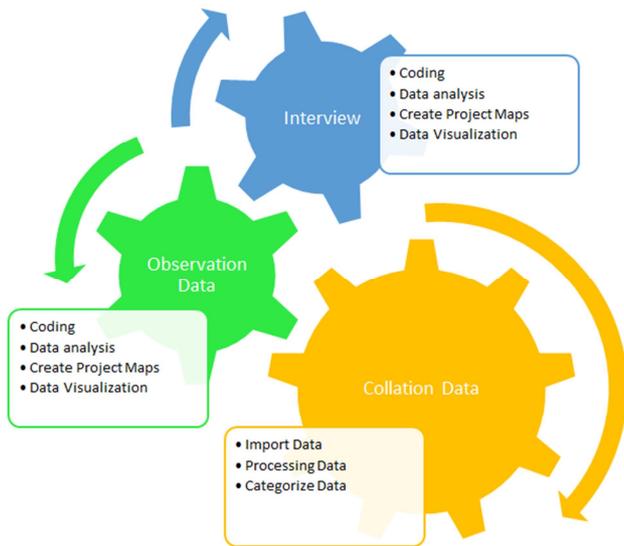


Figure 2. Data collection and analysis techniques with NVivo 12 Pro. Source: processed from Woolf & Silver [28], 2022.

## 4. Results

Although it has become an ideal, large amounts of trade activities have not been able to be carried out in the two Village-Owned Enterprises (BUMDes) for various reasons. Obstacles such as (1) seaweed farmers/farmers have generally used the capital of middlemen or village financiers so that the production must be sold to capital owners so that it is unlikely that Village-Owned Enterprises (BUMDes) will

develop seaweed products from farmers, (2) the adequacy of business capital that is still limited (3) the skills of Village-Owned Enterprises (BUMDes) members are still limited (4) marketing reach that has not been fostered, (5) efforts to build partnerships with other parties are also still limited. However, several efforts have been made by Village-Owned Enterprises (BUMDes) and have become achievements such as farmers benefiting from the ease of access to loans for farmers, farmers, and fishermen. This Independent Village-Owned Enterprises (BUMDes) in Pitusunggu village has also been rated as the ten best Village-Owned Enterprises (BUMDes) in South Sulawesi based on an assessment in 2018 (BPS Sulawesi Selatan 2014; BPS Sulawesi Selatan, 2017; BPS Sulawesi Selatan, 2018).

Based on the problems from the previous description from the point of view of the institutional capacity of Village-Owned Enterprises (BUMDes) in both locations and to compile a Village-Owned Enterprises (BUMDes) development model, the following is presented as a form of effort to strengthen the components of the Village-Owned Enterprises (BUMDes) institutional system (personnel, objectives, norms, structure and relationship procedures) related to the development of production institutions, post-harvest institutions, processing institutions and institutional marketing of seaweed agribusiness as in Table 1.

Table 1 illustrates the results of focused discussions with Village-Owned Enterprises (BUMDes) officials, seaweed farmers, and groups of village mothers that of the four components of the Village-Owned Enterprises (BUMDes) system, namely personnel, goals/interests, rules (norms), and structures/relationships in future management to improve the seaweed agribusiness system [29, 30], namely the seaweed production, postharvest, processing, and marketing systems can be described ideally as from the personnel's perspective there is an effort to involve farmers (cultivators in the production of seagrass, there is a cooperation of farmers in production and postharvest at the Village-Owned Enterprises (BUMDes) level, involvement of women's groups in processing, as well as improving the ability of personnel to access exporter markets for log seaweed products and on-line market access for processed products. In terms of goals/interests in the Village-Owned Enterprises (BUMDes) production institutions, it is stated that there is an increase in the production of seaweed; In the post-harvest system, processing and marketing seek to improve the quality for export through the post-harvest stage of drying, sorting, and grading, increasing the number of processed products, and increasing processing and marketing capabilities [3, 7, 11].

Table 1. Matrix of Strengthening System Components (personnel, Objectives, Norms, and Structures / Governance) in seaweed agribusiness institutions.

