



Social Capital Development Model in the Coastal Ecosystem Conservation Strategy of Sibolga City and Central Tapanuli Regency, North Sumatra Province

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ABSTRACT: Deep Ecology has already spread around of scholars as mainstream perspective and ethic in environment conservation system. Indeed, it is required as the specific strategy for the implementation coastal ecosystem conservation approach. This research is aim to found some social capital aspect in coastal community i.e social trust degrees, collective consciences, social values and norms, networking of social institution that need for coastal ecosystem conservation strategy. Based on this research, some aspects of Tapanuli coastal ecosystem should be conducted by co-option of local government, communities, corporations, and social organization partnership role to apply social capital capacity manner which is significant to reduct the coastal ecosystem degradation as well as a conservation strategy in Kota Sibolga and Kabupaten Tapanuli Tengah.

Keywords: Coastal Ecosystem, Social Capital, Conservation Strategy, Tapanuli Bay

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INTRODUCTION

To arrive at a developed nation that is oriented towards protecting the environment, all elements of society must be involved in participating, which is currently being done through community empowerment and development. The "mainstream" development paradigm initiated by scholars and coastal development planners tends to advocate modernization strategies in improving people's welfare (Emerson: 1979; Hanneson: 1996; Collier: 1973; and Betke: 1988). On the other hand, as expressed by Betke (1988) and White (1978), the political and bureaucratic aspects are variants that open up opportunities for coastal communities to be able to exploit natural resources including coastal ecosystems. The current development policy orientation illustrates that most district/city governments exploit the natural resources in their respective regions for development purposes in terms of living welfare and meeting community needs. Excessive use of natural resources and neglect of the sustainability of existing natural resources and ecosystems takes place without control and a level of concern based on values and ecosystem sustainability.

The selected natural resource management practice includes a perspective that is not following the principle of deep ecology whose moral commitment is to act fairly in the protection of natural resources, humans, and the environment in a sustainable manner. Deep ecology is part of ecocentrism that utilizes ecosophy as an instrument to reduce environmental and natural quality degradation. The selected natural resource management practice includes a perspective that is not in accordance with the principle of deep ecology whose moral commitment is to act fairly in the protection of natural resources, humans, and the environment in a sustainable manner. Deep ecology is part of ecocentrism that utilizes ecosophy as an instrument to reduce environmental and natural quality degradation. Sibolga City and Central Tapanuli Regency are two adjacent autonomous regions, which have an inseparable marine and coastal waters area known as the Tapanuli Bay area.

The era of regional autonomy has encouraged the efforts of the Sibolga city government and Central Tapanuli Regency to produce a number of policies and regulations that condition development patterns that are oriented towards increasing Regional Original Income (PAD), including sourced from Fish Landing Fees, Testing and Registration of Fishing Vessels, Revenue Fishery Product Fees, as well as Third Party Donations that emphasize the protection of coastal community-based coastal ecosystems. To overcome the decline in environmental quality, several laws and regulations serve as legal umbrellas including Law Number 4 of 1982, Law Number 23 of 1997 concerning Environmental Management (UU PLH) which has been updated with Law Number 22 of 2009, as well as various sectoral regulations and their derivatives. The reality of the development of Sibolga City and Central Tapanuli Regency for the last 10 years has the impression of a policy with a shallow environmental ethics format. Its multicausal sequence is related to various aspects. First, the impact of the direct election system for Regional Heads makes the Mayor of Sibolga and the Regent of Central Tapanuli have to try to realize their campaign

"promises" through development programs or projects, as well as investment policies that have implications for land use including coastal areas.

In this case, the government of Central Tapanuli Regency with its Tapanuli Growth policy includes developing the Labuan Angin coastal area whose designation has changed the mangrove ecosystem into a fishing industry area, fish landing port, and TPI (Fish Auction Place), as well as the PLTU (Steam Power Plant) project.) owned by PT Persero PLN (State Electricity Company). Meanwhile, the ranks of the Sibolga government who proclaim the motto "Sibolga as a city with many people", in realizing the vision of developing the city of Sibolga are constrained by limited land land, so they must allow the reclamation of the tidal area to become the location of urban infrastructure and residences for residents, fishing industry facilities, especially the Sibolga Sambas District. and North Sibolga. As a result, pressure on coastal ecosystem resources in Central Tapanuli Regency and Sibolga City is getting heavier as a result of modernization and development of fisheries technology. Therefore, a strategy is needed to protect the coastal ecosystem of Tapan Nauli that applies social capital capacity, where this research approaches various parties and the community. According to Puttnam's opinion that the significance of the development of social capital is a movement within the community, where: (a) social capital allows every citizen to be involved in finding solutions to common problems, (b) social capital becomes a lubricant that drives the wheels of community development without significant problems. , (c). mutual care, tolerance, and empathy are even more significant with the existence of social capital, (d). Social capital affects a person's economy, meaning more people get jobs and increased trust in personal relationships.

