

Bachelor thesis

**Conditions for sustainable fishing among small-scale fishers
in Zamboanguita, Philippines**

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Abstract

The continued decline of fish stocks in the Philippines has caused poverty among small-scale fishers and threatens marine ecosystems with degradation beyond recovery. These developments could open the door for a tragedy of the commons and further degrade marine common pool resources as in Zamboanguita, Negros-Oriental. To prevent a vicious cycle of overfishing, illegal fishing and declining fish stocks it is needed to analyse what the conditions are for small-scale fishers to fish sustainably. Filling this knowledge gap for MCP can contribute to a better understanding of the socio-ecological systems in the area. In other words, how people interact with their marine common pool resources and why. Therefore, it has been assessed to what extent small-scale fishers are already engaged in sustainable fishing and their obstacles and motivations to do. As compliance of small-scale fishers is important to fishing sustainably, factors that affect these have been taken into account. With the use of the 'socio-ecological framework' and 'compliance framework' eight conditions have been found that affect engagement in sustainable fishing in Zamboanguita. Conditions that stimulate engagement are the knowledge of the importance of the resource for fishers' livelihoods, past experiences with declined fish stocks, local leadership, monitoring and sanctioning systems, unity in morals and norms and the importance of the resource to one's livelihood. This study also found that the biggest constraints are the economic value of the marine CPRs and inequitable distribution of property rights and resource access

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List of acronyms

CPR	Common Pool Resources
CRM	Coastal Resource Management
LGU	Local Government Unit
NGO	Non-Governmental Organisation
MCP	Marine Conservation Philippines
MFARMC	Municipal Fisheries and Aquatic Resources Management Council
MPA	Marine Protected Area
SES	Socio-Ecological System
SSF	Small-Scale Fishers

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1. Introduction

The world's coastal fish stocks are in a state of continuous decline. They are threatened with depletion beyond recovery by both anthropogenic disturbances and natural pressures (Muallil et al., 2014a). This development is especially apparent in Southeast Asia's coastal waters. These waters are amongst the world's most productive and biologically diverse areas and as such they are important for both economic and food security as well as being a global conservation priority (Pomeroy et al., 2012). Pomeroy et al. (2007) state that Southeast Asian populations rely more heavily on fish as a primary source of dietary protein and income generation than any other people in the world. Small-scale fisheries are crucial in providing food security and income for millions of Southeast Asians.

However, most of the nearshore fish stocks in Southeast Asia are overfished, thus threatening both the health of ecosystems as well as human welfare and livelihoods in the region (Salayo et al., 2008; Muallil et al., 2014a). These characteristics are represented in the Philippines, where the fishing sector is an important source of livelihood and their marine biodiversity is being threatened (Muallil, 2013). Fish stock decline has therefore caused widespread poverty among fishing communities. The fishery sector consists of nearly two million small-scale, large scale (commercial) and aquaculture fishers. From this group small-scale fishers make up 85% of the fishing population (Muallil, 2011) and are the most vulnerable to the current threats as fishing is the only source of livelihood for a majority of coastal communities in the Philippines (Muallil, 2014b).

Next to overfishing, Bacalso et al. (2016) indicate illegal fishing has often been cited as a large issue that threatens the sustainability of fisheries resources. Muallil et al. (2014a) identified in their comprehensive assessment of Philippine small-scale fisheries three major illegal fishing activities: poison fishing, blast fishing and commercial fishing in municipal waters. Other authors cited the same problems (Baticados, 2004; Fabinyi, Foale & Macintyre, 2015) and many noted that commercial fishers intruding municipal waters was considered the most rampant form of illegal fishing activities by small-scale fishers (e.g. Aldon, Fermin & Agbayani, 2011; Fabinyi, Foale & Macintyre, 2015; Baticados, 2004; Muallil et al., 2014a). Illegal fishing is still a widespread problem despite the establishment of an act to prevent, deter and eliminate illegal unreported and unregulated fishing, also known as The Philippine Fisheries Code of 1998. A case study in Anini-y (Antique, west-central Philippines) has shown that small-scale fishers were forced to use illegal fishing methods because their simple and sustainable fishing techniques were threatened by more efficient and large-scale fishers who used more destructive fishing practices (Aldon, Fermin & Agbayani, 2011).

Nevertheless, declining fish stocks has affected fishing communities and worsened poverty, which has aggravated Malthusian overfishing that undermines ecosystem health as well as human welfare (Muallil et al., 2014a). Poverty-driven overfishing, illegal fishing and degrading fisheries are forming a vicious cycle (Aldon, Fermin & Agbayani, 2011). Alternative livelihood projects can contribute to alleviate these pressures, but the means to do so in the Philippines are limited and opportunities are still lacking. The problem of food security and the critical role of fishing then comes additionally into place when households cannot sustain their

living expenses through alternative livelihoods alone (Muallil, Cleland & Alino, 2013). As it is challenging to reduce the total amount of fishers, it is interesting to look at sustainable regional development approaches that focus on making small-scale fisheries as sustainable as possible as well as taking the needs of fisherfolks in the long term into account. In doing this, it is important to look at the conditions in which small-scale fishers (SSF) can engage in sustainable fishing. This is because problems such as inequality and the social relations that frame inequality in a given local context are major drivers of fisheries governance outcomes (Fabinyi, Foale & Macintyre, 2015), as demonstrated before with commercial fishers (e.g. Baticados, 2004). Drawing back on small-scale fisheries, local conditions in which SSF are in can then determine the spatial dynamics between humans and the natural environment.

Other academics have looked into approaches to alleviate fishing pressure through alternative livelihoods. However, even though it is necessary to alleviate fishing pressure there is less attention for approaches that contribute to making small-scale fisheries more sustainable and the conditions under which fishers can lower their fishing effort while fostering marine stewardship. Researching and building understanding of local livelihoods and fisheries can prevent management directives that are incompatible with both resource conservation and the social and economic goals of local fishers (Chapin et al., 2009). Thus, researching socio-environmental dynamics that relates human action to the physical environment are urgent (Rediscovering Geography Committee, 1997), especially in the light of the current critical state Philippine fisheries are in and their importance for global biodiversity (Fabinyi, Foale & Macintyre, 2015).

Therefore, this thesis focuses on identifying challenges and constraints (e.g. unequal power relations) that hedge small-scale fisheries to develop more sustainably in collaboration with the non-profit organisation (NGO) Marine Conservation Philippines (MCP). This study will specifically look at the question under which conditions small-scale fishers can engage in sustainable fishing in the case-study of Zamboanguita, Southern-Negros Oriental, Philippines. In order to do so, this thesis first analyses to what extent SSF are engaged in sustainable fishing. Therefore, the current status of the fisheries and the sustainability and management in fisheries will be assessed. It is important to place local communities at the center of sustainable (policy) approaches to identify their priorities and to ensure their participation (Baticados, 2004). The main obstacles and motivations for SSF to engage in sustainable fishing will then subsequently be researched as well as what factors affect compliance to fisheries regulations to identify key issues and possible solutions for fisheries management.

The purpose of this study is primarily to inform resource managers, conservation agencies and policy makers who are looking for ways to involve SSF in sustainable fishing by highlighting the obstacles, motivations and thus conditions to do so. As this thesis is in collaboration with MCP, it serves mainly as a report for them and stakeholders in Zamboanguita. It aims to better understand the current state of fisheries in the area and identify the current conditions that determine spatial dynamics between humans and the natural environment as well as the conditions that can change these dynamics more sustainably. This study finds and presents several conditions in which SSF can engage in sustainable fishing in Zamboanguita. This information can be used to ensure that proper policies and approaches are in place.

Policies that both support marine conservation in an area that is considered of global importance as well as sustainable development of SSF and resource dependent livelihoods.

2. Theoretical framework

2.1 Common-pool resources

Common-pool resources (CPRs) are open-access resources in the public domain and available to use by anyone such as fish, wildlife and forests. Thus, the exclusion of certain users is difficult to achieve while the common use might lead to the reduction of benefits derived from the resource for others (Steins & Edwards, 1999; Feeny et al., 1990). Ostrom (2008) argues that the governance of CPRs can bring mixed results as CPRs differ from one another and the success or failure to sustain resources depends on the setting of governance. Therefore, looking into the governance of marine CPRs in the Philippines is relevant to understand how SSFs can fish sustainably as their open-access component poses a threat for the resources. The latter has been described by Hardin (1968) and defined as ‘the tragedy of the commons’. Its essence is that common, free and open-access resources, such as oceans, are subject to depletion or degradation. Hardin argued that depletion and degradation will be the result of open-access resources unless common property is privatized or is set under government regulation of uses and users. In other words, the solution for the tragedy was argued to be privatization or government control (Feeny et al., 1990).

However, a shift in narrative has occurred that points to community-based management instead of privatization and government control over resources (Steins & Edwards, 1999). Years after Hardin’s influential article, there has been evidence that the tragedy of the commons is not universal (Leal, 1998; Basurto & Ostrom, 2009). Even though Hardin’s concept is not to be dismissed, these authors show the need to go beyond the tragedy of the commons. Feeny et al. (1999) agree that Hardin’s concept is insightful but reject the simplicity of the one-to-one relationship that has been proposed as solution to the tragedy, namely state property-rights and private-property rights. They argue that the solution lies more than two property rights, adding communal property rights. Elaborating on this, Feeny et al. (1999) have defined four categories of property rights for CPRs and note that similar distinctions have been made in academic literature. The categories are: open-access, private property, communal property, and state property. In short, open access lacks well-defined property rights, is unregulated and open to all. Private property holds the right to exclude others from using the resource and regulating it. Resources under communal property are held by an identifiable community or interdependent users, which have the right to exclude outsiders. Lastly, state property means that the rights to the resources are under control of the government exclusively. Within this debate of property rights for CPRs, communal property resources have gained widespread acknowledgement that has been translated in different forms of management over the years.

2.2 Community-based co-management and social well-being

Governance of many kinds of resources such as fisheries, forests and wildlife are too complex to be governed by one agency (Berkes, 2009). This underscores the argument of Feeney et al. (1999) that governance of resources by only the state has proven to be ineffective or even has worsened the problem in some cases and that of Basurto and Ostrom (2009) that community-based management without linkages with other levels of governance can not always

resist exogenous shocks. The past few decades have seen the emergence of phrases such as 'co-management' and 'community participation' in different forms (Chirenje, Giliba & Musamba, 2012; Berkes, 2009; Pomeroy & Rivera-Guieb, 2006). Co-management does not have a universally accepted definition (Berkes, 2009). Some define it as a partnership arrangement between different stakeholders (e.g. government, community, businesses and NGOs) (Pomeroy & Rivera-Guieb, 2006) to share responsibility and authority for resources, but in general it is defined as the sharing of authority and responsibility between state and community in the management of CPRs (Ratner, Oh & Pomeroy, 2012). The concept of co-management has been expected to deliver more equitable resource-sharing between states and communities, highlighting the benefits of communities as a whole (Singleton, 2000).

However, Berkes (2009) argues that co-management and decentralization can lead to the reinforcement of unequal relations such as the intensification of local elite power. This negatively impacts the equity and community welfare of those who are politically weak and often poor. Singleton (2000) adds that in communities with high inequality, it is less likely to result in equitable internal distribution. It is this inequality that has been highlighted by Fabinyi, Foale and Macintyre (2015) that occupy fishers and it can pose challenges for fisheries governance. They note that inequality will vary in different social contexts, but that it is important to incorporate local inequalities and the ways in which they are perceived and experienced into approaches of fisheries governance

Wellbeing has therefore been taken into account by some authors to better understand small-scale fisheries specifically for appropriate management policy. There are multiple approaches considering well-being, which are reviewed by Weeratunge et al. (2014). However, they argue that the social wellbeing approach is one of the most elaborated approaches. It is further stated that if one wants to conserve a resource, it is still necessary to place the social human being as the central focal point of policy analysis. Wellbeing is centered in the social wellbeing approach as wellbeing losses are argued to contribute to conservation policy failure especially when other threats to a way of life and senses of injustices are in play (Coulthard, Johnson, McGregor, 2011). The definition of wellbeing is contested, but is defined as '[...] a state of being with others, where human needs are met, where one can act meaningfully to pursue one's goals and where one enjoys a satisfactory quality of life' (Weeratunge et al., 2014, p. 267). Even though this definition is anthropocentric, the social wellbeing approach in fisheries provides a way to understand fisher rationality and their relation with the natural environment. Hence, this approach adds to the debate that the relationship between the human being and the fishery resource is important and mediated through relationships with others (Coulthard, Johnson, McGregor, 2011), thus highlighting that co-management does not necessarily mean successful management and that the conditions under which fishers are in have impact on their actions in fisheries.

2.3 Sustainable fisheries and sustainable fishing

Viewing the management of fisheries in light of both the biophysical environment and the socio-economic environment requires a broad definition of what sustainable fishing and fisheries are. Determining the definition of sustainable fisheries is essential because there is no consensus on what sustainable fisheries constitute (FAO, 2016). Defining sustainability often

draws back on the term 'sustainable development'. Academics have dwelled upon the definition of sustainable development for years. The most widely accepted definition originates from the Brundtland Commission: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Hilborn et al., 2015).

This general agreement on sustainability elaborates the benefits to the society as arguably the first aspect of sustainability, Hilborn et al. (2015) discuss that there is a difference between two parties, one that defines sustainability in solely ecological terms and one that focuses more on people. A strict ecological focus on sustainability is argued to be too narrow and that sustainability and sustainable fisheries should consider a socio-ecological perspective. It then has a better coping mechanism against global change, social drivers, multiple increasing uses of the ocean and it is argued to be more effective across different cultures. The different notions of sustainability show that it is difficult to define what a sustainable fishery is because of several difficulties, especially for SSF. For example, how is sustainability measured in a fishery? A common method is to monitor the abundance of fish stocks, in which a high abundance is perceived as sustainable and low as unsustainable. However, fish stock abundance fluctuates naturally with or without fishing (FAO, 2016).

Taking this into account and acknowledging that fisheries are complex adaptive systems, sustainable fisheries can be viewed as the maintaining or enhancing of four main components (ecological, socio-economic, community and institutional sustainability) within an integrated view of a fishery system (natural, human and fishery management system). The triangle in figure 1 shows that ecological, socio-economic and community sustainability can be seen as the fundamental points in an overall fishery system, while institutional sustainability interacts among the other factors and can influence the other components (e.g. through policies). The simultaneous achievement of all four components would entail overall sustainability, which means that a sustainable fishery (and policies) needs to maintain all components to a reasonable level. Elaborating on these notions of Charles (2001), sustainable fisheries can then be defined holistically as:

"A sustainable fishery is one which simultaneously maintains and enhances health and resilience of the marine ecosystem, the socio-economic welfare and viability, socio-cultural well-being of local human systems, and the functioning of relevant fishery institutions in time and space."

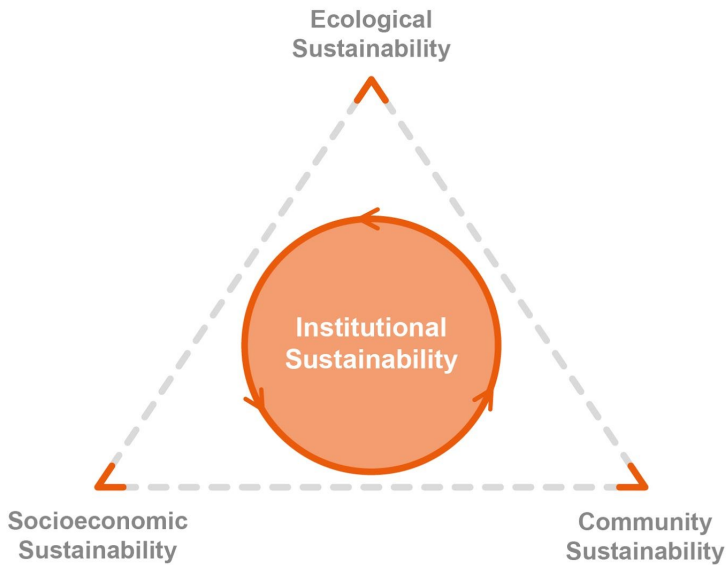


Figure 1. Sustainability triangle (Edited from Charles, 2001).