No.	Institutional Agribusiness System components	Institutional production	Postharvest Institutions	Institutional processing	Institutional marketing
1	Personnel	Involvement of farmers (cultivators) in seaweed production	There is a cooperation of farmers in postharvest at the Village-Owned Enterprises (BUMDes) level	Involvement of women's groups in processing	Improved ability of personnel to access exports and <i>markets online</i>

No.	Institutional Agribusiness System components	Institutional production	Postharvest Institutions	Institutional processing	Institutional marketing
2	Purpose (importance)	Increased output of seaweed production in Village-Owned Enterprises (BUMDes).	Improvement of seaweed quality for export purposes (drying, sorting, and grading)	Increased quantity and quality of processed products Brand and packaging improvements	Increased marketing capabilities and expansion of partnership networks
3	Rules (norms)	Capital loan agreement between farmers /Village-Owned Enterprises (BUMDes) Rules (SOPs) for Joint capital management	Rules (SOP) for post-harvest management at the Village-Owned Enterprises (BUMDes) level	Agreements, Rules (SOPs) in joint processing	Rules (SOPs) in product marketing with partners
4	Structure and Layout of relationships	Improved structure and expansion of partnerships	Improvement of the structure and relationship of postmen management	Improvement of relationships in processing	Development of a network of partnerships in marketing

Source: Processed from various sources, 2022

Furthermore, from the point of view of the application of rules (norms) in the form of capital lending rules between farmers and Village-Owned Enterprises (BUMDes), sop rules for post-harvest management at the Village-Owned Enterprises (BUMDes) level, rules (SOPs) for processing and marketing together with partners. Finally, regarding the structure and relationship system, improvements in the structure and expansion of partnerships are carried out, improvements in relationships in postharvest management, and improvements in relationships in processing and developing partnership networks in marketing [3, 7, 11].

The follow-up effort of the development of Village-Owned Enterprises (BUMDes) is to strengthen institutional principles that can be related to seaweed agribusiness institutions. These

principles are in the form of conformity of Village-Owned Enterprises (BUMDes) activities in advancing business with existing conditions that occur in the community; the suitability of the Village-Owned Enterprises (BUMDes) plan with the needs of other stakeholders, systemic thinking on the relationship of each component with various parties; participation of all components affected by Village-Owned Enterprises (BUMDes) activities; effectiveness of achieving goals; efficiency in the management of inputs and costs to obtain results; flexibility in every action and decision-making; acquisition of added value and profit; decentralization (autonomy) in management; and sustainability that ensures the continuity of Village-Owned Enterprises (BUMDes) activities in the Long janga. The development efforts are shown in Table 2.

**Table 2.** Matrix of Application of Village-Owned Enterprises (BUMDes) Institutional Principles to Seaweed Agribusiness Institutions.

No.	Institutional Agribusiness Principle Institutional	Institutional Production	Postharvest Institutions	Institutional Processing	Institutional Marketing
1	Existing conditions	Adjustment to local mechanisms (farmers, financiers, Village-Owned Enterprises (BUMDes))	Strengthening Village-Owned Enterprises (BUMDes) internal personnel according to local conditions	Adjustments to partners (women's groups and Village-Owned Enterprises (BUMDes))	Adjustments to Partners (local financiers)
2	Shared Needs	Both goals are achieved and mutual benefits	Farmers-Village-Owned Enterprises (BUMDes) have a joint postharvest deviation	Village-Owned Enterprises (BUMDes) group gives and receives each other for a common cause	Equally advancing marketing for the benefit of the village economy
3	Systemic thinking	Sipakatau, Sipakalebbi	Sipakatau Sipakalebbi	Sipakatau, Sipakalebbi	Sipakatau Sipakalebbi
4	Participatory	Conscious participation to advance the village economy	The willingness of Village-Owned Enterprises (BUMDes) members to consciously move forward together	Involvement of partners to move forward together in the processing business	Participation in marketing products
5	Effectiveness	Assessment of the suitability and accuracy of the production business with achievements	Assessment of the suitability and accuracy of post-harvest business with achievements	Assessment of the suitability and accuracy of the processing business with achievements	Assessment of the suitability and accuracy of marketing efforts with achievements
6	Efficiency	Balancing the use of costs compared to the results achieved in seaweed production	Balancing cost use compared to results achieved in post-harvest seaweed	Balancing the use of costs compared to the results achieved in seaweed processing	Balancing the use of costs compared to the results achieved in seaweed marketing
7	Flexibility	Flexibility in the implementation of agreements between the implementation of a Village-Owned Enterprises (BUMDes) and farmers in production	Flexibility in the implementation of agreements between Village-Owned Enterprises (BUMDes) implementers in post-harvest handling	Flexibility in the implementation of agreements between Village-Owned Enterprises (BUMDes) implementers and women's groups in product processing	Flexibility in the implementation of agreements between Village-Owned Enterprises (BUMDes) implementers in product marketing

No.	Institutional Agribusiness Principle Institutional	Institutional Production	Postharvest Institutions	Institutional Processing	Institutional Marketing
8	Added value/ advantage	There is a value of add or profit obtained by Village-Owned Enterprises (BUMDes) and farmers in production	Added value to post-harvest	Additional value on the processing of products	Added value to marketing
9	Decentralization/ Self-government	Otobom in production	Autonomous in handling	Autonomous in product processing	Autonomous in marketing
10	Sustainability	Continued production efforts	Continuing post-harvest efforts	Continuing product processing business	Continued in expanding marketing