THEORETICAL REVIEW

Development and Environment Concept

The role of humans in exploiting natural resources cannot only be seen from one side. On the other hand, politics, economics, and environmental globalization have greatly influenced changes in natural resources. Globalization means connecting global and local actions as a consequence of the distance of space and time from one place to another [6] [7]. Regarding this statement, Giddens emphasized that changes that occur in one place, changes in commodities, and changes in technology, will affect other places. These changes involve matters related to the economy, finance, cultural consequences, and global ecological changes [8].

The rationality of fishermen's actions in responding to the modernization developed by the government and capitalists is viewed pessimistically by Betke as a bureaucratic dream or a gloomy reality (grim reality), in which a planned technological transition with a priority for small-scale and traditional technology development. piscibusiness) is powerless in improving the socio-economic status of fishermen, due to irregularities in the distribution of aid and the lack of superiority of motor boats received by the target group. However, the findings of Mubyarto, et al, which indicate the high interest of fishermen to own motor

boats, especially among Pandega, have an impact on the struggle for the share which triggers the depauperization of fishermen with simple technology. As a result, social integration in coastal villages is disrupted, and removes fishermen who operate trawling trawls (trawl banned) from the fishing community.

The problem of coastal ecosystem management can refer to the view of Devall (1985) who suggests that our view of the environment must shift from a dominant worldview to a deep ecology [9]. In that case, the dominant worldview essentially holds that (1) nature can be controlled, (2) the natural environment is a source of human life, (3) economic and material growth is to meet the demands of the human population, (4) believes in the reserve power of the human population, (5) the development of advanced technology is a solution, (6) consumerism, and (7) national and community interests. While the essence of deep ecology is (1) harmony with nature, (2) all of nature's contents are intrinsically limited/balanced of biospecies, (3) the material needed is for elegant simplicity, (4) Earth's supply is very limited, (5) Simple technology, not dominated by science, (6) Doing what is necessary/recycling, (7) Minority habits/bioregion.

Mangrove Ecosystem Concept

Ecosystem is one of the central concepts in studying ecology. Ecosystem can be defined as an ecological system formed by the reciprocal relationship between living things and their environment [10]. In addition, the ecosystem can also be interpreted from its essence which consists of all organisms that live in the community and also all the abiotic factors that interact with these organisms (Widhiastuti, paper: 2). In accordance with the principle of deep ecology, the coastal ecosystem is one of the ecosystems that should not be ignored in environmental management, because of the benefits of coastal ecosystems in the flow of energy (nutrients) in the food chain system and food web, as well as its uses for other communities that become populations in coastal ecosystems. In exploring the characteristics of coastal ecosystems, in terms of their nature there are natural (natural) and artificial (manmade). Natural coastal ecosystems include coral reefs, mangrove forests, seagrass beds, sandy beaches, rocky beaches, pescaprae formations, barringtona formations, estuaries, deltas, and small island ecosystem. While artificial ecosystems include ponds, tidal rice fields, tourism areas, industrial areas, and residential areas [11]. Various coastal ecosystems found in Indonesia have a very important role both in terms of ecology and economy [12].

Social Capital Referrences

Social capital is an awakened concept _ from three main pillars, namely values and norms, networks, and institutions present _ concerning social [13]. The benefits of social capital when applied as an approach to increasing community participation, including in the protection of mangrove forest ecosystems (Rijal, M.), we can follow the recognition of Puttnam who classifies it as follows: (1). Social capital allows every citizen to be involved in finding solutions to common problems. (2). Social capital becomes the lubricant that drives the wheels of community development without significant problems. (3).

Mutual care, tolerance, and empathy will be even greater with the existence of social capital. (4). Social capital affects a person's economy. Many people get jobs because of personal relationships. The key to successful development is the cooperation of all parties involved, including the role of local governments, following their respective roles, all parties have the same position and goals that demand cooperation and not an attitude of dominating one another (Personalningtyas et al.; Triyanti, Annisa, et al. .) Because that, needed something ability Public in put herself for involved in development. Social resources _ (social resources) as social capital is the power that if put to good use could give contribute positively _ to the preservation function ecosystem with enable institutions social as well as revitalizing the wisdom environment (Chakraborty, Shamik ., et al).

The development of social capital becomes " urgent " as an alternative reference for the management of coastal ecosystems (Purwowibowo, et al .). In studies in Indonesia, studies on the existence of social capital are often integrated into the meaning of traditional wisdom of ethnic-based communities, local communities, and the socio-cultural systems of traditional societies. Laksono et al (2000)'s research concluded that the function of coastal communities, especially women in managing mangrove forests, turned out to have an economic impact on the community and an ecological function, namely as a barrier to abrasion for the coastal ecosystem of the Bintuni Bay Papua, can also be referred to as a contributor to the idea of developing social capital in the management framework. and conservation of the coastal environment of North Sumatra, which has mostly been degraded. The research conducted by Lubis (2002) concluded that communities that can take advantage of the potential of social capital have been able to contribute to improving the welfare of the village community through the income obtained from the bottom of the prohibition collectively which is used for the construction of village facilities and infrastructure. Badaruddin (2006), in his study also concludes almost the same thing, that efforts to reduce poverty for fishermen in North Sumatra can be pursued by developing social capital in community organizing in adopting various kinds of government assistance programs aimed at fishermen and communities living in coastal areas.

