Strengthening the Global Maritime Fulcrum Concept Through the Inclusion of the Bioecoregion Connectivity Aspect (A Case Study of the South Coast of West Java, Indonesia)

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Abstract: - Bioecoregion connectivity attributes a high economic value to a landscape that may be observed at different regions and enables the transformation of natural resources. The concept of global maritime fulcrum should be improved because it is important to utilize the potential of coastal resources in the shipping industry, fisheries, marine tourism and marine transportation. This study intends to formulate the applications of concepts, including the bioecoregion connectivity aspect, while designing a global maritime fulcrum based on a case study that is conducted on the south coast of West Java from January to April 2017. A quantitative approach was applied using the primary and secondary data obtained by surveying the purposively selected respondents. The obtained data were tested for their validity and reliability and were analyzed using structured equation modelling. The connectivity aspects that should be considered included fisheries, marine tourism potential and the local knowledge of coastal communities. The high value, validity and reliability of the aforementioned aspects will influence the global maritime fulcrum connectivity. In the south coast of West Java, given the existing bioecoregion condition, the implementation of the global maritime fulcrum concept should be strengthened based on the following measures: (1) improvement in public knowledge related to the potential of connectivity fishery and other resources; (2) development of better marine institutional communities; (3) infrastructural development in fisheries and marine tourism and (4) establishing market-driven marine products.

Key-Words: bioecoregion, maritime fulcrum, connectivity, structural equation modeling

1 Introduction

One of the highlights of Nawacita is maritime security, which is considered to be one of the five pillars of the world's maritime axis. The term 'maritime axis' has become popular and has attracted the attention of several researchers. The global maritime fulcrum concept was officially presented to an international audience during the Ninth East Asia Summit in Naypidaw, Myanmar on 13 November 2014 by the President of Indonesia. At the summit, President Widodo listed the five pillars that form the foundations of the global maritime fulcrum concept as follows: i) rebuilding the maritime culture of Indonesia; ii) improving the management of maritime resources in Indonesia; iii) developing the maritime infrastructure and connectivity in Indonesia; iv) intensifying the maritime diplomacy of Indonesia and v) strengthening the maritime defence force of Indonesia (Oegroseno, 2015).

The first pillar is considered to be a strong popular mandate. The second and third pillars foster economic growth, whereas the fourth and fifth pillars focus on securing the borders and resources of Indonesia against both domestic and foreign intruders. Such priorities are considerably sensible, and both the areas require strong government action (Sean Quirk, 2014).

As a maritime country, the strategic geographic and geostrategic conditions of Indonesia are influenced by the Indian and Pacific Oceans as well as the continents of Asia and Australia. Indonesia is important for the world community in regards to harvesting marine resources and keeping the sustainability/security of the resources. Indonesian people should use the opportunities and challenges that are associated with marine resources to improve their welfare. However, if the people cannot anticipate and manage the constraints associated with these resources, vulnerabilities will arise, thereby affecting their security.

By considering the promise of the global maritime fulcrum concept and that Indonesia occupies an important geostrategic space when the world witnesses a shift to the 'Pacific Century', thereby exhibiting increasing economic and political importance, the foreign policy accomplishments of Jokowi's administration have been underwhelming (Rizal, 2014).

The global maritime fulcrum concept considers the coastal zones and areas. The coastal zone is a transitional area between the terrestrial and marine ecosystems that are affected by the variations in both land and sea (UU No 1, 2014). Further, the coastal areas, which comprise landscapes within the stretch of ecological unity defined by natural boundaries, including watersheds, bays and current, cannot be separated from the bioecoregion aspect.

The bioecoregion aspect requires special attention to be devoted to the development of coastal areas and the southern coastal areas of West Java. Further, the southern coastal areas exhibit a large resource potential in the field of marine fishery production and geographical conditions in some areas in the southern coast such as the mountains, cliffs, caves and beaches. These geographical conditions are a source of attraction for investors to invest their capital for developing the marine tourism sector as well as the value-added fishery and marine products to realise the global maritime fulcrum concept.

Indonesia has several prerequisites for obtaining maritime power, as defined by maritime strategy experts such as Alfred Thayer Mahan and Geoffrey Till. However, Indonesia has not yet become a maritime country and is only identified as an archipelago based on the 1982 United Nations Convention on the Law of the Sea (UNCLOS) Convention conducted on November 16, 1994 (Simela Victor Muhammad, 2014). An archipelagic state is geographically based and is used to denote a country exhibiting a distinct configured territorial angle that can be referred to as islands. Despite being a maritime country, its greatness and glory (considering the political, economic, social, cultural, defence, security and legal aspects) are evaluated based on the quality of maritime forces. Thus, Indonesia is an archipelago; however, it has not yet qualified as a maritime country (Dimyati Hartono, 2014).