Source: Processed from various sources, 2022

The two tables illustrate the design of efforts in developing Village-Owned Enterprises (BUMDes) to increase added value, marketing, and income for seaweed farming businesses. There are two steps to be taken in developing Village-Owned Enterprises (BUMDes), namely: (1) Strengthening the institutional system, and (2) Strengthening

institutional principles. These two steps in the development of Village-Owned Enterprises (BUMDes) are carried out to develop seaweed agribusiness institutions, namely production institutions, postharvest institutions, processing institutions, and marketing institutions. The activity is described as follows:

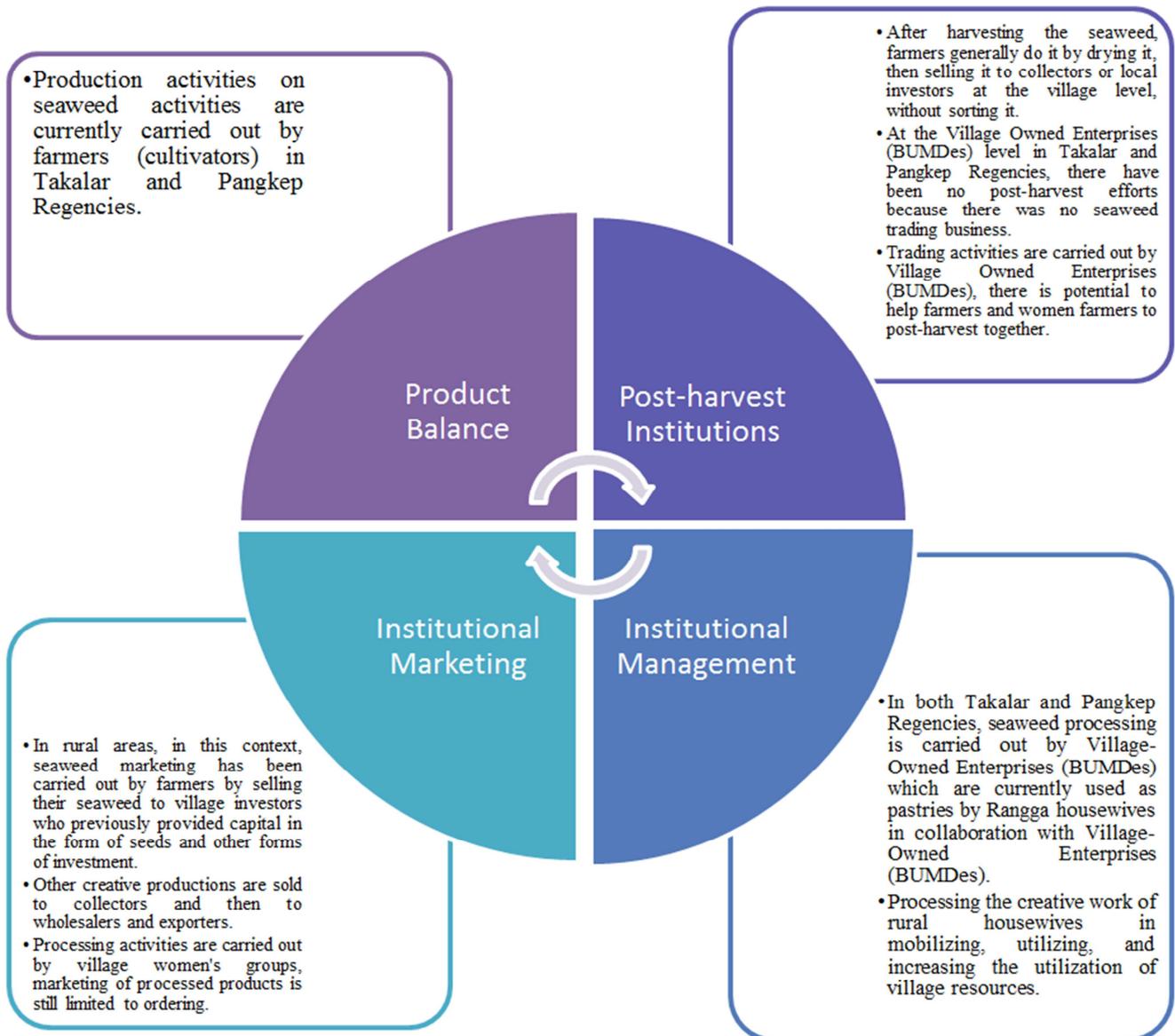


Figure 3. The Role and Potential of Village-Owned Enterprises (BUMDes) in Takalar and Pangkep Regencies. Source: Processed from various sources, 2022.