METHODOLOGY

This study was conducted to collect primary and secondary data used to assess the ecosystem and community of the coastal area of Central Tapanuli Regency and Sibolga City. Following the principle of initial conditions which are the conditions for consequences for the continuation of the phenomenon, this research is classified as a cross-sectional study, which will be achieved if it is carried out in a continuous research stage. The scope of activities for the first year is to get the database by:

a. Study of the actual condition of coastal ecosystems including the coastal areas of Central Tapanuli Regency and Sibolga City, which was carried out by surveys and literature studies.

- b. A study of measuring the social capital capacity of coastal communities was carried out by surveying the distribution of the social capital parameter matrix. The population that is the object of the study is serving families scattered in coastal villages in Central Tapanuli Regency and Sibolga City, where the determination of samples and respondents was drawn in a multistage manner. In addition, in-depth interviews and a literature review will also be conducted to map the existing social institutional networks in the protection of the coastal environment to date. This alternative is done because (1) the assumption that there are respondents who are less representative, (2) the assumption that the answers of the first stage respondents are probed by the interviewer is not directed to obtain real information, and (3). The importance of the consistency of respondents' answers to draw generalise conclusions.
- c. Review of literature and literature related to community-based ecosystem protection strategies, which will be used as a reference for comparative studies.
- d. Study of law documents, regulations, and regulatory products on environmental protection and coastal ecosystems to get a “mainstream” strategy for protecting the environment and coastal ecosystems in government institutions.

Data analysis is done by: (1). The data collected by the survey technique is differentiated based on the variable scale. Nominal scale variables will be presented in the frequency table and analyzed based on the tendency of convergence using descriptive statistics. Ordinal, interval and rational scale variables will be presented in cross tables and graphs analyzed using non-parametric statistics, (2). Data collected by in-depth interview technique, is presented based on categorical tendencies. Certain cases that are unique and phenomenal will be presented as complementary information for research findings. (3). The trend comparison of research data will be analyzed using contingency statistical tests, which are useful for formulating groups of research data that can be followed up. After obtaining the research database, the second-year research phase for the first semester is to conduct a SWOT analysis of the current protection strategy. The results of the SWOT analysis are used as the main data to modify the alternative strategy proposed by the researcher with a protection model that adds a social capital component.

RESULTS

This research was conducted in 6 villages in 5 sub-districts in the regency and 2 urban villages in 2 Kota Sibolga sub-districts, where the two areas are adjacent to both land and sea waters, which was formerly known as Tapanuli Bay. In addition, the social and cultural structure of the community is similar, where the old residents who live in the coastal area are labeled as Sibolga Pesisir Batak. The sample of this study was 400 respondents in the first year, and some parties interviewed in the study were able to represent the diversity of the people of Central Tapanuli Regency and Sibolga City based on differences in age groups, ethnicity, socio-economic status, and cultural aspects. In terms of gender, the respondents of this study were dominated by men (60% or 240 people). The

respondents' experience of living in other places shows that there are 256 people or 64% who have interacted outside their village.

Another picture is that 80% (320 people) are married, and are in the productive age group between 20-40 years (43%) and 40-60 years old (37%). The religion adopted by the respondents is 66% Islam, especially those from the village of Hajoran, Kelurahan Pasar Behind, Kinali, Pasar Tarandam, and Sijago-Jago. On the other hand, 29% (116 people) of Christianity (116 people) and 1% of Catholics are spread out in Mela village and Pasir Field village, Sarudik sub-district. From ethnicity, the Pesisir ethnicity is a local tribe (94 people) that generally live in Sorkam, Barus, and Badiri sub-districts (Sijago-jago village). Others are ethnic Toba (37.5%), Nias, and Minang which generally spread throughout the research sub-district except for Sijago -jago village. From the genealogical aspect, 130 people (32.5%) did not know the initials or identity of the first ethnic group that had lived in the research village, and only 208 people (52%) knew it. The education level of the majority of respondents is low, where 212 people, or 53% of respondents have not graduated from elementary school or have only finished elementary school. In other conditions, 46% of respondents received secondary education (junior and high school equivalent), and 2 respondents held higher education. Apart from formal education, 30 respondents attended informal education, including computer, cooking, and sewing courses.