As the reduction of overcapacity in fishing and thus engagement in sustainable fishing implies that solutions should be more people-related and focused on communities, it calls for a broader vision of the fisheries system (Pomeroy, 2012). However, even though it is helpful to see fisheries as a system with multiple components, this thesis will only focus on the socio-ecological dynamics and more specifically on sustainable fishing rather than a sustainable fishery. The reason for this is that this thesis focuses on the relation between SSF and the natural environment rather than the whole fishery system. These socio-ecological systems (SES) are used to emphasize the fact that social and ecological systems are linked and can eventually add value to the management part of fishery systems. Sustainable fishing in the framework of a sustainable fishery can then be defined as:

“Sustainable fishing means the harvesting of fish stocks in a manner that maintains and enhances health and resilience of the marine ecosystem and the socio-economic welfare and viability of the present generations without compromising the ability of future generations to meet their own needs”

As Pomeroy (2012) argues, when assessing sustainable fishing it is too narrow to only focus on the resource and technical issues of problems in fisheries. There are underlying non-resource related issues such as marginalisation of SSF that can contribute to the engagement of for example overfishing and illegal fishing. It is therefore important to go beyond fisheries-sector specific policies to other seemingly unrelated policies that can have beneficial side effects for sustainability of the fisheries sector.

2.4 The social-ecological system and interactions with common pool resources

Governing CPRs has been a long point of discussion ranging from theories that support state and private control to forms of co-management. It has become evident that the setting (government ownership, private property, community property, and co-management) and their relations are crucial in the success or failure to sustainably preserve resources. Factors that

need to be taken into account when governing commons include the local culture and institutional environments of groups that depend on ecosystems and resources for their livelihood. This emphasizes that a standardised solution will not always work in specific local systems, pushing aside a 'one-size-fits-all' approach for particular systems (Ostrom, 2008).

Considering the latter and that fishers' current conditions and relationships with others influence their actions in fisheries, understanding arrangements and attitudes towards CPRs are crucial to facilitate conditions for sustainable fishing. As SES are complex, it takes specific variables and the relations between their component parts to better understand the whole system. Ostrom (2009) has therefore identified a framework that is meant to analyse and identify relevant variables in studying a single SES. The framework (Figure 2) consists out of four main components, resource systems, resource units, governance systems and actors. These four components interact through 'focal action situations' as inputs from the multiple components translate into outcomes and their interrelationships. However, the SES framework shows that any component can be affected by external components such as social-economic-political factors and influences from related ecosystems. Under the main components are sub-components that are identified as affecting interactions and outcomes (Appendix, table A) and will be used in this thesis (McGinnis & Ostrom, 2014). Not only does this framework clarify how different components can influence each other, but it can also help identify conditions for sustainable fishing (Ostrom, 2009). The sub-components (Appendix, table A) of actors or users can especially help to identify obstacles and motivations of SSF to engage in sustainable fishing within the whole framework

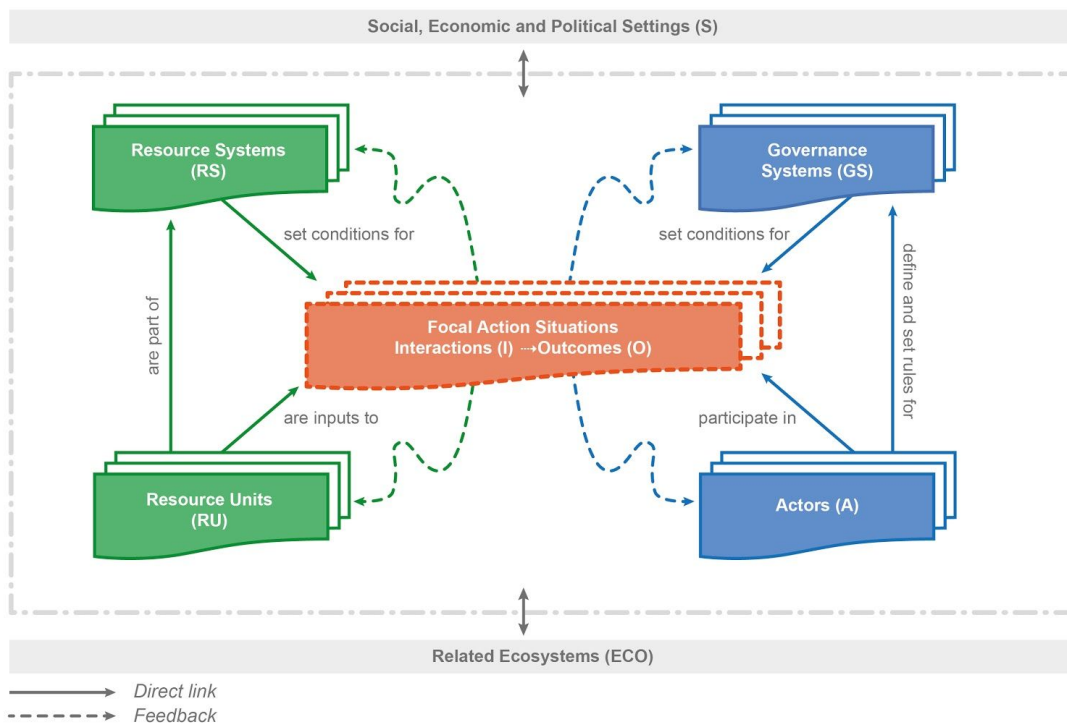


Figure 2. Social ecological system framework (SES) with multiple first-tier components (Edited from McGinnis & Ostrom, 2014).

2.5 Compliance

Closely aligned to the importance of understanding individuals' relations with CPRs are their relations with governmental enforcement. Ostrom (2008) and Hatcher et al. (2000) argue that rules need to be perceived as legitimate by users in order to comply with regulations to prevent illegal harvesting for example. Compliance can shortly be defined as the behaviour of people to follow rules (Hauck, 2008). Rules and regulations are important in governing the commons (e.g. fish), but if they are not coordinated with the needs of users (e.g. fishers) it can sometimes even lead to adverse outcomes. Thus, compliance is needed for rules to achieve their intended goal. Identifying the determinants of resource users' compliance behaviour is therefore important to improve policies in favor of humans depending on these resources as well as the natural environment. However, these rules are not limited to formal laws and can also exist as informal norms and thus monitored through informal mechanisms rather than formal mechanisms (Hauck, 2008). The two different spectrums in which 'rules' are located can be seen in two common schools of thought within compliance research: The rationalist model and the normative model. Their perspectives differ in the way of understanding compliance, and thus differ in strategies to regulate behaviour.

The rationalist approach determines compliance through the perspective of rational choice. Hauck (2008) argues that rational actors act according to the costs and benefits of their actions. The 'rational choice' to comply or not comply is then based on economic gains, the likelihood of detection and severity of sanctions, which is argued to encourage actors to act based on self-interest (Hauck, 2009). However, the normative approach is grounded in that the decision of individuals to (not) comply to rules lies in the individual's personal moral development, perceptions of legitimacy and fairness of the law and governance, and the social and cultural environment of the individual (Pomeroy et al., 2015; Hauck, 2008). These two schools of thought on how to achieve compliance are not mutually exclusive. As Pomeroy et al. (2015) show, enforcement systems (compliance through deterrence and law enforcement) and compliance (voluntary acceptance of rules and regulations perceived as fair and legitimate) are related. Enforcement systems indirectly shape compliance for example not only through deterrence, but influence voluntary compliance by its legitimacy. This means that the design of enforcement mechanisms (e.g. sanctions) can shape perceptions of legitimacy. Ostrom (2008) adds that without active monitoring a tragedy of the commons can avail as there arises an incentive to freeride on the cooperation of others. Thus, overall compliance comes in both normative and rationalist ways and combining both approaches is important to improve compliance outcomes and governance of CPRs.

In short, rules and regulations need to be seen as legitimate in order for voluntary compliance and governance of commons to thrive. Moreover, enforcement systems can contribute to successful governance of commons when rules are actively enforced and legitimate. In the light of combining normative and rationalist approaches to small-scale fisheries compliance, Hauck (2009) has developed a conceptual framework to understand small-scale fisheries compliance that is embedded in the fishery system as a whole (Figure 3). Hauck's framework shows underlying principles to achieve compliance in small-scale fisheries. At the core to achieve compliance is social justice, which highlight the importance of protecting and acknowledging customary fishing practices, fishers' livelihoods and their (human) rights.

Legitimacy follows to highlight the significance of moral support for institutional arrangements to govern a fishery. The third principle is deterrence, which holds the importance to reinforce laws and rules while enhancing the legitimacy of the management system. Hauck argues that the principles of social justice need to be embraced before legitimacy can take place and legitimacy needs to be installed before deterrence can have effect. Hauck then ends with ‘[...] the acknowledgement that none of these principles can be adopted without a supporting legal and policy framework’. It must also be noted that the notion of the relationship between humans and fishery resources being mediated through relationships with others (Coulthard, Johnson, McGregor, 2011), is relevant in this framework as well. How rules and laws are developed and by whom is important to understanding fisheries compliance as issues of power may occur. Questions then arise about whose interest it serves. Adding to that, the role of power can contribute to what becomes the focus of law and why. In other words, power-dynamics and relations can shape socially constructed environmental crimes that are arguably created to protect certain (capitalist) interests of the powerful and tend to marginalize the powerless. Hence, showing that environmental harms and social injustices are interconnected (Hauck, 2008; Hauck, 2009). Pomeroy et al. (2015) reinforce this image by its findings that political elites, business interests and political favouritism often protect illegal fishing interests even under active deterrence efforts in the Philippines.

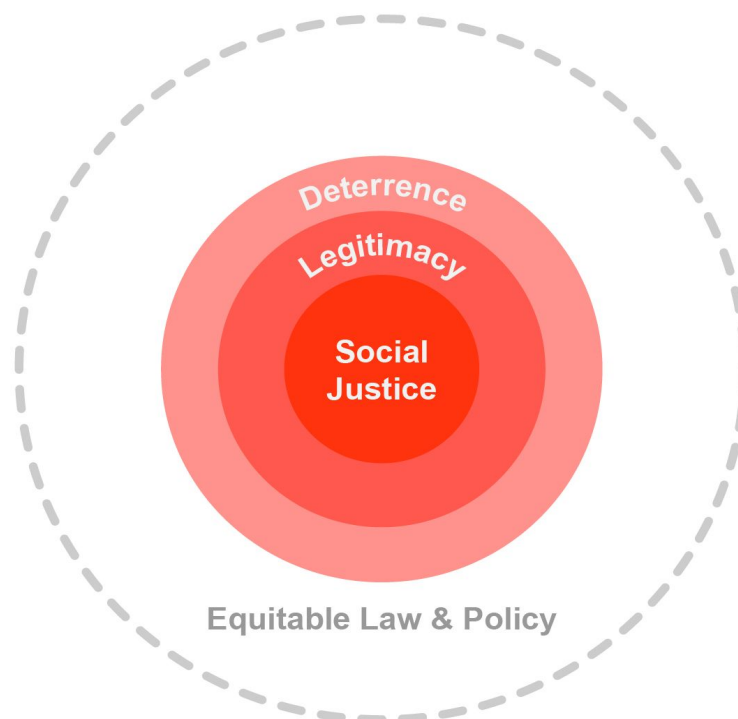


Figure 3. Framework to understand small-scale fisheries compliance (Edited from Hauck, 2009).

2.6. Analytical framework

The aforementioned literature will be used in this research to construct a framework that guides the data collection. In this manner, the research question will be linked to the analysis and guide the research on what to look for during the analysis. Central to this is the SES-framework of McGinnis and Ostrom (2014) and the variables they have listed that can affect interactions and outcomes of SES. However, SES are complex and can be composed out of multiple components that affect the other SES-components as can be seen in the first and second-tier variables of the McGinnis and Ostrom's framework. Time-constraints and the complexity of interwoven factors that could create conditions for SSF to fish (un)sustainably therefore have led narrowing down potential variables that could answer the research question. The variables of McGinnis and Ostrom are appointed in brackets and can be found in the appendix, table A. The first potential variable to stimulate sustainable fishing practices is the dependency of the resource (A8, appendix table A), reinforced by Hauck's (2009) normative notion that people comply through informal mechanisms and their personal and moral development. Close to dependency is the economic value of the resource (RU4), together with the variable monitoring and sanctioning rules (GS8) is consistent with Ostrom's (2008) argument that without active monitoring a tragedy of the commons can occur. Conditions where actors can act out of self-interest at the expense of others is also mentioned by Hauck (2009) within the rationalist school of thought. However, this thesis hypothesizes that inequality (marginalisation) of SSF (GS4) is a fourth variable that could limit sustainable fishing, as mentioned by Coulthard, Johnson and McGregor (2011) and Pomeroy (2012). Within the context of the SES, these four conditions are argued to affect the way SSF interact with marine CPR.

3. Regional framework

3.1 Fishery governance in the Philippines

A 'barangay' means something between village and neighbourhood in the Philippines and it marks a territorial unit which is considered an important political building block that functions as the basic local government unit in Filipino society (Oracion et al., 2005). The Philippines has historically been an hierarchical society. For many years elite families have had control over large businesses and politics. This selected group often own large landholdings and have held control or power over areas for generations. In coastal areas, certain 'patron-client' relations exist between wealthier groups and poorer groups. This can be seen in credits given to SSF in order to be able to fish. Moreover, fishing is considered as having a low status in society. The status of poor people as 'clients' has obstructed them from decision making processes and resulted in unequal social relations (Fabinyi, Foale & Macintyre, 2015).

Local units are still important in managing CPR and in implementing coastal resource management (CRM) in the Philippines. An example of such a form is the Marine Protected Area (MPA), which are marine areas that are reserved by law to protect the area partly or entirely. In general, the two major factors that have influenced the development of CRM are the projects by NGOs and governments and the decentralization of authority to local governments (White, Courtney & Salamanca, 2002). CPRs are managed by units on a municipal scale and within fisheries, The Philippine Fisheries Code of 1998 is argued to be an important guide. Local government units (LGUs) have the authority to stop, prohibit or limit fishery activities. Nonetheless, LGUs are still limited by national laws (White, Courtney & Salamanca, 2002) and the National Fisheries Code of 1998 defines illegal fishing as: "*[...] fishing activities conducted by Philippine fishing vessels operating in violation of Philippine laws, Regional Fisheries Management Organization resolutions, and laws of other coastal states.*" .

3.2 Fishing in the Philippines

Overfishing, illegal fishing and the degradation of fisheries as a result are the main problems and a typical case of the tragedy of the commons in the Philippines. Overfishing is the harvesting of fish stocks below the level that can produce maximum sustainable yield (MSY) (FAO, 2016), which in theory means the maximum harvest of fish that can be caught year after year without reaching the tipping point where fish reproduction is lower than fish mortality. Thus, overfishing is a tragedy of the commons as the open-access resource and the common use has led to the reduction of benefits derived from the resource as unsustainable fishery persists. The use of illegal fishing methods is an example and points to overfishing, unsustainable fishing and degrading fisheries. SSF are highly diverse and a sustainable fishery depends on contextual and geographical factors (Hilborn et al., 2015; McConney & Charles, 2008). Although illegal fishing and destructive fishing methods contribute significantly to reef degradation (Marcus et al., 2007), the used fishing methods vary from place to place. This is because to oceanographic and ecological characteristics together with available market and existing management policies can influence fishing activities such as compressor fishing and the use of cyanide for the aquarium market (Muallil et al., 2014b; Mak, Yanase & Renneberg, 2005). In general, authors

have summed up multiple uses of destructive and illegal fishing methods that have been rampant (Baticados, 2004; Fabinyi, Foale & Macintyre, 2015). However, as mentioned before, large-scale commercial fisheries are considered the biggest offenders by entering municipal waters. These commercial fishers are defined as vessels larger than 3 gross tons (Muallil et al., 2014a) and are not allowed to enter municipal waters (7 to 15 km from shoreline) (Baticados, 2004). Despite this fact, these vessels continue to intrude municipal waters illegally.

4. Methodology

4.1 Introduction

This chapter outlines the methodology of the research conducted in Zamboanguita, Negros-Oriental, The Philippines. The research question and sub-questions will be explained and summarised. Subsequently, the research site will be briefly introduced. To understand what conditions are needed or are suitable for small-scale fishers to engage in sustainable fishing in this case study, the research has applied a qualitative approach. Elaborating on that, data collection methods and decisions will be explained as well. Finally, ethical considerations will be analysed and explained. The field research was conducted between December 2016 and April 2017. The research is undertaken in collaboration with the non-profit organisation Marine Conservation Philippines (MCP) who has facilitated the research and requested additional information to be gathered outside of this thesis subject. Both a supervisor from Utrecht University and MCP have guided and helped me with this research.

4.2 Research questions

This research is focused on socio-environmental dynamics and identifying challenges and constraints for fishers as well as the local fishery to develop sustainably. The assessment of relations between small-scale fishers and (governmental) institutions and organisations in order to map how these relations affect sustainable fishing among small-scale fishers are central to this. However, as there is little scientific knowledge about this in the research site, the study is mainly exploratory. The main research question will be:

“Under which conditions can small-scale fishers engage in sustainable fishing in Southern-Negros Oriental?”