In figure 3 shows the challenge for farmers and women farmers in marketing post-harvest seaweed products in Takalar and Pangkep Regencies is assisted by Village Owned Enterprises (BUMDes) although so far this has not been maximized due to ineffective institutional management. The institutional principle that needs to be applied in improving marketing is to develop dock cooperation with exporters for cooperation in the field of marketing, while still paying attention to business continuity for a certain scale because after all seaweed farmers will not be able to market their products unless there are parties who pay attention such as the existence of Village Owned Enterprises (BUMDes) [3, 7, 11].

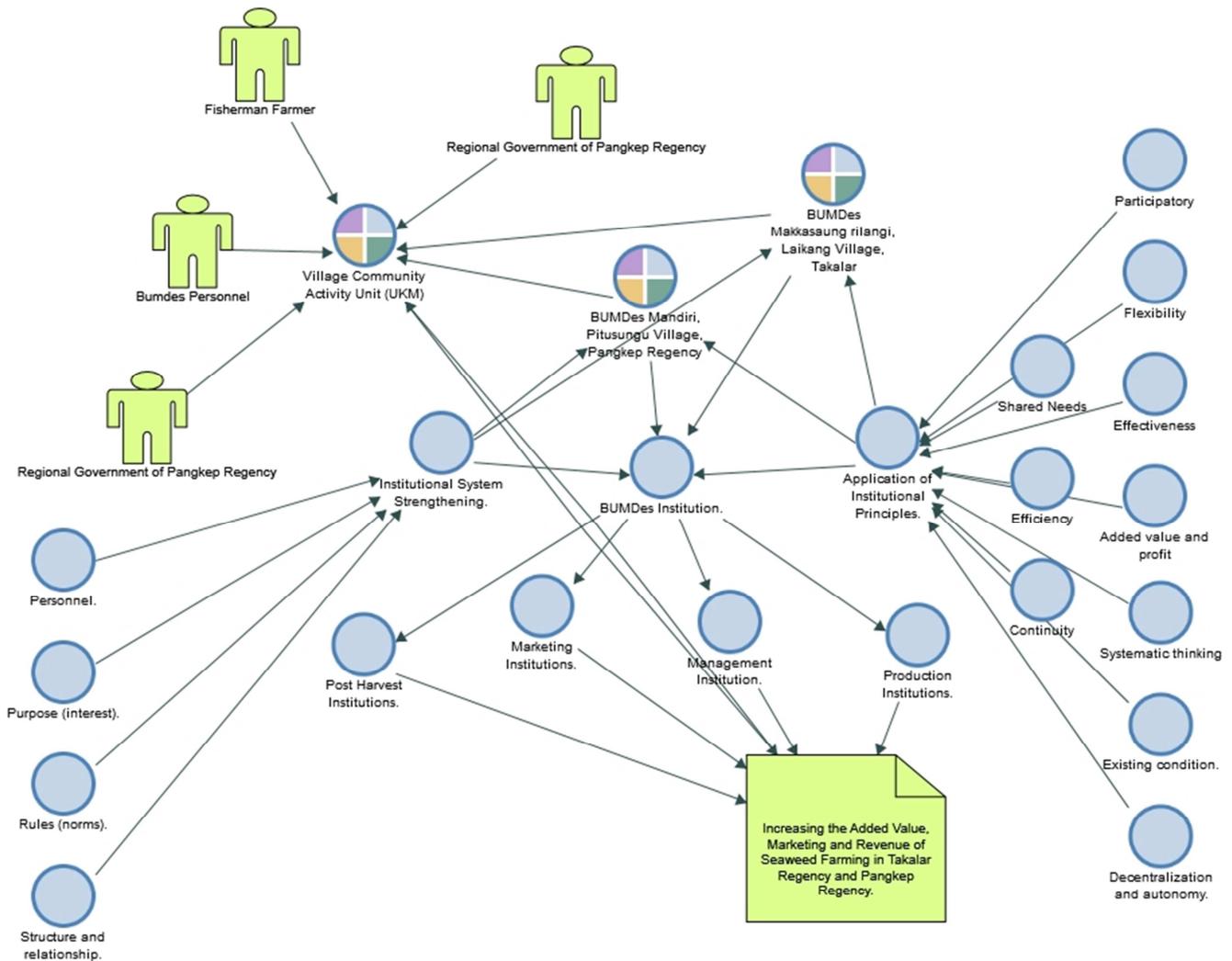
As stated above, the establishment of Village-Owned Enterprises (BUMDes) is because it has been mandated that in increasing community and village income, the village government can establish village-owned enterprises. This BUMDes pillar institution is a village socio-economic institution that is truly capable as a commercial institution capable of developing outside the village. BUMDes as a people's economic institution, a commercial institution, first take the side of meeting the needs (productive and consumptive) of the community through distribution services for the provision of goods and services. This is manifested in the provision of community needs that are not burdensome (such as cheaper prices and easy to obtain) and profitable. In this case, BUMDes as a commercial institution still pays attention to efficiency and effectiveness in the activities of the real sector and financial institutions [18]. So the reason for the establishment of village-owned enterprises (BUMDes) in Pangkep and Takalar Regencies, aims to condition and formulate an institutional development model for Village-Owned Enterprises (BUMDes) as a local capacity to increase added value, marketing, and seaweed production in rural areas from Takalar Regency and Pangkep Regency, Indonesia. Based on the results of the identification and analysis of previous research related to the institutional performance of Village-Owned Enterprises (BUMDes) and seaweed cultivation to encourage the welfare of rural communities [3, 7, 11].