DISCUSSIONS

Community Knowledge and Condition of Coastal Ecosystem

The ocean is one of the most complex ecosystems in its configuration and function. At this time, when the attention and thoughts of many parties develop for the use of the sea in the context of reducing the impact of global warming, including the proposed reduction of emissions due to environmental degradation and deforestation, known as the REDD initiative, coastal communities do not yet know the specific ecological functions of the sea that are being planned to address the problem of world climate change and became a discussion of world leaders in Copenhagen Denmark in December 2009 last year. This is under the answers of 400 respondents in this study, of which 264 people (66%) stated that the function of the sea is a source of livelihood, 22 people (5.5%) as a medium of transportation through ships and the like for human mobility from the island. to another island. Interestingly, there is 1 respondent each who stated that the function of the sea is a source of medicine and a source of salt. The function of mangrove (mangrove forest) which is mentioned by various local names by bakko respondents, turns out to be very diverse, including the categories of direct benefits as a source of charcoal, firewood, board materials, foundations for stilts, house fences.

Society's Treatment of Environment Coastal Beach

The sustainability of the coastal ecosystem and environment can be guaranteed concerning human behavior in protecting and using it. The results of this study illustrate that there are more respondents (230 people or 57.5%) who

do not know how to treat plant and animal species, as well as other components of coastal ecosystems. appropriately. When the price of fuel increases, the Mela people, who have a source of livelihood from boiling fish, replace kerosene with mangrove wood, so that the mangrove encroachment rate is higher, even some, by residents who make haphazard retrieval of mangroves as their main source of livelihood. The community's treatment of the environment that tends to damage is related to the absence of rules or habits made by the community itself regarding procedures for managing the environment, including disposing of various types of liquid and solid waste resulting from household needs and economic activities. Based on this research, 380 people (95%) stated that the community in the research location had never produced rules and various patterns of environmental maintenance which included adaptive for environmental protection.

Table 1. Respondents' Attitudes Towards Coastal and Marine Exploitation

Modus Exploitation	F	%
1. As residential and business facilities		
agree, if there is no risk to the environment	243	60,8
I agree, even though it's risky but it's been approved by the government	46	11,5
do not agree, if there is no permission from the government and the community	46	11,5
don't agree, whatever the reason is the interest	65	16,3
2. Megaproject development: PLTU, Port, industry, etc:		
agree, if you don't have a risk to the environment	267	66,8
I agree, even though it's risky but it's been approved by the government	29	7,2
do not agree, if there is no permission from the government and the community	31	7,8
Disagree, whatever the reason is the interest	73	18,3
3. Operation of modern fishing gear (PI, Trawler):		
agree, if you don't enter traditional fishing waters	86	21,5
I agree, even though it's risky but it's been allowed by the government	17	4,5
do not agree, if there is no permission from the government and the community	47	11,8
don't agree, whatever the reason is the interest	249	62,3

The impact of environmental exploitation has both positive and negative sides. Based on the results of this study, in general, respondents do not fully understand the negative impacts of various actions that make excessive use of coastal ecosystem resources and the coastal environment. This is illustrated by the respondent's views on the facts that prove that the act of coastal stockpiling (reclamation), and the use of modern fishing gear pose a negative risk in the form of accelerated damage to the coastal environment and marine resources. In this study, there were 140 (35%) respondents accepted the risk of negative impacts

with the assumption that it is impossible for environmental utilization activities without destroying and changing its functions and conditions, because human activities always depend on the potential of natural resources, including coastal communities that rely heavily on fisheries resources and coastal ecosystems for their sustainability. By the results of research conducted by Daliyo Ngadi (2007), issues related to coral reef management in Jago-jago village, Badiri sub-district include :

1. Damage to coral reefs due to the use of non-environmentally friendly fishing gear, such as explosives, tiger trawls, and gold air for the last 20 years,
2. Coal mining
3. Pollution from household waste and palm leaf industry.

To support the explanation above, based on table 2 below, it is illustrated that only 50 respondents (12.5%) knew about the regulations that became a reference in the conservation of the coastal environment, on the contrary, there were 183 people (45.8%) of which only a small part aware of the existence of environmental conservation laws and regulations, and found as many as 167 respondents (41.8%) who did not know at all that there were regulations that became references for the protection of coastal ecosystems.

Table 2. Composition Respondent Based on His Knowledge about Regulation Environment Applicable Coast

Respondents' responses to questions:	F	%
The government has enacted regulations regarding preservation (conservation) of the coastal environment:		
Not know	167	41.8
part of small knowing	183	45.8
Know	50	12.5
the community has regulations regarding conservation (conservation) of the coastal environment:		
Not know	190	47.5
part of small knowing	186	46.5
know	24	6
Information about environmental conservation procedures		
Not Know	23	5.8
Very necessary and urgent	126	31.5
It is necessary for some matters that are relevant to the interests of society only	170	42.5
Still not necessary	81	20.3
Total	400	100.0