In order to formulate an answer to this question, several sub-questions have been defined:

- To what extent are small-scale fishers engaged in sustainable fishing?
- What are the main obstacles and motivations for small-scale fishers to engage in sustainable fishing?
- What factors affect compliance to fishery regulations?

4.3. Research site

While fishing is a common activity all over The Philippines, the collaboration with MCP confined the research to MCP’s location in the municipality of Zamboanguita, Negros-Oriental. Zamboanguita is a municipality located in the southern tip of the province of Negros-Oriental, central Philippines. It consists out of 10 barangays (political units) of which 5 are on the coast.

4.4 Research strategy

4.4.1 Identifying factors which influence obstacles and motivations to sustainable fishing

A research strategy was first set up to help with the orientation of the research. There has not been much work carried out to identify specific factors regarding obstacles and motivations to engage in sustainable fishing. Therefore, the some variables of the SES framework have been used as an indicator of possible variables to answer the research question. In short, the literature helped to hypothesize which factors could be in play and were used in constructing the semi-structured interviews.

4.4.2. Identifying factors which influence compliance behaviour to fisheries management

In contrast to obstacles and motivations to sustainable fishing, there has been much work carried out to identify factors that influence compliance behaviour. The assessment of factors affecting compliance can unravel power-dynamics and relations between resource users and law and government. This thesis argues that this will help understand the conditions in which SSF can engage in sustainable fishing. The compliance framework has been used to understand motives for non(compliance), which has been used for the semi-structured interviews and surveys.

4.5. Data collection methods

Qualitative methods were dominantly used for this research. A survey was also conducted to collect data for MCP as well as the research. However, the survey results will not be presented within the thesis because the implementation of the survey does not suffice for a strong mixed-methods approach as initially planned (Appendix table C). Its results will be included in a separate report for MCP. This information is mainly focused on giving insight in basic data of fishers and their attitudes towards sustainability. Moreover, the research is focused on a case study and means that the study engages with a group of individuals within a certain context or environment. A case study requires intensive approach to data collection and aims to obtain and produce an observed pattern by determining how processes operate. It is argued that case studies mainly use interviews, focus groups and observation methods (Schwester, 2015; Herod & Parker, 2010). Semi-structured interviews are based on a list of predetermined questions in which the researcher is given space within the conversation to attempt to obtain specific information in a informal conversational manner (Clifford et al., 2016). The main purpose of an interview is to answer questions about for example practices and events. It is argued that an estimated ten to thirty interviewees are selected, depending on if the interviews are supplementary or central in the research (Secor, 2010).

4.5.1 Process during fieldwork

This research has been in collaboration with MCP and thus getting to know the organisation was the focus of the first weeks. The start of the research was shortly before the Christmas holidays and as many locals are religious, they were occupied with (religious) rituals, activities and celebrations. However, these first few weeks served as time to finish the survey and get to know the area. In addition, as the researcher was born in the Philippines and has been in close

contact with Filipino culture, this starting period gave time to familiarize again with Filipino culture, contexts and interactions. This personal background has helped in the interpretation of the data that has been collected, especially with the semi-structured interviews.

4.5.2 The search for respondents

To find SSF to interview, a snowball method was used to find respondents as well as convenience sampling. Convenience sampling arose more as an opportunity because the gathering of respondents were frequently done by walking through neighborhoods and informing possible respondents of the research and interview. This strategy was recommended by locals and the translators as there was no specific list of small-scale fishers with contact details. As a result, some respondents were readily available after being informed of the interview.

4.5.3 Participant observation

The search for respondents overlapped with the start of participant observation. The main aim of this method in this study has been for the researcher to engage with the group and learn more from them and the social context they are in. The role of the researcher has been to learn from people and observe how they interact with each other as a researcher as well as someone affiliated with MCP. Participation in certain groups through MCP's activities were used as an entry and to create acceptance within the target group. Certain activities of MCP overlapped with the target group and could therefore be used as an introduction of the research and start of participant observation. Other activities included bantay dagat meetings and observations of fishery activity. The observations mainly led to, as Schwester (2015) pointed out, to study social phenomena in its 'natural state' and to getting to know 'how things work'.

4.5.4 Semi-structured interviews

The different stakeholders were identified and classified into (1) experts and (2) small-scale fishers and (3) bantay dagat ('sea wardens' or enforcers). These different categories are based on the fact that different information can be gathered from different actors. Subsequently, interview guides were made for the stakeholders to address the themes that cover the research questions and the information that was identified in the theoretical framework. The largest part of the questions were focused on opinions, experiences or knowledge. Moreover, to let the interviews flow as organically as possible, especially with fishers, the guide differed in execution depending on the conversation or situation.

The interviews were recorded with permission of the interviewees. The interviews were recorded on the researcher's Iphone 5S due to financial constraints to purchase more professional recording devices. Notes were made during the interview to especially note key answers to the questions if possible. The expected 30 interviews was exceeded. In total, a number of 36 interviews were conducted (Appendix table D). 8 experts were interviewed and the interviews varied from 40 minutes to 3 hours. All experts could be interviewed in person and in English. 10 of the 20 bantay dagat in Zamboanguita were interviewed in their category and the interviews varied from 40 minutes to 1 hour. The 18 interviews with SSF lasted between 17 minutes to 1 hour, depending on the fishers' knowledge and willingness to answer the questions comprehensively. However, not all interviews were recorded at the request of some

interviewees and in one case where the researcher forgot the recording item. The interviews with bantay dagat and SSF were accompanied by a translator as not all members possessed a sufficient level of English. The permission for interviewing bantay dagat was given by actors within the CRM and will be discussed later in *research ethics*.

4.6. Qualitative analysis

Recorded interviews have been transcribed and additional notes made during the interview have been added. Interviews in Bisayan were translated as it became apparent during the process that information was lost in the translation of the translators. Notes of interviews that were not recorded have been digitized and summarised. All interviews were analysed through a thematic analysis with the programme NVivo. A deductive way of coding has been applied with the potential variables identified in the theoretical framework. The choice for this approach is that coding through existing concepts or ideas is less time-consuming and thus more appropriate in this research with time-constraints. However, the coding process was open to any theme development directed by the content of the data.

4.7 Research ethics

Permission

Previous to conducting interviews, permission to enter the barangays for this research was negotiated with the barangay captain as a sign of respect and formality. Some captains were hard to get a hold of, but the entry to the whole municipality was secured by an important actor within the CRM. Nevertheless, to keep relations with the captains steady the research was explained to the captains who were available despite the delay it caused in the research.

Confidentiality

All interviewees are anonymous because of the sensitivity of fisheries in politics. Nonetheless, some comments or gathered data may be easily traced back to known figures in the community. These individuals were informed about their comments being recorded and possibly incorporated in this thesis. However, the participants were made aware that the conversation was confidential and the anonymity of all respondents is ensured by storing the data securely and changing names prior to any publications.

Participation

All participants of the research were made aware of the research and the research objectives either directly through the researcher or through a community leader. Interviewed participants were made aware that they would be recorded. However, they could choose to still participate in an interview without being recorded if desired. To get to know the interviewed participants, mostly with bantay dagat and fishers, questions were asked about their daily life and occupation to put the participants at ease. The participants were made clear that if they did not wish to answer the question, they could opt to do so and stop the interview whenever they wanted.

5. Results

This study found eight conditions that affect the way in which SSF can engage in sustainable fishing in Zamboanguita. Conditions that stimulate engagement are the knowledge of the importance of the resource for fishers' livelihoods, past experiences with declined fish stocks, local leadership, monitoring and sanctioning systems, unity in morals and norms and the importance of the resource to one's livelihood. This study also found that the biggest constraints are the economic value of the marine CPRs and inequitable distribution of property rights and resource access.

5.1 Fishing governance in Zamboanguita

The information about the present amount of SSF was difficult to obtain as the registration process of the local CRM has experienced periods of instability and discontinuation for several years. Every person who wishes to engage in fishing activities has to request a fishing permit from the municipal CRM in Zamboanguita because fishing without a permit is classified as illegal fishing (e.g. interview no. 29, 33). Fishing permits enable the CRM to keep track of the amount of fishers and to regulate certain fishing gears. The most recent available statistics that date from 2013 are incomplete (Appendix 7) and a recent change in administration has generated organisation difficulties such as the registration of fishers for the year 2017. Despite this data gap, seasoned CRM members estimate there to be an average of around 250 SSF. This is mainly based on the decade-long experience of the current coastal resource manager. This number does not account for non-registered SSF, but the number of 250 SSF has been used in this research due to a lack of additional data.

The governance of marine CPRs is covered by the LGU of Zamboanguita and its CRM branch. Even though the municipality follows the national fishing regulations, certain exceptions in the law are made. The use of *sahid* or a beach seine is prohibited but as it is a local tradition an ordinance was made to allow this practice (e.g. Interview 3). However, the registration of fishing gear should regulate this. The management of CPR is shared between the fishing community and the local government. This co-management is reflected in the multiple associations of SSF and displays the width of its co-management. SSF have their own fisherfolks association per community as well as a general municipal fisheries and aquatic resources management council (MFARMC). This ensures that different stakeholders are heard within the community as well as in the municipality. These groups are taken on by local leaders who are chosen to represent the community (e.g. interview no. 31).

5.2. Fishing as a livelihood

30 interviewees stated they have fishing experience in the area. These include all the SSF interviewed as well as 8 bantay dagat members and 4 local experts. The interviewed NGOs were not included. The mean fishing experience is 25 years and the mean age of interviewed SSF is 45. 20 fishers fished only within municipal waters, from 9 fishers data was unknown and only 1 fishes outside of municipal waters. 20 out of 30 fishers said to have one or more additional livelihoods, 5 said to have no alternative and from 5 it was unknown. Construction

work is the most common alternative livelihood (Appendix 4.4). Based on the interviews, the most common fishing gear is hook and line followed by fishnets. The sustainability of these gears can be debated, especially with different variants. However, they are generally seen as sustainable and it is stated that regulation then becomes important (see interview no. 29). The use of gear may vary as there are different fishing seasons in the area (e.g. interview no. 33). These seasons are mainly determined by the north-eastern wind (amihan) and south-eastern wind (habagat). Amihan is a period of rough seas and hard winds even when there is no typhoon. It starts around October until March and makes it hard for most fishers to go out. Habagat on the other hand is generally perceived as period of calm seas and soft winds that starts around April until September (e.g. interview no. 3, 16, 32).

The weather is crucial for SSF activities as 25 interviewees stated that bad weather was a struggle for fishers. Interestingly some interviewees noted that the amihan and habagat season have changed over recent years. The wind direction is said to frequently change and the seasons are argued to be less stable compared to before and affecting fishing activities (e.g. interview no. 10, 26, 28). In other words, some interviewees noticed that the months in which the seasons traditionally occur are changing along with the intensity of the winds and the wind-directions within the season. 29 interviewees also noted changes in the fish stocks as it is argued that they have decreased along with the fish catch in the past decade (Appendix 4.7). 12 interviewees who fish state that the current catch is currently between 0 to 5 kilos. Data was unknown from other SSF. Although no consistent time-frame was mentioned, some interviewees mentioned previous years could yield catches of more than 10 kilos (interview no. 23, 24, 25, 28, 30, 31).

5.3 Engagement of small-scale fishers in sustainable fishing

The concept of sustainability proved to be hard to translate within the language as there is no direct translation available. Sustainable fishing was therefore explained in terms of keeping the natural environment in a healthy state to be able to continuously fish. All interviewees state that SSF find sustainable fishing practices important, that they are engaged in these practices and are concerned about CPRs being able to provide for the future (Figure 4). Local officials and bantay dagat members confirmed that a majority of SSF find it important to sustain their marine resources and act on it. Their high engagement in sustainable fishing practices can furthermore be noted in the minimal use of damaging gears, their engagement in CRM meetings and their awareness of conservation benefits (e.g. interview 3, 5, 10, 15, 29, 31, 32). All in all, despite the declining fish catch, most interviewees noted that a majority of SSF are engaged and only a minority of SSF are not or not willing to be engaged in sustainable fishing practices.



Figure 4. NVivo theme sustainability

5.4 Factors affecting compliance and sustainable fishing

Based on the interviews, it can be observed that to fishers compliance to the regulations is equal to sustainable fishing (see interview no. 29, 31, 32, 34). The regulations are then seen as the mechanism that supports sustainable fishing practices. Therefore the factors that affect compliance behaviour are similar to motivations for sustainable fishing and vice versa. This also holds for factors affecting non-compliance and obstacles to sustainable fishing. Because of the similarities, both factors for compliance behaviour as for sustainable fishing are reviewed in this section.

5.4.1 Motivations and factors for compliance and sustainable fishing

Based on the analysis of the interviews, 5 factors and motivations were found that affect compliance behaviour and engagement in sustainable fishing (Figure 4 and 5). However, only 2 were found to be significant enough for this research. The awareness and understanding that fishing sustainably will continue to support fishers' livelihoods is the most common motivation for the majority of SSF to fish sustainably and follow fisheries regulations. The declining fish stocks and the simultaneous establishments of MPAs raised awareness among SSF that engaging in sustainable fishing practices is for their common welfare. The acknowledgement of CRM initiatives such as MPAs is believed to increase fish catch and thus increased the legitimacy of fisheries regulations. 28 interviewees (74%) argued that the fisheries regulations are fair and this perception of legitimacy has contributed to the acceptance of CRM initiatives such as MPAs. There are regular meetings for the coastal barangays that explain the regulations and raise awareness about sustainable fishing for fishers' own welfare. Through these meetings and the fisherfolks associations, SSF are reminded of the regulations and can engage in discussions about a variety of subjects. However, the second motive for compliance and sustainable fishing are the established enforcement systems and sanctions. Strict monitoring of the bantay dagat

has ensured that unsustainable fishing and non-compliance are hard for SSF. Adding to that, SSF are afraid of the consequences that are bound with strict enforcement. The monitoring of marine resources plays a big role in the success of CRM initiatives and prevents the spread of freeriding behaviour among SSF especially in the current state of the Philippine fisheries.

5.4.2 Obstacles and factors for sustainable fishing and non-compliance

Even though SSF in Zamboanguita noticed a decline in their fish catch, only a minority turn to illegal and unsustainable fishing practices to acquire more fish. Based on the interviews, 10 factors and obstacles were found of which only 3 are significant for this research (Figure 5). The main reason for this minority to engage in non-compliance and damaging fishing practices is based on economic gains according to 17 interviewees. This rationalist ethos is said to be grounded in the thought that the costs and benefits of freeriding on the majority is higher than to follow the majority that complies and is engaged in sustainable fishing. Interviewees describe this mentality as '*sigurista*', which means that a person acts for his own selfish interest at the expense of others (see interview no. 28). Economic gains out of poverty instead of selfishness is a second obstacle. SSF are said to be pushed into unsustainable fishing practices and non-compliance as a result of declining fish stocks (interview no. 1, 5, 27, 31). Hence, driving SSF into MPAs and aligning with the notion that poverty-driven overfishing, illegal fishing and degrading resources are forming a vicious cycle (Aldon, Fermin & Agbayani, 2011). Other violations or heavy use of damaging gears are nearly absent in the area and SSF only engage in minor offenses and minor damaging practices (e.g interview no. 1, 9). A lack of understanding of the regulations and the importance of sustainable fishing practices was identified as a third obstacle. 12 interviewees state that a part of the minority does not understand the potential benefits of sustainably managing their marine resources as well as the purpose of the regulations.