A maritime expert argues that the status of a maritime country is not the same as that of an archipelagic country. A maritime country is one that is capable of utilising the sea backuped by maritime forces. Although a maritime country may not have significant access to sea, it possesses maritime forces, the technology, science and equipment that are required to manage and utilise the sea, its space, natural wealth and strategic location. Several island countries or island states have not yet become maritime countries because they have not been able to properly utilise the sea that they are able to access. In contrast, several countries do not have considerable access to sea; however, they are still able to use the sea to their advantage.

Alfred Thayer Mahan (1989) formulated six characteristics, such as the geographical position, physical conformation, extent of the territory, population, national character and character of government, which represent the potential of a country to to properly utilize the marine resources. Based on the above-mentioned description, sea power is not only limited to naval power but also includes all the components of national maritime power. This description exhibits a broad meaning related to the control of trade and international economy as well as the control of marine resources.

Further, the three important issues related to the concept are (i) the importance of developing the maritime identity of Indonesia, (ii) the importance of Indonesia's regional engagement and (iii) the applicability of the building blocks of the global maritime fulcrum concept as a long-term national maritime policy (Oegroseno, 2015).

The policy for transforming the Indonesian maritime space contains three strategies. The first strategy deals with strengthening of the internal resilience; one of its aspects is to stop illegal fishing. The second strategy intends to upgrade the capabilities of the navy and the air force. The third strategy intends to construct 24 deep seaports across the entire archipelago and to improve other support facilities in the maritime sector (B.A. Hamzah, 2014).

To implement these strategies, the Indonesia Govermnent needs to formulate a pragmatic foreign policy. As the Government strengthens the domestic credentials, the proverbial diplomatic bridges should not be burn. However, seizing the fishing vessels of foreign fishermen engaging in illegal fishing is Government's methodology to convey to the Indonesians that the Government is no pushover when it comes to defending the sovereignty of the country and the national resources (B.A. Hamzah, 2015).

The theory of Xu Qi, a maritime expert from China, indicates three stages during the development of maritime forces. The first stage is the state's awareness of the factual circumstances and threats within and outside the country. The second stage includes the recognition of the first condition to conceptualise a geostrategy, whereas the third stage is the implementation of the concept that has been formed. Being aware of this situation is a step to conceptualise a geostrategy. The impetus of this geostrategy has appeared long time ago when Indonesia succeeded in formulating the Djuanda Declaration of 1957.

The success of the Djuanda Declaration is that it has achieved juridical foundation and that it remains relevant at present (Lillyana Mulya, 2013). A further refinement of those aforementioned strategies should be done. In this respect the inclusion of bioecoregion aspecst in strengthening the Global Maritime Fulcrum is one among other refinement that could be done to develop the maritime forces. The following method describes how different aspects are analysed and shows which one has the most significant impact on the strenghtening the development of the GMF.

2 Problem Formulation

The surveying method is used in this research. According to Nazir (2003), the survey method is a critical observation or investigation that provides a good explanation to a particular problem that is observed within a particular area or location. In the present research conducted on the south coast of West Java, sampling is performed using a purposive method with a maximum of 300 respondents.

model that is commonly used in human behavioural research. SEM can be classified as factor analysis and regression or path analysis. The theoretical concepts that are observed using latent variables (not directly observable) are important in SEM. Further, the relation between latent factors is indicated by the regression coefficient or SEM path (Hox and Bechger, 1998).

The sub-latent variables of the exogenous economics of fishery and marine resources (X1) that use the exogenous manifest variable as an indicator include the productivity and production of aquaculture and captured fishery (X11), offshore oil utilisation and sea floor minerals as an energy source (X12), marine transport and maritime industry (X13), export opportunities of fishery products (X14), participation of fishermen in development (X15) and marine tourism (X16).

The exogenous sub-latent variable maritime facilities and infrastructure (X2) obtained using the exogenous manifest variable as an indicator include the number of ship fleet (X21), environment-friendly fishing gear (X22), port (X23) and communication system (X24).