Social Capital Capacity

Social capital is a concept that is built from three main pillars, namely values and norms, networks, and institutions that are present in social relations. Values and norms that develop in society build elements of trust which in principle are the things that are most easily seen or felt in everyday life in neighborly relationships. Associated with the level of trust as a pillar of social capital of the social community can be seen from various aspects including neighborly relations, views of social elites, community institutions, and government officials. In his house, where even 4% said all neighbors were very trustworthy. However, 46% answered that not all neighbors can be trusted. Trust in neighbors is based on the actions taken (honest, kind) and close social relations (long neighbors), compared to the ascribed status (religion, ethnicity, family relationships) they have. Ibrahim (in Soegijoko, 2005: 210) found answers about social community, including neighboring relations showing people who can be trusted with the following characteristics; have close social relations with each other, someone whose speech is interesting and ethical always keeps promises and other characteristics such as style and appearance, and other attitudes (Soegijoko, 2005: 210)

Factors of similarity in religion or ethnicity can affect the community's trust in neighboring social relations. This study illustrates that the respondent's level of trust in his neighbors is not affected by the religious or ethnic background of the neighbors. There is a difference of 4% of respondents in terms of trusting neighbors of different religions. As many as 13% of respondents answered that they did not believe in neighbors of different religions, but in terms of ethnic differences, only 9% of respondents answered that they did not believe in their neighbors. This means that this study finds that respondents trust neighbors who share the same religion, even though religion or ethnicity is not the reason for the majority of respondents to trust their neighbors. Likewise, the level of trust in the management of community organizations and social communities such as PKK, Perwiritan, STM, and community leaders. Openness to new people can be used as an indicator of "social capital", so the data in the following table can describe the level of trust and compromise attitudes of respondents towards new people who come to their respective villages. The attitude of the respondent's cooperation with new people is seen on various occasions including in cooperation activities, sharing advice on family problems, marriage, and experiences of joy and sorrow, including aspects of social openness that are important in this study.

Table 3. Composition of Percentage of Respondents Openness and Public Trust

Respondents think that villagers are open to accepting new people	85.5%
Respondents think that villagers are not open to accepting new people	12%
Respondents don't know	2.5%
Respondents are ready to compromise with outsiders about village development	34%
Respondents are not ready to compromise with outsiders about village development	10%
Willingness to compromise depending on who invites	54.5%
<i>Respondents asked the purpose of other people coming to this village:</i>	
Always	25%
Sometimes	56%
Never	17%
<i>Respondents think Public village is type easy accept new people for live in the village</i>	85 %
Respondent consider Public village , NOT the type easy accept new people for live in the village	12%
<i>Respondent is ready accept comer stay at his house :</i>	
Yes, if the village government guarantees	45%
Yes, regardless of religion and ethnicity	14.5%
Not accept	23.5%
<i>Responses to others who have recently come to this area of different ethnicity and religion:</i>	
Not care	36.5%
Need beware	21%
Say hello and find out what it means	31.3%
Not accept	3%
<i>Willingness compromise with outsiders _ village decide problem development village</i>	
Yes ready	34%
Depends on the benefits of cooperation and who invites	54.5%
Not willing	10.5%

Related to the description of "social capital" of people who have become respondents in this study, it can be traced from the mutual trust in society that allows the community to unite with each other. That the element of trust in leaders and neighbors is the essence of social capital that has the most influence in increasing community participation in the management and conservation of coastal ecosystems. Based on the above understanding, this study also describes data on the components of social capital, including the level of acceptance of other people, the level of trust in the character, and the values of social relations that foster interactions between respondents and their social environment. Solidarity and collective awareness can also illustrate the strength of social capital that still frames the social integrity of the community in the research area, in this case, it is reflected in the high collective awareness of the community related to cooperation activities in repairing houses and village halls, cleaning

ditches and roads in the village, cleaning of rice fields irrigation, and cooperation in the management and maintenance of cultural heritage that still exists in the village such as ancestral graves.

Table 4. Composition of Percentage of Respondents Based on the Description of Solidarity and Collective Awareness

<i>There is still gotong royong in this village:</i>	
Yes	89%
Not	11 %
<i>Response condition reserve culture :</i>	
Not know	47.6%
P need repair	37.3 %
Well-maintained	5.8 %
Just leave it	1.5%

The implementation of collective awareness can be developed in various collaborative activities. In this study, it was found that the highest cooperation commitment was in the event of grief/accident, then 90.5% of respondents stated that they were obliged to share the burden, then cooperation in cleaning the environment was the second highest commitment of 326 people (81.5%) of respondents in this study.