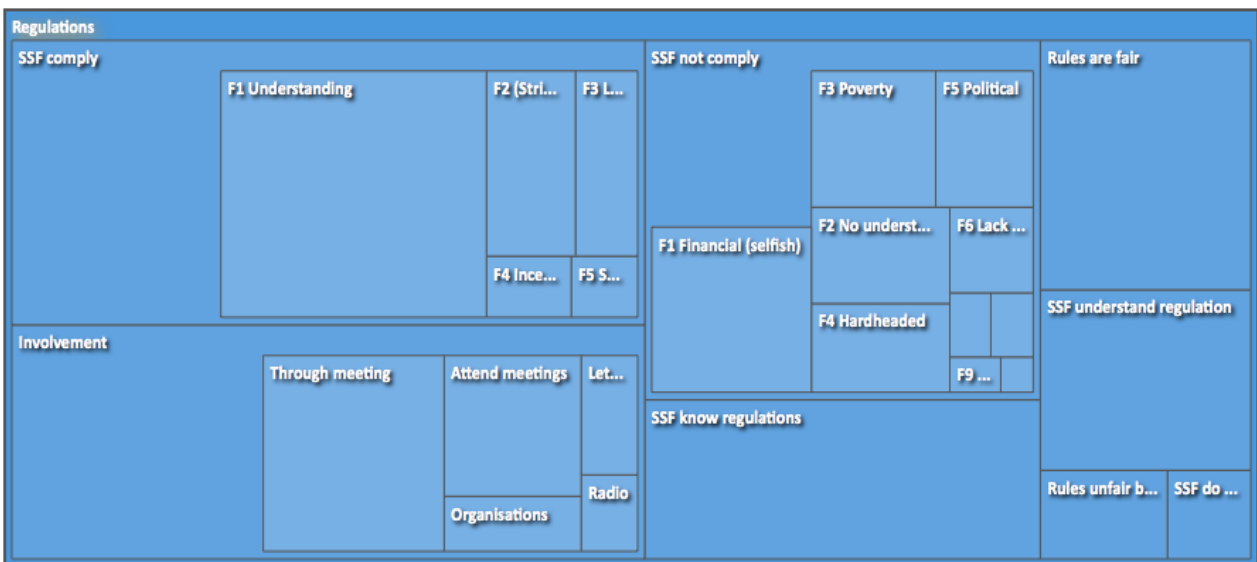


Figure 5: NVivo theme regulations and compliance

What has been particularly striking about these results is that only a minority of SSF are

engaged in non-compliance and unsustainable fishing practices. However, 81% of the interviewees still argue that there has been a decline in the area's fish catch in the past decade. 93% of these interviewees state that this decline in fish catch is due to overfishing. Nevertheless, according to these interviewees the explanation lies not in a general increase of fishers (22%) but most (48%) argue it is because of illegal commercial fishers and 30% in both. In other words, the decline in fish catch has been mainly attributed to commercial fishers.

5.5 Commercial fishers

The most common form of illegal fishing was identified as the intrusion of commercial fishers in municipal waters (Figure 6). The presence of commercial fishing vessels in Zamboanguita's municipal waters was observed by 30 interviewees compared to other illegal activities such as spear fishing in MPAs (8 interviewees). Commercial fishers are identified as intruders as they come from other municipalities such as the neighboring westward municipalities of Siaton, Santa Catalina and Bayawan. Some interviewees (interview no. 3, 10, 12, 28, 30, 32) state that a some of these commercial fishers come from other islands such as Cebu, Mindanao and Bohol. The intrusion in municipal waters usually happens at night (e.g. interview no. 4, 25, 31) and as mentioned before it is seen as the main reason for the decline in SSF fish catch. Consequently, the lack of fish causes a lack of income for a part of the SSF and those fishers are then left no choice but to engage in unsustainable fishing practices or non-compliance in order to feed their families (e.g. interview no. 20, 27, 28).



Figure 6: NVivo theme illegal fishing

Even though there are regulations that prohibit the entrance of commercial fishers into municipal waters, the presence of commercial fishers and their perceived threat to fish stocks signal that the enforcement system falls short. 14 Interviewees state that commercial fishers have political ties or are owned by politicians, pointing at their invulnerability to regulations (e.g. interview no.

10, 28, 31, 33). This means that commercial fishers are hard to regulate for the bantay dagat as they are limited by this political layer. Adding to that, most commercial fishers operate near the municipal border of Zamboanguita and Siaton which enables them to move to the neighboring municipal waters before local authorities can respond. The municipal water in the last barangay (Lutoban) westwards before the municipality of Siaton starts, is also the longest (10 km) compared to the last barangay (Maluay) eastwards (3.5 km) (see interview no. 3, 6, 22). This is because the municipal borders in the east are close to the well preserved Apo island that lies 7 km across the east-side of Zamboanguita (Figure 7) (see interview no. 3, 21). Apo island is part of the municipality of Dauin eastwards of Zamboanguita. Dauin is well known for its successful preservation efforts (see interview 34) and active bantay dagat (see interview 30). In contrast to this, the neighboring municipality of Siaton in the west is less active in their enforcement (e.g. interview no. 31, 33). Hence, the geographic location of Zamboanguita as the neighboring municipality of less enforced areas such as Siaton, Bayawan and Santa Catalina where commercial fishers can move more freely explains the dominant presence of commercial fishers in West-Zamboanguita. Moving more to the east and thus closer to the bantay dagat guardhouse and the active enforcement of Dauin, there are less commercial fishers. Threats from the east are minimal and are mostly spear fishers from Bacong town or Dumaguete city that operate occasionally in sanctuaries (see interview no. 7, 19, 20, 31).



Figure 7. Map of Zamboanguita area

Although commercial fishers are hard to regulate, if it occurs that commercial fishing vessels are apprehended the bantay dagat has no authority to handle the case and perpetrators are thus handed over to other governmental bodies (e.g. interview 28). Political relations may subsequently influence the outcome of the sanctions outside of the bantay dagat (e.g. interview 10). 5 bantay dagat members and 2 experts with bantay dagat experience state that they are not adequately equipped to properly enforce commercial fishers. One bantay dagat member noted the possible danger in apprehending commercial fishing vessels as they could be equipped with weapons (interview 10).

Despite that commercial fishers from other municipalities are noted to be the biggest

problem, the political interests in commercial fishing are stated to be close to home as well. Some interviewees claim that there are 2 commercial fishing boats stationed in the area of Cab-cab (barangay Mayabon) which is next to barangay Lutuban (Figure 8)(see interview no. 4, 10, 8, 31). One interviewee argued that these commercial fishers might have ties with local politicians (e.g. interview 8). All in all, commercial fishing vessels are said to pose a serious threat to the marine CPRs in Zamboanguita's municipal waters. They pose a challenge for the governance of CPRs due to political interest in commercial fishing and overfish to an extent that they impact SSF livelihoods. Thus, showing that actions of SFF towards CPRs are shaped through relationships and actions of other stakeholders as some SSF are driven to unsustainable fishing methods and non-compliance.

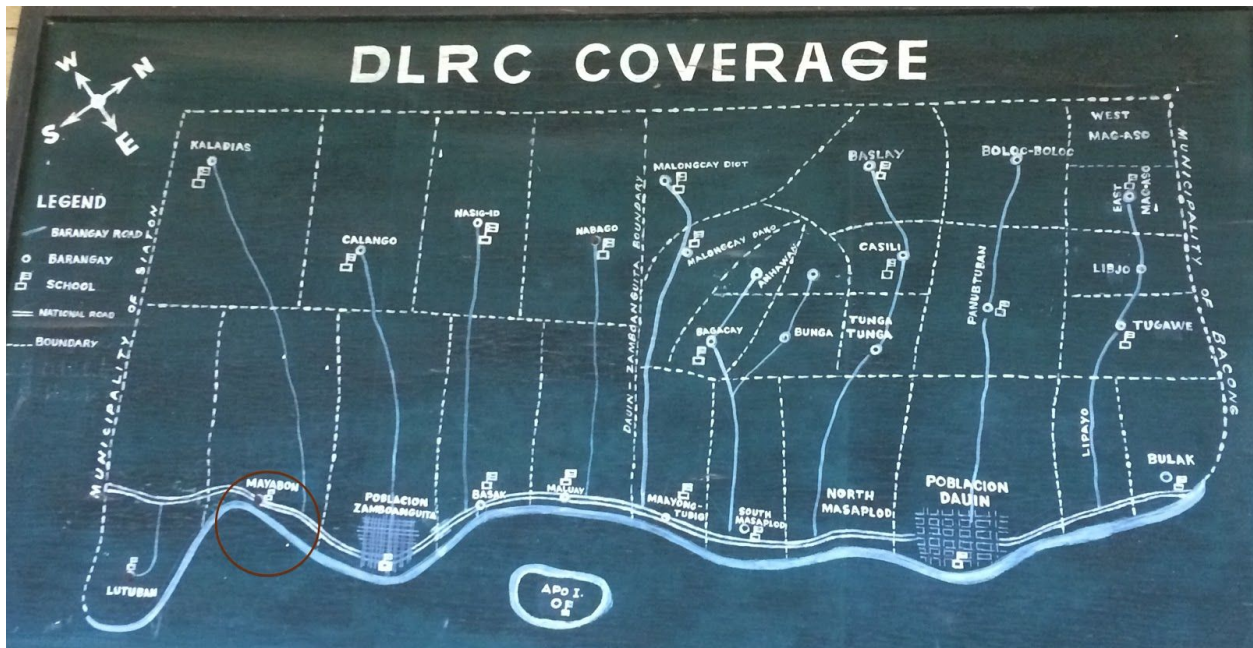


Figure 8. Map of Zamboanguita barangays. Cab-Cab in red circle.

6. Discussion

6.1. Results

The overall aim of this research has been to get a better understanding of the current state of the fishing sector in the area and identify conditions that influence the spatial dynamics between humans and the natural environment with emphasis on conditions that support more sustainable dynamics. Central to this has been the assessment of relations between SSF and (governmental) institutions and organisations in order to map how these relations affect sustainable fishing among SSF. Motivations, obstacles and factors that affect compliance and engagement in sustainable fishing were identified in the light of McGinnis and Ostrom's (2014) SES framework. This framework has been used to analyse these factors on how they affect interactions and outcomes between stakeholders and the natural environment.

This research has shown that a majority of SSF in Zamboanguita are engaged in sustainable fishing practices and find it important to preserve their marine CPRs. The main motivation to engage in sustainable fishing is the understanding and awareness that sustaining marine CPRs will benefit the livelihoods of SSF. As the regulations are seen as the mechanism to support this sustainable development, a majority of SSF are argued to comply as a result of this understanding. Fisheries regulations are seen as fair and this perception of legitimacy shows that the normative approach to compliance as described by Hauck (2009) has shown to be strongest in this case. It can be argued that McGinnis and Ostrom's (2014) variable 'knowledge of the SES' (A7, appendix table 1) is then found to be the most important condition to enable sustainable fishing. Closely aligned, 'importance of resource' (A8) can be confirmed as a condition and 'history and past experiences' (declined fish stocks) (A3), was additionally found to affect the interactions between SSF and marine CPRs. Other conditions affecting these interactions are the entrepreneurial and leadership skills of fisherfolks associations and the MFARMC. These provide a positive effect on the unity of SSF in voluntary sustainable practices and the moral and ethical standards regarding on how to behave as they are kept engaged (A5 & A6).

However, as normative and rationalist schools of thought are not mutually exclusive (Pomeroy et al., 2015), the second motive for fishers' engagement and compliance because of deterrence and the established enforcement systems lies more within the rational school (GS8). It confirms that the active enforcement of the bantay dagat prevents a tragedy of the commons because there is less incentive to freeride on the cooperation of others if there is active monitoring as Ostrom (2008) mentioned. However, the perceived legitimacy of the regulations by the majority confirms that enforcement systems influence voluntary compliance by its legitimacy and not only through deterrence (Pomeroy et al., 2015). Adding to that, it can be confirmed that overall compliance comes in both rationalist and normative ways and that combining both approaches can lead to the successful governance of CPRs among SSFs.

The minority that does not comply and fishes unsustainably can be divided in three subgroups, namely economic gains because of individual interest, economic gains because of poverty and a lack of understanding of regulations and resource benefits. There were no direct

explanations given for the actions of the minority that obtains economic gains based on individual interest and freeriding on the cooperation of others. However, using McGinnis and Ostrom's (2014) framework it could be that the resource is not considered important enough for their livelihoods and resource users attain a low value in the sustainability of the resource (A8) and a high economic value in extracting the resource (RU4). Another assumption could be that this group does not share the same moral and ethical standards as the majority of SSF (A6), possibly through a lack of engagement. This could then be aligned with a lack of knowledge of relevant SES benefits and the carrying capacity of the marine CPRs. As a lack of understanding and individual economic interest are not mutually exclusive, the component a lack of knowledge on how actions can affect the SES (A7) can then be confirmed in explaining why some SSF are not engaged and not comply. For both subgroups, more education, engagement and stipulating the resource benefits for the future is then recommended to reach voluntary compliance and engagement. For those who are termed hard headed or as true *siguristas*, more monitoring and stricter enforcement is needed as a stronger disincentive for these SSF. Nonetheless, to better understand their motives more research would be needed on these specific subgroups.

A third subgroup within the minority is pushed into non-compliance and unsustainable fishing practices as a result of a lack of income due to decreased fish stocks. This is attributed to overfishing and thus overfishing forms the main factor for SSF to result to unsustainable fishing and non-compliance. This research has shown that overfishing is believed to be caused by illegal commercial fishing vessels that intrude municipal waters. The political ties of commercial fishers ensure their invulnerability and it thus creates inequality between the treatment of SSF and commercial fishers in terms of access to natural resources and enforcement (GS4). This inequality can be translated to an absent equitable law and policy when looking into Hauck's (2009) framework for compliance. The first principle 'social justice' is present as the municipality highlights the importance of protecting and acknowledging customary fishing practices (e.g. *sahid*), fishers' livelihoods and their rights in the co-management strategy and CRM initiatives. The second principle has been shown to be present as well as a majority of the interviewees state that SSF perceive the regulations as legitimate and thus draws moral support from SSF. The third principle 'deterrence' can also be identified as the *bantay dagat* is active and only a minority of SSF are non-compliant. Nevertheless, Hauck (2009) mentions that none of these principles can be adopted without a legal and supporting policy framework. Interestingly, there is a policy framework that supports enforcement against illegal commercial fishers in Zamboanguita. However, the lack of implementation of this framework to apprehend illegal commercial fishers (GS8) because of political reasons threaten the compliance and engagement of SSF into sustainable fishing practices. The seemingly non-resource related issue of the (political) marginalisation of SSF as mentioned by Pomeroy (2012) can contribute to engagement in illegal fishing as is the case in Zamboanguita. Drawing back on Coulthard, Johnson and McGregor (2011), it can then be concluded that the relationship between SSF and the marine CPRs is mediated through the relationship of commercial fishers with politicians. Unequal political relations between stakeholders cause unequal and unregulated resource access and unequal treatment of SSF and commercial fishers (GS4). This ultimately causes overfishing in municipal waters, harming the wellbeing of SSF and the natural environment.

6.2 Recommendations for MCP

Political involvement by a small NGO as MCP in an attempt to tackle this issue in fisheries is risky for the organisation. MCP relies on many fronts on the support of local politics for their conservation activities such as acquiring dive permits. Getting too directly involved in this issue where more powerful stakeholders can affect MCP's conservation efforts, it could jeopardize the organisations' effectivity and the protection of marine CPRs. Instead of taking up a problem that is so complex and widely spread in the Philippines this thesis argues that investing in the local bantay dagat could produce more benefits for conservation and for the SSF. Bantay dagat members can be seen as the doorway to the community for more engagement in sustainable fishing as members are close to or part of the community themselves as well as the enforcers. Thus, members know about the problems of SSF and can interpret the policy framework through the eyes of a SSF as well as an enforcer. More training and support in equipment could ensure a stronger deterrence or force to apprehend offenders. However, MCP must not dismiss the perceived problems of illegal commercial fishers as they hedge and counteract conservation efforts of the organisation. This thesis therefore recommends that MCP needs to keep supporting sustainable development within the community as well as the municipality. An example could be raising support for establishing MPAs or raising awareness that preserving CPRs are for the common good of all Filipinos and not only for SSF. To alleviate pressure on CPRs MCP could invest more in alternative livelihoods.

Next to continuation of co-management, MCP could assess each fishing gear on sustainability and compose a guideline for the area based on scientific information as this research did not have the time or knowledge to do so. Defining a gear as sustainable is hard and context-specific as mentioned by Hilborn et al. (2015). Oceanographic and geographical characteristics, current fish stocks, impacts of gear, natural fluctuations and seasonal changes need to be taken into account in defining what gears are when sustainable. Thus, a comprehensive assessment would be needed to compose a guideline. The implementation would need voluntary compliance and a strong regulating body without compromising the livelihoods of SSF. Lastly, this thesis recommends MCP to take possible environmental changes into account regarding the noted changes in amihan and habagat seasons. This can have further effect in the future and change the needs of coastal communities.

6.3 Limitations

The main limitation of this research has been the language. Certain expressions or words in English were difficult to translate to Bisayan and vice versa. Words may have ended up in a different translation by the translators as well as the researcher. The local language is very interpretative. Sentences with the same words can have a different meaning depending on the accentuation and tone. Meanings for terms only found in the local language can become lost and the interpretation becomes the one translated in the English language. Even though it is inevitable that information gets lost in translation, these errors could be partly recovered by the researchers' own language skills. As both the translators and the researcher were not extensively trained, both occasionally suggested too much or gave examples during the interview. This may have led to bias in the questions and to respondents repeating examples

rather than their own thoughts. If interviewees honestly answered the questions instead of giving socially accepted answers can be debated as illegal fishing is a sensitive subject for SSF. This could limit the reliability of the gathered data. Next to a lack of experience, data about the exact amount of fishers was unavailable and thus makes it hard to confirm whether the results are representative for all fishers and groups may have been excluded. Lastly, time-constraints and the maximum size of this thesis limited a more comprehensive report.

