



**University of
Zurich**^{UZH}

'Off the beaten track, or of beating the track?' Whale Shark Tourism on Mafia Island, Tanzania

GEO 630 Master's Thesis

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Abbreviations

BMU	Beach Management Unit
COC	Code of Conduct
COSTECH	Tanzania Commission for Science and Technology
DED	District Executive Director
DC	District Council
IDS	Institute of Development Studies
IUCN	International Unions for Conservation of Nature
MIMP	Mafia Island Marine Park
SIte	Swahili International Tourism Expo
TIES	The International Ecotourism Society
TzS	Tanzanian Shilling
UDSM	University of Dar es Salaam
WASCOS	Mafia Island Whale Shark Conservation Society
WWF	World Wide Fund for Nature

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1. Introduction

The processes and developments the globalization has brought to the world are manifold. Effects of cultural exchange, technical connections and global trade can be witnessed in even the most remote places. In this globalized world, airplanes dominate the international flow of people across all continents. The most important purpose for travels is tourism, the world's largest industry. In countries of the Global South the international tourism fueled by urban citizens of the Global North represents a chance for development of 'off the beaten track' areas. At the same time, it offers new livelihood opportunities for communities. Especially tropical islands are imprinted as idyllic paradises blessed with sandy, picturesque beaches and environments brimming with extraordinary wildlife. One of these destinations is Mafia Island, a small island in the Indian Ocean close to the Tanzanian mainland. Here it is possible to swim with the world's largest fish – the whale shark (*Rhincodon typus*).

While the IUCN Red List for Threatened Species rates the whale shark to be 'endangered' and its population trend to be decreasing (IUCN Red List of Threatened Species 2016), the massive marine animal is harmless to people. Due to its low intelligence and feeding areas at the oceans' surface, the fish is vulnerable to human activities. For example, human intrusions and disturbances like recreational activities are judged by the IUCN to be threats to the species (IUCN Red List of Threatened Species 2016).

For the people of Mafia, the presence of the whale sharks signifies an important product for the tourism industry. Due to their size of 6-12 meters and their docile and curious nature it is an exotic experience to swim with them (Rohner and Pierce 2019). Before the first whale sharks were sighted in the 90s and the potential as a tourism attraction realized, the main attraction on the island was, and probably still is, the Mafia Island Marine Park (MIMP). There, marine enthusiasts are able to explore the under-water life in the Indian Ocean at its best. With the exploitation of the whale shark business, a new opportunity has presented itself for the local population and the District Council (DC) to develop the tourism industry at the western side of the island. Together, the District Council and the Mafia Island Marine Park decided to make the whale shark the island's icon, calling Mafia 'The Home of the whale shark'. This highlights the importance the fish has for the island and its population.

Since 2012 there have been regular researchers on Mafia to study and document the whale sharks' behavior and numbers (Rohner et al. 2014; Rohner et al. 2016; Rohner and Pierce 2019). However, no research has been done on how the tourism is structured and in what ways the presence of the whale sharks impacts the island and the people living on the island. In order to fill this research gap, this thesis deals with the tourism industry on Mafia, focusing on the shark-based tourism. Therefore, this thesis will answer the following research question and its sub-questions: *How is the Whale Shark Tourism on Mafia Island, Tanzania, perceived?*

- How is the whale shark tourism on the island structured?
- What are the tourism's economic, socio-cultural, and ecological impacts?
- What are the challenges and possible improvements for the whale shark tourism?

To answer these research questions, I will first review the relevant literature on the Theory of Practice and tourism. The literature focuses on institutions, ecotourism, wildlife tourism, and finally whale shark tourism. In the third chapter the Design and Methodology of my research on Mafia Island will be introduced. This includes the research approach, the field access, my positionality and the limitations I encountered. Hereafter, the results which focus on answering the thesis's sub-questions are presented and then discussed in the following chapters. I will conclude with recommendations for the key stakeholders in the tourism industry.



Picture 1: Mafia Island, The Home of the Whale Shark (Photo: Max Amling)

In advance to the fieldwork, my knowledge about the whale shark tourism on Mafia Island was informed by literature and my personal experiences from a visit to the island in July 2018, when I stayed for four days in one of the island's budget lodges. While preparing the fieldwork, and especially the interview guideline, I formulated a set of expected answers and results for my research. First, my general expectations for the tourism's importance to the island's economy were quite low. As I visited the island in the off-season in 2018, not many visitors were staying in the accommodations or walking around Kilindoni town. Even though the central roundabout in the town is home to two whale shark models which literally welcome arrivals to the 'Home of the Whale Shark', I expected the tourism to play a minor role on the island. Moreover, my assumptions were that the tourism industry on Mafia is dominated by foreign investors and that the budget location I stayed with was the only locally run tourism business. Connected to this assumption, my memories of 2018 were shaped by the fishermen village I had to cross when walking from the hotel's beach to Kilindoni town. In the fishermen village, the basic huts denied the tourism's presence and economic impact on the local communities. Thus, I thought the tourism sector to be mostly foreign owned and also the economic benefits derived towards this group of actors, while local communities only see little benefits from the tourism. My expectations about the ecological implications of the tourism on Mafia were mostly of negative kind. I anticipated the tourism facilities to stress the environment and, above all, the marine ecosystems and its inhabitants. Again, I want to reiterate how my experiences in 2018 shaped these presumptions.

2. Literature Review

This chapter introduces the relevant literature for whale shark tourism on Mafia. Starting with the theory of practice, Bourdieu's (2010) theoretical approach to explain society and Etzold's (2013) take on institutions are presented and complemented by applying practice thinking onto tourism. This is followed by an overview of literature on tourism in general, ecotourism, wildlife tourism and whale shark tourism in particular in chapter 2.2.

2.1. Theory of Practice and Institutions

The Theory of Practice encompasses many different disciplines with scholars from various backgrounds. In general, practices are perceived as human activities, skills or tacit knowledge that underpin human actions (Schatzki 2010, p. 2). A practice is a social phenomenon in which activities by multiple people are organized (Schatzki 2012, p. 13). Moreover, the interaction of human activities with nonhumans shape practices as actions which are dependent on artifacts, hybrids or natural objects. The recognized importance of such nonhumans vary respectively to the different disciplines (Schatzki 2010, p. 2). Even though the understanding of practice theory is not unified among theorists, all approaches acknowledge the dependence of activity on shared skills and understandings (Schatzki 2010, p. 3). A central aspect of practice theory is the 'field of practice', within which phenomena as language, power, knowledge, meaning, human activity, science, social institutions, and historical transformations are taking place (Schatzki 2010, p. 2). A field encompasses all interconnected human actions and practices are regarded 'as embodied, materially mediated arrays of human activity centrally organized around shared practical understanding' (Schatzki 2010, p. 2). Furthermore, practices can also embody nonhuman activities.

This thesis mainly refers and follows Bourdieu's (2010) approach to practice thinking, which is introduced in the following section. Altogether, Bourdieu's theory of practice focuses on social practices that follow the logic of social fields in which actors, also called 'agents', are positioned (Etzold 2013, p. 16). In the following sections, Bourdieu's theory of practice's central theorems of space and fields, habitus and capital, institutions, and social practices are discussed.

Space and Fields

Social space and fields are argued to be relational perceptions of the social world, stressing space to be a dynamic concept in itself. According to Etzold (2013), Bourdieu differentiates between three forms of space: social space, physical space and appropriated physical space. Social space is used as a synonym for society, wherein fields are structured by an uneven distribution of capital and power (Etzold 2013, p. 16). Positioned in the space of the social fields, agents struggle over the distribution of resources. The respective position they hold is determined by their capital, habitus and objectives (Etzold 2013, p. 17). The actions within each field follow the field's logic, which in turn is reproduced by the actors' activities. Thus, it is arguable that 'social practices are the actual moves of the players' (Etzold 2013, p. 17). Furthermore, fields are always in a horizontal and vertical relation to another. This relation is determined by the distance of the respective field from the 'field of power' (Etzold 2013, p. 18). The field of power claims the central role in the social space and it is the location where the 'exchange rates between different types of capital are being established and fixed' (Etzold 2013, p. 18). In other words, the field of power represents the state power within the society and the 'proximity to state power is, thus, a fundamental characteristic of a field' (Etzold 2013, p. 18). Physical space is defined as the material embodiment of space, where the laws of nature

determine the relative position of elements (Etzold 2013, p. 19). The relation between social and physical space can be found in the power that is distributed spatially as well as socially. Therefore, physical spaces establish the frame of the field, 'because inherent social orders become realized by the spatial distribution of people, goods and services' (Etzold 2013, p. 19). The third term of space, appropriated physical space, also titled 'arenas', is where the relational positions of agents become visible in material and symbolic forms. Hence, the agent's position in the social space is projected onto the level of physical space and the occupied material space indicates an agent's position in the social space (Etzold 2013, pp. 19–20).

Habitus

Every agents' action in a field is determined by their habitus (Etzold 2013, p. 21). The habitus is defined as a system of dispositions, permanent manners of being, seeing, acting and thinking or of long-lasting structures of perception, conception and action (Etzold 2013, p. 21). To understand this concept, three factors should be considered. First, the habitus is the result of the internalization of an agent's position in the field. At the same time, the habitus is a 'product of history', meaning that it can be altered by new experiences, education or trainings (Etzold 2013, p. 21). The second note of habitus is that it structures the agent's perception, understanding, appreciation and evaluation of him-/ herself and others inside the field. This enables the agent to recognize differences, according to which he/ she can interact adequately (Etzold 2013, p. 21). The notion of habitus is not necessarily an individual category, but it can be shared among agents in similar field positions. Thus, the social space can be divided into 'spaces of lifestyles', wherein agents share a habitus (Etzold 2013, p. 21). The last factor to determine agents' habitus is its relationship with the field. On the one hand, the field structures the habitus. On the other hand, the habitus organizes social practices and contributes to constitute the field as a meaningful world (Etzold 2013, pp. 21–22).

Types of Capital

On a general basis of practice theory, capital is perceived to be the 'energy of social physics' or the 'social energy' (Etzold 2013, p. 22). This concept allows the capital to be socially transferable from one agent to another. The basic forms of capital that are defined are economic, cultural, social and symbolic capital. Economic capital represents the forms of institutionalized material possession that can be exchanged. This includes money, acquired property, and ownership rights (Etzold 2013, p. 22). Cultural or informational capital encompasses an agent's formal education and social experiences. Hence, attributes as knowledge, skills, qualifications, as well as personal values, norms and world perception fall into this category (Etzold 2013, 23). In contrast to the material and educational forms of capital, social capital refers to inter-human relationships. An actor's 'belonging to a network of reciprocal recognition and mutually beneficial obligations' and the social resources that come with these benefits and duties are called social capital (Etzold 2013, p. 23). In these networks, agents can ask for advice or favors, and being part of the network gives credibility and security to all members (Etzold 2013, p. 23). The social capital is always relative to an agent's relative moment of life and the connected motivations, associations and relations (Cleaver 2002, p. 15). All three forms of capital, economic, cultural and social, are compromised in the last form of capital. Symbolic capital represents the social recognition and legitimacy of capital accumulation. Agents in a field understand the different forms of capital and its characteristics in such a way that they can acknowledge the value of accumulated capital (Etzold 2013, p. 24). In general, powerful players in a field at the same time own large volumes of capital and a right combination of different types of capital that ensures their strong position (Etzold 2013, p. 24).

Institutions

Each field has its official and informal rules according to which the actors behave. The rules that are constantly socially (re-)produced and which 'enable, restrain and give meaning to social practices and that comprise regulative, normative, and cultural-cognitive elements' are called institutions (Etzold et al. 2012, p. 186). Following Etzold et al.'s (2012) line of understanding, three major pillars define institutions. First, institutions entail a range of variously codified rules, decision-making procedures, as well as the respective mechanism of monitoring and sanctioning to guide human action. This kind of regulations can be titled 'regulative rules' (Etzold et al. 2012, p. 186). Similarly, the second pillar represents normative systems like socially accepted values and norms. Values and norms help actors to define their objectives and the adequate ways of achieving them. Furthermore, norms structure a player's social role, his/ her obligations and privileges, as well as the position within the social space (Etzold et al. 2012, p. 186). The last pillar on which institutions are build is the 'cultural-cognitive' element, which works at a society's subconscious level. To understand the social constructed reality, symbolic systems (e.g. language) help the agents to make sense of their surroundings and which are translated into appropriate social practices (Etzold et al. 2012, p. 186). Being culturally embedded, these systems are shared in a social group and often not questioned. They shape the meaning that agents allocate to practices, places and objects as well as their own identities (Etzold et al. 2012, pp. 186–187).

The combination of formal and informal institutions is mirrored in the three pillars. While the regulative aspect of institutions includes codified and written rules, directives, laws or company regulations, informal institutions can be located in the normative and cultural-cognitive dimensions (Etzold et al. 2012, p. 187). The institutional pluralism in the form of formality and informality represents the parallel governing of actors' agency as they navigate between regulations. The agents can consciously decide between the coexisting sets of rules to pursue their goals (Etzold et al. 2012, p. 187). At the same time, institutions change with the field's structure which is (re-)produced by the agents' practices. This can favor some agents over others, making the institutions themselves subject of contestation between (groups of) agents (Etzold 2013, p. 26). In the concept of 'institutional bricolage', agents influence an active collection of existing institutions, which are re-designed to serve the purpose of the bricoleur (Etzold et al. 2012, p. 188). Most of the time the most powerful and resourceful agents in a field act as bricoleurs, making the change an authoritative process. Attributes such as economic wealth, specialist knowledge, official position, social recognition, and prestige condition the agents' legitimacy to change existing institutions. Therefore, the agency to change the rules in a field is distributed unequally within a society (Etzold et al. 2012, p. 188; Cleaver 2002, p. 19). Various bricoleurs are likely to apply their agency differently. Especially in natural resource management, the concept of institutional bricolage can help to determine social power relations (Cleaver 2002, p. 18). In sum, the bricolage includes agents with a certain habitus and amount of capital that enables them to alter and shape institutions of a field to fit their purposes. They represent the on-ground interpretation of formal and informal rules (Cleaver 2002; Etzold et al. 2012). According to Etzold (2013, p. 27) 'institutions define the value of both habitus and capital in a social field and thereby frame the players' practices'.

As the central field of power, the state occupies a special position in society. Not only does it structure social relations, but it also represents a process of symbolic capital accumulation, which, in turn, is used to form the habitus of its citizen (Etzold 2013, p. 40). 'By monopolizing

the symbolic capital over a resource, the state has the authority to judge what can be, and what has a legal right to exist' (Etzold et al. 2012, p. 189). Especially the state agents' position in the field enable them to have a certain range of freedom to grant exceptions of a rule or selectively enforce formal institutions for their own benefits. The formal institutions can be used by the state agents to strategically accumulate material or symbolic profits. This makes them potent bricoleurs that can introduce new or reinterpret existing institutions due to their authoritative position in the field (Etzold 2013, p. 42; Etzold et al. 2012, p. 189).