Institutional in Social Capital

Currently, the placement of the most influential, respected, and elder community elites (between social group statuses) in Central Tapanuli Regency and Sibolga City turns out to be a power-based configuration that is higher than wealth and prestige. The socioeconomic status of people who are seen as having "influence" includes the rich, government officials, religious leaders, traditional leaders, and educational leaders. Labels and status symbols that are owned are reflected in the lifestyle and opinions during social interactions. For example, in attending a wedding event, the difference in clothes worn will be reflected in the socio-economic status of fishermen. The rich, especially the owners (toke) in coastal villages usually wear traditional Malay clothes or Coastal clothes which are more expensive than those worn by traditional elders, although they are not perfect and complete. Unlike the case with religious leaders, generally, they will wear simple Muslim clothes (caps or caps) (Islam) and a suit without a tie (Christian). Meanwhile, village officials will be easily recognized from their safari clothes or formal clothes. For other residents, the style of dress does not always refer to the form of the event that is followed, it seems that they only dress modestly for every activity, except for Friday prayers at the mosque, or Sunday services at church.

Those who are seen as community leaders have an earlier initiative in formal and informal conversations, with a language style and mindset that is easier to understand. Generally, these community leaders can use Indonesian as an oral introduction to immigrants but more often use Malay or Coastal in communicating with the local community. The topics discussed by community

leaders usually relate to village development and political gossip, especially after reading the morning newspaper or enjoying television and radio news. While ordinary people, use the stalls scattered in fishing villages as a place to share experiences and various personal and collective rumors. In terms of social stratification, there are several variations of views regarding the reasons for a person's attachment to being an elite or community leader. Therefore, community leaders for some residents do not automatically become role models for other residents. Each resident considers it to represent interests and kinship relationships, patron clients, and primordial linkages. Figures will be obtained if they are trusted, and judged to be able to fight for common interests, act fairly, be responsible and behave as role models in society. Differences in elitism preferences determine the basis and character of the character, where people have different criteria to judge someone subjectively or objectively.

Table 5. Composition of Respondents Based on People Who are Most Respected by the Community

Social Status Labels	Frequenc	
	y	%
Village Head/Local government	292	70.3
Police Chief/Police	3	0.8
Traditional figures	64	16
Religious leaders	33	8.3
Don't know	8	2
Total	400	100

A group of people can recognize him as their leader because he is a native (Pesisir) or village opener, for that he is respected because he is a descendant of the first person in the village who has allowed other residents to live and settle in the village. Another group of people said that figures are parties who have been proven to be able to solve various socio-cultural and political problems that cause social conflicts or poverty in the village, including inheritance or conflicts over land ownership and boundaries, family or household conflicts, quarrels among residents, and others. At the operational level, some people tend to spontaneously refer to the character as the village head, including former teachers, former civil servants, or those who are still civil servants. Others even mentioned that their role models were other residents with higher economic status in the village, or mentioned the names of religious figures, and the names of the administrators of political parties (political parties). Some other members of the community, tend to prefer figures from the middle age group (the 50s). This difference in the basis of elitism is still at the level of pros and cons for one group, especially if there is a siding on kinship relations or the same interest in one party. The characteristics of the community elements that are portrayed vary from sub-ethnicity, the scope of character, religion, social status, and indigenouness. However, in this study, the community tends to place the Village Head/Local Government as the most respected, trusted, and respected figure. The respect given to the Village Head begins with his direct election

process, his partiality to the community, and the services provided without prioritizing the demands for compensation.

Table 6. Composition of Respondents Based on the Level of Trust to Represent in Problem Solving

Trust in characters to represent in problem solving	Frequency	%
Certain	283	70.7
sure, but not for everything	86	21.5
not sure	23	5.8
not sure	8	2
Total	400	100

Community association activities such as mutual assistance, social gathering, and recitation are routine activities held by the community. Likewise, concerning herbal medicine, people still believe in the syncretism of magnetism, but the implementation is sporadic, and currently, it tends to be held more in conjunction with local government initiatives in collaboration with HNSI management in Sibolga City and Central Tapanuli Regency, so that the syncretic activity of sea herbal medicine is mixed with promotional purposes. tourist attraction

Network in Social Capital

Social capital becomes effective when social networks function. The condition of protecting coastal ecosystems becomes more controlled due to the existence of social organizations in the community that is interconnected with other institutions that have the same intense attention to the protection of coastal ecosystems. In the following section, it is illustrated that very few social institutions, NGOs, Youth, Religion, Culture, Economics, and politics are active in the respondent villages related to ecosystem protection.

Table 7. Respondents' Views on the Presence of NGOs or Community Group that Collaborate in Protecting and Conserving Coral Reefs/Mangroves/Estuaries in the Research Area

Coastal Ecosystem Conservation Network Institutions	Frequency	%
Don't know	24	6
Already exist (Coremap, Walhi, NGO Hernando, P2KP, Ketapang Fisherman Group, etc.)	78	19.5
Not yet	298	74.5
Total	400	100

Since 2008, there have been LPTSK and POKMAS in the context of mobilizing NGOs for community empowerment in the villages that are the location of COREMAP II Central Tapanuli Regency, namely the NGO Wahana Lestari Pandan whose main activity is to assist the community in the

development of MPA (alternative livelihoods), including the enlargement of the African catfish, the cultivation of seaweed, the enlargement of the sea cucumbers, and the processing and salting of fish. The activities of this NGO, which are not directly related to the conservation of coastal ecosystems, play a more role in efforts to improve the welfare and income of fishermen, with the hope that the fishermen will not use fishing gear that is destructive to coral reefs, reducing the practice of people who carry out illegal logging of mangroves used for fishing, firewood or sold as a source of income. However, the effectiveness of the protection of coastal ecosystems concerning the functions of government institutions can be traced from the intensity of carrying out the functions of monitoring and enforcing environmental regulations, as illustrated by the explanation of Table 9 below which shows the respondents' responses to various actions by government officials in protecting coastal ecosystems.