7. Conclusion

This thesis has identified under which conditions SSF in Zamboanguita can engage in sustainable fishing. The results show that a majority of SSF in Zamboanguita already comply to fishery regulations and are highly engaged in sustainable fishing practices. Eight conditions were discussed that affect the engagement of SSF in sustainable fishing. The four hypothesized variables have been confirmed to affect the way SSF interact with marine CPRs and four others were additionally found. Knowledge and understanding of the importance of the resources for fisher's livelihoods proved to be the most important condition for SSF to engage in sustainable fishing. Related to this are normative conditions such as the importance or dependency of SSF on the resources, past experiences with declined fish stocks, local leadership and the enhancement of moral and ethical standards. The presence of monitoring and sanctioning systems prevent a tragedy of the commons and its legitimacy results in voluntary compliance. However, even though the economic value of CPRs is closely tied to the dependency of SSF on marine CPRs it could also act as a stimulant to engage in unsustainable practices. This rational approach to act based on self-interest at the expense of others could be mitigated through stimulation of knowledge and stronger monitoring and sanctioning systems.

The results further uphold the argument that the marginalisation of SSF and wellbeing losses contribute to the engagement of unsustainable fishing practices. This study has shown that a minority of SSF are pushed into poverty-driven engagement with unsustainable fishing practices due to declined fish catches and thus a lack of income. This was attributed to overfishing by illegal commercial fishers and their invulnerability to enforcement because of political favouritism and business interests. All in all, it can be concluded that there are (governmental) frameworks and bodies to stimulate sustainable fishing among small-scale fishers and enforce the corresponding regulations. However, the large scale rejection of bigger commercial fishers and political figures to comply obstructs the sustainable development of small-scale fishers' livelihoods even under active deterrence efforts. The skewed balance of fish catch in this area between SSF and commercial fishers creates conditions in which some small-scale fishers are fishing unsustainably. Thus, influencing the spatial dynamics between small-scale fishers and marine CPRs to an extent that in some cases it becomes unsustainable. Equitable access to resources and equitable government enforcement are the most crucial conditions for SSF in Zamboanguita to engage in sustainable fishing. The absence of this condition can create further complications in the future if CPRs are completely depleted. The actions and relationships of SSF with marine CPRs are in this case shaped through uneven political relations with commercial fishers. There is a need to eliminate political interests in the fishery sector to prevent that CPRs and SSF draw the short end of the stick.

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Appendix

1. Table A. First- and second-tier variables of a social-ecological system.

Source: McGinnis & Ostrom, 2014.

First-tier variable	Second-tier variable
Social, economic, and political settings (S)	S1 – Economic development S2 – Demographic trends S3 – Political stability S4 – Other governance systems S5 – Markets S6 – Media organizations S7 – Technology
Resource systems (RS)	RS1 – Sector (e.g., water, forests, pasture, fish) RS2 – Clarity of system boundaries RS3 – Size of resource system RS4 – Human-constructed facilities RS5 – Productivity of system RS6 – Equilibrium properties RS7 – Predictability of system dynamics RS8 – Storage characteristics RS9 – Location
Governance systems (GS)	GS1 – Government organizations GS2 – Nongovernment organizations GS3 – Network structure GS4 – Property-rights systems GS5 – Operational-choice rules GS6 – Collective-choice rules GS7 – Constitutional-choice rules GS8 – Monitoring and sanctioning rules
Resource units (RU)	RU1 – Resource unit mobility RU2 – Growth or replacement rate RU3 – Interaction among resource units RU4 – Economic value RU5 – Number of units RU6 – Distinctive characteristics RU7 – Spatial and temporal distribution
Actors (A)	A1 – Number of relevant actors A2 – Socioeconomic attributes A3 – History or past experiences A4 – Location A5 – Leadership/entrepreneurship A6 – Norms (trust-reciprocity)/social capital A7 – Knowledge of SES/mental models A8 – Importance of resource (dependence) A9 – Technologies available
Action situations: Interactions (I) → Outcomes (O)	I1 – Harvesting I2 – Information sharing I3 – Deliberation processes I4 – Conflicts I5 – Investment activities I6 – Lobbying activities I7 – Self-organizing activities I8 – Networking activities

	<p>I9 – Monitoring activities I10 – Evaluative activities O1 – Social performance measures (e.g., efficiency, equity, accountability, sustainability) O2 – Ecological performance measures (e.g., overharvested, resilience, biodiversity, sustainability) O3 – Externalities to other SESs</p>
<p>Related ecosystems (ECO)</p>	<p>ECO1 – Climate patterns ECO2 – Pollution patterns ECO3 – Flows into and out of focal SES</p>

2. Table B - Interview guides semi-structured interviews

General
How long have you been a bantay dagat?
How many small-scale fishers are there approximately in [...area...]?
Are there more or less small-scale fishers than 5-10 years ago?
What kind of fish are commonly caught by small-scale fishers? Examples: <i>shallow; grouper / emperor / surgeon fish / jacks / unicorn fish / snapper</i> <i>deep; tuna/ mackarel</i>
What are the biggest threats to fish stocks in this region?
What are the biggest threats to small-scale fishers?
How would you define a sustainable small-scale fisher? * explain sustainability?
Fishing gear and methods
How would you [...organisation...] define sustainable fishing?
Are there guidelines for sustainable fishing? + Add: Are illegal and unsustainable the same? Are there illegal methods that are seen as sustainable?
Are fishers well informed about regulations? If YES, why and how do you think they are well informed? If NO, why and how do you think they are not well informed?
What are the main and common fishing methods used in [...area..]? Did fishers use other gears in the past? If YES, Which ones? Why [did this change]?
What are traditional fishing methods? Are these considered as sustainable? Are some traditional fishing methods seen as illegal?
What fishing methods are seen as sustainable [<i>legal?</i>] in [...area..]? - Could you give examples?
What fishing methods are seen as unsustainable [<i>illegal</i>] in [...area..]? - Could you give examples?
Are the current fishing methods of fishers compatible with guidelines for sustainable fishing?
Do many fishers still use unsustainable fishing methods? If YES, how many? (Do many fishers still use illegal fishing methods? If YES, how many?)
On average, how many fishers break the law averagely, is that a high percentage? If YES, what are the consequences? how high are these punishments to fishers?
How high or low is law enforcement for fishery regulations?

<p>Do the current commonly used methods differ from a couple of years ago? If YES, why? what changed?</p>														
<p>Are there permits for fishing? If YES, how do these work?</p>														
<p>Engagement and regulations</p>														
<p>Do local fishers have their own organized group or union?</p>														
<p>Are local fishers engaged in meetings about fisheries? If YES, how and why? If NO, why not? What could be done to engage them more?</p>														
<p>Are local fishers engaged in making fisheries regulations? If YES, how and why? If NO, why not?</p>														
<p>Are most fishers aware of fisheries regulations? If YES, how and why? If NO, why not?</p> <p>Are fishers aware of the purpose of fisheries regulations? If YES, how? If NO, why not?</p>														
<p>Do you think fishers are willing to be engaged in sustaining a healthy fishery?</p> <p>So, do fishers commonly think it is important to protect the marine environment? If YES, why and how? If NO, why not?</p> <p>Do fishers think about the state of the fish in the future? If YES, why and how? If NO, why not?</p> <p>To what extent do you think fishers are already engaged in sustainable fishing? If engaged, why and how? If not, why not?</p>														
<p>What are the main obstacles for fishers to comply with fishery regulations? (why do fishers not comply to rules?)</p> <p>Variables from literature:</p> <table border="0"> <tr> <td>•<i>financial(economic)</i></td> <td>•<i>fisheries regulations</i></td> </tr> <tr> <td>•<i>other SSF (social pressure)</i></td> <td>•<i>commercial fishers</i></td> </tr> <tr> <td>•<i>social norms</i></td> <td>•<i>corruption (legitimacy of institution)</i></td> </tr> <tr> <td>•<i>no moral integrity</i></td> <td>•<i>engagement</i></td> </tr> <tr> <td>•<i>lack of education</i></td> <td>•<i>no supporting legal framework(monitor&enforcement)</i></td> </tr> <tr> <td>•<i>lack of understanding</i></td> <td>•<i>perceived as unjust (legitimacy of regulations)</i></td> </tr> <tr> <td>•<i>acknowledgement (of needs and rights)</i></td> <td></td> </tr> </table> <p>What are the main obstacles for fishers to use sustainable methods? (why do fishers not use sustainable methods?)</p>	• <i>financial(economic)</i>	• <i>fisheries regulations</i>	• <i>other SSF (social pressure)</i>	• <i>commercial fishers</i>	• <i>social norms</i>	• <i>corruption (legitimacy of institution)</i>	• <i>no moral integrity</i>	• <i>engagement</i>	• <i>lack of education</i>	• <i>no supporting legal framework(monitor&enforcement)</i>	• <i>lack of understanding</i>	• <i>perceived as unjust (legitimacy of regulations)</i>	• <i>acknowledgement (of needs and rights)</i>	
• <i>financial(economic)</i>	• <i>fisheries regulations</i>													
• <i>other SSF (social pressure)</i>	• <i>commercial fishers</i>													
• <i>social norms</i>	• <i>corruption (legitimacy of institution)</i>													
• <i>no moral integrity</i>	• <i>engagement</i>													
• <i>lack of education</i>	• <i>no supporting legal framework(monitor&enforcement)</i>													
• <i>lack of understanding</i>	• <i>perceived as unjust (legitimacy of regulations)</i>													
• <i>acknowledgement (of needs and rights)</i>														
<p>What are the main motivations for fishers to comply with fishery regulations? (why do fishers comply to rules?)</p>														

Variables from literature:

- *financial(economic)*
- *other SSF (social pressure)*
- *social norms*
- *moral integrity*
- *sufficient education/info*
- *sufficient understanding*
- *alternatives to livelihood (dependency on fishing)*
- *acknowledgement (of needs and rights)*
- *fisheries regulations*
- *no corruption (legitimacy of institution)*
- *engagement*
- *supporting legal framework(monitor&enforcement)*
- *perceived as just (legitimacy of regulations)*

- *benefits (e.g. healthy coral reefs)*
- *future planning (sustainability)*

What are the main motivations for fishers to use sustainable methods?

(why do fishers use sustainable methods?)

Do you think the fishers perceive the rules as fair and just?

Do you think fishers are afraid of the consequences for not following the rules?

Do you think fishers' livelihoods are protected enough?

Do you think fishers trust the law enforcers?

What are the most important improvements that should be made for fishers to become more engaged in conservation and sustainable fishing?

Do you think small-scale fishers would be willing to participate in a certification programme to label fish? (eco-labeling / certification)

If YES, why do you think so?

what would be needed to facilitate a certification?

what would be important to keep in mind?

If NO, why don't you think so?

what would be needed to facilitate participation?

what would be important to keep in mind?

2. Interview guides semi-structured interviews

Interview guide

Interviews with small-scale fishers in Zamboanguita.

Interview documentation: Name, gender, age, barangay.

General / introduction

Questions to make the interviewee at ease and to gain background information about the fisher.

- How long have you been a fisher?
- Who do you fish with?
- Who taught you to fish?
- Is fishing a profession that runs in the family?
- What is the biggest struggle for a fisher?
- What is enjoyable about fishing?
- Do you have an alternative livelihood?

Fishing

Questions regarding fishing activities and experiences to gain background information about the interviewee and the context the interviewee is in.

- Where do you fish?
- How far from shore do you fish?
- Do you fish further away from the shore compared to before?
 - if yes, how much further?
 - why?
- How many times a week do you fish?
- Do you fish more often in a week than before?
- If you go fishing, how many hours a day do you spend fishing?
- Do you spend more hours fishing per day than before?
- How much is your average daily catch?
- Have you noticed a decline in your average catch?
- What kind of fish do you catch mostly?
- How much of your catch is for your own consumption?
- Do you sell your fish?
 - if yes, to who or where?
- What fishing gears do you use?

Regulations

- Do you know the fishery regulations in this area?
 - if yes, how do you know about these regulations?
- Are fishers aware of the purpose of fishery regulations in the area?
- Do you think the regulations are fair?
 - Why?
- What is the motivation for small-scale fishers to comply to the rules?
- What is the motivation for small-scale fishers to not comply to the rules?
- Do you have any suggestions to improve the current regulations?

Sustainable fishing

- What does a sustainable fishery mean to you?
- What are the biggest threats to fish stocks in this area?
- What are the biggest threats to fishers' livelihoods in this area?

- Are there any commercial fishing activities in this area?
 - Yes: Do you think commercial fisheries are a threat to the practices of small-scale fisheries?
- Do fishers think about the future of fisheries?
 - if yes, how and why?
- Do you have any concerns for fisheries in the future?
- What would you like to see for fisheries to happen in the future?

MCP-livelihood questions

Questions requested by MCP to inquire about livelihood projects.

Eco-certification

- Have you heard of eco-labels or eco-certifications?
 - * explain what is meant by it.
- What are your thoughts about it?
- Do you think people would like to participate in this project?
- When would you be willing to adopt such a certification?
- Do you think it's possible in this area?
- Do you have any suggestions for this idea?

Seacucumber-farming

- What do you think of the idea to start a seacucumber farming project here?
- Do you think it's possible in this area?
- Do you think people would like to participate in this project?
- Do you have any suggestions for this idea?

2. Table C – Survey

Johanna Schijvenaars		BSc stakeholders survey		
Respondent code:		Petsa / Date: / / 2017		
1. Henero / Sex:		2. Edad / Tuig / Age (years):		
3. Asa nga barangay ka nagpuyo? / Which barangay do you live in?				
4. Kahintang sa Pagminyo / Marital status:				
Dalaga/Ulitawo Single	Partner Partner	Minyo Married	Balo Widowed	Separado/a / Separated
5. Pila ang imong anak na buhi? /How many living children do you have?				
6. Pila edad ang tanan imong anak? / How old are all your living children?				
7. Imo lebel sa eskuelaha /Your level of education:				
Mangingisda / Fishing				
8. Pila ka tuig kang nangisda? / How long have you been a fisher?				
<input type="checkbox"/> <5 years <input type="checkbox"/> 5-10 years <input type="checkbox"/> 10-15 years <input type="checkbox"/> 15-20 years <input type="checkbox"/> 20+ years				
9. Kapila ka adlaw mangisda sa usa ka semana? / How many days a week do you fish?				
10. Ug pila ka biyahe sa usa ka semana? / And how many fishing trips in a week?				
11. Asa ka kalagmitan nagisda? / Where do you fish most often?				
12. Unsa ka kalayo-a gikan sa bay-bay? / How far do you fish from the shore? (Meter or KM)				
13. Nangisda ka ba sa layo' sa bay-bay kompara sa nag sugod kag pangisda? / Do you fish further from the shore compared to when you started fishing?				
<input type="checkbox"/> Oo/Yes <input type="checkbox"/> Dili/No				
14. Kung OO, pila? / If YES, how much further?				
<input type="checkbox"/> 1 - 3 km <input type="checkbox"/> 4 - 7 km <input type="checkbox"/> 7 - 10 km <input type="checkbox"/> 10+ km				
15. Kung mangisda ka, pila ka oras mangisda? / If you go fishing, how many hours a day do you spend fishing?				
16. Nag-gahin ka ba ug daghang oras sa pangisda kada adlaw kompara sa nag sugod ka ug pangisda? / Do you spend more hours fishing per day than when you started fishing?				
<input type="checkbox"/> Oo / Yes <input type="checkbox"/> Dili/ No				
17. Kung OO, pila ka oras? / If YES, how many hours more?				
18. Unsa ka daghanon ang imong kuhâ kada adlaw? / How much is your average daily catch? (in KILO)				
19. Unsang klasing isda ang kalagmitang imong kuhâ? / What kind of fish do you catch mostly?				
1.		3.		5.

2.

4.

6.

20. Pila sa imong kuhâ ang para sa imong konsumo? / How much of your catch is for your own consumption?

21. Unsang klasihang isda ang para sa imong konsumo sa pangisda? / What kind of fish do you mostly consume from fishing?

22. Kung mo baligya ka ug isda, unsa sa imong kuhâ ang kalagmitan ni? / If you sell fish, what kind of fish do you mostly sell from your catch?

1.

2.

3.

Wala /None

23. Sa kinsa nimo ibaligya ang kalagmitan nga isda? / To who do you sell your fish mostly?

1.