## 5. Discussions

In the two areas observed, there are around 62 Village-Owned Enterprises (BUMDes) in Takalar Regency spread over eight sub-districts, and 55 Village-Owned Enterprises (BUMDes) in Pangkep Regency spread over 12 sub-districts, Indonesia [8, 11]. Generally, Village Owned Enterprises (BUMDes) are declared to be actively operating as rural business groups (units) but are still not well institutionalized. The dominant village-owned enterprise (BUMDes) business is still around the small-scale savings and loan business. Observations in two Village Owned Enterprises (BUMDes) in seaweed production centers, namely in Laikang, Takalar Regency, and Pitusunggu, Pangkep Regency, the management of Village Owned Enterprises (BUMDes) has not had much contact with seaweed agribusiness activities.

Seaweed related business units in Village-Owned Enterprises (BUMDes), especially in Pangkep in the form of processed food products (cakes) whose marketing is still limited so that the added value and income are also still low. Other businesses, such as trading seaweed products on a larger scale, cannot be developed because in general seaweed farmers/cultivators use the capital of village middlemen (capital owners), so that their products must be sold back to the owners of capital so that Village-Owned Enterprises (BUMDes) has not been able to make farmers as business partners more broadly. The adequacy of capital in the business of Village Owned Enterprises (BUMDes) to develop businesses is still limited. So that the skills of Village-Owned Enterprises (BUMDes) members in managing businesses, marketing reach are still lacking, have not been explored and efforts to establish partnerships with other parties are also lacking in order to increase the activities of Village-Owned Enterprises (BUMDes). Furthermore, an attractive village institutional development model is the extent to which various inputs in the form of identification of potential, needs and some training provided to Village Owned Enterprises (BUMDes) personnel and partnering with farmers encourage performance changes both in the development of Village Owned Enterprises (BUMDes) and in rural areas. production, postharvest and processing institutions and marketing of seaweed products starting from farmers and business groups in the village [3, 7, 11].

Figure 4 shows a circular scheme model that describes a situation that is considered ideal for improving the performance of Village-Owned Enterprises (BUMDes) institutional development in seaweed production center areas in Takalar and Pangkep Regencies, Indonesia. This model can run well with the assumptions: (1) There is a common vision between the government, especially the village government, with the personnel entrusted as administrators and managers of Village-Owned Enterprises (BUMDes) (2) Adequate funds and facilities are available to transform the current institution. this becomes a more ideal Village-Owned Enterprise (BUMDes) (3) the willingness of all parties to advance the village economy in the long term. The figure also shows efforts to improve the institutional system of Village-Owned Enterprises (BUMDes) where Village-Owned Enterprises (BUMDes) organize/reinforce the internal institutional system in the form of personnel, objectives, rules, and relationships combined with improvements to management principles as related components of existing conditions that occur in society, the principle of shared needs in resource management, system thinking by applying the local wisdom of Sipakatau and Sipakalebbie to foster togetherness, participative principles by taking part consciously in various activities, considering the principle of effectiveness in achieving goals, the principle of efficiency in the meaning of using lower costs by expecting better results, the implementation is carried out with the principle of flexibility [31-33].



**Figure 4.** Village-Owned Enterprises (BUMDes) Institutional Development Model to Increase Added Value, Marketing, and Revenue of Seaweed Farming Business (Source: Processed from Nvivo 12 Pro, 2022).