Tourism as Practice

To understand and create knowledge about tourism, practice theory can be useful to grasp tourism's complexity. The 'practice lens' offers new insights on mobility and performativity, two key elements of tourism practices (Souza Bispo 2016, p. 174). One central insight is the development of local 'practical knowledge' that emerges from human interactions in small tourism firms and the role of weather on outdoor tourism activities (Souza Bispo 2016, p. 174). Especially the weather plays a significant role in shaping and conditioning both the nature of the work and the experience of the tourists. Tourism workers acquire distinctive weather-specific knowledge, as factors like wind, rain or sea currents entail considerable variation in tourism practices (Souza Bispo 2016, p. 174). Moreover, nonhuman objects that are central to the realization of tourism activities and their respective use can be weather-dependent and influence a company's performativity. Notably in small scale tourism firms, the workers get to know the relationship between weather and business performance. This counts double for outdoor tourism practices where the weather and nonhuman objects shape the tourism experience (Souza Bispo 2016, p. 174). Another impact the weather has on tourism is the fact that the companies' strategy planning is required to consider seasonal changes that influence the attractiveness of tourist destinations (Souza Bispo 2016, p. 175). In addition, the utilization of information and communication technology, especially the internet, represent work practices for tourism companies. The different ways these technologies are deployed shape the organizing and management of the firms (Souza Bispo 2016, p. 175). As the literature on tourism as practice is generally 'tourist-centered', the role of the locals and tourism professionals is mostly overlooked. Tourism only exists, because 'non-touristic' actors perform their roles in their natural lives. Thus, tourism requires the existence of locals that have their own set of practices in their social field (Souza Bispo 2016, p. 176). To sum up, tourism understood as practices is based on the assumption that human and non-human interaction creates tourist activities (Souza Bispo 2016, p. 175).

2.2. Tourism Literature

Being one of the world's largest industries (Youell 1999), international tourism has a long history in social sciences and there are vast amounts of literature dealing with all the different fields of tourism. Due to the inter-disciplinary nature of tourism, agreement on a comprehensive, easily understood and universally accepted definition has been proved difficult to accomplish (Youell 1999, p. 9; Ellenberg 1997, p. 43). In 1993, the World Tourism Organization (Youell 1999, p. 9) defined tourism as

'the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes'.

Another definition offered by the Tourism Society in 1982 (in (Youell 1999, p. 9) described tourism as

'the temporary, short-term movement of people to destinations outside the places where they normally live and work, and activities during their stay at these destinations; it includes movement for all purposes, as well as day visits or excursions'.

Both definitions share similarities on the scope and context of tourism. First, tourism activities involve all aspects from the active movement to the activities done at the destination. The temporal nature of the stay is stressed, as tourist return home the earliest after one day and the latest after one year. Purposes for tourism exceed leisure to include business and other reasons like research or studies (Youell 1999, pp. 9–10). Focusing to supply needs for leisure tourism, industries feature typical central characteristics. For one, private enterprises dominate the dynamic and competitive sector, while public bodies provide the regulatory framework in respect to social, cultural and environmental regards. Disregarding international hotel chains, the majority of tourism enterprises are small and medium-sized companies. Another main factor of tourism is its dependence on face-to-face communication and modern technologies, namely the internet. Moreover, tourism can have both positive and negative impacts upon the host community, which are particularly evident in international tourism (Youell 1999, pp. 9–10). Seasonality is the temporal fluctuation of tourist demand across the globe. In general, the tendency for tourism demand is to be concentrated into relatively short periods of time. This is due to favorable climatic conditions, institutional factors as school holidays and work leave or the staging of international events. Notable differences between tourist seasons are varying prices, offered activities, and numbers of tourists (Youell 1999, p. 17).

Tourism activities can be referred to as mass tourism or alternative tourism. Characteristics of mass tourism include large amounts of people 'seeking replication of their own culture in institutionalized settings with little cultural or environmental interaction in authentic settings' (Newsome et al. 2005, p. 12). On the other hand, alternative tourism encompasses forms of tourism that emphasis contact and understanding between tourists and hosts, as well as between the guests and the environment. These forms of tourism aim to align with natural, social and community values and try to enable shared experiences between guests and hosts (Newsome et al. 2005, p. 13).

Tourism Impacts

Due to its nature, the global tourism industry has economic, socio-cultural and ecological impacts at the local, regional, national and international level. Especially international tourism in its various forms either directly or indirectly affects nearly every part of the world (Youell 1999, p. 139). As a strategy of economic development in countries of the Global South, tourism finances rural and urban development, creates employment opportunities and stimulates the creation of new business enterprises at a local and regional level. In addition, state bodies earn direct and indirect revenues from tourism. Particularly the chance to earn foreign currencies from tourists is the reason for countries and regions to depend on tourism as a major income source (Youell 1999, 139,143; Gosh et al. 2017, pp. 20–22). In comparison to the mainly positive economic impacts, tourism has both positive and negative socio-cultural impacts at the tourism destination. In literature, the negative impacts out-weigh the positive ones. In general, tourism can bring a distortion of local customs to the hosts, which can result in the loss of native languages, the fragmentation of communities or hosts adapting their moral values and material

aspirations to the foreign standards. Moreover, the alteration of religious codes, especially in conservative communities, and the rise in social problems, like crime, sex tourism or drug abuse, are possible outcomes of tourism (Youell 1999, 149-150). As positive socio-cultural impacts, the acquisition of new language skills, expansions of local peoples' horizons and contributions to preserve cultural and natural heritage in the host communities are pointed out (Youell 1999, p. 150). On a global scale, tourism's impacts on the environment are mostly detrimental. Predominantly in destinations of mass tourism, a growth of produced trash can be observed, while on a local scale, tourism leads to the degradation and erosion of beaches. Furthermore, tourism causes the loss of wildlife habitats, animal behavior modification and the disruption of animal activities. On the other hand, tourism provides finances that contribute to environmental conservation efforts and wildlife protection (Youell 1999, pp. 151–152; Newsome et al. 2005, 26-29, 58).

2.2.1. Ecotourism

With tourism's rapid growth after the second World War, people became concerned about the inappropriate use of natural resources. The concerns resulted in the development of the 'ecotourism' concept in the 1970s and 80s, where tourism based on experiencing nature, supporting preservation and benefitting local populations rose to popularity (Ellenberg 1997, p. 53; Fennell 2006, p. 18). When it comes to finding a universe definition for ecotourism, one faces similar problems as with tourism in general. There exist as many names for ecotourism as there are definitions. Using exchangeable words as 'sustainable', 'nature' or 'cultural' in combination with tourism, these concepts commonly refer to the same phenomenon (Ellenberg 1997, pp. 55–56). The definition offered by The International Ecotourism Society (TIES) (2015) understands the concept as

'responsible travel to natural areas that conserve the environment, sustains the well-being of the local people, and involves interpretation and education for both staff and guests'.

In contrast to TIES's broad definition, Fennell, p. 25's (2006, p. 25) approach to ecotourism provides an understandable, more detailed frame to work with:

'Ecotourism is a sustainable form of natural resource-based tourism that focuses primarily on experiencing and learning about nature, and which is ethically managed to be low-impact, non-consumptive, and locally oriented (control, benefits, and scale). It typically occurs in natural areas and should contribute to the conservation or preservation of such areas'.

In both definitions, the tourism is based upon a natural and socio-cultural experiences that aim to benefit both visitors and hosts. Especially Fennell's (2006, p. 25) conceptualization stresses the 'low-impact, non-consumptive, and locally oriented' character of the tourism activities. The designated economic and educational benefits for the local people are key elements of ecotourism. This can be achieved by various means, of which education programs that sensitize and inform resource users about possible impacts of over-utilization are the most common. Moreover, tourists should profit from the educational characteristic, as their awareness for conservational issues is enhanced and the natural and cultural values of the host area acknowledged. Ecotourism is about uniting economic, social and environmental sustainability (Fennell 2006, p. 72; Newsome et al. 2005, pp. 13–14).

Criticism of ecotourism argues that the concept in itself is not effective, because companies must operate at low capacities to successfully achieve the aims, while at the same time some community members are excluded from the benefits (Fennell 2006, p. 196). Moreover, communities are complex entities, in which contestation for authority and power over (natural) resources is taking place and where disparities of benefitting from tourism cannot be circumvented (Fennell 2006, p. 196). Another point highlighted by critics are the ambitious aims and principles of ecotourism. For example, an ecotourism company will struggle to earn enough profits to sustain the business, further conservation and benefit the local community while working with low-impact facilities (Fennell 2006, p. 196). A key argument for ecotourism criticism is the use of the prefix 'eco' to whitewash and advertise tourism activities although its values are not practiced. The term is internationally used in politics or development cooperation in order to justify and further agendas. Due to this generalization, the meaning and implications that come with the prefix 'eco' have lost some of their substance (Ellenberg 1997, pp. 53–54).

2.2.2. Wildlife Tourism

Embracing nature-based tourism, the concept of wildlife tourism offers a variation of tourism practices based on nature-human interactions. Its categories of consumptive, low-consumptive and non-consumptive interaction are the foundation for differentiating among wildlife tourism activities. Consumptive use of wildlife resources includes hunting and fishing, while visiting a zoo or an aquarium falls into the second category. Non-consumptive wildlife tourism represents the internationally most relevant category of the three and comprises wildlife observation and photography (Newsome et al. 2005, p. 16). Caused by the wide range of species, locations, management strategies, infrastructures and access modes, 'wildlife tourism is a complex mix of the social, biological and ecological sciences' (Fatima 2017, p. 2). In general, a central aspect of wildlife tourism is its contribution to conservation efforts. For example, using tourist entrance fees into protected areas as part of the long-term financing of national parks has become common practice in many wildlife destination countries (Newsome et al. 2005, pp. 35–36).

Due to its controversially discussed contributions to conservation and its non-relevance for this case, consumptive wildlife tourism is excluded from the definition and thematization in this chapter. In defining non- and low-consumptive wildlife tourism, the variable settings need to be considered:

'Wildlife tourism is tourism undertaken to view and/ or encounter wildlife. It can take place in a range of settings, from captive, semi-captive, to the wild, and it encompasses a variety of interactions from passive observation to feeding and/ or touching the species viewed.' (Newsome et al. 2005, pp. 18–19)

A special kind of wildlife tourism, the marine wildlife tourism industry, has experienced exponential growth across the globe in the past decades. Popular marine wildlife activities are whale watching and swimming or snorkeling with dolphins or sharks. Especially whale shark tourism activities have become popular for furthering tourism-based development (Mulder 2016; Lester et al. 2019, p. 121). The barriers for participating in these activities are low and these activities are easily accessible to the generalist tourist, making it difficult to exclude tourists from the respective wildlife resource. This can result in an increased pressure on both the social and natural environment at the destination site, highlighting the role of the

administrative bodies to regulate and monitor tourism practices (Mulder 2016, pp. 6–7; Fatima 2017, p. 2).

2.2.3. Whale Shark Tourism

The whale shark nowadays being an iconic tourist attraction in many parts of the world, it has seen research on various levels. Although the marine giant can be found in Tanzania, Mozambique, the Philippines, the Maldives and various other spots, the best documented aggregation is located at western Australia in the Ningaloo Marine Park.

Since the beginning of the Australian whale shark tourism industry in 1993, it has been the subject of research from different backgrounds and interests. In the late 90s, research on the industry's development and management implications for other sites was conducted (Davis et al. 1997; Davis 1998; Davis and Tisdell 1999). According to Davis et al. (1997), a combination of management approaches is needed to ensure sustainable development of the tourism industry in marine protected areas. Moreover, the management setting is central for the protection of the social and natural environment and the tourist encounter. In this regard, state law and official regulations are required to balance the tourism benefits with the risks for people, animals and the environment in order to secure long-term development. This makes monitoring of the interaction site necessary to raise effectiveness of and compliance with regulations (Techera and Klein 2013, p. 21). As part of the state-managed tourism industry in the Ningaloo Marine Park, a code of conduct has been developed to regulate the human-animal interaction. Representing the frontrunning site for touristic whale shark encounters, the rules for human and boat behavior were used as the foundation for the internationally accepted code of conduct. The code of conduct deals with distances between the shark and boats and humans, boat speed limits, numbers of swimmers per animal and the time spent close to the sharks (Davis 1998, p. 10; Davis and Tisdell 1999, p. 161). Funds raised by operator licenses and tourist levies are used for research, management and education about the marine giants. The overarching goals of the management strategy are both promoting the tourism and conserving the fish (Davis and Tisdell 1999, p. 161). In addition to adapting the regulatory framework over the years to fit the needs of the social and natural environment, quality criteria as client education, sustainability of practices, training processes of tour operators and tourist satisfaction indicate that today the whale shark industry in Australia is considered as the world's best practice (Fatima 2017, p. 2). In recent research to understand the effects and pressures of tourism encounters for the sharks, Lester et al. (2019) installed electronic monitoring systems on operator vessels. The results showed no evidence of decline in encounter duration after repeated tourist encounters with individual sharks. Moreover, no evidence of long-term impacts of tourism on the whale shark aggregation could be identified (Lester et al. 2019, p. 121).

The chances and impacts for communities represented by whale shark tourism have been documented by Lowe and Tejada (2019) in their research at the Philippines. At Oslob, being known as the most successful and controversial community-based dive tourism site in the world, researchers looked at the impacts of the tourism industry on the local livelihoods. The presence of the whale sharks created alternative livelihoods for fishers and diversified livelihood possibilities throughout the communities away from reliance on coral reef resources. Connecting livelihoods to the provisioning of finances for shark protection and marine resource management resulted in a beneficial ripple effect that extends the fishers to include the whole community (Lowe and Tejada 2019, p. 80). Community members benefit from the tourism-

based development of infrastructure, health and services, livelihood trainings or conservation efforts (Lowe and Tejada 2019, p. 83). For example, the numbers of full-time fishers in the area has decreased while fish populations in close fishing grounds have grown (Lowe and Tejada 2019, p. 87). Negative impacts documented by the authors include the deterioration of the water quality which is affected by the increased sewage from tourism facilities. Also, cultural challenges posed by female tourists wearing bikinis in a conservative Catholic community and the rise of land prices could be observed (Lowe and Tejada 2019, p. 86).