Table 8. Composition Respondent about Role Apparatus Government in Protection Ecosystem Coastal

Banning Coral Reef Exploitation:	F	%
Yes	113	28.2
Not	287	71.8
Forbid people to take wood, fish, other animals from the mangrove forest:		
Yes , ever	129	32.3
Not	271	67.7
Forbid Public for throw away rubbish direct to surface sea :		
yes , ever	289	72.3
Not	111	27.8

Therefore, one of the strategies developed is to build participatory institutions in the conservation of coastal ecosystems, so that the capability of social organizations is needed which is expected as part of generating effective coastal community social capital in protecting coastal ecosystems in Sibolga City and Central Tapanuli Regency. What can be followed up in the following research stages is the high level of willingness of research respondents (228 people or 57%) to be actively involved in institutions formed to carry out various programs and activities for the protection of coastal ecosystems in Central Tapanuli Regency and Sibolga City in the future. , even though the funds or budgets must be prepared independently when the budget is limited or not available because they already have the awareness that preserving the environment, especially the coastal ecosystem which is part of their daily life, is a selfless obligation.

Even in practice, people in the research area still do not have standardization of environmentally friendly behavior, because there are still people who throw garbage and other pollutants (such as oil, and dirty oil) directly into the sea. So this situation is concerning and requires a movement

initiated by the community itself which is designed as an integrative model for managing household waste and other pollutants. Because the willingness of the respondents to be active must be followed up with various programs and activities that embed awareness integrally in the community's thinking setting that environmental conservation including coastal ecosystems is part of institutionalized lifestyle values.

Table 9. Willingness Respondent Active Involved Play a Role in Purposeful Institution for Protection Conservation Environment Coast though no There is Budget or with Limited Financial Assistance

Participation Active in Institutional conservation environment	Frequency	Percent (%)
Don't know	12	3.0
Yes ready , because already Becomes obligation as member Public	137	34.3
Yes , depends the need just	168	42.0
Not	83	20.8
Total	400	100.0

Conceptual Model Social Capital Development for Conservation Ecosystem Coastal

Based on the data findings and analysis presented in the previous section, the researcher proposes a draft model for developing social capital for the coastal ecosystem conservation strategy of Sibolga City and Central Tapanuli Regency, as follows :