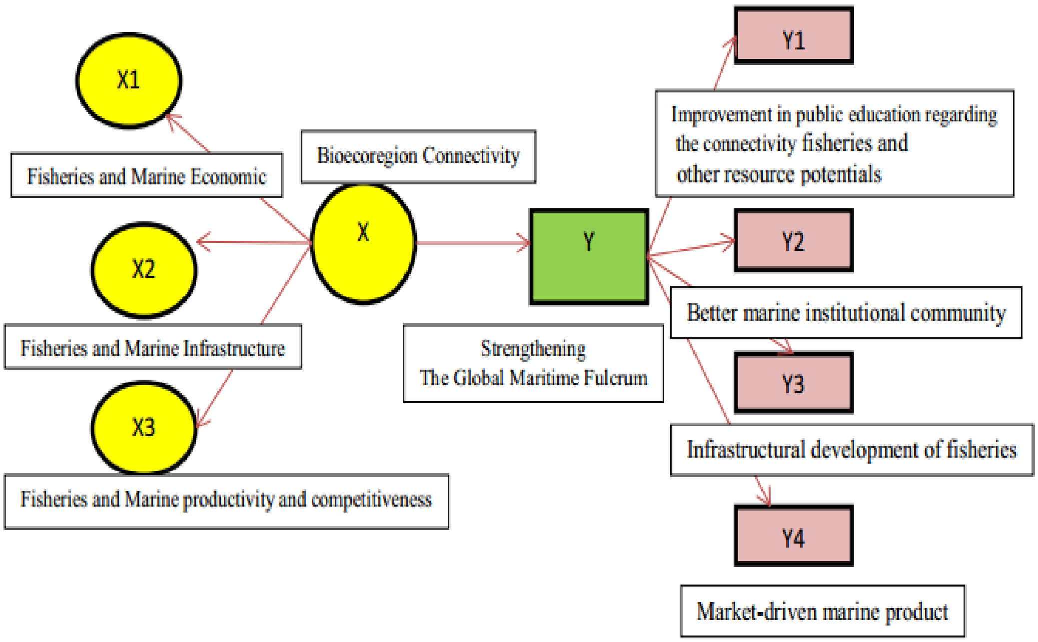

Fig 1
Framework of Bioecoregion Connectivity Through Strengthening The Global Maritime Fulcrum

Structural equation modelling (SEM) is a tool for analysing the multivariate data. SEM is a statistical

SEM is a multivariate analysis point that can be used to verify the relation among complex variables and to obtain a comprehensive picture of the overall model (Ghozali and Fuad, 2005). Unlike ordinary regression models, SEM incorporates multiple independent and dependent variables as well as hypothetical latent construction that may represent clusters of observed variables. SEM is also applied to test a specific set of relations among the observed and latent variables as a whole and to validate theories even when it is impossible to conduct experiments. Therefore, the SEM methods have become ubiquitous in all social and behavioural sciences (MacCallum & Austin, 2000).

Strengthening the global maritime fulcrum (Y) is an endogenous latent variable that cannot be directly observed. The variable include the following sub-varibles: the improvement in public education with regard to the connectivity of fisheries and other resource potentials (Y1), better marine institutional community (Y2), infrastructural development of fisheries and marine tourism (Y3) and market-driven marine product (Y4). Further, the endogenous variables of the latent observation and exogenous variables can be constructed as follows:

$$X_{ij} = \lambda_j X_i + \gamma_j$$

where i = 1; j = 1, 2, 3; i = 2; j = 1, 2, 3; i = 3; j = 1, 2, 3

λ : loading component

γ : measurement error

X_1 :latent exogenous variables (production behavior)

X_2 : latent exogenous variables (consumption behavior)

X_3 :latent exogenous variables (production behavior)

$$Y_{ij} = \lambda_j Y_i + \gamma_j$$

λ : loading component

γ : measurement error

Y_1 :endogenous variable for observing an improvement in public education with respect to connectivity fisheries and other resource potentials

Y_2 : endogenous variable for observing a better marine institutional community (Y2)

Y_3 : endogenous variable for observing the infrastructural development of fisheries and marine tourism

Y_4 : endogenous variable for observing a market-driven marine product

Path analysis exhibits several advantages over performing a series of multiple regression analyses because it provides a test of the overall model fit. However, path analysis exhibits several disadvantages; in particular, this method does not consider the reliability of observed variables and treats them as perfect substitutes for the constructs that they represent. Further, a full-blown structural equation model solves this problem by representing each construct as a latent variable (a factor). Alternative viewpoints about various latent variables are reviewed by Bollen (2002). A latent variable explains the relations among various observed variables (indicators) that can be used to measure the construct. This prediction does not have to be perfect; therefore, the reliability of each indicator can be estimated as a measure of the latent construct. The LISREL program (Jöreskog & Sörbom, 1994) considers separate sets of equations for the measurement and structural models.

The two components for model fitting are statistical and practical fits. Statistical fit is analogous to the p-value in ANOVA, and the fit indices are analogous to the measurement of the effect size. The debate related to the relative virtues of statistical significance as compared to that of practical significance prevails in the SEM and ANOVA settings. In the ANOVA setting, the debate is usually conducted over the relative importance of statistically significant findings with the trivial effect size. Further, in the SEM setting, the debate is over the acceptance of models with trivial non-zero residuals and a statistically significant chi square value.

Some fit indices are based on the idea of estimating the ‘proportion of variance’ in the observed data as explained by the model. One of the simplest indices is the goodness of fit index (GFI), which is equal to one minus the ratio of the residual weighted sum of squares (using elements of $S - \Sigma\hat{}$) over the total weighted sum of squares (using elements of S), where the weights are similar to those in the fitness function. This index is directly analogous to $R2$ in ordinary regression. Another index, adjusted GFI (AGFI), is analogous to the adjusted $R2$. The values of GFI and AGFI are observed to be between 0 and 1, and values of less than 0.90 are considered to be unacceptable.