A study done by Mulder (2016) looks at the sustainability of marine tourism industries by connecting tourism to conservation at the Maldives. At South-Ari Atoll, the tourism in a protected area has generated substantial income to the private sector and the national government. Key challenges to the long-term benefits and safety of the tourism activities are missing official regulations, as well as lacking education and awareness among guests and operators. These result in chaotic situations in the water which threaten human and animal safety (Mulder 2016). The main threats to the sharks are argued to be overcrowding and poor tourist behavior. In general, the sensitive ecosystem depends on regulative support from operators and the state and communication and collaboration among the local stakeholders (Mulder 2016, p. 36).

3. Research Design and Methodology

In preparation of my research, I started developing the topic around 9 months before the time of the fieldwork. It was clear from the beginning that the research would be based on qualitative data gathered in the form of semi-structured interviews. A qualitative approach to research is understood as a circular process of reassessing and renegotiating the studied issue (Flick 2013, p. 92). For this work, a qualitative approach seemed appropriate, because it enabled me to collect different narratives and argumentations of the involved stakeholders. As a first step, a research proposal was drafted to function as a starting point for the thesis. This proposal included an introduction to the topic, the relevant literature and reflected on my positionality as well as planned methods for the data collection and analysis. In order to conduct research in Tanzania, it is necessary to apply for a Research Permit with the Tanzanian Commission for Science and Technology (COSTECH) at least 2 months before arriving to the country. In addition to the proposal, the requirements stated to have an in-country host organization that would assist in the fieldwork. For this, I registered with the Institute of Development Studies (IDS) from the University of Dar es Salaam (UDSM) as an Affiliate Researcher.

3.1. Study Site: Mafia Island

The Mafia archipelago is located roughly 200 km south of Dar es Salaam and Zanzibar. Just offshore the Rufiji River Delta five small islands lay in the Indian Ocean. The biggest one, Mafia, is the home of an estimated 50 000 people that mostly live from fishing, agriculture, small trading, and tourism (National Bureau of Statistics n.y.). The island is around 50 km long and 15 km wide, comprising an area of 500 km². The biggest town, Kilindoni, is located at the south-west coast and is home to the Airport and the ferry landing jetty (Rohner et al. 2014). The flight to Mafia takes 30 minutes from Dar es Salaam and over 90 % of the tourists come by plane. Depending on the season, the number of flights to Mafia varies, but each day at least three planes with 12 seats each arrive. The ferry from Nyamisati can take up to four hours to reach the island and is the transport of choice for the locals. There is a ferry leaving from and arriving

to Kilindoni once a day. To get from Dar es Salaam to Nyamisati, it takes another four hours of public transport. The prices between the two modes of transport vary greatly. Flying as a local is cheaper than for tourists (60 USD/ 140 USD), but cannot be compared to the ferry ticket (around 10 USD).

The word 'Mafia' itself is believed to come from the Arabic 'morfiyeh', meaning 'group' or 'archipelago' or from the Swahili 'mahali pa afya' meaning 'a healthy dwelling place' (Mafia Island Diving n.y.). The archipelago's history goes back to the 8th century when it was a hub for the East African trading routes between Zanzibar in the north and Kilwa in the south (Mafia Island Diving n.y.). In the more recent history, the archipelago has been the location for German and English colonial activities. On some of the islands, the archipelago's rich history can be experienced as Arabic ruins and a German colonial building are still present. As Mafia's population are 99 % Muslims, the Islam plays a central role in the society's norms, culture and daily life.

Natural Environment

The weather conditions in coastal Tanzania are defined by the two monsoon seasons. The northeast monsoon 'Kaskazi' begins around November and ends in February, bringing calm winds and temperatures. The southeast monsoon 'Kusi' blows between March and October brings along the raining season in April and May (Rohner et al. 2014, p. 1). The freshwater flow from the Rufiji River combined with the seawater leads to a bloom of zooplankton in the channel between Mafia and the mainland. The appearance of the whale sharks collides with the northeast monsoon and thus it is speculated that the wind drives zooplankton from the Rufiji River Delta into the channel. As the plankton represents the food basis for the fish, the majority of the shark encounters are taking place in Kilindoni Bay (Rohner and Pierce 2019, p. 7). Another important factor on Mafia and its environment is the Mafia Island Marine Park, which is Tanzania's first and biggest marine protection zone. With close to half of the archipelago's area included, it starts just south of Kilindoni and encompasses the south-eastern part of the main island, the islands Chole, Juani and Jibondo. On Mafia's eastern side, the Mafia Island Marine Park nearly reaches all the way to Bweni in the north. Being introduced in the 90s, the operationalization of the park began in 1995, with its official start in 1998 (MIMP Officer: 6). The Mafia Island Marine Park played a central role in the abolishment of dynamite fishing in the archipelago. In general, the park's authority extends its borders, making the Mafia Island Marine Park a key player in the island's administrative decision making, especially concerning environmental issues.

Whale Sharks

The marine giants can be spotted in the channel between Mafia and the Tanzanian mainland from September/ October until March. As the most whale sharks feed in the channel in December and January, these are two busiest months on Mafia. In fact, it takes around 30 minutes by boat to get from Mafia's west coast to the sighting area. Since 2012, the Mafia Island Whale Shark Research Project has identified 207 individual sharks, most of which are immature males between 4-7 meters. The research also detected that the whale sharks at Mafia are unusually resident to the area, as the project recorded sightings of the same animals over all seven seasons and throughout the seasons as well (Rohner and Pierce 2019, pp. 4–5). Since the beginning of the recordings, the number of whale sharks has increased, but it is not known how many of the fish stay around Mafia all year long. Sightings in Kenya and Mozambique suggest that some of the sharks are also migrating to other places along the coastline (Rohner et al.

2014, p. 5). With the arrival of the Kaskazi towards the end of the year, the sea gets rougher and the water is circulated. This facilitates that the zooplankton is brought to the surface and the whale sharks that feed on it follow. Due to the reason that smaller fish, mainly needlefish (Swahili: Dagga), feed on the same plankton as the whale sharks, it is common that the shark is accompanied by a swarm of smaller fish. For the smaller fish, the presence of the shark provides safety from predators while the whale shark profits from the company of cleaner fish (Tourguide 3: 10,42,126; Operator 1: 28).



Picture 2: Whale Shark (*Rhincodon typus*) (Photo: Max Amling)

The trips to see and swim with the whale sharks are operated from the main island, especially from Kilindoni town. Depending on the operator, guests pay between 60 and 100 US Dollars per person to go on a tour. Either traditional wooden dhows or fiber boats are used for the transport by the operators. In contrast to the heavy and slower dhows, the fiber boats are faster and more maneuverable, which is why they are rather used by foreign run companies (Tour Guide 3: 72). The operators have to pay a fee to the District Council (25 000/ 10 000 Tanzania Shilling per adult/ child; 2200 TzS = 1 USD) for each guest they take on a trip. Leaving in the morning, the boats take the guest out to look for the whale sharks. Once at sea, the crew members actively search for the animals. As soon as one is spotted a tour guide gets into the water to follow the shark and to signal the people on the boat about the shark's whereabouts. Then, the guests get dropped into the water and then can swim with the fish for as long as it is visible. Once every guest has seen the shark, the boat returns to the island. Trips take between two and five hours, depending on the time spent searching and swimming. The operators have accepted the International code of conduct for swimming with the whale shark and usually give a briefing in advance of the encounter. The code of conduct sets rules for the fish-human interaction and the behavior of the boats while at the site. For example, one is not supposed to touch the sharks or to swim directly in front of them. An example for boat behavior is the speed limit of 4 knots (8 km/h), which is in place to protect the whale sharks from getting hit too hard by boats (Operator 3:28).

3.2. Methodology

The basis for the arguments made in this work is empirical data that was gathered by conducting qualitative interviews with people involved in the tourism industry on Mafia Island. To assist in the data collection, an interview guideline was developed in the fieldwork's preparation. The guideline includes separate sections with specified questions for the different stakeholder representatives. To complement the verbal data collection, I relied on ethnography and observation to holistically understand the whale shark phenomenon. Moreover, I collected documents and figures from the local administrative authorities in order to get an insight into the documented processes that are taking place. Using an online-cloud, I protocolled informal talks, meetings, observations and interview settings as electronic field notes, which were organized according to the different methods. I also kept an electronic field diary to record events or interesting information.

In this thesis, data that is sourced from the conducted interviews is for example titled as 'Operator 2: 52'. While transcribing the interviews, the interview partners were numbered. Therefore, the first number identifies the person, while the second number (here: 52) points to the paragraph where the information can be found in the coding-software MAXQDA. In this example operator number two gave the information in paragraph 52 of the interview. An exception are the recorded informal talks, which were all collected in the same document. For referencing an information from this section, only 'IT: 18' will be used. The number stands for the respective part in the document. It is possible for a person to have statements in both an interview and informal talks.

Fieldwork

In total, two months were planned for the fieldwork in Tanzania. The first two weeks were spent in Dar es Salaam to deal with bureaucratic issues. The remaining six weeks were spent on Mafia Island. For the first half of my fieldwork on Mafia, I chose to stay with a budget accommodation which is also running whale shark trips. I hoped that the stay would give me the chance to get to know some of the people working directly in my field of interest, as well as being able to observe an operator's daily routines. A personal advantage was that I stayed with this place previously in 2018 and one tour guide recognized me. This led to us becoming friends and he acted as a cultural mediator for me. Moreover, being acquainted with one of the tour guides introduced me to this stakeholder group, making other guides welcoming and open towards my inquiries and interviews. Besides being an advantage for my research, the joined activities and excursions with the tour guides led to a deeper understanding of social, cultural and economic dimensions that are taking place on the island. The location of the accommodation was ideal, as both the neighboring plots were used as hotels and shark tour operators. By staying there and being present for an extended period, most of the people working at these places got to know me by name and were open towards answering my questions or conducting an interview with me. For the second half of my fieldwork, I decided to re-accommodate to a different hotel, which is also offering the whale shark tours. Similar to the first stay, I befriended a tour guide who would walk around town with me and act as a mediator at that place. In addition, the hotel is located in a different part of Kilindoni and I had the chance to extend my knowledge on local whereabouts.

In general, staying with these hotels which also provide the whale shark experiences helped me get access to the field. Not only was I in constant contact with the people of interest for the

research, but I was also able to observe and learn from them. The simple presence of me being around the hotels helped me to talk to many people and them acknowledging me without needing much conviction. Another factor that helped me access the field was that in the first week of my stay, I tried to attend as many meetings and meet as many people that were part of the tourism sector as possible. This included introducing myself to the District Executive Director (DED), the World Wide Fund for Nature's (WWF) field officer, the tour operators and the tourism officers of the District Council. For example, I attended a stakeholder meeting for the development of a tourist town in the north of the island where nearly every hotel on the island had sent a representative and many officers were invited. Although the meeting was held in Swahili and my knowledge did not suffice for such a discussion at that time, I was welcomed and introduced by the speaker as a research student from Europe, acknowledging my presence and legitimacy for all to witness.

Sampling

In qualitative research the issue of sampling is encountered at different stages of the research process and determines the study's data as much as its interpretation (Flick 2013, p. 115). To achieve the research aim of identifying the major components and challenges of the whale shark tourism industry, the purposive sampling strategy was used (Flick 2013, p. 122). Criteria for interviews were the direct involvement in the whale shark business or the tourism sector. As a result, interviews were conducted with tour guides, hotel managers, hotel owners, tour operators, fishermen, community elders, various officials and the local WWF field officer. After a first interview run with multiple individuals of each group and a theoretical saturation of data, the theoretical sampling strategy was deployed to extend the width and depth of the data collection (Flick 2013, p. 123). Applying a 'systematic selection and integration of persons and groups of persons' as well as a variation in 'temporal and local settings' (Flick 2013, p. 121), I was able to identify complementary individuals or groups to interview. Using this strategy, I extended my research area to the northern part of the island, Bweni, where one local accommodation is operating. Although the owner is not directly involved in the shark business, she added value to the research by elaborating on the possible development of the tourism industry north of Kilindoni. Another example for applying the strategy are the interviews with the fishermen. At first, a group of three fishermen were interviewed on the topic. After talking to them, I came to the realization that I needed to extend the data by a more informed person. I then talked to the Beach Management Unit (BMU) officer, who is responsible for taxing the fishermen and who had more experience and knowledge on the topic. Furthermore, by making use of an acquainted fisheries officer, I got into contact with a fishing vessel captain who was actively fishing at the whale shark encounter site and could extend my perspective on the situation.

Triangulation

Another strategy of improving the quality of qualitative research or to produce better research knowledge is to extend the approach to the issue under study (Flick 2013, p. 405). Flick (2013, p. 405) differentiates four ways of triangulation. First, the use of additional methods or the combination of two methodical approaches in one method. Second, the inclusion of different kinds of data into the project. The third way is to study the issue at hand with one or more additional research perspectives, varying the theoretical approach. The last way is to involve multiple researchers in the project that have different theoretical and practical backgrounds.

For this thesis, three kinds of triangulation were applied in the research process. A form of ‘theory triangulation’ can be reasoned for. In the beginning, the theoretical approach for this work was the Sustainable Livelihood Approach and the research was focused on the impacts of the whale shark tourism on local livelihoods. In the process of data collection and data analysis, the Theory of Practice by Bourdieu (Schatzki 2010) and the approach of Institutions by Etzold (2013) were consulted. Being a better fit for explaining findings in the collected data, both theoretical approaches were adopted, while the Sustainable Livelihood Approach was dropped. The different theories allow for a different view on the data and the extension of possibilities to produce knowledge (Flick 2013, p. 444). The second way of triangulation that was used in this research is referred to as ‘data triangulation’ and implies the use of different data sources that differentiate in time, space, and persons. This way of triangulation is closely connected to the theoretical sampling that includes purposive and systematic steps to collect data (Flick 2013, p. 444). In practice, I conducted interviews with 20 people over the time span of six weeks, varying in location and time. Next to the qualitative data I collected figures from local authorities on the development of the tourism industry and the fisheries, which in turn can be used to validate interview statements. The last way that triangulation was applied in this work is ‘methodical triangulation’, which represents the use of different methods in the data collection (Flick 2013, p. 444). In my fieldwork, I conducted qualitative interviews to gather insights on the subjective knowledge and experience of the interview partners. Combined with ethnographic observations that focuses on interactions and practices in a particular setting, I was able to collect data on different levels and with different perspectives (Flick 2013, p. 448).