2.

3.

Kagamitan sa pangisda / Fishing gear

24. Ga sakayan ka ba kalagmitan? / Do you usually fish from a boat?

Oo/ Yes

Dili/ No

25. Tag-iya ka ba ug sakayan? / Do you own a fishing boat?

Oo/ Yes

Dili/ No

26. Kung DILI, nag bayad ka ba sa sakayan? / If NO, do you pay to use a boat?

Oo/ Yes

Dili/ No

27. Unsay gamit nimu pagpangisda? / What fishing gears do you use?

1.

4.

2.

5.

3.

6.

28. Na-a ka bay kaogalingong gamit sa pangisda? / Do you have your own fishing gear?

Oo/ Yes

Dili/ No

29. Ug kon WALA, nag bayad ka ba? / If NO, do you pay to use fishing gear?

Oo/ Yes

Dili/ No

30. Na-a bay kinara-ang pama-ag sa pagpangisda diring lugara / Are there any traditional methods used in this area?

Oo/ Yes

Dili/ No

31. Ug kon NA-A, unsang klasiha? / If YES, what kind of traditional methods?

1.

3.

5.

2.

4.

6.

Paglam or pag-amoma / Stewardship

LINGINAN LANG ANG TUBAG / CIRCLE THE ANSWER

32. Nangisda ko sa insakto nga pama-agi para na-a pay mabilin sa ubang mangingisda sa umaabot nga panahon

/ I fish in a manner that makes sure future generations have enough fish to catch

Dili gud mo uyon

Dili mo uyon

Wala kahibalo

Uyon

Uyon ka-ayo

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Don't know</i>	<i>Agree</i>	<i>Strongly Agree</i>
33. Importante ang sanctuary/ Marine Protected Areas (MPAs) are important				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
34. Importante na protektahan ang kinalyahan sa dagat <i>/ It is important to protect the marine environment</i>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
35. Importante na mahibalo-an ang ilalom sa dagat ug isda <i>/ It is important to think about the future of our marine environment and fish</i>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
36. Kung mangisda, minus ang kada-ot mahitabo sa ilalom sa dagat <i>/When fishing, I try to have as less destructive impact as possible on the marine environment</i>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
37. Kung mangisda, akong paningkamutan dili makada-ot nga pama-agi sa pangisda <i>/When fishing, I try to use the non-destructive fishing gears and methods</i>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
38. Kung makakita ko ug na-ay nisupak sa bala-od, akong gud ning isumbong sa otoridad <i>/If I see or notice others breaking fisheries regulations or using illegal methods, I will most likely report this to authorities</i>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
Regulasyon - Regulations				
39. Bala-od sa pangangisda importante nga mahibalo-an / Fishing policies are important to know				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
40. Bala-od sa manga gamit sa pangangisda ay importante na mahibalo-an <i>/ Regulations about fishing gears are important to know</i>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>

41. Nakahibalo ko sa mga bala-od sa pangingsda sa among municipal nga katubigan
/ I am well informed about the fishing regulations for my municipal waters

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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42. Nakahibalo ko sa mga katuyuan ug patakaran sa kadagatan o katubigan sa akong munisipyo
/I am well informed about the purpose of fishing regulations for my municipal waters

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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43. Nahibalo ko sa mga pama-agi sa pag-gamit ug ang mahitabo sa kasagarang gamit sa pagpangisda
/I am well informed about the use and impacts of certain fishing gears and methods

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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Kalambigitan sa Komonidad - Community Engagement

44. Apilan ko sa komonidad na nga panagtigum kabahin sa bala-od sa pangisda
/ I am engaged in community meetings about fishing or fishing regulations

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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45. Kinahanglan na ma-apil ko sa bala-od sa pangingsda ug kasabotan
/It is important for me to be involved in any meetings about fishery regulations

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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46. Kinahanglan apilan sa mga mangingsda ang paghimo sa bala-od
/ Fishers should be engaged in the making fisheries regulations

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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47. Adona bay dakong papel ang gagmay na mangingsda sa paghimo ug bala-od
/ There is enough effort to engage small-scale fishers in (community) meetings and in the making of fishing regulations

Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
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Sertipikasyon sa Kinaiyahan - Eco-certification

<p>48. Nakadungog ka na ba sa konsepto na lebelan ang isda or kinaiyahan na lebelan / Have you heard about the concept of labeling your fish: Eco-certification or Eco-labeling? <input type="checkbox"/> Oo/ Yes <input type="checkbox"/> Dili/ No</p>				
<p>49. Andam ko na mo apel sa programa na sertipikasyon bisan pa na biyaan nako ang akong naandang pama-agi <i>/ I would be willing to participate in a certification programme even if I would need to give up my current fishing methods</i></p>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
<p>50. Andam ko na mo apel sa mga programa sertipikado kung ang akong kuhâ ma-halin ug mahal <i>/ I would be willing to participate in a certification programme if the fish can be sold for a higher price</i></p>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
<p>51. Andam ko na mo apel sa mga programa sertipikado kung tanan mangiisda na apelan <i>/ I would be willing to participate in a certification programme if fishers are engaged</i></p>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
<p>52. Andam ko na mo apel sa manga programa ng sertipikado bisan pa na lain-lain ang isda <i>I would be willing to participate in a certification programme even if I have to catch different fish</i></p>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
<p>53. Andam ko na mo apel sa manga programa sertipikado kung mo palit ang mga torista ug resort sa isda <i>/ I would be willing to participate in a certification programme if tourists and resorts are willing to buy the fish</i></p>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>
<p>54. Andam ko na mo apel sa manga programa certipikado kung mag hatag ug saktong kita <i>/ I would be willing to participate in a certification programme if it would provide me with a stable income</i></p>				
Dili gud mo uyon <i>Strongly Disagree</i>	Dili mo uyon <i>Disagree</i>	Wala kahibalo <i>Don't know</i>	Uyon <i>Agree</i>	Uyon ka-ayo <i>Strongly Agree</i>

3. Table D – List of interviewees

Interview number	Interview code	Age	Barangay	Group	Fishing experience
1	BD_1_C	43	N/A	Bantay Dagat	33 years
2	BD_2_C	N/A	N/A	Bantay Dagat	5 years
3	BD_3_C	59	N/A	Bantay Dagat	0 years
4	BD_4_C	53	N/A	Bantay Dagat	39 years
5	BD_5_C	35	N/A	Bantay Dagat	20 years
6	BD_6_C	N/A	N/A	Bantay Dagat	3 years
7	BD_7_C	37	N/A	Bantay Dagat	20 years
8	BD_8_C	50	N/A	Bantay Dagat	10 years
9	BD_9_C	40	N/A	Bantay Dagat	0 years
10	BD_10_C	53	N/A	Bantay Dagat	41 years
11	FB_1Basak_C	63	Basak	Fisher	8 years
12	FB_2Basak_C	52	Basak	Fisher	37 years
13	FB_3Basak_C	34	Basak	Fisher	15 years
14	FB_4Basak_C	32	Basak	Fisher	20 years
15	FB_5Basak_C	32	Basak	Fisher	11 years
16	FL_1Lutoban_C	31	Lutoban	Fisher	5 years
17	FL_2Lutoban_C	48	Lutoban	Fisher	30 years
18	FL_4Lutoban_C	65	Lutoban	Fisher	55 years
19	FL_5Lutoban_C	50	Lutoban	Fisher	37 years
20	FL_6Lutoban_C	23	Lutoban	Fisher	8 years
21	FL_7Lutoban_C	48	Lutoban	Fisher	10 years
22	FM_1Maluay_C	46	Maluay	Fisher	37 years
23	FM_2Maluay_C	63	Maluay	Fisher	43 years
24	FM_5Maluay_C	44	Maluay	Fisher	30 years
25	FP_1Poblacion_C	63	Poblacion	Fisher	41 years
26	FP_2Poblacion_C	43	Poblacion	Fisher	29 years
27	FP_3Poblacion_C	32	Poblacion	Fisher	25 years
28	FP_4Poblacion_C	60	Poblacion	Fisher	35 years
29	E_CRM_C	42	N/A	Expert: CRM manager	25 years
30	E_FAPob_C	45	Poblacion	Expert: Head fisherfolks Poblacion	30 years
31	E_FALutob_C	31	Lutoban	Expert: Head fisherfolks Lutoban	31 years
32	E_FABasak_C	57	Basak	Expert: Head fisherfolks Basak	8 years
33	E_ECOFISH_C	N/A	N/A	Expert: Site coordinator	N/A
34	E_EnRD_C	N/A	N/A	Expert Environmental management	N/A
35	E_Greenpeace_C	N/A	N/A	Expert Ocean's campaigner	N/A
36	E_WWF	N/A	N/A	Expert Overall project manager fisheries	N/A