Village-Owned Enterprises (BUMDes) in the seaweed production center areas in Takalar and Pangkep Regencies are taking steps to formulate a model for institutional development of Village-Owned Enterprises (BUMDes) to increase local capacity in encouraging seaweed production that leads to the welfare of coastal village communities, in Takalar and Pangkep Regencies, Indonesia: (1) Re-identifying the potential and business opportunities in the village with regard to natural and human resources and business opportunities to be developed in the long term (2) Training on strengthening institutional systems related to personnel, vision and mission and objectives of Village-Owned Enterprises (BUMDes); norms, rules and SOPs relating to organizational management and resource management; and improving the structure and governance of relations between personnel both internally Village-Owned Enterprises (BUMDes) and with all Village-Owned Enterprises (BUMDes) partners (3) Training on the application of institutional principles that are instigated in the suitability of Village-Owned Enterprises (BUMDes) activities with the conditions of action that occur in the

community, the suitability of activity planning with mutually felt needs, thinking system as a form of relationship between each personnel, the form of participation of each personnel in the form of active participation there is every activity, effectiveness and efficiency in achieving results, flexibility in managing business and in managing organizations, added value and profits as a result of efforts, management of each unit in a decentralized or autonomous manner. pay attention to the principle of sustainability. (4) Village-Owned Enterprises (BUMDes) in production institutions through savings and loans units provide loans to seaweed farmers in the form of additional business capital in the form of stretch ropes and subsequently the production results become part of the Village-Owned Enterprises (BUMDes) production business without disturbing capital as a form of relationship between farmers and village financiers. (5) Postharvest activities manage joint production between seaweed farmers and Village-Owned Enterprises (BUMDes) with joint postharvest handling (drying, sorting, and grading) before being sold to exporters. (6) Activities to process seaweed products into various types of products by combining them

with other products according to the potential of the village by involving the existence of small businesses managed by housewives, henceforth Village-Owned Enterprises (BUMDes) develop packaging and marketing improvements. (7) Marketing, namely developing product marketing activities produced by production units, postharvest and processing not only convenient but also more modern marketing using internet services (online).

We can say that compared to those used by Village-Owned Enterprises (BUMDes) in Makkasaung Rillangi Village, Takalar Regency, Indonesia, there are many techniques in the institutional administration of Village-Owned Enterprises (BUMDes) in Pitusunggu Village, Pangkep Regency that are significantly more uniform. The effectiveness of village institutional governance and the use of available resources in the two districts all point to this. It aims to increase the production of seaweed farmers as a superior product that can be sold to coastal communities by encouraging economic growth through village institutional approaches like Independent Village Owned Enterprises (BUMDes) in Pitusunggu Village, Pangkep Regency, and Makkasaung Rillangi Village, Takalar Regency. Enhancing system elements and village institutional norms can boost institutional productivity in seaweed agribusiness activities and raise the revenue of coastal communities (production, post-harvest, processing, and marketing). This has been shown to have consequences for boosting local seaweed production capabilities in coastal communities, which can boost the local economy of coastal rural communities.

## 6. Conclusion

We conclude local capacity building by strengthening the rural economic-institutional model/strategy through the development of Village-Owned Enterprises (BUMDes) in two Takalar and Pangkep Regencies in Indonesia, by strengthening the components of the Village-Owned Enterprises (BUMDes) system itself and building institutional principles to increase the role in institutional activities of agribusiness seaweed cultivation in coastal villages in Takalar Regency and Pangkep Regency, Indonesia. The implementation of the institutional development model is carried out through training, post-harvest management, and joint processing, in collaboration with Village-Owned Enterprises (BUMDes) with SOEs that have CSR with the aim of providing capital assistance to Village-Owned Enterprises (BUMDes). Village-Owned Enterprises (BUMDes) and seaweed farmers in Takalar Regency and Pangkep Regency, are encouraged to collaborate with exporters to market production products for the overall development of business sustainability in the village. However, village-owned enterprises (BUMDes) are still advised to continue strengthening their institutions by gathering potential resources and funds in the future. As an institution that is still developing, Village Owned Enterprises (BUMDes) are urged to utilize the potential of existing social capital by maintaining good relations with all existing

stakeholders and continuing to collaborate with farmers, fishermen, farmers, women's groups, and other creative groups and SMEs in the village and seek to develop ideas that enable other small businesses to develop in advancing the village economy. This study also has limitations, namely the lack of funds in managing village institutions to increase seaweed production, besides that the support of local government policies has not had a significant impact in improving the management of BUMDes to increase output in encouraging the welfare of rural communities in Takalar Regency and Pangkep Regency, Indonesia.