Type of Triangulation	Application	This Thesis
Data Triangulation	Use of different data sources respective to time, space, and persons.	<ul style="list-style-type: none"> • Variation in interview dates, locations, and partners • collection of official figures
Methodical Triangulation	Use of different methods of data collection/ analysis to add multiple layers of data.	<ul style="list-style-type: none"> • Qualitative interviews • ethnographic observations
Theory Triangulation	The use of different ways of theoretically approaching an issue in order to extend the produced knowledge.	<ul style="list-style-type: none"> • Sustainable Livelihood Approach • Theory of Practice; Institutions

Table 1: Flick's (2013: 444) 'Ways of Triangulation' in this Thesis

3.2.1. Data Collection

Qualitative Interviews

For the data collection, semi-structured interviews were conducted with various stakeholder representatives from the tourism industry. The qualitative nature of the interviews allowed the interviewees a certain amount of steering and controlling of the dialog in order to formulate their own viewpoints and highlight important perceived topics and opinions (Flick 2013). As a specific form of semi-structured interviews, expert interviews were mainly used in the data production. All interviewees are part of the island’s tourism industry, and therefore act as experts in this certain field of activity (Flick 2013, p. 165). The definition of experts can vary and Bogner and Menz (2002, P. 46) (in (Flick 2013, p. 166) differentiate the expert knowledge into

‘technical process oriented and interpretative knowledge referring to [the] specific professional sphere of activity’. According to the authors differentiation, knowledge gathered with this method contains both ‘systematized and reflexively accessible specialist knowledge’ and vast amounts of practical knowledge (Flick 2013, p. 166). Especially the latter is of interest as it reflects ‘different and even disparate precepts for activities and individual rules of decision, collective orientations and social interpretive patterns’ (Flick 2013, p. 166). Therefore, the expert’s knowledge and interpretation of practices can become hegemonic in a certain context. In other words, experts can become practically relevant in influencing and structuring the practices of other actors in the field (Flick 2013, p. 166). In this thesis, expert interviews were used for two reasons. First, for the aim of exploring and finding orientation in the field. Secondly, to study the thematic structure of the field. Finally the methods helped to generate hypotheses based on the data (Flick 2013, p. 166). The interview guideline had a double function in the interview process. On the one hand, it enabled me to diminish myself acquainted with the field, while on the other hand it ensured that the interview would not get lost in irrelevant topics. At the same time, it allowed me to elaborate my perspective on the topic (Flick 2013, p. 167).

In total, 20 expert interviews were conducted in English within a time span of six weeks (See Table 2). Except for one operator, all interviews were recorded by smartphone. In that single case, I took notes which were later used as the foundation for an interview protocol. The length of the interviews depended on the openness and knowledge of the interview partners and thus varies. Altogether, more than 1100 interview minutes were recorded, the shortest interview accounting for 20 minutes and the longest one for more than 90 minutes. In a few cases there were talks with hotel owners and managers that were not recorded. Notes were taken and then transferred into the field diary as informal talks. In addition, one group discussion each was held with fishermen and community elders with the help of a translator. The translator also assisted in the communication with two representatives of their respective women’s handcrafting groups on Chole Island.

Stakeholder	Number of Interviews	Male/ Female Partners
Tour Guide	4	4/0
Hotel Manager	5	2/3
Tour Operator/ Hotel owner	8	7/1
Non-governmental Organization (NGO)	1	1/0
Government Official	2	2/0

Table 2: Overview of Conducted Interviews with Stakeholder Groups

Ethnography and Observation

Considered as a general strategy of data collection, ethnography encompasses ‘as many options of collecting data as can be imagined and are justifiable’ to explore the nature of a particular phenomenon (Flick 1998, pp. 148–149). The ethnographer participates in the daily lives of the study’s field members for an extended period of time, watching, listening and asking questions (Flick 1998, p. 148). This strategy includes the conduction of interviews, participatory observations and document analysis. Spending time with the field’s actors lets the researcher perceive the field from their perspectives, gaining a deeper understanding for the processes that are going on in the field itself (Flick 1998, p. 148). Especially for practice research, ethnography is the go to methodology, as there is ‘no alternative to hanging out with, joining in with, talking to and watching, and getting together the people concerned’ (Schatzki 2012, p. 25). A major

part in this fieldwork's methodology was the participatory observation of whale shark tours at the ocean. Going on these tours, I was able to gain insider knowledge of the field through increasing assimilation as a participant in the observed field (Flick 1998, p. 136). These observations were helpful to witness activities and situations that are common and taken-for-granted by the locals (Schatzki 2012, p. 25). Along the dimensions of observational procedures, the method was applied in an overt way. The observations were mostly unsystematically insofar that the observation remained rather flexible and responsive to the processes themselves. At last, the observations were taking place in the natural situation on the open water at the whale shark site (Flick 1998, p. 137). As a member of the field, the observer both observes the field and influences the observation through participation (Flick 1998, p. 141). The researcher aims to increasingly become a member of the field and 'should also move through a process of becoming increasingly concrete and concentrated on the aspects' that are deemed relevant (Flick 1998, p. 142). Thus, the observation process can be separated into three phases (Flick 1998, p. 142):

- Descriptive observation: in the beginning; orientation in the field with descriptions in order to understand the field as much as possible.
- Focused observation: the observer's perspective is narrowed down to the essential processes relevant for the research.
- Selective observation: at the end of the research; the focus is put on finding further evidence and examples for the types of practices and processes in the field.

For the research purpose of this thesis, I participated in seven shark tours. In order to understand and experience the differences between the various operators, I accompanied three of the main operators on the island. From going with different operators, I aimed to achieve a degree of neutralism in interpreting and evaluating the observations. Also, this allowed me to compare the different operators and find differences and similarities between their working procedures. In general, going with multiple operators for the whale shark tour and doing it several times helps me to triangulate the data collected by the observation (Flick 1998, p. 140).

The first participatory whale shark tour was done two weeks into the fieldwork. The effect was that I had already accessed the field and the persons in the field, as I had finished interviews with some of the tour guides. In the beginning I participated as a guest: being briefed, waiting for the guides to locate the animal and then get into the water to swim with the shark. To observe the situation from outside the water, I started to stay on board after a couple of tours. Towards the final trips, I became a full member of the boat, as I actively searched for the big fish, steered the boat or even gave a briefing. The trips followed the pattern of briefing the guests, taking the boat out, looking for the whale shark, swimming with the shark a few times, relaxing and finally returning to the island. This helped me to focus my observations and to identify practices and processes that are taking place at the ocean. For example, on my fifth trip I learned how the captains and boatmen orient themselves on the water: On a clear day one can see the two poles from the Mafia Island Airport and the southern tip of the island, Ras Kisimani. These two reference points are used to navigate around Kilindoni Bay. Moreover, there are a few big buoys in the water to help big cargo ships drive around sandbanks. Counting from Mafia, the sharks can often be found around the second buoy. Another interesting observation are the hand-signs that the tour guides in the water following the shark use to show in which direction the shark is heading.



Picture 3: Whale Shark Tour on a Fiber-Glass Boat (Photo: Max Amling)

Other than taking part in the whale shark excursions, I attended different stakeholder meetings in the tourism industry. For these occasions, I was in the role of being a passive observer of the discussions and less an active participant. The most significant meetings I attended were the pre and post meetings of the Swahili International Tourism Expo (SITE). For these two meetings, the Mafia Island Marine Park met with multiple hotel representatives to first prepare their collective stand at the exposition and then afterwards to reflect upon the results and possible improvements for the future. One of the major topics was to represent the destination Mafia as a whole and to focus on its various attractions. The group decided to use the whale shark as the logo for advertising Mafia. Another participatory observation in the field that is worth mentioning was the visit from the Afro Whale Shark Foundation to a primary school in Kilindoni. The hotel's staff collectively went to the school to teach the pupils basics about whale sharks and the environment. At first, I passively observed the process, but then was asked to shortly address the children. Speaking in Swahili, I introduced myself and talked about the environment and the importance of languages. The foundation gifted the school with 900 exercise books and pencils, for which they collected the money from guests and their own staff. Another ethnological method that was used in the research were occasional walks through town with several tour guides. I accompanied them while they were doing their daily routines like eating dinner, buying clothes or meeting with friends, all the time actively taking part in the activities.

Reflecting upon the participating observer's influences on the observed situations (Mattissek et al. 2013, p. 151), the observations were taking place in their natural locations and settings. A researcher being on board of a boat at the whale shark site did not change the field much. The operators still had the goal of showing the shark to their guests and the tourists wanted to experience the activity. It is possible that some of the preliminary briefings were more detailed than they usually are due to my presence, but the interaction and situation at the ocean still followed the superior aims of satisfying customer needs. Going on the whale shark tours also allowed me to compare statements made by tour guides about the situation at sea and processes taking place to my own experiences on-site (Mattissek et al. 2013, p. 151). In respect

to the other kinds of observations, my presence as a researcher had a bigger influence on the collected data. For example, accompanying a local tour guide walking around town as a young male European drew attention. Sometimes, I myself as an observer was the focus of observation by the locals and in some cases, my presence and occupation were the topic of discussion by and with the people around us.

As part of the ethnographic approach to collect as much data as possible, the time on Mafia was used to gather figures from local authorities. The most interesting data that was collected in this way are the District Council's yearly revenues from the whale shark tours and the fisheries, its annual budget, as well as the numbers of registered fishermen and their vessels. Together with the Mafia Island Marine Park's income and visitor numbers and the passenger numbers arriving at the Mafia Island Airport, the figures help me to grasp the economic importance of the tourism industry and detect relevant trends in the recent numbers. To learn about the employee numbers in tourism sector, I conducted a small survey with all of the tourist accommodations I was able to contact. This was either done in person or by calling the respective hotel and inquiring about the total number of employees and their gender distribution.

3.2.2. Data Processing & Analysis

Prior to all interviews the interview partners were asked permission to record the conversation for the purpose of transcription. They were guaranteed that their answers are treated anonymously. After each interview an electronic documentation sheet was generated to document the context of the data collection (Flick 2013, p. 298). The sheet included general information about the informant (age, gender, occupation), as well as the interview settings, my personal impressions, and the relationship between the interview partners. The recorded interviews were transcribed with the free transcription software 'Express Scribe'. Most of the transcriptions were smoothed and small changes were made to increase the readability, interpretability and learnability of the texts (Flick 2013, p. 300). Nonetheless, it was ensured that no information was lost, and the interview content is represented in the transcripts.

Mayring's (2000) qualitative content analysis represents an empirical, methodical and controlled approach for the evaluation of qualitative data. The material is always interpreted within its context and the systematic analysis follows rules that are set in advance (Mayring 2014, p. 39). The central instrument for qualitative content analysis is the development of a category system. The system 'contributes to the intersubjectivity of the procedure, helping to make it possible for others to reconstruct or repeat the analysis' (Flick 2013, p. 40). In other words, the categories ensure the comparability of findings and the evaluation of analysis reliability (Flick 2013, p. 40). The codes of the category system were developed in a deductive manner, meaning that the codes were established before the material's structuring. A list of themes was generated along the sections of the data collection procedure, especially the interview guideline (Mayring 2014, p. 104). Principally, Mayring's (2014, p. 96) steps for deductive category assignment were followed (See Figure 1). After the definition of the category system, the codes and respective sub-codes were first visualized with the help of a Mind Map. Each code and the coding rules were defined using memos. After a run-through of three interviews that were selected according to maximum variation sampling (Flick 2013, p. 122), the category system and the coding guidelines were revised (Mayring 2014, p. 96). If an information was deemed relevant for the research, but did not fit into the existing code system, it was complemented as an inductive in-vivo code. On one hand, the combination of deductive and

inductive code formulation allowed the coding to follow a fixed set of rules. On the other hand, the procedure enabled a flexible adaptation of the coding system (Flick 2013, p. 330; Mayring 2014, p. 104). Additionally to the qualitative analysis, the category system allows the researcher to deploy quantitative approaches in order to find relevant code frequencies (Mayring 2014, p. 98; Mattissek et al. 2013, p. 214). The coding and data analysis were done with the help of MAXQDA, a software for qualitative data processing.

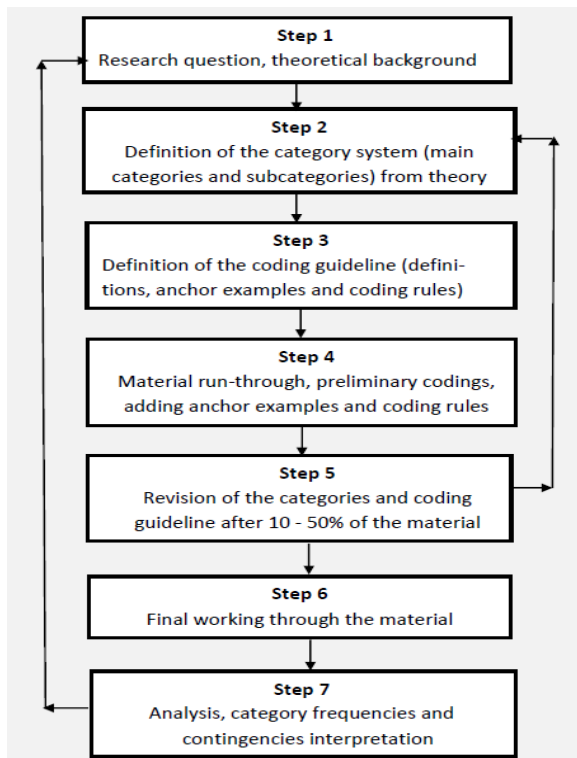


Figure 1: Steps of deductive category assignment (Mayring 2014, p. 9)

In practice, this approach led to the four main codes: ‘sector’, ‘impacts’, ‘problems/ challenges’ and ‘improvements’. The codes orient themselves at the research questions this work aims to answer. In general, the coding system has four levels, the main codes representing the first layer. For example, the code ‘sector’ encompasses all the information about the tourism industry on Mafia: its ‘stakeholders’, the regulations for ‘access’ or the ‘working conditions’ of employees. The main code ‘impacts’ serves as the heading for the ‘economic’, ‘social’, ‘ecological’, ‘infrastructural’ and ‘cultural’ influences of the whale shark tourism (See Figure 2). Next to the interview transcriptions, the coding system was also used to structure the informal talks that were documented in the electronic field diary.

The analysis of the data was then conducted with the help of MAXQDA, which allows the user to sort the data along the codes. Where it was practical, the material was looked at respective to the interview groups. For example, the code ‘Problems/ Challenges’ was examined in regard to the separate stakeholder groups to identify different opinions between and priorities within the groups. On the contrary, other codes were analyzed by looking at the coded sections from all transcripts. Next to this qualitative analysis, MAXQDA enabled me to quantitatively assess the frequencies of codes and therefore to evaluate their relative importance in general and among the respective interview groups.