3 Problem Solution

The bioecoregion in the south coast of West Java overruns the coastal areas of Sukabumi, Cianjur, Garut Tasikmalaya and Pangandaran. The area of Sukabumi Regency in the Palabuhanratu beioecoregion varies from land to hilly, and the land slopes lie along the coastline and along the river that flows to the urban areas. Further, the tropical climate conditions in the coastal area of Palabuhanratu Bay are influenced by the west wind season during which the wind blows from the east.

The western wind season is from December to March, whereas the east wind season is between June and September. The air temperature at Palabuhanratu ranges from 180 °C to 360 °C with a rainfall of 1,412–3,660 mm/year and air humidity of 70%–90%. The Palabuhanratu region has a land surface height ranging from 0 to 500 m from the sea level (mdpl), with a land slope between 0% and 70%. The coastal geological resources at the coast of Palabuhanratu Bay are generally observed to be similar to the geological resources at the western and southern coasts of West Java; these resources belong to the C class and include crushed stone, bentonite, krikil, lignite and iron sand. Further, sand deposits are found in ancient river basins and can be used as building materials (Bapeda, Sukabumi, 2015).

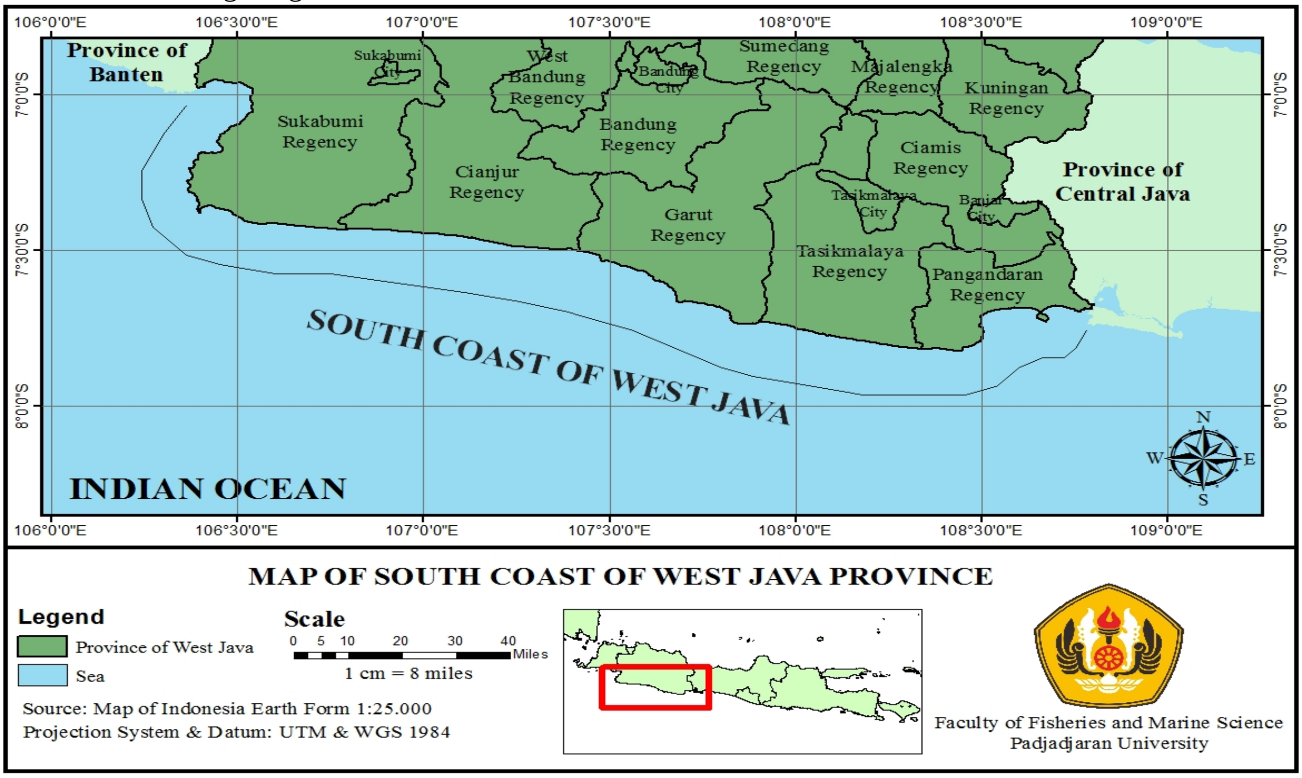

Fig 2
Locations of Research

The bioecoregion condition in the coastal area of Garut Regency is almost similar to that observed in the coastal area of Sukabumi. The climatic condition of the Indian Ocean exhibits all the natural potency and beauty of the coastal Garut Regency, which has a long coastline of approximately 80 km, toward the southern region. Some other potential resources in Garut regency include the wave energy resources of the that can be converted into electrical energy, especially in the bay and estuary areas. The mineral resources include tin ore, iron sand, beach sand, stones, cobalt, manganese, copper and others. Garut Regency also exhibits a huge potential to be developed as a tourist destination with a variety of tourist attractions that have not yet been optimally explored (Dinas Peternakan Perikanan dan Kelautan Garut 2015).