## References

- [1] Adam, F., & Rončević, B. (2003). Social capital: Recent Uphoff, N., & Buck, L. (2006). Strengthening Rural Local Institutional Capacities for Sustainable Livelihoods and Equitable Development (No. 8194). The World Bank Group.
- [2] Amirasiani, F. (2021). Tackling Rural Health, Energy, and Technological Issues All at Once: A Call for a Global Interdisciplinary Platform for Strengthening Rural Setting Amid the COVID-19 Pandemic. *Challenges*, 12 (2), 16. <https://doi.org/10.3390/challe12020016>
- [3] BPS Sulawesi Selatan. (2017). Kabupaten Takalar dalam Angka, Kantor Statistik Kabupaten Takalar. BPS Sulawesi Selatan.
- [4] Bebbington, A., Dharmawan, L., Fahmi, E., & Guggenheim, S. (2006). Local capacity, village governance, and the political economy of rural development in Indonesia. *World Development*, 34 (11), 1958-1976. <https://doi.org/10.1016/j.worlddev.2005.11.025>
- [5] Dakhli, M., & De Clercq, D. (2004). Human capital, social capital, and innovation: a multi-country study. *Entrepreneurship & regional development*, 16 (2), 107-128. <https://doi.org/10.1080/08985620410001677835>
- [6] Adam, F., & Rončević, B. (2003). Social capital: Recent debates and research trends. *Social science information*, 42 (2), 155-183. <https://doi.org/10.1177/05390184030420020>
- [7] BPS Sulawesi Selatan. (2014). Sulawesi Selatan dalam Angka, Biro Pusat Statistik Kantor Sulawesi Selatan.
- [8] Ditjen Perikanan Budidaya, (2005) Profil Rumput Laut Indonesia. Departemen Kelautan dan Perikanan, Jakarta.
- [9] Rebours, C., Marinho-Soriano, E., Zertuche-González, J. A., Hayashi, L., Vásquez, J. A., Kradolfer, P., & Robledo, D. (2014). Seaweeds: an opportunity for wealth and sustainable livelihood for coastal communities. *Journal of applied phycology*, 26 (5), 1939-1951. <https://doi.org/10.1007/s10811-014-0304-8>
- [10] Larson, S., Stoeckl, N., Fachry, M. E., Mustafa, M. D., Lapong, I., Purnomo, A. H., and Paul, N. A. (2021). Women's well-being and household benefits from seaweed farming in Indonesia. *Aquaculture* 530: 735711. <https://doi.org/10.1016/j.aquaculture.2020.735711>
- [11] BPS Sulawesi Selatan. (2018). Kabupaten Pangkajene Kepulauan dalam Angka, Kantor Statistik Kabupaten Pangkep. BPS Sulawesi Selatan.