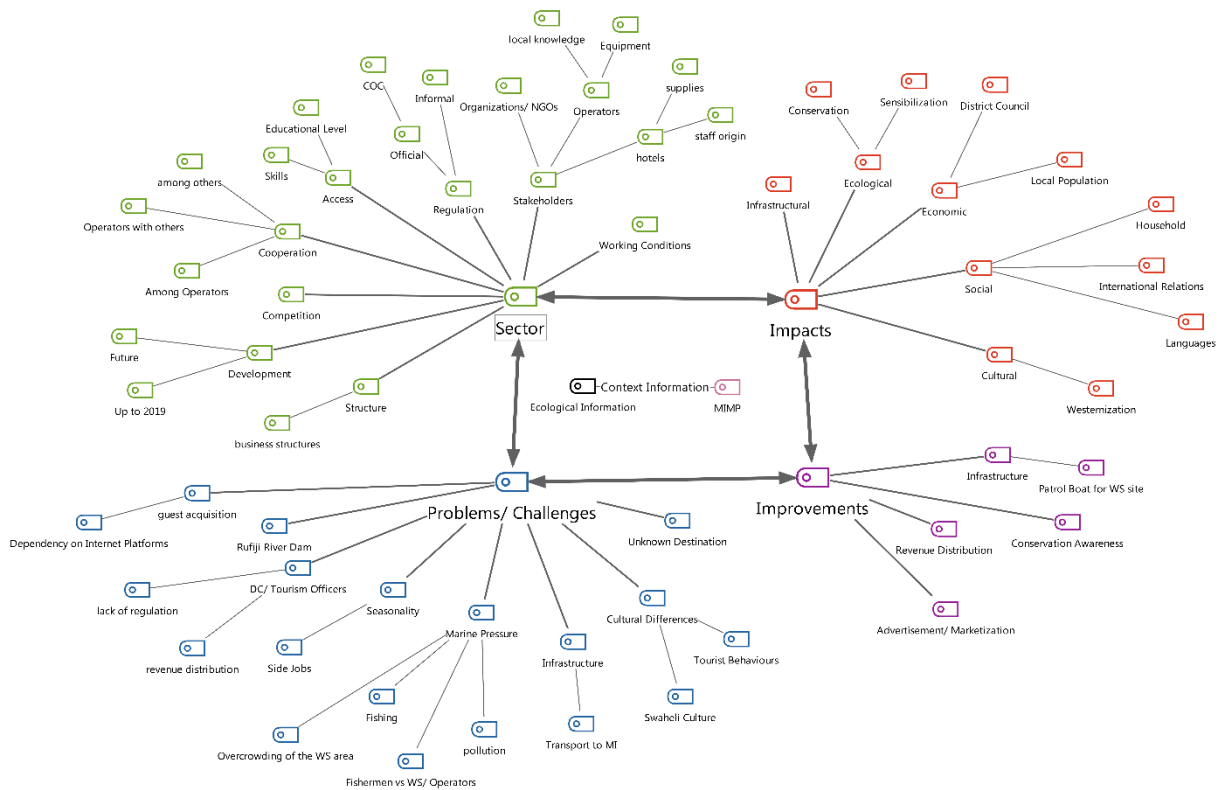


Figure 2: Code Map (Done with MAXQDA)

3.3. Positionality

Regarding my entrance to the field on an official level, being part of the Institute of Development Studies at the University of Dar es Salaam helped a great deal. As the UDSM is well respected, it demonstrated my legitimacy as a researcher. When I introduced myself to the District Executive Director, as well as the tourism officers and their superior, the land officer, I carried documents from the University of Zürich and the UDSM with me, as well as a copy of my COSTECH Research Permit. On a personal level, my interest in the Swahili culture and coastal livelihoods, which I developed and nurtured in three stays in East Africa previous to the fieldwork, authenticated my research interests. A major advantage and door-opener were my language skills. I started studying Swahili in 2016 and already possessed a grammatic understanding when I arrived at Mafia. In my daily routines, I tried to talk to people in Swahili, rapidly improving my vocabular. Even if I could not conduct interviews in Swahili, I was able to talk about my research and ask basic questions. By this, I did not depend on a translator and it highlighted my interest in the people and their lives. Moreover, my earlier experiences in Kenia (2016) and Tanzania (2016, 2018) provided me with a foundation of local norms and basic cultural behaviors.

I am aware of the fact that most people on the island had seen or interacted with a European or foreign person before. Due to the growth of the tourism in the last years, people were accustomed to Europeans and I was able to conduct my daily business without any problems. Every year in November, some researchers come to conduct biological research on the whale sharks. They cooperate with local operators to count the number of sharks in the area, observe their emigrational patterns or inform the tour guides on proper behavior. In my perspective, this is a reason for me having fairly easy access to the field and explaining my intentions to the relevant people, as they were already acquainted with the work of researchers and their

interests. The stakeholder group I had the best access to was the group of the tour guides. Sharing their gender, age and interests made them welcome me into their group dynamics.

On a few occasions a WWF volunteer was willing to assist me in talking with people that could not speak English. As the volunteer had finished an environmental bachelor's degree and already had some interview experience on Mafia Island, she was very helpful. Some people even recognized her from her previous research and thus were willing open for cooperation. After talking about my topic and what kind of information I was interested in, the volunteer and me would prepare appropriate questions for the interview partners. As the WWF is respected on the archipelago, the people were open towards speaking with us and her translating the conversations.

3.4. Limitations

Although the research could be conducted without any major problems or setback, there are some points that need to be addressed as personal and scientific limitations. First of all, a big part of the island is part of the Mafia Island Marine Park. In practice, its administrative authority is separated from the District Council and forms a department which answers to the national Ministry of Livestock and Fisheries Development. As the Mafia Island Marine Park area is a protected zone, I was obliged to apply for an additional Research Permit in order to conduct research within its area. The bureaucratic process took about 3 weeks and I received the permit only a few days before ending the fieldwork. The permit gave me the chance to do some basic research, for example conduct an interview with a senior Mafia Island Marine Park officer and get insights into official documents, but I did not have the chance for an in-depth research within the park. A second limitation of official nature was the fact that I was required an Exemption Letter from the District Council that would allow me to go on the whale shark tours for research purposes. Matter of fact, I became aware of this in the last week in the field, after I had already participated in multiple excursions without paying the fee. I had only received a verbal permission from the tourism officers and their superior to join the tours for research. The moment I became aware that they did not possess the authority to grant this kind of permission, I set a meeting with the DED to apply for a retroactive Exemption Letter. The exemption was granted a few days before my departure and thus had no negative consequences for the research's legitimacy. Thirdly, for the data collection with certain groups (e.g. fishermen, community elders, women's handcrafting group) I was assisted by a WWF volunteer that acted as my translator and mediator. The data obtained from these groups is already filtered by the young woman's positionality and perspective, as translations as well as transcriptions add layers to data's understanding (Nchanji and Bellwood-Howard 2016, p. 45). Moreover, the answers given by the persons of interest can be influenced by her positionality. In respect to the groups, the positionality and character of the translator was a door-opener with the talks to the fishermen and the women's handcrafting groups (young woman). But talking to the community elders, which were exclusively male, I would assume that they would be more open towards a young male mediator. The last limitation worth mentioning concerns the gender relations of the interviewees, as the majority of interviews were conducted with men. Of 20 interviews only 4 informants were women, as there are mostly male tour guides, officers or hotel owners. This can influence the data insofar that the collected perception is male dominated, while female perspectives are overlooked.

4. Research Results

4.1. Whale Shark Tourism Industry

Seasonality and Stakeholders

The tourist season on Mafia largely depends on the European holiday calendar and the whale shark presence. Hence, the majority of hotels open in June or July, followed by a busy August and a calmer September, while in the months from October to February the season peaks. In the raining season in April and May, nearly all hotels are closed, and the staff is on holiday (Owner 1: 84; Manager 4: 26). The seasonal trend can be observed by the means of the monthly arrival numbers at the airport (See Figure 3).

The stakeholder groups in the whale shark tourism industry on Mafia Island can be distinguished into four groups. First, there is the administrative group, which includes the District Council, the corresponding tourism officers, the Mafia Island Marine Park, and the central government. The latter is responsible for passing locally suggested by-laws. The most important governmental actor is the District Council, which sets the official framework for the tourism activities on the island and its officers who are responsible for monitoring compliance. As the District Council gets a fee of 25 000 TzS per tour participant, its interest is to secure the natural resource that is the whale shark population. Representing hotels and tour operators, the second stakeholder group is the private sector. Earning money from the whale sharks makes this group a major player in the island's economic and environmental issues. Looking at the big whale shark tour operating companies, only one does not simultaneously offer accommodation services. Thus, it is difficult to distinguish tour operators and hotel owners from each other. The third stakeholder group is the local community. Especially fishermen are directly concerned about the shark tourism, as the encounter area is a traditional fishing ground and a conflict of interests between fishermen and tour operators exists. Last but not least, the non-governmental organizations on Mafia act as consulting, educating and mediating players in the whale shark tourism industry (WWF Officer: 27).

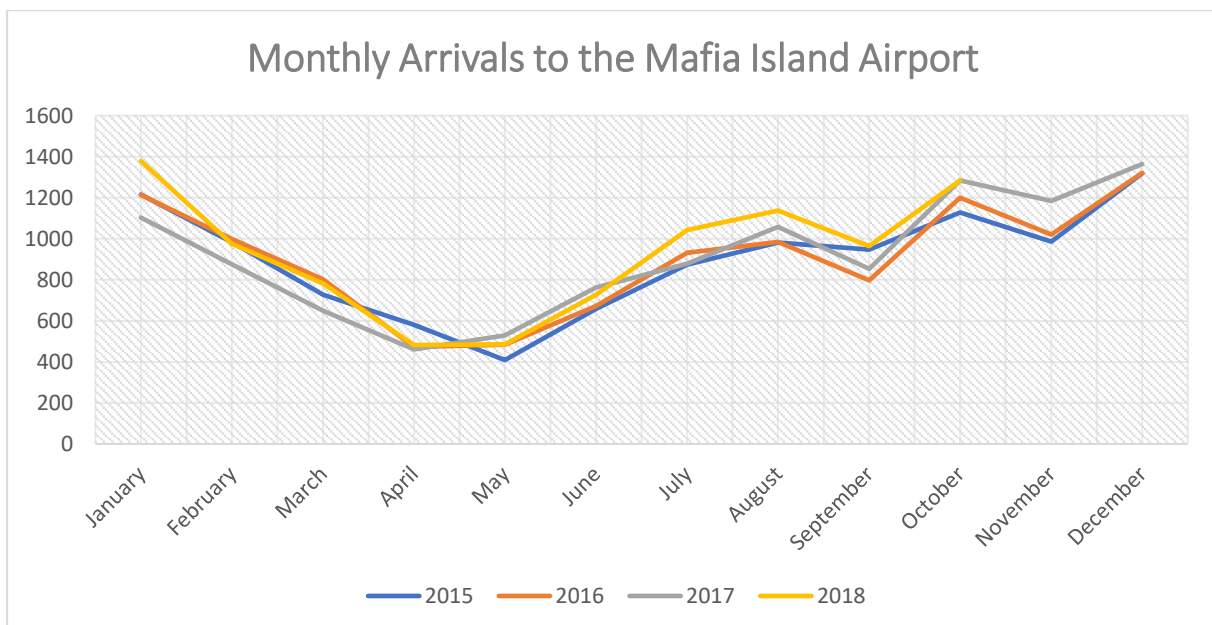


Figure 3: Arrivals to the Mafia Island Airport (Mafia Island Airport Authorities 2019)

Whale Shark Tourism Stakeholders

Concerning Mafia's major tour operators, the interviewees did not agree on a set number, but varied between four and six companies. An interesting point is the differentiation between official and unofficial operators that was made by the tourism officers and even some of the companies themselves. Officially, there are five big companies doing the tours, being registered with the District Council (Tourism Officer: 26). In addition, it was observed that multiple accommodations and private persons run trips to see the whale sharks. It is not clear how these unofficial tours are regulated or if they pay the fee. Despite overt trips to see the shark, one hotel owner declined carrying out these tours in our interview:

'No, actually, we don't do it officially. What we do is to locate or help our clients to meet the operators to do. So, when we speak, we speak on the table and we give the whole possibilities to meet them and they can do this what they want to do. So, in terms of the competition, as we are not doing it ourselves, nothing. Because for us, if we say the operators then you choose one, for us there is no question. We call the somebody who you choose, and we let you know.' (Owner 1: 40).

As shown in Figure 4, all the major operators are located around Kilindoni at the western coast of the island. With a cluster of three hotels and operators just at the beach south of Kilindoni, this is the starting point for most of the boats going out to sea. The other operators can be found directly in Kilindoni and a bit north of the town. Smaller providers are usually found in Kilindoni town or at Utende, mostly being hotels or cooperating with the hotels located at the eastern part of the island. Among all operators, it is common practice to start the trip in the morning, the earliest leaving at 7 a.m., the latest at 8:30 a.m. The first operator to leave the island said that it's better to be at the ocean before all the other boats arrive, while a manager at another hotel explains the procedure with better visibility in the morning (IT: 45, 52-53). The local knowledge of the operators and their staff about the whereabouts of the whale sharks in Kilindoni Bay comes from multiple sources. First, some of them conduct their own kind of research. For example, one operator uses GPS points to locate the animals, while another goes out by boat to look for the whale sharks in order to know when the season can be started (Operator 1: 24; Manager 3: 36). Other than that, experience is the most important factor to find the animals. This includes knowledge about the weather situations, the shark behavior, and the skill to orient oneself at the ocean. Some reefs in Kilindoni Bay have names, e.g. Buani or Bwejuu, and these help the operators to share information about the sharks' location (Tour Guide 3: 36). In general, the whale sharks are found around regular spots and if they are at the surface, one can see their dorsal fins and tails. The operators sometimes get information from fishermen who have seen the big fish and can point them towards the right direction. Depending on the water depth and visibility, it is possible to detect the multiple meter long fish as a shadow under water. As a last mode of locating the giant fish, birds can be used as indicators. Whale sharks are generally accompanied by smaller fish and the birds go into the water trying to catch these fish. So, when many birds are around the sharks tend to be close (Tour Guide 2: 27-29; Tour Guide 3: 40). The equipment required to offer a tour are a boat, an engine with petrol and the gear to outfit the guest to swim (masks, fins, and snorkels). Moreover, most providers take along cool boxes with water for their guests (Tour Guide 3: 38; Tour Guide 1: 18; Operator 1: 18-20).