The southern waters of Java are directly connected to the Indian Ocean. The northwest waters of South Java are directly related to the waters of West Sumatra and the Sunda Strait. The southern waters of Java are influenced by the Indian Ocean, the waters of West Sumatra and the mass of water that flows from the Java Sea and this water enters into the southern waters of Java through the Sunda Strait.

Fig. 2 depicts that the south coast is bordered by deep waters in the Indian Ocean, and a coastal condition is situated opposite the shallow waters of the Java Sea, varying between sandy and cliffed. A slope that ranges from 10° to 40° is observed in the coastal area, whereas a slope of more than 40° is observed in the hilly area to the north. Majority of these areas have large wave heights (2–5 m) in offshore waters.

The bioecoregion in this territorial water presents a pattern that can be referred to as the Australian–Asian monsoon wind system. Monsoon wind can be attributed to the differences between air pressures in the continents of Asia and Australia. In December–February, winter occurs in the northern hemisphere, whereas summer occurs in the southern hemisphere; therefore, there is a high pressure centre in Asia and a low pressure centre in Australia, leading to wind blowing from the former to the latter. The wind that is observed in the southern region of the equator can be referred to as the northwest monsoon. The wind that blows during July–August can be referred to as east monsoon. The change in the direction of the monsoon that occurs twice in a year causes changes in the direction of the circulation pattern of the ocean water mass. This change in direction characterises the circulation of water masses in the Indonesian waters (Wyrtki, 1961).

In South Java, the two types of water movement patterns are the Southern Katulistiwa (AKS) or South Equatorial Current (SEC) and the Java Island Flow (APJ). AKS is observed in the area between the south coast of Java and the northwest coast of Australia and generally flows westward. These surface currents spread from northwest Australia, between 10°–20° LS, to the west of the Indian Ocean and reaches Madagascar (Purba 1992). APJ exhibits a warm temperature because it is formed due to the Indian Ocean Equatorial Counter. The equatorial counter current receives heat while moving toward West Sumatra around the equator.

The current meets with AKS in the moonson season; therefore, AKS presses and turns down to the west coast of Sumatra and further heads to the south coast of Java located to the east, similar to APJ (Purba 1992).

Charles (2001) revealed that three systems interacted, resulting in the characteristics of a fishery system. The fishery resource system (natural system), human resource system (human system) and fishery management system (management system) are considered to be the three interacting systems. Hence, the coastal areas also exhibit specific characteristics of their own natural resources combined with the characteristics of human resources and their specific management systems.

The value of each sub-latent latent variable indicator that has been reduced in confirmatory factor analysis (CFA) can be estimated using SEM. SEM is a model of multiple regression equation for testing the measurement and structural models that describe the prediction of the relation between the causal variable and the result variable.

The structural model describes the prediction of the relation. Table 1 presents the overall model matching test obtained using an incremental fit parameter estimated result index of 0.96 with a good fit level, a root mean square error of approximately 0.057 with a good fit and a non-normed fit estimated index of 0.92 with a good fit rating.

The comparative fit index of 0.95 indicates a good fit rating. The goodness of the fit estimated index of 0.92 also indicates a good fit rating. Based on the match test results, the proposed model can estimate the population covariation matrix, which is not different from the sample data covariate matrix. Hence, the estimation results obtained from the sample data can be used as a basis to generalise the investigated phenomenon and the strengthening of the global maritime fulcrum concept through the inclusion of bioecoregion connectivity aspects.

The value of indirect effect of the fishery and marine resource economy (X1) for strengthening the global maritime fulcrum (Y) is as follows. The productivity and production of aquaculture fishery and captured fishery ($X1_1$) indirectly influence the strengthening of the global maritime fulcrum (Y) with a t value of $12.15 \geq$ t table with value of 1.96, denoting a significant level. The productivity and production of aquaculture and captured fisheries in the south coast of West Java fluctuate based on the pattern of sea mass movement in southern Java in August (representing the muson season) and February (representing the west season). The El Nino phenomenon and the La Nina phenomenon are unusual world climate change events as The current meets with AKS in the moonson season; therefore, AKS presses and turns down to the west coast of Sumatra and further heads to the south coast of Java located to the east, similar to APJ (Purba 1992).