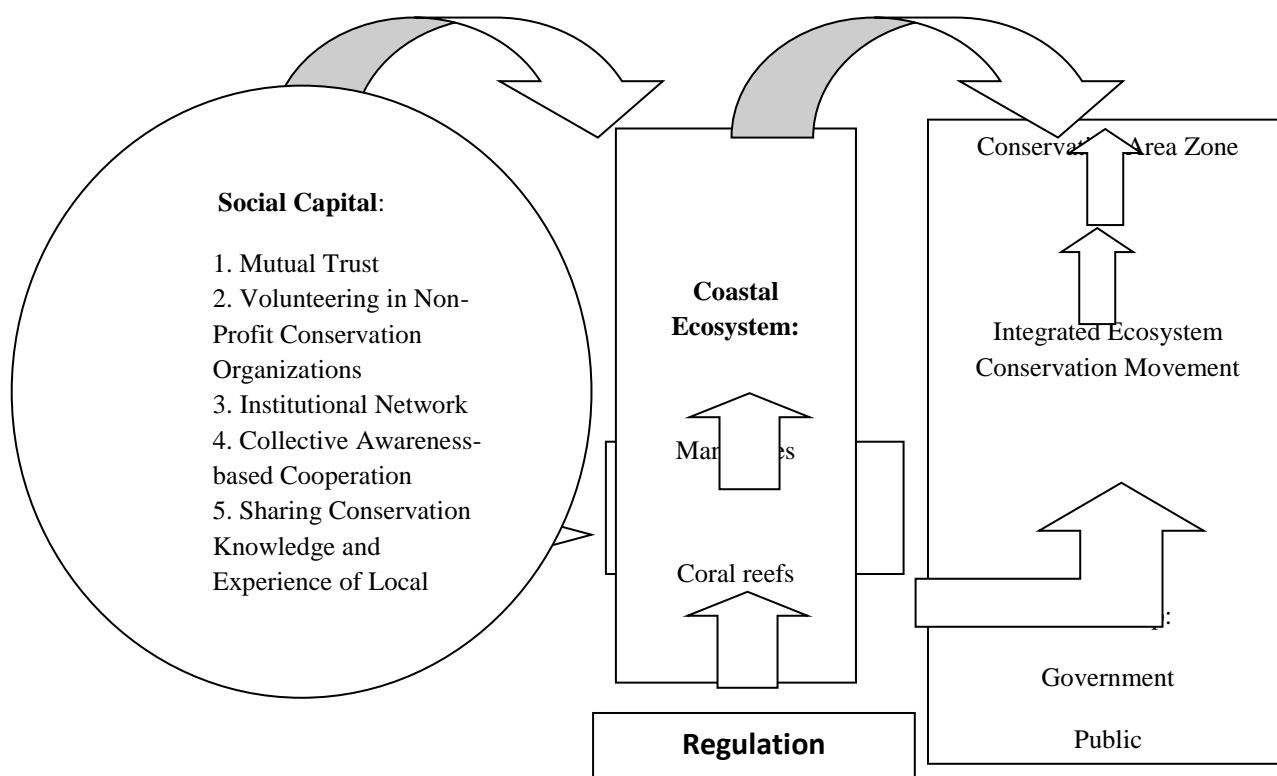


Figure 1. The Conceptual Model of Social Capital in Coastal Ecosystem Conservation Strategy

CONCLUSIONS AND RECOMMENDATIONS

Because this research is not yet final in its study and data analysis, especially in designing the final model of the strategy for protecting coastal ecosystems, especially mangroves based on the social capital development model, the tentative conclusions of this research are:

1. The coastal ecosystems of Central Tapanuli Regency and Sibolga City which are located in the Tapani Nauli Bay area have experienced changes in function, decreased salinity, experienced silting, reduced species and species biodiversity, and increasingly threatened coral reefs, mangrove forests, seagrass beds due to various population activities, development project activities and changes in natural resource management as a by-product of global ecosystem changes.

2. Generally, respondents do not fully understand the negative impacts of various actions that make excessive use of coastal ecosystem resources and the coastal environment. The community's treatment of the environment tends to be exploitative and the lack of awareness that this behavior can have a negative impact and damage the environment is related to the absence of rules or habits made by the community itself regarding procedures for managing the environment. In addition, the level of knowledge of the respondents in this study is still low to identify specifically the nature of coastal ecosystems and their protection patterns, because the people represented by the respondents in this study tend to take advantage of the potential of ecosystems including

mangroves, fish catches, beach reclamation, locations for household waste disposal and other functions. other economies. The less adaptive treatment in managing the surrounding environment can also be seen from the compromising attitude of the respondents in this study towards the actions of the people whose lands are piling up the beach to be used as settlements, business facilities, mega-project developments whose land must be piled up on the beach to be used as industrial facilities, steam power plants, hotels and so on. , as well as the increasing number of people using modern fishing gear (PI, Trawler).

3. The capacity of the community's social capital which is the source of this research data can be considered adequate, including the level of acceptance of the existence of other people, the level of trust in the relationship between neighbors and figures, and the values of social relations that foster interaction between respondents and their social environment. Solidarity and collective awareness can also illustrate the strength of social capital that still frames the social integrity of the community in the research area, in this case, it is reflected in the high collective awareness of the community related to cooperation activities in repairing houses and village halls, cleaning ditches and roads in the village. , cleaning of rice fields irrigation, and cooperation in the management and maintenance of cultural heritage that still exists in the village.

4. The coastal ecosystem conservation strategy of Sibolga City and Central Tapanuli Regency requires coastal ecosystem conservation institutions that are integrated with the existing social capital capacity in the community. A coastal ecosystem conservation strategy model based on social capital capacity can be developed by prioritizing the participation of people living in the waters of Sibolga City and Central District and consistent parties in the movement for coastal ecosystem conservation and environmental protection.

5. The high motivation of respondents (64%) in coastal ecosystem conservation is supported by the high level of willingness of research respondents (or 56%) to be actively involved in institutions formed to implement various programs and activities for the protection of coastal ecosystems in Central Tapanuli Regency and Sibolga City, although funds or budgets must be prepared independently when the budget is limited or unavailable. This motivation is getting stronger in connection with public awareness of the importance of protecting the environment which is considered to be experiencing a crisis which is known from various mass media reports and socialization carried out by various parties including village government officials and the Office of the Environmental Agency of Central Tapanuli Regency and the Sibolga City Environmental Service in these last two years.

FURTHER STUDY

However, the effectiveness of the protection of coastal ecosystems concerning the functions of government institutions can be traced from the intensity of carrying out the functions of monitoring and enforcing

environmental regulations, as illustrated by the explanation of Table 9 below which shows the respondents' responses to various actions by government officials in protecting coastal ecosystems. Because the willingness of the respondents to be active must be followed up with various programs and activities that embed awareness integrally in the community's thinking setting that environmental conservation including coastal ecosystems is part of institutionalized lifestyle values.

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