While the whale shark companies are both locally and foreign owned, all of the upmarket hotels on the island belong to foreign investors (Owner 3: 9). Although the total number of hotels does not exceed 20, the accommodation range encompasses various philosophies and prices. Hotels targeting budget tourists are exclusively run by locals, while foreign run accommodations are oriented either towards mid-market or upmarket sections (Owner 1: 28). In general, local run hotels contain fewer and smaller facilities, being able to host a maximum of 20 guests. Foreign run hotels vary in their size, as some only provide accommodation for up to 18 people, while the largest hotel on Mafia can host 70 or 80 persons at the same time (Manager 4: 40; Manager 1: 108; IT: 97). The difference between locally and foreign run accommodations can also be observed in the sourcing of their supplies. On the one hand, local hotels mainly get their supplies from Mafia. Exceptions are special commodities like freezers or spirits (Owner 3: 18; Owner 2: 54; IT: 120). On the other hand, foreign run hotels source the majority of their supplies from the Tanzanian mainland, especially Dar es Salaam and transport it to Mafia by boat or even plane. This was reasoned for by the bad and non-hygienic quality of Mafian products (Manager 4: 20-22; IT: 142).

The staff working for the hotels and operators majorly originated from the Mafia archipelago. Especially jobs with low skill requirements, such as waiters and waitresses, maids or tour guides are performed by the local people. In addition, tourism professionals come from the mainland or Zanzibar to work in the high-end accommodations. These people mostly work as managers or in bars, being able to handle alcohol, which local people from Mafia struggle with due to their strong religious beliefs (Owner 2: 10; Owner 1: 2; Operator 2: 31; Manager 2: 91-93; Manager 4: 30). A small survey I conducted throughout 17 hotels on the archipelago showed that these companies employ a total of 425 persons. In the surveyed accommodations the employee numbers ranged from 3 to 66 people. Depending on the season, some hotels temporarily have additional staff to cope with the busy months. Of the total 425 employees nearly three fourth

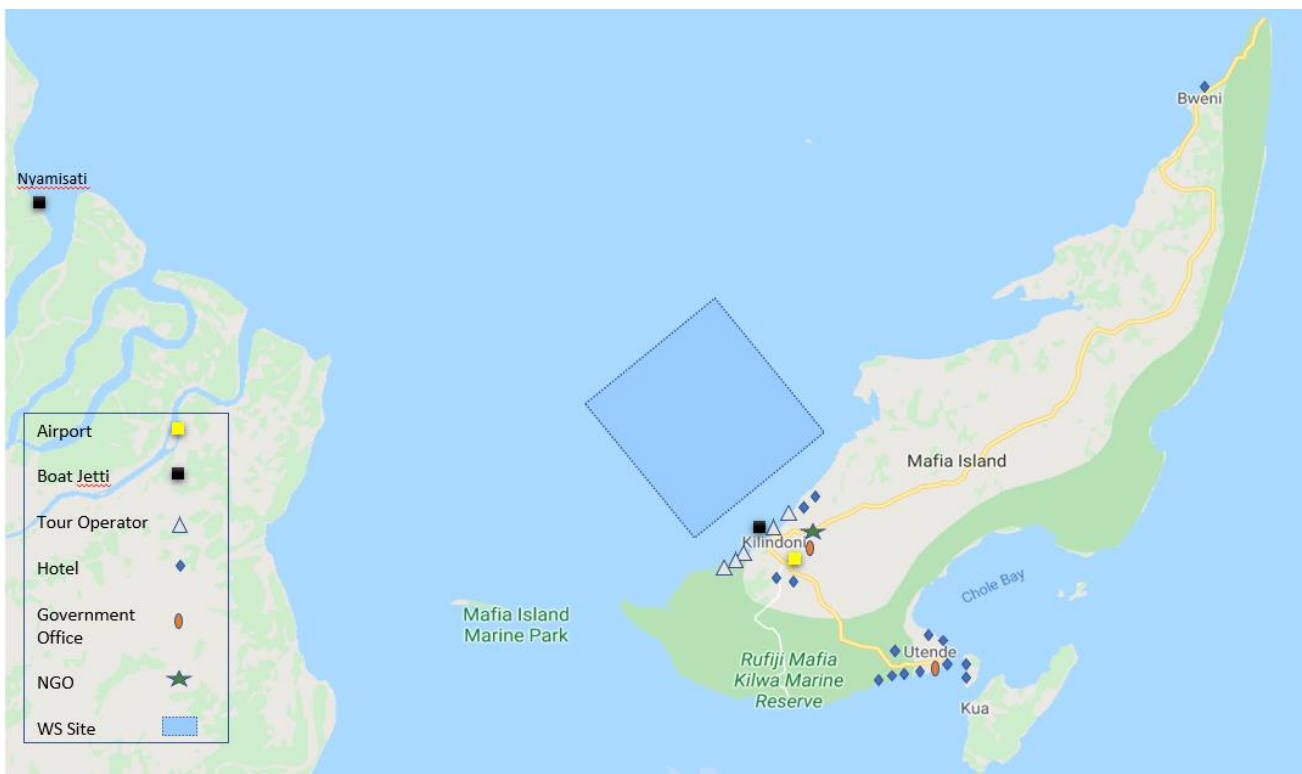


Figure 4: Mafia Island Tourism (Map Source: Google Maps)

were male (310), while every fourth employee was female (115). Locally run companies employed considerably less staff than luxury hotels, which require extra workers to satisfy customer needs. The consensus for the required skills and educational level to work in the tourism industry was quite high among all service providers. For nearly all the interviewed hotel managers and owners, social skills and communication skills were the most important. As the people are constantly in contact with tourists, especially language skills (English, German and Italian) were perceived as the most valuable assets (IT: 115; Manager 2: 86-88, 130; Manager 3: 106; Operator 1:64). A tour guide reflected on how he got the job:

'So, I can say my key to get the job was my language' (Tour Guide 2: 9).

In addition, honesty and the willingness to learn about tourism were mentioned by multiple people responsible for the employee selection. As most hotels and operators conduct in-house trainings for their staff, being open for new knowledge is a crucial aspect in finding employment in the tourism industry (Owner 2: 24; Operator 3: 32; IT: 115; Manager 2: 86-88; Manager 3: 106). Respective to the different job activities, people are needed to have special skills. For example, tour guides need to be confident swimmers, while managers should be able keep the company's books (Operator 1: 22; Owner 2: 24). Many providers in the tourism industry require their employees to have Secondary School Education. There are some exceptions for people not interacting directly with tourists, but generally, tourism employees on Mafia have completed their Secondary School (Operator 2: 33; Operator 4: 3; Manager 2: 122). Local hotel owners, operators and managers mostly have college education in tourism or related studies. For example, the managers in two of the local companies have certificates in hotel management, business administration or computing and marketing from colleges in Dar es Salaam or Zanzibar (Owner 2: 84-86; Owner 1: 2; Manager 5: 2).

The non-governmental organizations on Mafia Island that deal with whale shark issues are both local and international representatives. First, WWF is active on the island, running a field office in Kilindoni. Although the focus of WWF's work on Mafia is inside the Marine Park, its officer and workers are involved in whale shark conservation issues. Next to education seminars on whale sharks, the organization arranges stakeholder meetings and mediates between the different interests (Tour Guide 1: 98). The same can be said for Sea Sense, an NGO that is concerned with environmental topics on Mafia. It has held multiple seminars to educate fishermen on the whale sharks and tries to mediate between operators and fishermen (Owner 2: 76; Operator 1: 78). As an organization that is exclusively concerned about the whale sharks, the Mafia Island Whale Shark Conservation Society (WASCOS) was founded with the aim to protect and conserve the marine giants. It was first proposed here that the tourist fee for the shark tours was to be raised from two Dollar to around 12 Dollars, so that the communities and fishermen can benefit from the tourism. While having a lot of potential by bringing together all the major stakeholders, today WASCOS is mostly inactive (Operator 1: 76; Operator 3: 4; Operator 4: 9). Founded and run by a local operator, the Afro Whale Shark Foundation uses fund raising from their guests and staff to equip schools with pencils and exercise books. The hotel employees visit Primary Schools around town and educate the pupils on the whale sharks, tourism, conservation and the environment in general. The set aim is to share their knowledge with the local communities and continue to give knowledge to the next generation (Owner 2: 68, 72; Operator 2: 11).

Regulation, Cooperation, and Competition

The District Council is responsible for official regulations in the whale shark tourism sector on Mafia. In addition to national tourism levies, government licenses for companies, land and building regulations, the District Council collects whale shark revenues from the operators, while issuing licenses for operators and their tour guides (IT: 62; Owner 2: 18, 42; Operator 3: 14). The payment for the fees is conducted electronically direct to the District Council's bank accounts. Operators are required to document their guest numbers with lists that are passed on to the tourism officers and which count as the basis for the electronic payments (Operator 3: 18). The tourism officers' job is to monitor the outgoing boats at the end of the island's jetty and to count the number of guests on the boat. This is to control if the amount of people on-board concurs with the documentation sheets or if the boats are exceeding their carrying limit (Tourism Officer: 77). At the time of the fieldwork, the regulatory gap of a missing management strategy for the whale shark tourism had been approached and a plan had been drafted by a group of experts. Sponsored by WWF, the strategy supports 'proper management for conservation of the whale shark by avoiding disturbances and illegal fishing while increasing protection of their habitat and food web' (Mafia District Council n.y.). The management plan aims at long-term conservation of the whale sharks by using by-laws for the sharks' protection. In the future, it should sustainably benefit the people of Mafia in the way that an increased number of tours will lead to an increase of community and government income (Mafia District Council n.y.). The management of the human – animal interaction is achieved with the code of conduct, which is adapted from the international guidelines that define the boundaries for the touristic activities. Before swimming with the sharks, the tourists get briefed on the proper behavior around the sharks (See Figure 5). The code of conduct has been accepted by all registered operators and thus counts as an official regulation (Tourism Officer: 77; Tour Guide 2: 31). As the situation at the ocean is without any official monitoring, some informal rules have been established among the operators. For example, being the first one to spot a shark also means to be the first one to drop ones' guests, while others wait before joining in. Another practice all operators follow is to start the tours in the morning and then to spend 2 to 3 hours at the site swimming with the giant fish (Tour Guide 3: 80-82; Operator 1: 18). Depending on the season the number of accessible sharks vary. If there are less sharks than tourist boats, the operators act according to their biggest priority, satisfying customer needs:

'Sometimes we follow the rules, and sometimes we cannot follow. If there is only one whale shark spotted that day, we have 4 or 5 companies with maybe 40 guests...It is difficult to wait. You can go there, and a lot of people swim with the whale shark.' (Operator 1: 48).

Cooperation in the whale shark industry can be found among operators themselves and between operators and other stakeholders. In a general manner, the local whale shark operators are close to the fishermen and they share information on the fish's whereabouts when passing each other at the ocean. On the one hand, fishermen can point the tour boats to the right direction to find the sharks. On the other hand, operators can inform the fishermen where they swam with the shark so that the fishermen can go there in their search for their catch. This relationship is based on the fact that some of the local operators and their guiding staff are former fishermen, sharing social bonds with this group (Operator 1: 24; Tour Guide 1: 162; Fishermen: 15, 18). Sometimes, the operators are informed on the whale sharks' locations by the transport boats coming to Mafia (Operator 1: 62). As hotels provide the operating companies with their guests, an extensive communication between these two groups is necessary (Manager 3: 102; Manager 4: 18). Cooperation among the operators is mostly

confined to the local Mafians, as they share information and locations with their phones or just on-sight, working together to ensure customer satisfaction (Operator 1: 44; Tour Guide 2: 106). In emergencies, the companies assist each other at the ocean. This was illustrated by a tour guide:

'Even if there, we are out, somebody gets a problem, we can lend them the engine. Because we go out with 2 engines, 1 spare. We lend them the engine and we keep looking, when they are done. Even the day after, they can give it back to us.' (Tour Guide 2: 108).

Besides these ways of cooperating with each other, the competition among the operators was judged as high. Especially the competition between local providers and foreign investors was perceived as a part of the industry (Operator 1: 124; Manager 1: 74; Manger 5: 42). The competition between hotels was considered less relevant, because the various hotels have different targeted customer groups (Manager 2: 157).

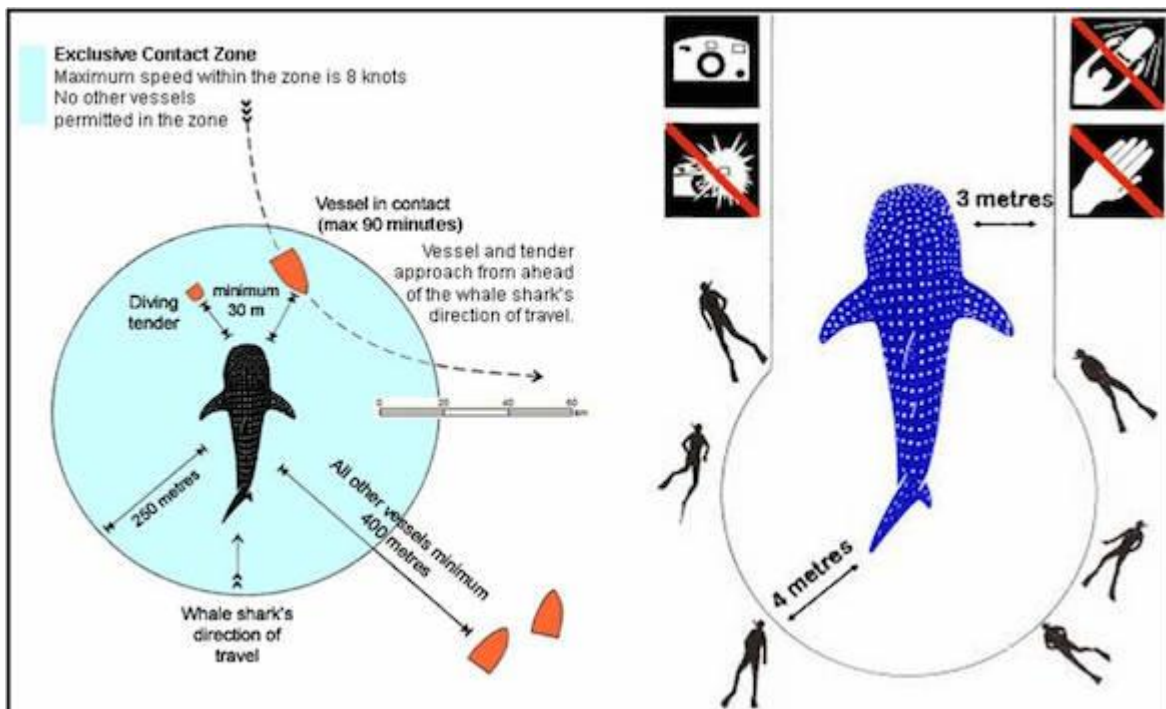


Figure 5: International Code of Conduct for the whale shark encounter (Source: https://rushkult.com/eng/scubamaqazine/wp-content/uploads/2018/01/Whale_shark_code_of_conduct.jpg)

The Development of the Tourism Industry

Much has changed since the first tourists came to Mafia around 30 years ago. Especially in the last 10 years, the island's tourism industry has experienced expansion. While some years ago, most tourists stayed in Utende with the luxury hotels, development that can be based on the whale shark tourism has taken place in Kilindoni. Compared to 10 years ago, when there were only a handful accommodations, the number has more than doubled in 2019. The combination of protecting the whale sharks and advertising Mafia as a destination has led to increased shark, tourist and hotel numbers every year (Elders: 5; WWF Officer: 33; Owner 2: 32, 34; Manager 1: 52; Tour Guide 1: 50; Tour Guide 3: 46). The island's development can be illustrated very well by the infrastructural change that has taken place. The modern airport that was financed by the American people and the only asphalt road of the island which connects the airport in Kilindoni

to the hotels in Utende were constructed for the purpose of better tourism transportation (Elders: 10-11). Also, the dirt road connecting Kilindoni to the north of the island has improved and is regularly maintained (Owner 3). Mafia is getting more and more connected to the rest of Tanzania, as its mobile network and power supply is getting better every day (Operator 3: 18). A local manager, who went to study in Dar es Salaam and returned to Mafia described the change as following:

'It is growing a lot. It is different from the day I left to go to study in 2003. It is completely different. It is expanding. There are so many hotels, and everybody is thinking about building a hotel. It is growing in a big way. At every corner in the city, there are tourism hotels. There are so many things why people decide to build tourism hotels. There are not many things to do on MI other than tourism ... Tourism has become very big, very important for MI. It is one of the biggest things on MI, for the government and for the people themselves. We have many companies now and foreigners who come to visit as tourists, they contribute a lot to the island.' (Manager 5: 32).