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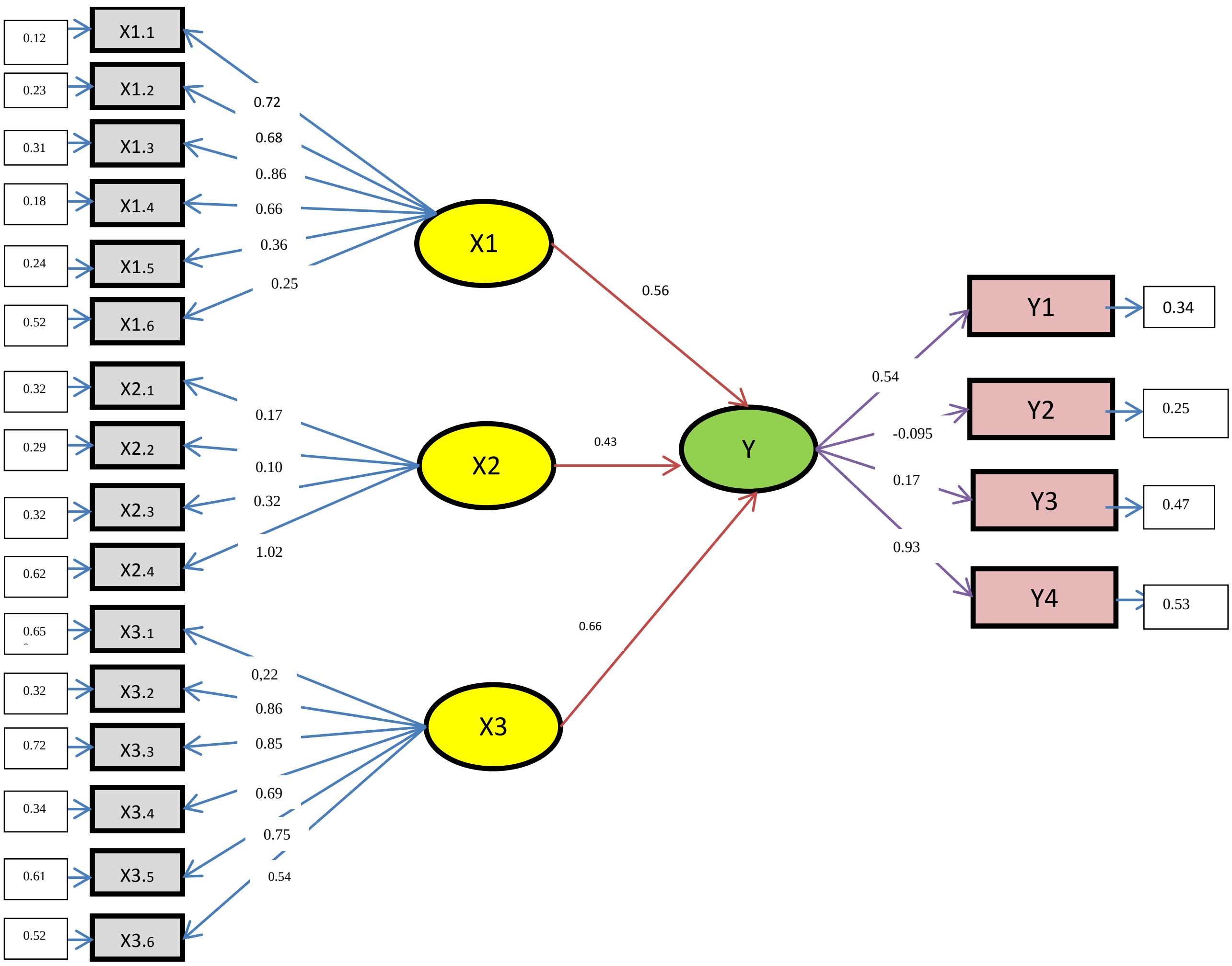

Chi-Square=693.31, df=380, P-value=0.00000, RMSEA=0.061

Fig 3
Estimasi Parameter Overall Meansurement Strengthening The Global Maritime Fulcrum Concept Through The Inclusion of Bioecoregion Connectivity Aspects

Table 1. Goodness of fit for the model

No	Measurement Goodness of fit (GOF)	Target Level of Stability	Results Estimates	Goodness of fit
1	Incremental Fit Index (IFI)	IFI ≥ 0.90	0.96	Good Fit
2	Root Mean Square Error Of Approximation (RMSEA)	RMSEA ≤ 0.08	0.057	Good Fit
3	Non Normed Fit Index (NNFI)	NNFI ≥ 0.90	0.92	Good Fit
4	Comparative Fit Index (CFI)	CFI ≥ 0.90	0.95	Good Fit
5	Goodness of Fit Index (GFI)	GFI ≥ 0.90	0.92	Good Fit

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Table 2 The Indirect Influence Of Sub-variable Exogenous Latent variables (X1) Toward Strengthening The Global Maritime Fulcrum (Y)