4. NVivo output

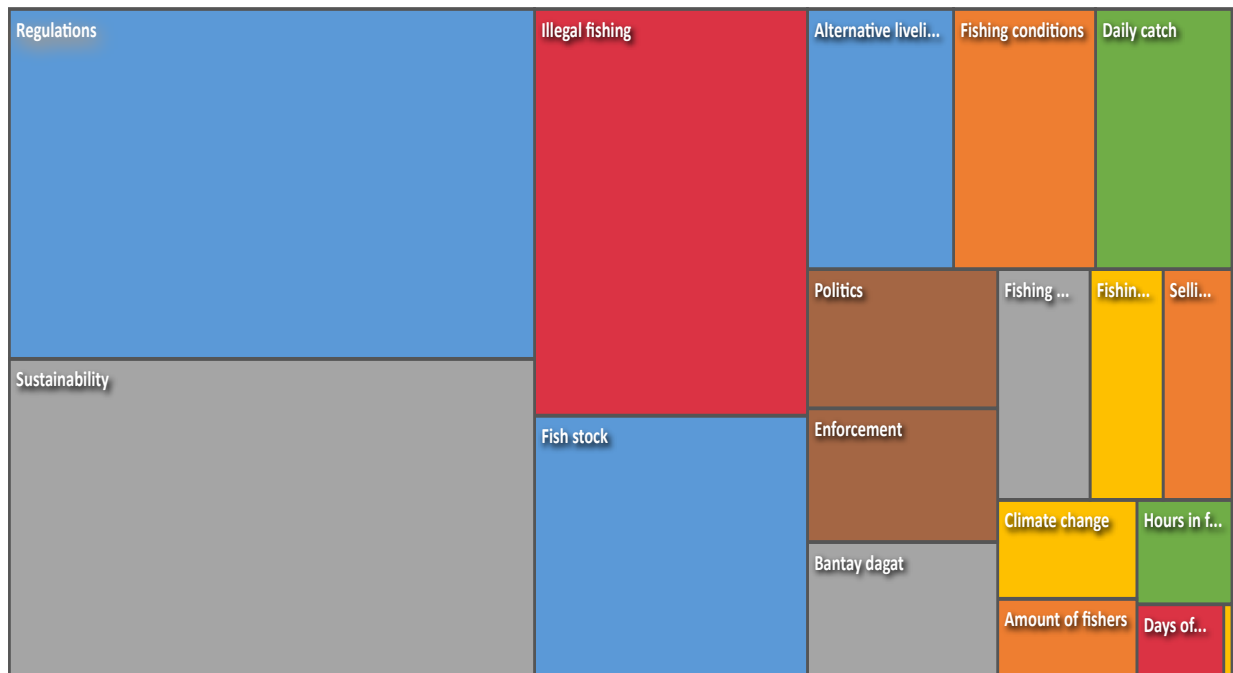


Chart 4.1 – Themes in research



Chart 4.2 – Themes in research with detailed nodes

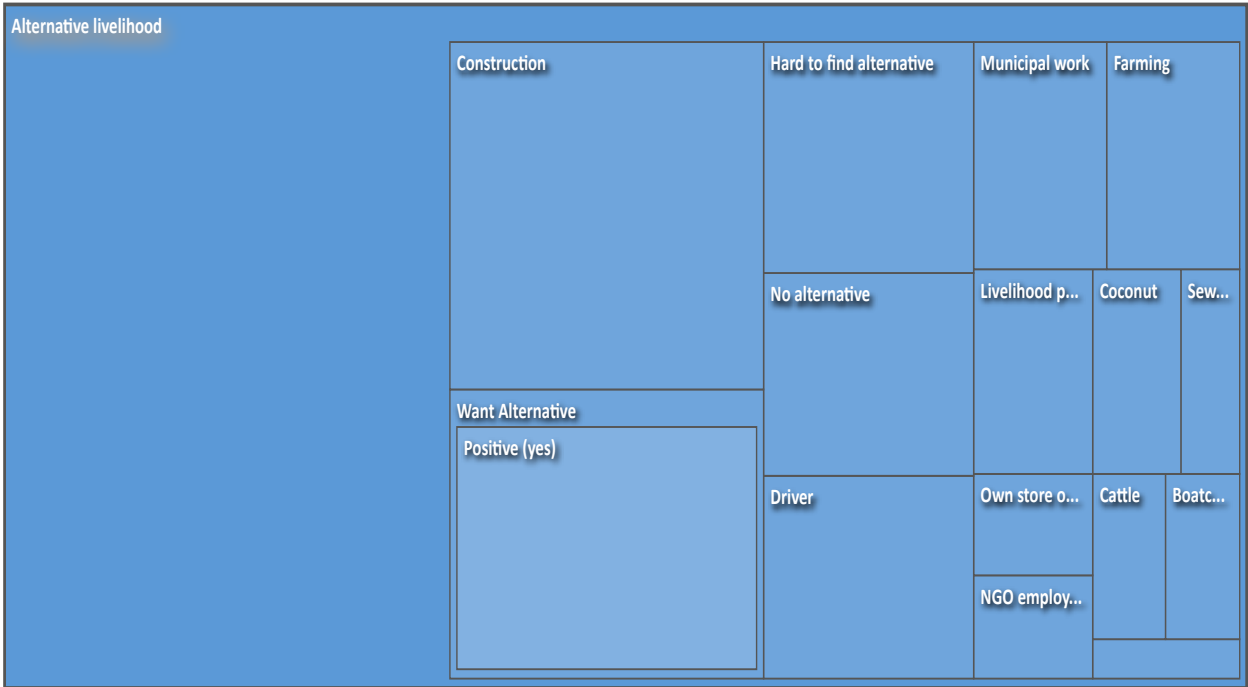


Chart 4.3 – Alternative livelihood



Chart 4.4 – Sustainability

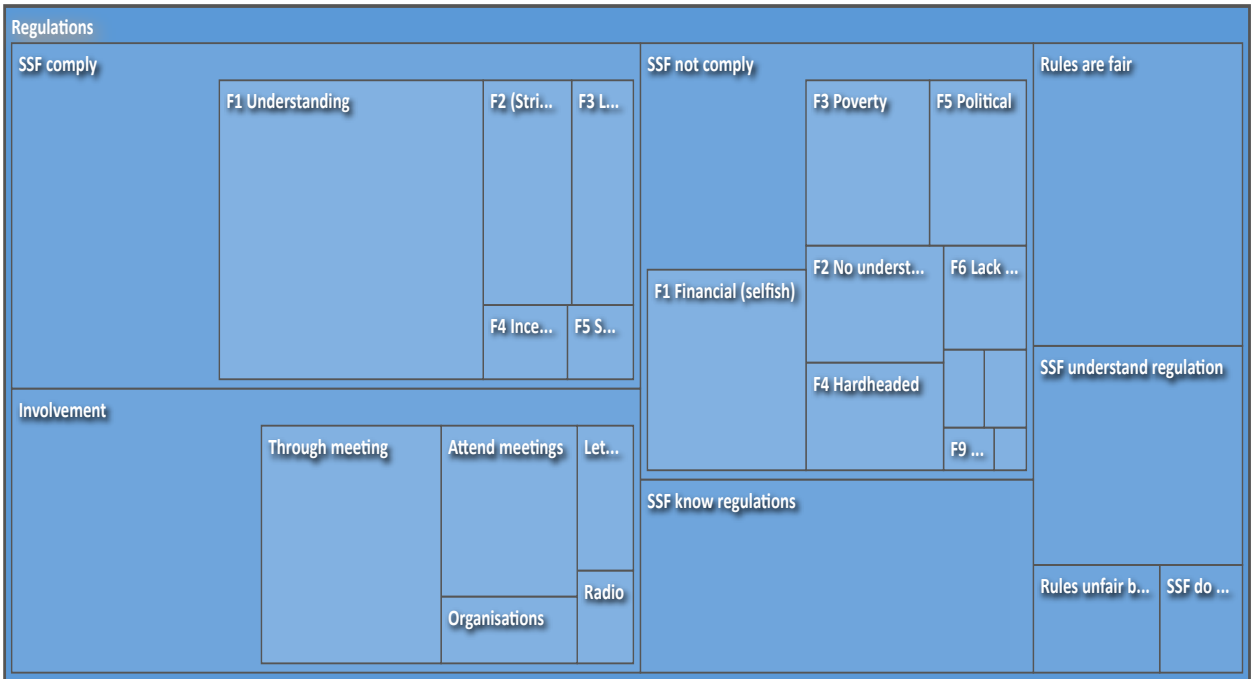


Chart 4.5 – Regulations



Chart 4.6 – Illegal fishing

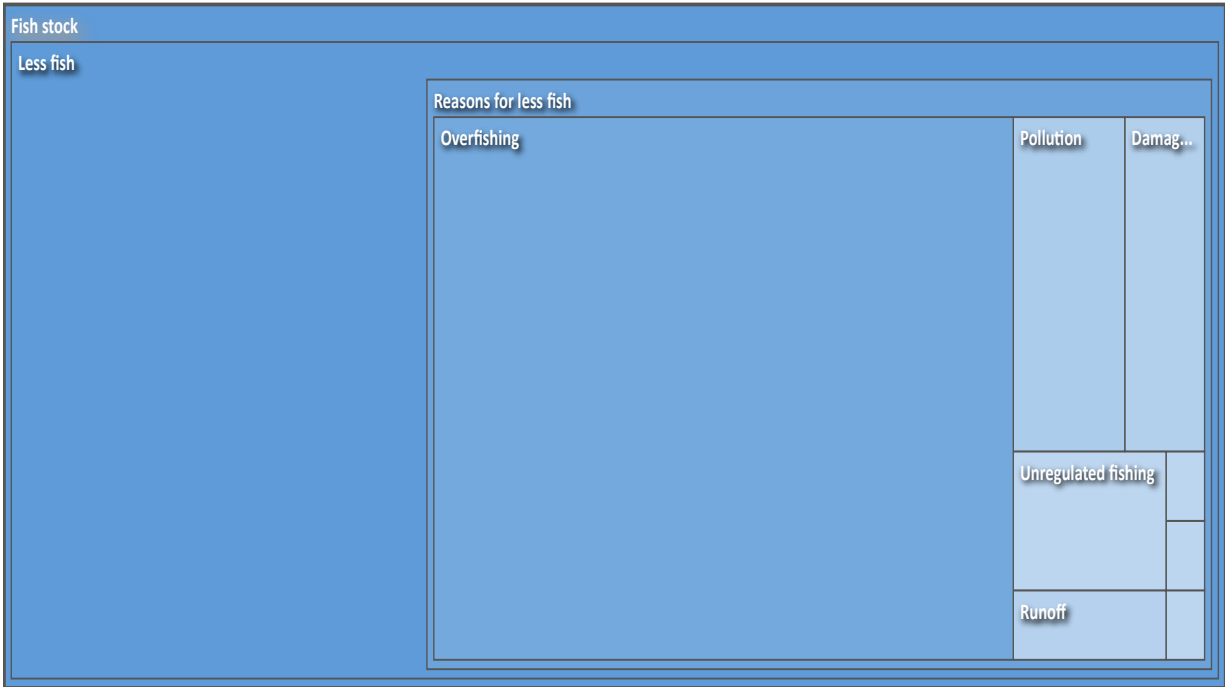


Chart 4.7 – Fish stocks

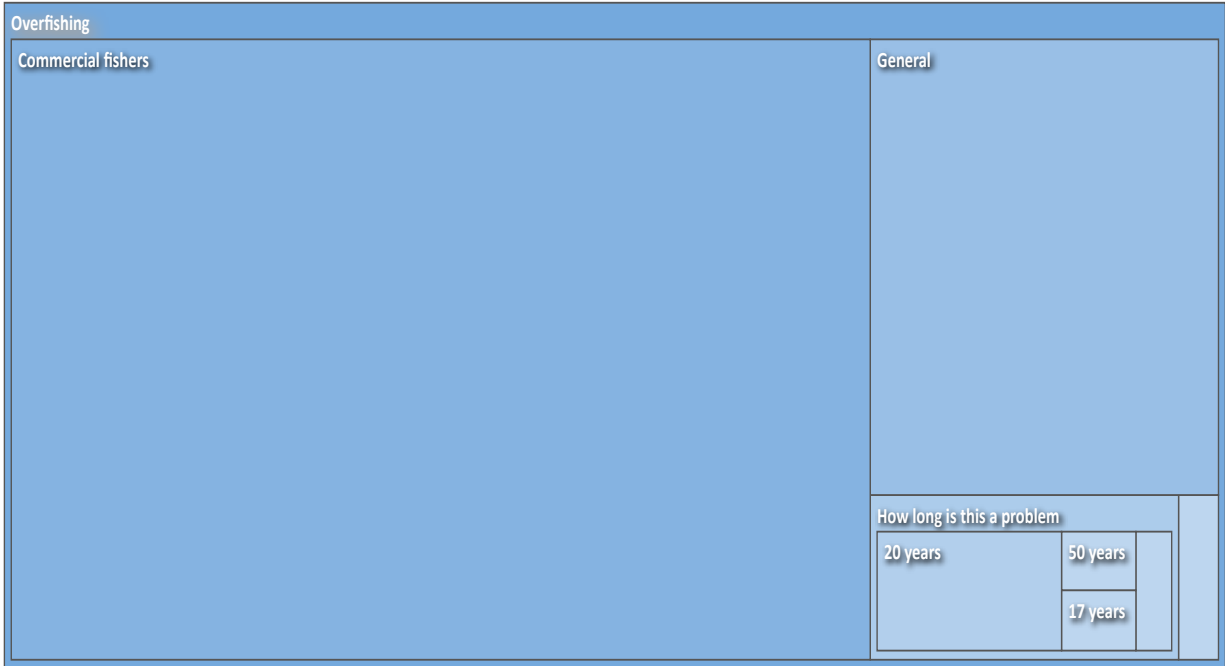
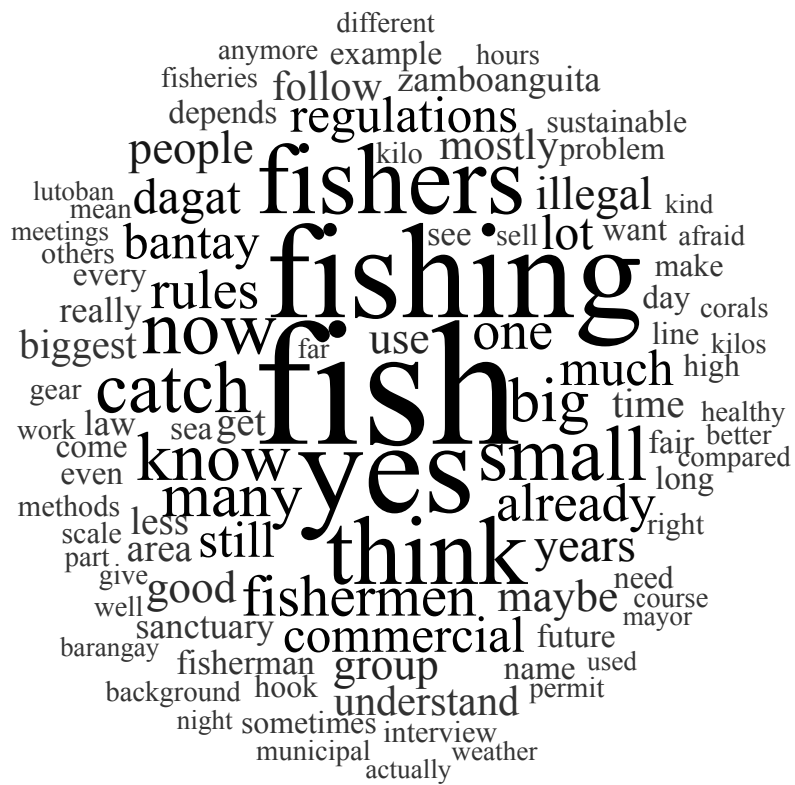


Chart 4.8 – Fish stocks, Overfishing detail



Chart 4.5 –Politics



4.6 Word frequency query

5. Reflection on Bachelor thesis: Experiences in doing research

The choice to do a field research for my bachelor thesis was based on the curiosity of the academic researchers' world. I wanted to experience the field and see what challenges researchers stumble upon and find out if I truly enjoy doing research. There have been many learning moments from beginning to end. The start of this research was more difficult than I initially thought it would be. Thinking of a research question to apply in an unknown area with little data was a challenge for me. Doubts about whether my questions would be relevant for my thesis and MCP frequently occurred. The first weeks in the field felt very overwhelming because of the new environment and struggles with structuring my research. As I was the only student with a non-marine biology background and as I was surrounded with volunteers who came to help with conservation, I had to rely on my own initiative for things to be done. My MCP supervisor helped me along the way with who I could contact and with familiarising the area. However, a feeling of insecurity made me feel like I needed reassurance that what I was doing was on track. After a rough start the research started going and I was eventually familiar enough with the area and the people to venture out on my own and start interviewing.

For this a translator was needed to facilitate a conversation. Even though I could understand conversations partly already due to my background in the Philippines, it was not enough for a professional interview. Certain limitations started to come up such as financial constraints to hire a translator and distance from the nearest university. From the point that the research started going, several drawbacks and limitations have become clear. My lack of experience can be seen in the interviews. The art of good interviewing is something I learned to do better and became more familiar with doing interviews. I noticed that consistency was important in the interviews, but hard for me to accomplish. This research can be compared to fitting a shoe, finding out what works for me and what suits me best. The whole research process taught me how to search for interviewees and taking initiative in doing so. Using a snowball method or convenience sampling requires of the researcher to be comfortable with the research and to have confidence to talk with strangers. For me, my background in the Philippines helped a lot in understanding the culture, body language and customs. However, the longer I immersed myself in the environment the more I became familiar with the fishers and became more accepted by them. I have not only learned about doing research, but also about livelihoods of others and how they look at certain matters and why.

There have been many things I have learned during the process. The most important one has been the introduction to 'doing research' and finding out what it actually means. The task of conducting a research was hard but proved to be rewarding in the end. You are forced to think about various things that could affect your research. How does your survey look like or your interview guide? What kind of words are you using? You learn to ask yourself these questions and critically look at what you are doing and why. The choices that have been made need to be based on something and it taught me to be a thinker. Furthermore, I gained insight in the approaches and basics of scientific research (for example setting up the research, doing interviews and observations). The theory that has been touched upon by academics and in the classroom could be put into reality in this research. This has given me an experience beyond the skills you usually learn within the university. This experience is invaluable for me and the amount of work in this thesis becomes irrelevant when I come to look at what I have learned. I have learnt how to deal with limitations, how to be self-reflective, how to apply a research method and in the end how to put the pieces together.

In some ways I developed myself on a personal level as well. In a country where large inequalities are an issue, you learn to be more self-reflective on your own life. Interviewing small-scale fishers required also an awareness of one's own position and how people could view you. The interviews I had with fishers taught me in many ways how to deal with certain problems just by analysing and listening how others were doing that. However, I also learned that as a researcher you must be aware of your personal feelings and for

sensitive issues such as hard poverty you need to be able to distance yourself from that as well. I learned how to separate emotional feelings and the tasks of a researcher. Nevertheless, many friends were made and life lessons were learned for me personally.

The results of this study have been manifold. The subject that I have tried to research is complex and it requires more research to fully understand the socio-ecological system. However, I argue that this study has interesting findings that could benefit MCP as well as the coastal resource management. Furthermore, I think that this bachelor thesis has exceeded the requirements of a bachelor thesis looking into the work that has been put into this thesis. The analysis of the research proved to be intensive and I did not expect this much work. Although I have collected a lot of data, I have managed to analyse the data with NVivo. I have learned how to use this programme during the analysis-period and gained more knowledge in research methods. However, this has taught me to make choices in what to do and what not to do, just like during the fieldwork. The great deal of data resulted in time-constraints and difficulties to fully process it. I was not aware that my amount of interviews was a great deal of data already. Therefore, I learned from this experience to set boundaries and keep them and not to get carried away with the research.

It can be concluded that the research process has taught me how to deal with limitations and other affairs in research. Processing the results and writing the thesis have shown me how to properly process, analyse and link data to the research. My main aim to achieve research experience and to contribute to conservation efforts have been achieved. All in all, this thesis has offered me research experience and strengthened my academic knowledge of doing research in preparation for possible future studies.

6. Fishery registration 2013

Names have been removed

Name	Barangay	Activity	Fishing gear + Payed fee	Total fee
	Poblacion	Pamasol	Hook and Line (P50) Baroto (P50)	P100
	Poblacion	Pamasol	Hook and Line (P50) Baroto (P50)	P100
	Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Baroto (P50)	P100
	Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Pumpboat 6HP (P150) Pumpboat 9HP (P150)	P350
	Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Baroto (P50)	P100
	Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Baroto (P50) Pumpboat 7HP (P150)	P250
	Poblacion (Guinsuan)	Pamasol	3x Hook and Line (P150) 3x Baroto (P150)	P300
	Poblacion (Guinsuan)	Pamasol, Pambobo	Hook and Line (P50) Bobo Big (P75) 2x Baroto (P100) Banca (P50)	P225
	Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Baroto (P50)	P100

Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Baroto (P50)	P100
Poblacion (Guinsuan)	Pamasol	Hook and Line (P50) Baroto (P50)	P100
Poblacion (Dalakit)		Hook and Line (P50) Pokot (P150) Pumpboat 7HP (150)	P350
Poblacion (Dalakit)		Hook and Line (P50) Pokot (P150) Baroto (P50)	P250
Poblacion	Pamasol	Hook and Line (P50) 2x Baroto (P100) 4x Bobo Big (P300)	P150
Poblacion (Dalakit)	Pamobo	Pumpboat 6.5HP (P150)	P450
Poblacion	Pamokot, Panuga	Pukot (P150) Petromax (P50) Pumpboat (P150) Baroto (P50)	P400
Poblacion (Dalakit)	Pamasol	Hook and Line (P50) Baroto (P50)	P100
Poblacion (Dalakit)	Pamasol	Hook and Line (P50) Baroto (P50) Petromax (P50)	P150
Poblacion	Pamasol, Pamokot	Hook and Line (P50) Pokot (P150) Baroto (P50)	P250
Poblacion	Pamokot	Pokot(P150) Baroto (P50)	P200

Poblacion	Operator 1 unit resort service pumpboat	Single engine E, Mitsubishi 63 HP	P5260
Poblacion	Pamokot	Pokot (P150) Pumpboat 5HP (P150)	P300
Poblacion (Dalakit)		Hook and Line (P50) Pokot (P150) Pumboat 5HP (P150)	P350
Poblacion	Pamasol	Hook and Line (P50) Pumpboat 6HP (P150)	P200
Poblacion (Guinsuan)		2x Baroto (P100)	P150
Poblacion	Pangsagiwsiw	Sagiwsiw (P450) 2x Pumpboat 7.5 HP (P300)	P750
Poblacion (Dalakit)	Pamasol, Pamokot	Hook and Line (P50) Pokot (P150) Baroto (P50)	P300
Poblacion	Pamasol	Banca (P50) Hook and Line (P50) Baroto (P50)	P100
Poblacion (Dalakit)	Pamokot	2x Pokot (P300) Baroto (P50)	P350
Poblacion	Pamokot	Pokot (P150) Baroto (P50)	P200
Poblacion	Pamokot	Pokot (P150) Baroto (P50)	P200

Poblacion (Dalakit)	Pangsagiwsiw	Sagiwsiw (P450) Kayagkag (P150) 2x Pumpboat 16HP (P700)	P1300
Poblacion (Dalakit)	Operator fishing boat	Sagiwsiw (P450) Pumpboat 16HP (P350) Pumpboat 5HP (P150)	P950
Poblacion (Dalakit)	Operator sagiwsiw	Sagiwsiw (P450) Pumpboat 16HP(P350) Pumpboat 7HP (P150)	P950
Poblacion	Pamokot	Hook and Line (P50) Pokot (P150) 2x Baroto (P100)	P300
Poblacion (Guinsuan)	Panahid	Sahid 120 m (P250) Baroto (P50) Banca (P50)	P350
Poblacion	Panahid	Sahid 115 m (P250) Pumpboat 10HP (P250)	P500
Poblacion	Pamokot	Pokot (P150) Sahid 180 m (P300) Pumpboat 16 HP (P350)	P150
Poblacion (Mayabon)	Panahid	Banca (P50)	P700

Poblacion (Guinsuan)	Pamobo	Bobo big (P75)	
		Bobo small (P50)	
		Hook and Line (P50)	
		Baroto (P50)	P225
Poblacion (Punta)	Pamasol	Hook and Line (P50)	
		Baroto (P50)	P100
Poblacion (Guinsuan)	Pamokot	Pokot (P150)	
		Banca (P50)	P200

7. Requirements for possible magazine entry De Geograaf and AGORA

Auteursrichtlijnen De Geograaf

Tips en richtlijnen als u voor *Geografie* wilt schrijven?