- [12] Rimmer, M. A., Larson, S., Lapong, I., Purnomo, A. H., Pong-Masak, P. R., Swanepoel, L., and Paul, N. A. 2021. Seaweed aquaculture in Indonesia contributes to social and economic aspects of livelihoods and community wellbeing. *Sustainability* 13 (19): 10946. <https://doi.org/10.3390/su131910946>
- [13] Saleh, S. 2021a. Analysis of Village-Owned Enterprises (BUMDes) System Development and Institutional Principles in the Framework of Seaweed Agribusiness System Development. In *The 1st International Conference on Research in Social Sciences and Humanities (ICoRSH 2020)* (pp. 1091-1096). Atlantis Press.
- [14] Saleh, S. 2018. Stimulation of Changes, Collective Commitment and the Patterns of Group Formation in Community Development in South Sulawesi. In *IOP Conference Series: Earth and Environmental Science* (Vol. 156, No. 1, p. 012015). IOP Publishing.
- [15] Saleh, S. 2021b. Village-Owned Enterprises (BUMDes) institution and its capacity to increase efforts, added value and marketing of seaweed production. In *IOP Conference Series: Earth and Environmental Science* (Vol. 681, No. 1, p. 012009). IOP Publishing. <https://doi.org/10.1088/1755-1315/681/1/012009>
- [16] Sulistyaningsih, T., Kamil, M., Kulsum, U., Purnomo, E. P., Salahudin, S., and Roziqin, A. (2022). The Ontology of Government Studies Development: A Systematic Review. *Otoritas: Jurnal Ilmu Pemerintahan* 12 (1): 52-66. <https://doi.org/10.26618/ojip.v12i1.6199>
- [17] Dayaram, K., Lambey, L., Burgess, J., and Afrianty, T. W. (Eds.). 2020. *Developing the Workforce in an Emerging Economy: The Case of Indonesia*. Routledge.
- [18] Ramadana, C. B. (2013). Keberadaan Badan Usaha Milik Desa (BUMDES) sebagai Penguatan Ekonomi Desa. *Jurnal Administrasi Publik*, 1 (6). <http://administrasipublik.studentjournal.ub.ac.id/index.php/jap/article/view/189>
- [19] Ng, C. K. C., & Ong, R. C. (2022). A review of anthropogenic interaction and impact characteristics of the Sundaic mangroves in Southeast Asia. *Estuarine, Coastal and Shelf Science*, 107759. <https://doi.org/10.1016/j.ecss.2022.107759>
- [20] Hossain, M. S., Sharifuzzaman, S. M., Nobi, M. N., Chowdhury, M. S. N., Sarker, S., Alamgir, M.,... & Chowdhury, S. (2021). Seaweeds farming for sustainable development goals and blue economy in Bangladesh. *Marine Policy*, 128, 104469. <https://doi.org/10.1016/j.marpol.2021.104469>
- [21] Wang, S., Zhao, S., Zuojinwa, B. B., Zheng, A., Wang, Q., Huang, J., & Abomohra, A. E. F. (2020). A state-of-the-art review on dual purpose seaweeds utilization for wastewater treatment and crude bio-oil production. *Energy Conversion and Management*, 222, 113253. <https://doi.org/10.1016/j.enconman.2020.113253>
- [22] Marquez, G. P. B., Santiañez, W. J. E., Trono Jr, G. C., Montañó, M. N. E., Araki, H., Takeuchi, H., & Hasegawa, T. (2014). Seaweed biomass of the Philippines: sustainable feedstock for biogas production. *Renewable and Sustainable Energy Reviews*, 38, 1056-1068. <https://doi.org/10.1016/j.rser.2014.07.056>
- [23] Ktari, L., Chebil Ajjabi, L., De Clerck, O., Gómez Pinchetti, J. L., & Rebours, C. (2022). Seaweeds as a promising resource for blue economy development in Tunisia: current state, opportunities, and challenges. *Journal of Applied Phycology*, 34 (1), 489-505. <https://doi.org/10.1007/s10811-021-02579-w>
- [24] Harb, T. B., & Chow, F. (2022). An overview of beach-cast seaweeds: Potential and opportunities for the valorization of underused waste biomass. *Algal Research*, 62, 102643. <https://doi.org/10.1016/j.algal.2022.102643>
- [25] Mantri, V. A., Eswaran, K., Shanmugam, M., Ganesan, M., Veeragurunathan, V., Thirupathi, S.,... & Seth, A. (2017). An appraisal on commercial farming of *Kappaphycus alvarezii* in India: success in diversification of livelihood and prospects. *Journal of Applied Phycology*, 29 (1), 335-357. <https://doi.org/10.1007/s10811-016-0948-7>
- [26] Barbier, E. B., Hacker, S. D., Kennedy, C., Koch, E. W., Stier, A. C., & Silliman, B. R. (2011). The value of estuarine and coastal ecosystem services. *Ecological monographs*, 81 (2), 169-193. <https://doi.org/10.1890/10-1510.1>
- [27] Mirera, D. O., Kimathi, A., Ngarari, M. M., Magondi, E. W., Wainaina, M., & Ototo, A. (2020). Societal and environmental impacts of seaweed farming in relation to rural development: The case of Kibuyuni village, south coast, Kenya. *Ocean & coastal management*, 194, 105253. <https://doi.org/10.1016/j.ocecoaman.2020.105253>
- [28] Woolf, N. H., & Silver, C. (2017). *Qualitative analysis using NVivo: The five-level QDA® method*. Routledge.
- [29] Viganò, E., Maccaroni, M., and Righi, S. (2022). Finding the right price: supply chain contracts as a tool to guarantee sustainable economic viability of organic farms. *International Food and Agribusiness Management Review* 25 (1030-2022-629): 411-426. <https://doi.org/10.22004/ag.econ.320735>
- [30] Dewi, D. S. K., Harsono, J., Desriyanti, D., Yulianti, D. B., and Azhar, I. Y. (2022). The Development of Website-based Ngebel Tourism from an E-Government Perspective. *Otoritas: Jurnal Ilmu Pemerintahan* 12 (1): 30-40. <https://doi.org/10.26618/ojip.v12i1.6127>
- [31] Troell, M., Robertson-Andersson, D., Anderson, R. J., Bolton, J. J., Maneveldt, G., Halling, C., and Probyn, T. 2006. Abalone farming in South Africa: an overview with perspectives on kelp resources, abalone feed, potential for on-farm seaweed production and socio-economic importance. *Aquaculture* 257 (1-4): 266-281. <https://doi.org/10.1016/j.aquaculture.2006.02.066>
- [32] Karani, P., & Failler, P. (2020). Comparative coastal and marine tourism, climate change, and the blue economy in African Large Marine Ecosystems. *Environmental Development*, 36, 100572. <https://doi.org/10.1016/j.envdev.2020.100572>
- [33] Saleh, S. L. H., and Nasir, M. 2019. Kondisi Dan Kapasitas Kelembagaan Village-Owned Enterprises (BUMDes) Dalam Upaya Peningkatan Nilai Tambah Dan Pemasaran Produk Rumput Laut. *Buku Prosiding*, 35. Available at: <https://sosek.ub.ac.id/doc/2019/Semnas%202019/PROSIDIN-G-SEMNAS-PEMBANGUNAN-IV-2019.pdf#page=42>