No	Indirect Influence Of Exogenous Latent Sub-variable (X1)	Estimate	t_{Value}	R^2	Conclusion
1.	Productivity and production of aquaculture and captured fisheries ($X1_1$)	0.72	12.15	0.75	Significant
2.	Utilisation of offshore oil and marine mineral resources as a source of energy ($X1_2$)	0.68	10.30	0.64	Significant
3.	Marine transport and maritime industry ($X1_3$)	0.86	11.90	0.43	Significant
4.	Opportunities for export of fishery products ($X1_4$)	0.66	8.24	0.53	Significant
5.	Participation of fishermen in development ($X1_5$)	0.36	10.20	0.27	Significant
6.	Marine tourism ($X1_6$)	0.25	5.78	0.61	Significant

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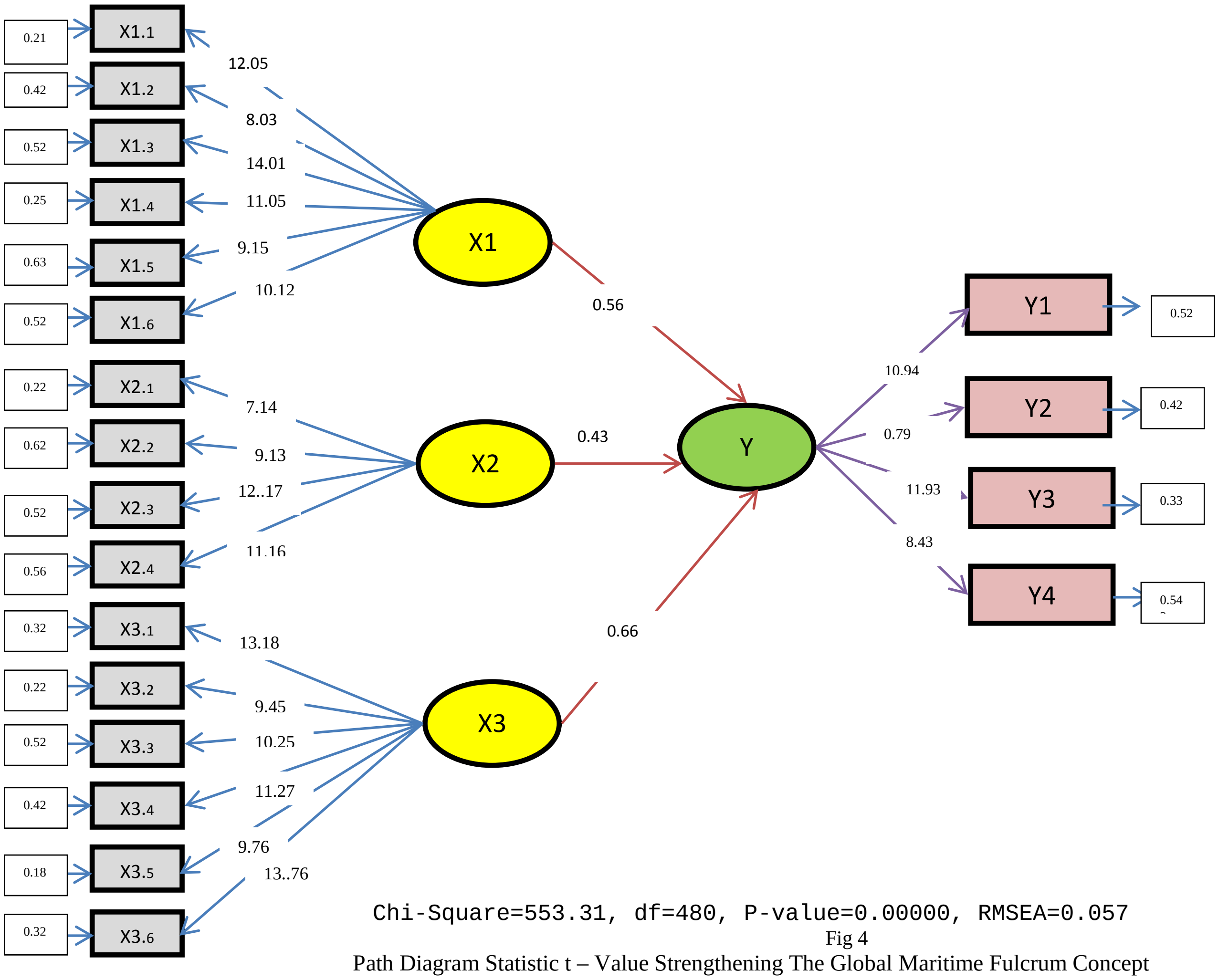
The participation of fishermen in development ($X1_5$) indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 8.24 ≥ t table value of 1.96, thereby exhibiting a significant level. Marine tourism ($X1_6$) also indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 5.78 ≥ t table 1.96, indicating a significant level. Coastal tourism is observed to develop only in the southern coastal areas, with its centre being located in the Pangandaran area. The other tourist areas are located in Palabuhan Ratu Sukabumi, with similar mainstay objects to that being observed at Pangandaran; however, it is still considerably below Pangandaran in terms of tourism facilities and visit levels. Interesting tourism activities, such as surfing, can be observed in the areas of Cimaja and Ujung Genteng–Sukabumi. Some other attractions can be observed in Tasikmalaya, Garut and Cianjur.