The fast development the sector has seen can be best illustrated by the means of one of the locally run whale shark companies. Starting to offer trips around 5 years ago, the company's capital was reinvested into a budget accommodation in 2017. Since then, the company has grown substantially. Its employee numbers have risen from six to 14, and the firm runs trips with up to 3 boats. At a previous visit to the island in 2018, the place was mainly running a campsite and had one bungalow to rent. One year later at the time of the fieldwork, the accommodation had finished to construct an office, including a kitchen, 4 bungalows and a fifth one was in the process of being build. Moreover, in the same period from 2018 to 2019, the neighboring plot had also seen some change. A budget accommodation with wooden beach bungalows had been built to host guests and run whale shark trips (IT: 34, 76-77, 152; Owner 2: 2-3; Manager 3: 54). A rival operator described the phenomenon of the company's development:

'Whale shark tourism has actually made him. He started building a small accommodation with the money he has made from whale shark tourism.' (Operator 3:10)

The future development of the tourism in general, and the whale shark industry in particular, was perceived by all of the interviewees to be of growing nature. They were convinced that the recent growth will continue and that the District Government will become increasingly dependent on the tourism revenues (MIMP Officer: 46; Tourism Officer: 47; Manager 2: 175; Manager 3: 62; Tour Guide 1: 168.170; Tour Guide 3: 124; Tour Guide 2: 45; WWF Officer: 37). the District Council has already identified the tourism as a crucial sector for Mafia's development and plans to enhance it in the future (District Director: 37). Especially in Kilindoni, the conditions for investors are quite good and there are less regulatory restrictions than in the Mafia Island Marine Park. Thus, the tourism was argued to be bound to keep expanding on the western side of the island (Owner 2: 38). The number of tour operators was also expected to grow, as the participation barriers are low and the demand high. For example, a former tour guide bought his own boat and he was preparing the boat for the whale shark tours. He showed me his new boat, which he was painting at the beach. The boat was bigger than the usual boats I had seen before and he stated that it can carry up to 15 guests (IT: 152-154).

4.2. Whale Shark Tourism Impacts

Economic Impacts

The increasing tourism industry in the Mafia archipelago has brought some changes to the island's economy. First, the tourism is a chance for locals to find employment (WWF Officer: 57; Tour Guide 3: 60; Tour Guide 2: 116). Notably, for the communities' younger generations the possibilities to find a job in tourism are better than the older community members, who see less direct benefits from the tourism (Operator 2: 45; Elders: 8). Being asked about their family situation in connection to their employment in tourism, interviewees pointed out that they support their families with their income (Manager 3: 4). A local hotel owner framed it like this:

'Everybody has 3 people depending on them. Everybody supports people behind them.' (Owner 2: 64).

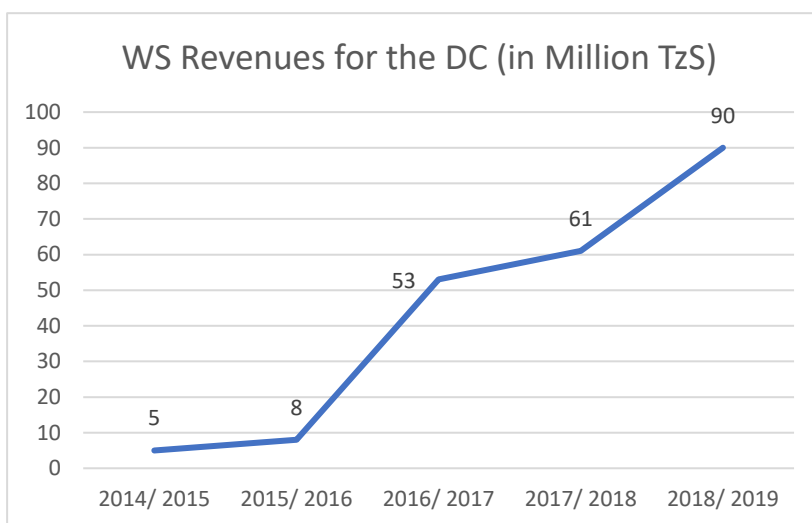


Figure 6: DC income from whale shark Tourism (Local Government Revenue Collection Information System (LGRCIS) 2019)

Next to direct employment, growing visitor numbers demand for an increasing amount of supplies and transportation to and across the island (Owner 2: 88; Manager 2: 124; Owner 3: 10). In general, the additional demand for food and hotel equipment boosts the island's economy. This trickle-down effect can be illustrated with the help of a small-scale chicken farmer I met while waiting at the District Council. He told me that in the tourism high season he sells more chicken, because the hotels buy all the chickens from bigger farmers, leaving local hotels and private people no choice but to buy from small-scale farmers like him (IT: 29). Likewise, the income from tourism ripples across the communities when hotels buy their furniture, like beach umbrellas, from local crafters (Owner 2: 54). The trend of tourists walking around town on their own and buying supplies directly from local shopkeepers has become more popular in the last years (Manager 2: 124; Tour Guide 4: 24). Another benefit is the import of foreign currencies like Dollars or Euros by the tourists, which enhances the economy on a local and national level (Tour Guide 2: 182). The tourism represents not only income for the private sector and the local communities, but also for the local and national government. Especially the District Council benefits from the increase of the shark-based tourism. By collecting revenues from the tours, the government has gained access to a source of income that is independent from national directives. Since the introduction of electronic fee payment, the revenues have experienced a massive rise (See Figure 6). Furthermore, higher income levels across the population comes

hand in hand with increasing tax payments to the government (MIMP Officer: 6; WWF Officer: 57; Tour Guide 3: 60; Tourism Officer: 18; Tour Guide 2: 116).

But not all people can benefit from the tourism industry on Mafia. For example, fishermen or people whose families are not involved in tourism see little advantages. Even though the District Council has more income at its disposal to develop public facilities and infrastructure, some of the interviewees said that they are disadvantaged by the tourism. Foremost, fishermen are restricted in their fishing activities, but cannot directly take advantage of the revenues generated for the District Council. The economic profits from the whale shark tourism are mostly concentrated in the private sector and communities are not aware of the opportunities and chances the tourism represents for them (Tourism Officer: 14; WWF Officer: 57; Fishermen: 24; Operator 4: 6).

Socio-cultural Impacts

With the arrival of foreign visitors, the communal and social life on Mafia, foremost in the tourism hubs Kilindoni and Utende, experiences changes. First of all, people working with tourists get into contact with different cultures, beliefs and styles. This can expand the respective person's horizon and result in learning about other countries and places around the globe (Operator 2: 61; Tour Guide 4: 32). Problematic aspects of this cultural interaction that were mentioned by the interviewed people are mostly related to western behavior and dressing. The most frequently stated issues were public alcohol consumption by guests and inappropriate clothing by female visitors. Being dressed scarcely upon arrival at the airport or while sunbathing at the beach, bathing suits depict a stark contrast to the traditional Muslim wardrobe. Moreover, the occasional sex-tourists were very unpopular among the interviewees (IT: 118; MIMP Officer: 38; Tour Guide 2: 176). Talking with the elders of the community revealed some sense of moral decay and cultural distraction that was attributed to the tourism (Elders: 9). An interviewee formulated his opinion on the cultural impacts drastically:

'Social and cultural attack, I can say. They attack our society and culture.' (MIMP Officer: 42).

Another person, a tour guide, explained the change by the means of a colleague:

'Our culture is destroyed, our culture. I can give you the example of him. Last 2 years, not 5, that is very far. He was like me. He was like, smart, no beard, not those hairs, he was wearing good. But now, he is not like that, he wears shorts, that's the culture of white people, to wear shorts. We do not wear shorts here.' (Tour Guide 2: 176).

In a social dimension, the tourism shapes the imaginations and ideas of younger generations. Having access to smartphones and the internet displays the chances and opportunities to expand one's horizon, while interaction with people from other backgrounds can lead to personal growth and development (IT: 82; Operator 3: 42; Mafia Island Marine Park Officer: 40). Between visitors and locals, international bonds are created and through the internet they can be maintained even after the departure. These connections are primarily forged with local tour guides and hotel staff that work close with the guests and spend time with the visitors (Manager 3: 138; Tour Guide 4: 32, 39). On an individual level, most of the young tourism employees lived on their own, having moved out from home when they started working (Tour Guide 1: 118; Tour Guide 2: 35; Tour Guide 4: 15; Manager 1: 152). Another impact the tourism is causing are the increasing language skills for people on Mafia. Particularly employees that are

in daily interaction and dialog with tourists benefit in this regard. They can learn and practice other languages at the same time. While in Utende there are many Italian visitors, English is practiced the most on Mafia. Nowadays, the children learn more English in school and then can practice their skills with tourists (Tour Guide 4: 18; Tour Guide 2: 122, 180-182). A special case was demonstrated by a local hotel owner, who was able to learn Italian by working in tourism:

'... and 95 % of the tourists at that time were Italian. And I also learned Italian through them, by speaking to them. And I can speak and write it fluently, which is good.' (Owner 1: 2).

Ecological Impacts

The shark's recognized importance for Mafia's development and environment has led to a changed understanding of ecological issues. First and foremost, the protection for the marine giants has been strengthened by the government and fishermen are prohibited to harass the animals (WWF Officer: 33; Tourism Officer: 39). Moreover, learning from the yearly biologists coming to do research, the local operators and accommodation owners are actively engaged in conserving the animals and protect their environment. When going for a trip, the guides try to take pictures of the whale sharks to upload these into the global database 'Worldbook' which counts and tracks the global whale shark population and its movement (Owner 2: 58). By using solar panels to power their facilities, local hotels guarantee their energy supply in an independent and sustainable way. The companies also perform activities like beach cleanings or collecting plastic bottles at the ocean when they see it. As another way of reducing plastic, one local hotel avoids using straws (Owner 2: 56; Operator 2: 9; Owner 1: 26). To protect the whale sharks at Mafia, the District Council plans the establishment of a protection area, which, should it be approved by the national authorities, will be introduced in 2020 before the start of the whale shark season. The proposed restrictions in this area include limited traffic and no-fishing in the whale shark season (District Director: 30).

The presence of the whale sharks and the value of this natural resource has facilitated a sensibilization process for environmental issues among the communities. In cooperation, Sea Sense, WWF, the District Council, and some operators have conducted multiple workshops concerning whale sharks and their conservation. Educating the shark's main stakeholders, like tour guides or fishermen, aims to raise awareness for ecological problems. The process is spread to the schools, where children are educated on environmental matters. As an example, the Afro Whale Shark Foundation visits schools and gives classes about the environment and whale sharks. A foreign run operator offered a seasonal internship program for locals, in which the participants were trained to become tour guides and educated about the whale sharks, the environment and the tourism (Tour Guide 4: 2, 26; Tour Guide 2: 74; Manager 2: 109; Operator 3: 4). In general, the presence of the Mafia Island Marine Park has resulted in people being more conscious about environmental issues at Mafia (MIMP Officer: 6). Criticism was formulated in the interviews with people that are not involved in the tourism industry. Especially regular fishermen and community elders lack knowledge about conservation and environmental matters and struggle to understand restrictions (Elders: 6; Fishermen: 9). A change that can be witnessed at the western coast of Mafia is the ongoing reduction of Mangrove forests. These forests are removed to make white beaches which are popular among tourists. This results in the erosion of the island's coastline (MIMP Officer: 38; Operator 3).

The educational aspect of the whale shark tourism exceeds the local communities and includes the tourists going on a tour. In advance of the departure, each operator gives a briefing on whale

shark behavior and how swimmers are supposed to act. These briefings varied from short guidelines on human behavior up to extended elaborations on whale shark behavior, biology and research. Of the operators I participated with, only one had visual materials (posters) to assist in the education process.



Picture 4: School Visit with the Afro Whale Shark Foundation (Photo: Max Amling)

4.3. Problems and Possible Improvements

According to the interviewees, Mafia being a hidden destination acts as a major factor that restricts the tourism from growing faster. Even in the Tanzanian tourism industry, not many people know about Mafia (Tourism Officer: 6; Operator 4: 8). As Mafia is widely unknown among tourists, it is a difficult destination for tourism offices to sell (IT: 98; Tour Guide 2: 170; Manager 1: 58; Owner 3: 5). The destination Mafia Island is lacking advertisement on a national and international level, for which the government was perceived to be responsible by most of the interview partners (IT: 93; Tourism Officer: 6). Additionally, working long-term on Mafia is not very attractive for tourism professionals, because the island does not offer many activities besides work (IT: 108). One manager put it as follows:

'The main challenge...is marketing. This is a challenge, because it goes straight to the government. Yes, we stakeholders [meaning 'hotel owners'] take our initiatives, we do marketing on our sides, but the government has to come and do a lot to promote Mafia as a destination' (Manager 2: 137).