Vermeld boven uw artikel uw naam, postadres, telefoonnummer, email-adres en functie.

1. *Geografie* is geen wetenschappelijk tijdschrift, maar een vakblad voor geografen en geografisch geïnteresseerden. De redactie streeft naar een aantrekkelijke mix van toegankelijk geschreven kortere en langere artikelen met actualiteitswaarde. *Geografie* verschijnt in *full colour*.

2. Als u een artikel voor *Geografie* wilt schrijven, stel uzelf dan tevoren de vraag waarom de lezers van *Geografie* uw artikel zouden willen lezen. Niet alles wat op uw vakgebied interessant is hoeft dat voor de gemiddelde lezer van *Geografie* te zijn. Het artikel dat u wilt schrijven, moet bij *Geografie* passen. Neem vooraf contact op met de hoofdredacteur en maak een synopsis voor het beoogde artikel. Het format daarvoor vindt u hieronder en kunt u op de computer invullen.

3. *Geografie* bestaat uit twee delen. In de papieren editie verschijnen artikelen die voor veel lezers interessant zijn; op de website die direct aansluit bij de papieren editie kunt u over hetzelfde onderwerp aanvullende en verdiepende informatie kwijt die slechts voor een tamelijk klein deel van de lezers interessant is (bijv. details, berekeningen, formules, gedetailleerde tabellen, uitgebreide literatuurlijsten, de oorspronkelijke (voor de papieren editie te lange) versie van een artikel). Tevens kunt u voor de website opiniestukken indienen. Een apart deel van de website is bedoeld voor het onderwijs en bevat opdrachten die aansluiten bij een artikel in *Geografie*. Deze richtlijnen gelden voor publicaties in de papieren editie.

4. *Geografie* accepteert alleen Nederlandstalige artikelen. Engelstalige passages dienen beperkt te blijven tot begrippen of enkele zinnen (bij wijze van citaat) die moeilijk in het Nederlands te vertalen zijn.

5. Formuleer - voordat u aan het schrijven van een artikel begint - antwoorden op de volgende vragen:

- Waarover gaat mijn artikel? Wat is mijn boodschap? Probeer de boodschap in een basisuitspraak of hoofdgedachte samen te vatten. Als dat niet lukt, is het onderwerp waarschijnlijk niet goed afgebakend en de boodschap niet helder. Zorg ervoor dat uw artikel een duidelijke focus heeft; stel uw onderwerp tevoren goed scherp.

- In welke vorm wil ik mijn boodschap gieten? Voor welk genre kies ik? Mogelijke genres zijn: een achtergrondartikel, een nieuwsbericht, een nieuwsanalyse, een researchartikel, een reportage, een interviewartikel, een opiniërend artikel, een boekrecensie, een reisverhaal, een portret van een persoon, instelling, stad of streek. *Geografie* wil heel graag ook andere artikelen dan achtergrondartikelen. Als u voor een genre gekozen hebt, houdt u zich daar dan ook aan. Laat genres niet door elkaar heen lopen.

- Hoe lang moet mijn artikel ongeveer worden? Een pagina in *Geografie* telt circa 625 woorden. Streef naar veelvoud van 625 woorden. De redactie heeft een voorkeur voor artikelen van 1, 2 of 3 pagina's. Overleg als u een langer artikel wilt schrijven. Maak een artikel niet langer dan nodig is.

- Uit welke onderdelen bestaat mijn artikel? Wordt het één doorlopende tekst of zet ik onderdelen in kaders? Kaders maken het hoofdverhaal minder ingewikkeld en korter, en trekken de aandacht.

- Welke illustraties wil ik gebruiken? Daarbij kan gedacht worden aan kleurenfoto's, infographics en kaartjes. Illustraties maken een artikel helder en aantrekkelijk. Maak van illustraties geen sluitpost. De redactie laat op basis van aangeleverd basismateriaal graag infographics en kaartjes maken. Illustratiesuggesties worden zeer op prijs gesteld.

- Benader het schrijven van een artikel integraal. Een artikel bestaat uit meer bestanddelen dan platte tekst. Kop, intro, lead, kaders, illustraties en eventueel quotes moeten één geheel vormen.

- Maak – om deze zaken op een rijtje te zetten – gebruik van het format voor een synopsis en stuur deze naar de hoofdredacteur.

6. Zorg voor een goede structuur. Vermijd in ieder geval een typisch wetenschappelijke opbouw: inleiding - andere onderzoeken - theorie - vraagstelling en hypothesen - onderzoeksmethode - dataverzameling - data-analyse - conclusie. Enkele tips:

Zorg voor een kop-romp-staart-structuur met een duidelijk begin, een middenstuk en een afsluiting.

Laat u bij het structureren en schrijven leiden door hoofd- en subvragen.

Zet een sprekende kop boven het artikel.

- Begin met een intro van 40 tot 50 woorden die de richting van het artikel aangeeft en de lezer motiveert/interesseert. De intro staat vetgedrukt en gaat vooraf aan het eigenlijke artikel.

- Begin het eigenlijke artikel concreet en verbreed het onderwerp daarna. Koppel op het eind weer terug naar het begin (= wybertje-structuur)

- Zorg voor een logische en heldere alinea indeling en -opbouw; begin alinea's met kernzinnen die de strekking van een alinea weergeven.

Gropeer alinea's tot tekstblokken en scheid deze door tussenkopjes van één of twee woorden.

Zorg voor een goede afsluiting. Laat het artikel niet als een nachtkaaars uitgaan. Maak geen samenvatting waarin de belangrijkste punten nog eens opgesomd worden, maar sluit af met een echte conclusie die verder gaat dan een samenvatting. Andere mogelijkheden zijn: terugkoppeling naar het begin, opwerpen

van nieuwe vragen, kanttekeningen bij de conclusie of perspectieven op oplossingen.

7. Zorg voor een toegankelijke, begrijpelijke en aantrekkelijke stijl. Het artikel moet goed leesbaar zijn voor de brede kring van geografen en geografisch geïnteresseerden.

Enkele tips:

Vermijd ingewikkelde zinnen met veel woorden, lange woorden en bijzinnen.

Vermijd een overmaat aan jargon en 'dure' woorden.

Vermijd zinnen met een lange aanloop, dubbele ontkenningen en een opeenstapeling van voorzetsels.

Vermijd onnodige slagen om de arm en overdreven nuanceringen; ze slaan een tekst dood. In de woorden van Gerrit Komrij: ze dekken de scribent in tegen het gevit van wijsneuzige collega-navlooiers maar wiegen de lezer in slaap.

Schrijf concreet: gebruik veelzeggende details, voorbeelden, cijfers en beeldspraken.

Schrijf - waar mogelijk - persoonlijk: gebruik persoonlijke woorden (namen, woorden die personen aanduiden) en persoonlijke zinnen (citaten). Laat mensen aan het woord, breng mensen tot leven en treed in dialoog met uw lezers. Gebruik zo min mogelijk onpersoonlijke woorden ('men') en schrijf actieve zinnen (vermijd de lijdende vorm). Een persoonlijke stijl maakt een tekst levendig.

Schrijf bondig ('Schrijven is schrappen'). Zorg voor vaart in een tekst. Vermijd logge (voorzetsel)uitdrukkingen als 'met betrekking tot' en 'met behulp van'; vervang ze door kortere woorden als 'over' en 'met'.

Varieer in woordkeus en zinsbouw. Gebruik synoniemen en verwijswoorden; wissel standaard-mededelende zinnen (onderwerp, gezegde, rest) af met andere zinstypen en vraagzinnen.

Schrijf correct Nederlands (grammatica, spelling, leestekens). Raadpleeg eventueel het *Groene Boekje*.



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Auteursrichtlijnen AGORA 2016

Geachte auteur,

Hartelijk dank voor uw belangstelling voor het schrijven van een artikel in AGORA. Met dit document willen wij u graag beter bekend maken met het doel, de achtergrond en het lezerspubliek van ons tijdschrift en u attenderen op een aantal richtlijnen dat wij hanteren bij het beoordelen van artikelen.

Mission Statement

AGORA is een populair-wetenschappelijk magazine dat zich bezighoudt met actuele sociaal-ruimtelijke vraagstukken. Ieder nummer wordt samengesteld op basis van één of twee thema's. Aan de hand van deze thema's wordt de relatie tussen sociale en fysieke processen benaderd met inzichten uit sociaal-ruimtelijke wetenschappen. De redactie bestaat onder andere uit planologen, (sociaal) geografen, (stads) sociologen, architecten en stedenbouwkundigen. Ons gezamenlijke doel is om kwaliteit en een kritische blik te combineren met toegankelijk geschreven artikelen, en hiermee een divers publiek van studenten, onderzoekers, beleidsmakers, marktpartijen en andere geïnteresseerden aan te spreken en te informeren. AGORA streeft ernaar om in haar ogen onderbelichte thema's te agenderen en daarnaast een eigenzinnige visie te formuleren op actuele thema's en die in een breder kader te plaatsen. AGORA is niet specifiek beleidsgericht, maar wel beleidsrelevant.

Achtergrond

AGORA wordt uitgegeven door de Stichting Tijdschrift AGORA. De redactie telt circa 25 leden en bestaat vooral uit onderzoekers en studenten op het gebied van Planologie, Sociale Geografie en Sociologie van verschillende universiteiten in Nederland en België en professionals uit de praktijk van sociaal-ruimtelijke ontwikkeling en strategie.

Lezers

Het tijdschrift verschijnt in een oplage van circa 600 exemplaren. AGORA heeft een breed lezerspubliek, bestaande uit beleidsmedewerkers, onderzoekers, docenten, studenten en andere geïnteresseerden. Studenten Geografie en Planologie van de Universiteit Utrecht, de Universiteit Gent en de Katholieke Universiteit Leuven ontvangen een jaar lang een exemplaar via hun universiteit.

Leesbaarheid

Om de artikelen in AGORA begrijpelijk te houden voor alle soorten lezers wordt veel aandacht besteed aan de leesbaarheid. De artikelen dienen een duidelijke structuur te hebben. Het taalgebruik moet toegankelijk zijn; jargon moet zoveel mogelijk worden vermeden en begrippen uitgelegd. Aangezien AGORA zowel in Nederland als in België wordt gelezen, kunnen binnenlandse gebeurtenissen niet als bekend worden verondersteld.

Lengte

De meeste AGORA-artikelen (*casussen, essays*) beslaan bij voorkeur twee tot vier pagina's.

De tabel hieronder geeft een indicatie van het aantal woorden en tekens per artikelomvang (exclusief quotes, maar inclusief auteursnoot en literatuurselectie). Hierbij is het aantal tekens leidend, aangezien dit specifiek is wat betreft de ruimte dat het artikel zal innemen.

Lengte in pagina's	Maximaal toegelaten aantal tekens (incl. spaties)	Maximaal Aantal woorden (bij benadering)	Gewenste aantal illustraties (min.)
1	5100	650	1 kleine foto (bv. boekcover)
2	10150	1300	1 coverfoto
3	15400	2050	1 coverfoto + 1 medium foto
4	21650	2900	1 coverfoto + 1 kleine + 1 medium foto

Deze aantallen worden lager afhankelijk van het aantal illustraties. Indien meer illustraties nodig zijn dan het minimum aantal illustraties zoals hieronder aangegeven, moet ter compensatie de tekst worden ingekort. Overleg dit altijd van tevoren goed met de begeleidende redacteur. Hiervoor gelden de volgende richtlijnen.

- Extra kleine illustratie: -1000 tekens
- Extra medium illustratie: -2000 tekens
- Extra grote illustratie (ongeveer halve pagina): -3000 tekens

Tevens is het de bedoeling dat er op iedere pagina in het artikel een quote komt te staan, met uitzondering van de titelpagina. Quotes zijn bedoeld om op een prikkelende wijze de aandacht van de lezer te trekken. Quotes worden vastgesteld door de redacteurs van AGORA die het artikel redigeren. Een quote moet pakkend zijn en mag maximaal 10 woorden bevatten.

Speciale 'artikelvormen':

- Een *Klassieker*, *scriptie*- of *boekrecensie* beslaat bij voorkeur één pagina, waarbij 5100 het maximum aantal tekens (inclusief spaties) is. Dit komt neer op een maximum van ongeveer 650 woorden.
- Een *beeldverhaal* dient in overleg met de vormgever/productiemanager gemaakt te worden, hiervoor zijn dan ook geen vaste richtlijnen.

Illustraties

Auteurs worden aangemoedigd om zelf illustraties bij hun artikel aan te leveren. Dit kunnen foto's, tabellen, grafieken en kaarten zijn. Tabellen, grafieken en kaarten worden door de AGORA-vormgevers bewerkt zodat ze voldoen aan de gebruikelijke AGORA lay-out. Het is belangrijk dat foto's over een goede resolutie beschikken. Als dit niet geval is, is het mogelijk dat de vormgevers van AGORA vragen om op zoek te gaan naar een alternatief. Wanneer een auteur zelf geen of onvoldoende illustraties heeft, kan de redactie voor foto's zorgen. In dat geval zijn suggesties van de auteur meer dan welkom. Zorg ervoor dat foto's die van het internet komen altijd voldoen aan de voorwaarden wat betreft *Creative Commons*. Daarnaast is het van groot belang dat er altijd een bronvermelding wordt aangeleverd bij alle figuren.

Titel

De artikelen in AGORA hebben een korte titel (max 5 woorden) en geen ondertitel. De hoofdtitel dient de aandacht van de lezer te trekken en voldoende te raken aan de inhoud van het artikel. De redactie van AGORA behoudt zich het recht voor om titels van artikelen te wijzigen indien hiervoor

een beter geschikt geacht alternatief wordt gevonden.

Lead

Elk artikel in AGORA wordt voorafgegaan door een lead. In de lead wordt met enkele zinnen (tussen de 30 en 50 woorden) het artikel geïntroduceerd. Het is niet de bedoeling dat de lead de inhoud van het artikel samenvat. De lead is bedoeld om lezers te stimuleren het artikel te gaan lezen.

Tussenkopjes

De hoofdtekst wordt enkele malen onderbroken door een tussenkopje van maximaal 40 tekens (inclusief spaties), bij voorkeur ongeveer elke 200-400 woorden. Direct na de lead komt **geen** tussenkopje. Een uitzondering zijn verder de artikelen van één pagina, zoals recensies; daar zijn tussenkopjes niet nodig.

In de lay-out van AGORA is geen plaats voor:

- Witregels tussen alinea's;
- Voet- en eindnoten;
- Opsommingstekens, zoals 'bullets', streepjes of nummers in de kantlijn.

Auteursnoot

Na elk artikel wordt in een of twee zinnen vermeld wie de auteur is, waar deze werkzaam is en eventueel op basis waarvan het artikel geschreven is, bijvoorbeeld een bepaald advies of een promotieonderzoek. Het e-mailadres van de auteur wordt doorgaans ook vermeld.

Literatuur

In AGORA worden in de tekst geen literatuurverwijzingen of voetnoten gebruikt. Auteurs worden wel aangemoedigd om achter de auteursnoot een literatuurselectie op te nemen met verwijzingen naar (maximaal 5) relevante titels. De bronnen dienen als volgt te worden vermeld:

- Boeken: Hall, P. (1998) *Cities and Civilization. Culture, Innovation and Urban Order*. London: Phoenix.
- Artikelen in tijdschriften: De Decker, P. (2002) *Wie geniet van de overheidsuitgaven voor wonen in Vlaanderen?* *Ruimte & Planning* 20, nr. 1, pp. 8-35.
- Artikelen in boeken: Massey, D. & L. McDowell (1994) *A woman's place*. In: D. Massey (Ed.) *Space, Place and Gender*. Minneapolis: Minnesota Press.

Procedure

Auteurs worden allereerst gevraagd om een opzet te schrijven waarin kort de inhoud van het artikel uiteengezet wordt. Na eventueel redactioneel commentaar op deze opzet kan vervolgens een eerste versie van het artikel worden geschreven. De redactie levert commentaar op volgende versies van het artikel totdat het geschikt wordt bevonden voor plaatsing. De redactie houdt zich te allen tijde het recht voor om een artikel niet te plaatsen of tekstuele wijzigingen in het artikel door te voeren. Inhoudelijke veranderingen worden voor plaatsing ter goedkeuring voorgelegd aan de auteur.

Publicatie en digitale verspreiding

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