Chi-Square=553.31, df=480, P-value=0.00000, RMSEA=0.057

Fig 4
Path Diagram Statistic t – Value Strengthening The Global Maritime Fulcrum Concept Through The Inclusion of Bioecoregion Connectivity Aspects

Table 3 The Indirect Influence Of The Exogenous Latent Sub-variable On The Maritime Facilities And Infrastructure (X2) Toward Strengthening The Global Maritime Fulcrum (Y)

No	Indirect Influence Of Exogenous Latent Sub-variable (X2)	Estimate	t_{Value}	R^2	Conclusion
1.	The number of fishing vessels (($X2_1$)	0,17	4,22	0,028	Significant
2.	An eco-friendly fishing gear ($X2_2$)	0,10	2,82	0,011	Significant
3.	The fishing port of the archipelago ($X2_3$)	0,32	8,47	0,10	Significant
4.	Information and communication systems ($X2_4$)	1,02	20,27	1,05	Significant

Based on the calculation results that are obtained using SEM in Figure 2, Table 3 presents the indirect effect of marketing behaviour on the sustainability level of fishery resource management. The number of fishing vessels ($X2_1$) indirectly affect the strengthening of the global maritime fulcrum (Y) with a t value of 4.22 ≥ t table 1.96, indicating a significant level. An eco-friendly fishing gear ($X2_2$) indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 2.82 ≥ t table 1.96, which indicates a significant level. The fishery ports of the archipelago ($X2_3$) indirectly influence the strengthening of the global maritime fulcrum (Y) with a t value of 8.47 ≥ t table 1.96, indicating a significant level. Furthermore, the information and communication systems ($X2_4$) also indirectly influence the strengthening of the global maritime fulcrum (Y) with a t value of 4.22 ≥ t table 1.96, which indicates a significant level.

Based on the calculation result obtained using SEM in Figure 3, Table 4 shows the direct effect of bioecoregion connectivity on the strengthening of the global maritime fulcrum. The regional defence and security system ($X3_1$) has an indirect influence on the strengthening of the global maritime fulcrum (Y) with a t value of 20.97 ≥ t table 1.96, which indicates a significant level. The marine culture ($X3_2$) also indirectly influences the strengthening of The global maritime fulcrum (Y) with a t value of 12.55 ≥ t table 1.96, which indicates a significant level. The supervision of fishery resource utilisation ($X3_3$) indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 16.40 ≥ t table 1.96, showing a significant level. The local wisdom of the coastal community ($X3_4$) indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 17.67 ≥ t table 1.96, showing a significant level. The development of fisheries and maritime science of technology ($X3_5$) indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 18.44 ≥ t table 1.96, denoting a significant level. The zoning arrangement of coastal management ($X3_6$) also indirectly influences the strengthening of the global maritime fulcrum (Y) with a t value of 14.28 ≥ t table 1.96, showing a significant level.

Further, the overall latent variables are analysed, including the sub-latent variables related to the exogenous economic fishery and marine resources (X1), maritime facilities and infrastructure (X2) and competitiveness and maritime productivity (X3). The exogenous variable bioecoregion connectivity (X) exhibits a significant and direct influence on the endogenous latent variables for strengthening the global maritime fulcrum (Y). The bioecoregion connectivity (X) provides a significant direct effect on the improvement of public education regarding connectivity fisheries and other resource potentials (Y1) of 10.84 where t ≥ t table 1.96. Further, the bioecoregion connectivity (X) also directly results in a better marine institutional community (Y2) with a t value of 7.79, where t ≥ t table 1.96. Additionally, the bioecoregion connectivity (X) directly influences the infrastructural development of fisheries and marine tourism (Y3) with a t value of 11.83, where t arithmetic ≥ t table 1.96. The bioecoregion connectivity (X) directly affects the market-driven marine product (Y4) with a t value of 8.43, where t arithmetic ≥ t table 1.96

4 Conclusion

This case study concludes that the bioecological conditions should be improved to strengthen the maritime fulcrum concept. The following actions should be conducted: connectivity should be optimized by developing a better infrastructure; people’s understanding of the implication of bioecoregional setting should be improved by improving the quality of education and the weight of development focus should be distributed in accordance with the bioecoregional and connectivity conditions.

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