Another issue that was notably important to hotel owners is the condition of the infrastructure on Mafia and the transport options to the island itself. The low quality of roads on Mafia makes the reachability of remote beaches difficult. This counts double for the northern part of the island, where the infrastructure is less developed than in the south. In general, the infrastructure for cellphones and mobile networks has made big improvements over the last years and a bank

has opened a branch in Kilindoni only recently (Operator 3: 18). Due to the limited hosting capacity only a certain number of tourists can be hosted on the island at the same time (Tourism Officer: 64; Owner 1: 80, 100; Tour Guide 4: 29). The hosting capacity is connected to the flight situation, as around three flights per day arrive at Mafia. According to a hotel manager, the flight companies do not introduce new flights or use bigger planes, because there are not more hotels available and new hotels have difficulties to be established without increased visitor arrivals (Manager 4: 58). Moreover, the little competition between flight companies has led to high priced tickets for tourists (140 USD one way), while residents can fly for half the price (70 USD one way) to Dar es Salaam. The different prices are not justified by the companies, and the high tourist fares were considered as an obstacle for tourists in numerous interviews (Manager 4: 60; Owner 1: 80; Owner 3: 6; Tourism Officer: 66). The boat connection to the mainland was another reason why most tourists come by plane. Crossing from Nyamisati to Mafia takes around four hours and the wooden boats are said to be too unsafe and unreliable for tourists to use, depending on the weather and sea conditions (Manager 2: 137; Manager 4: 20). To reach the ferry's place of departure, it takes another four hours from Dar es Salaam. The ferry leaves around 4 a.m. in the morning, making the passage by the ocean too uncomfortable, long, and insecure for most tourists to consider.

The seasonality of the tourism is one of the challenges that was mentioned the most in the interviews. The majority of the accommodations use the off-season in April and May for maintenance or construction of their facilities (Manager 2: 16; Owner 1: 86; Owner 3: 20). Also, the staff of closed hotels are given monthly vacation shifts, so that there is always staff present and working on improving the places (Manager 1: 42). While the whale sharks are not around, other activities on Mafia receive more priority and the hotels put focus on offering tours like snorkeling, sandbank lunch, Hippo tours or BBQ parties (Owner 2: 90; Tour Guide 2: 15). For the hotel staff, off-season means that other ways of working for livelihoods are necessary. The most common stated occupations for this period were fishing, small scale agriculture, temporary jobs in construction, assisting in the family business, going back to old jobs like teaching English or to work as a safari tour guide on the mainland (Tour Guide 2: 36; Tour Guide 3: 16; Tour Guide 4: 34; IT: 27, 117; Manager 1: 178-180; Manager 3: 142-144). Some of the managers with higher wages in the high-end hotels use the raining season to visit their families or to go on vacation themselves (Manager 3: 142-144; Manager 2: 18; Manager 5: 14). Even while tourists are visiting the island, some of the hotel staff have side jobs. For example, one kitchen lady provided the juice for the breakfast in the hotel, while a tour guide rented his motorbike to guests on a daily basis (IT: 78; Tour Guide 1: 46).

International tourism aims to satisfy international customer needs and expectations with local resources and manpower. These premises can bring about challenges for both the demand and supply sides of the industry and pose a challenge of mediation. Especially hotel managers, for which this was the most frequently stated issue, are required to be considerate of both employees and guests. The factor work ethics was thematized, as the local employees' biggest priority is to earn money to support their life and families, while sometimes neglecting their duties (IT: 108; Manager 3: 66). For some Swahili tourism workers, a challenge was to be on time, to which Africans are not accustomed while it is a prerequisite for western tourists (Manager 3: 110; Operator 2: 19). On the one hand, considering Swahili culture as a factor in the island's tourism industry allows for a critical assessment of work issues. Because Swahili adults generally do not tell other adults what to do, it is difficult to employ locals in management or supervision positions. According to one interviewee, this phenomenon can be traced down

to a cultural complication to separate work from personal life (Manager 5: 24; Manager 4: 32; Operator 3: 32). People from Mafia are historically used to traditional work, relying on fishing and coconut harvesting in order to secure short term provision and security of their livelihoods. On the contrary, tourism aims for long-term provision of work and income and thus represents a fundamental challenge of planning and arrangement (Operator 4: 15). This kind of behavior can also be observed in the interaction of fishermen and some operators with the whale sharks. After conservation workshops from WWF or Sea Sense about proper behavior, fishermen and operators were more considerate for a while. But at some point, the situation at the ocean went back to the same old procedures, denying a long-term development and change in the people's behavior (Operator 3: 4). One manager from Mafia described the challenge with working with Swahili people as follows:

'When I tell someone to do something. It is not an order; it is a request. When I request something from someone, I do it because I think that he or she is the right person for it, and it is because they are there for. I am telling him or her to do their job. But if someone doesn't want to do it. They don't tell me directly, but just don't do it. They are kind of forgetting what they are here for.... That is a challenge that I can face at work. They want to be told by the CEO of the company.' (Manager 5: 22-24).

On the other hand, inappropriate tourist behavior can entail challenges for the tourism providers and the local communities. At the whale shark site, tour guides are challenged by tourists that do not follow the code of conduct and disturb the whale sharks. Ignoring the guidelines and the briefings, some tourists get too close to the fish and sometimes even touch the animals (Tour Guide 1: 70, 136; Tour Guide 3: 32; Operator 1: 48). Other than that, some visitors go to town and take pictures without asking for permission first, disrespecting the local rights and customs (Tour Guide 3: 118).

The acquisition of guests on Mafia is contested among the accommodation owners and tour operators. Among all interviewed hotel owners, this was the most frequently mentioned challenge that they are facing. The tour operators get their guests either from their own accommodation, other hotels on the island, or by direct online booking from the guests. When guests are mediated by other hotels, these hotels take part of the tour costs as a fee. In general, the individual operators collaborate with certain hotels, while only few times the guests book their shark tour personally (Operator 1: 14, 126). If the guests book directly with the operators, they are mostly informed about the whale sharks in advance to coming to Mafia. Companies on Mafia use social media and internet website to advertise and find customers. Especially channels like TripAdvisor, Facebook, or Instagram help to expand the advertisement range (Operator 2: 27; Owner 1: 42; Operator 3). A trend notable for small scale, locally run businesses is the increasing dependence on websites. Foremost, Booking.com is a major allocator of tourists for hotels and thus owns a position of power due to which it can make the hotels lower their prices in order to be featured on the website (IT: 99; Owner 2: 2; Owner 3: 4; Owner 1: 42). Even the tourism officers acknowledged the importance of these websites for Mafia's tourism industry:

'As I told you, we try only to do the Facebook page, TripAdvisor, Booking.com and the Website. We have no other alternative way of how to advertise people to come to this island.' (Tourism Officer: 8).

A problem issued by tour operators and tour guides was the fact that the whale shark site can be quite overcrowded. Not only are the tourist boats in close proximity to each other, but there are also fishing vessels, private boats and passenger or transport vessels going to or coming from Kilindoni (Tour Guide 3: 60; Tour Guide 2: 150; Operator 3: 26; Tour Guide 1: 142). While the passing transportation boats can injure the surfacing sharks, the gathering of tourism boats and fishing vessels not only poses a threat to the sharks, but also to the swimmers (Tour Guide 1: 76; Tour Guide 3: 60; Tourism Officer: 37; Tour Guide 2: 150). The risks for the people in the water are primarily the other swimmers and the boats around them. If there are too many people in the water swimming with the same shark, people can kick each other with fins, or they can be hit by a boat. As people look down towards the fish, it is hard to be aware of the things going on at the surface (Tour Guide 1: 76; Tour Guide 3: 38). In special, boat propellers pose lethal threats to the swimmers and a tour operator judged the situation extremely:

'In fact, people get hurt in the mass of the people behind the whale shark, they start fighting, arguing. I have broken up fights out there. We have had some near misses with boats having almost hits people. I have been hit, my interns have been hit by boats, but I am talking about the propellers. These little speed boats, getting in and out among the swimmers, almost had an accident a few days ago with one of the new fiber glass boats. They can turn fast and he almost got someone in the water with the propeller. But, it's only a matter of time, before someone get killed by a boat propeller out there.' (Operator 3: 26).

Regarding these circumstances, it is comprehensible if tour guides struggle to maintain the safety of their guests (Tour Guide 3: 38). Based on my own observations, I can confirm the fact that sometimes there are up to 40 people in the water, swimming with one shark. Depending on the season and the day, there can be various numbers of sharks accessible in the area. If there are multiple whale sharks around, each tourist boat can swim with 'its own' shark and there are no problems with crowding or hindering each other. But if there is only one whale shark in the vicinity, all present operators let their guests swim with it. On one of the crowded days, I made the experience of getting fins kicked in my face more than once. While I didn't observe it personally, I was told that sometimes the tourists swim with a whale shark while the animal is caught inside a net. This is supposed to be occasionally encouraged by the guides to ensure the human animal encounter takes place, but it creates a precarious situation out of control of the people (Fishermen: 20; Tour Guide 1: 76; Operator 1: 112). All operators agreed that the ocean sees too much traffic and that the number of tourism boats and fishing vessels at the area should be limited in order to secure the safety of swimmers. Also, the companies' working procedures and practices, for example the spent time at the ocean, ought to be the topic of governmental regulation and limitation (Operator 2: 53, 96; Operator 1: 34; Operator 4: 14; Mafia Island Marine Park Officer: 46; Tour Guide 2: 150).

The situation on the ocean is also shaped by the conflict of interests between the tourism operators and the fishermen. The fishermen use the whale sharks as indicators for other fish and put big nets around the fish, only letting the giant animal free. As fishermen are not allowed to put their nets in the water while people are swimming with the whale sharks, they lose access to possible fishing grounds (Fishermen: 7; Tour Guide 2: 62). This competition for the natural resources puts the fishermen at a disadvantage, as the government does not want fishermen to harass the whale sharks and tourists swimming with the sharks can chase away other fish (Elders: 5; Fishermen: 21). Although the conflict has endured for the last years, the relationship

between the two groups was generally perceived as good by both sides, as many of the local operators and tour guides are former fishermen (Fishermen: 21).



Picture 5: Ongoing whale shark encounter (Photo: Max Amling)

The management of the whale shark industry was a major issue to the general opinion of the interviewees and particularly important for the tour operators. First, the lack of an official management plan and the low barriers of accessibility to the whale shark bring ambiguity to the future development (Operator 1: 38). While a plan has been drafted and is waiting for acceptance on a national level, the number of boats and operators is constantly increasing (IT: 89; WWF Officer: 45). Especially the lack of on-site control and monitoring by an administrative authority was criticized by multiple operators and tour guides (Tour Guide 2: 102; Operator 2: 53; Operator 1: 96; Operator 2: 53). Second, the (re-)distribution of the whale shark fees was judged to be not transparent by the interview partners and the separate stakeholders demanded for benefits from the tourism income (Operator 2: 39; Fishermen: 22; WWF Officer: 35; Operator 1: 72; Operator 4: 6). For one, community representatives argued that groups like the BMUs, which represent the fishermen, should get allocated part of the revenues (WWF Officer: 35; Fishermen: 22). On the contrary, a tour operator asked for reinvesting a fraction of the revenues back into the whale shark industry, for example a patrol boat, in order to allow the sector to grow sustainably and provide long term benefits for the islands (Operator 1: 72). Overall, the District Council can inform the people for what the shark-based tourism revenues are used. Not only can that lead to understanding of the tourism's value, but also bring about a sense of ownership over the resource by the communities (WWF Officer: 37,39; Tour Guide 2: 68, 86). Third, the government was held responsible for extending education efforts in the local communities about conservation in general and the whale shark in particular (Operator 2: 76).

The most relevant problems for the tour operators in their interviews were the work mechanisms of the District Council representatives in the tourism office. These problems refer to an inconclusive separation between 'official' and 'unofficial' whale shark tour operators and how the District Council fees are handled in the cases of the latter companies. The tourism officers were the target of various challenges, as they were denounced of not taking their work seriously and not being qualified for the jobs by the operators (Operator 2: 39; Operator 1: 72; Operator 3: 19). Examples given were the officer's priority for earning money from the tourism for their own benefits, disregarding environmental issues, or neglecting their duties (Operator

1: 116, 118). My own experiences of witnessing the officers counting the passengers only once out of 7 tours gives an idea of their work morale. A hotel manager inside the Mafia Island Marine Park, who has not even met any of the tourism officers in her years of work on Mafia, illustrated the scope of the problem:

'There is the office of tourism development in Mafia. I never saw them. I don't know who is there. I know there is an office, but nothing else.' (Manager 4: 46).

Even the officers themselves admitted that they are not so much invested in doing their work and were lacking innovation, as they struggled to create a collective website for all tourism providers on Mafia (Tourism Officer: 14). Moreover, according to various operators, the persons in the tourism office come up with ideas for the operators to pay less fees to the District Council and instead split the money among themselves. There are less possibilities to bypass the rules since the introduction of electronic payment, but the problems in the current collection system are the documentation sheets of the operators where the number of guests is recorded. The officers were said to be corrupt insofar that they make deals with some of the operators to not record all guests on the sheets in exchange of a share of the money (Operator 3: 19, 20, 30; Operator 4: 10).

Environmental Challenges for the Whale Shark Tourism

The pressure on marine resources around the Mafia archipelago has grown in the last years. On the one hand, increasing visitor numbers produce more waste and the island's facilities are not ready to support this amount of people yet (Tour Guide 1: 68). On the other hand, population numbers on Mafia are growing due to migration as people arrive from the mainland to find work as fishermen or even in tourism (Owner 1: 90). In general, a missing system for waste disposal induces many of the local people to throw their trash into the ocean. Thus, a lot of plastic and rubbish can be found in the sea (WWF Officer: 37, 53). The local WWF officer described the situation of the ocean as serious:

'The day to day development of our marine is not good.' (WWF Officer: 53).

Fishing is the most common livelihood on Mafia and the channel between the island and the mainland is regarded as a rich fishing ground. As the numbers of fishermen and fishing vessels have increased steadily in the last years (Mafia Island Fisheries Department 2019), it is no surprise that this issue was thematized regularly in the interviews (See Figure 7). People coming to Mafia from all over Tanzania and even other countries like the Kongo or Mozambique increases the pressure on the whale sharks and the fish populations (IT: 10; Tour Guide 1: 158; Tour Guide 2: 162; Operator 3: 44). For the marine giant, the situation at night is worse than at day, as they are often caught in the nets and injured by the boats and fishermen (Operator 3: 44). Thus, the demand made by the tour operators to regulate fishermen numbers, particularly at night, is understandable (Operator 1: 34; Operator 2: 47, 49). One operator put the threat for the whale sharks into perspective:

'But I don't think that the threat is tourism. That's just irritating them. The threat is the fishing nets. Their numbers are increasing and the whale sharks are in the nets every night and in the nets, people cut pieces of them they sometimes attack them with axes. I have seen the most incredible injuries of whale sharks.' (Operator 3: 46).

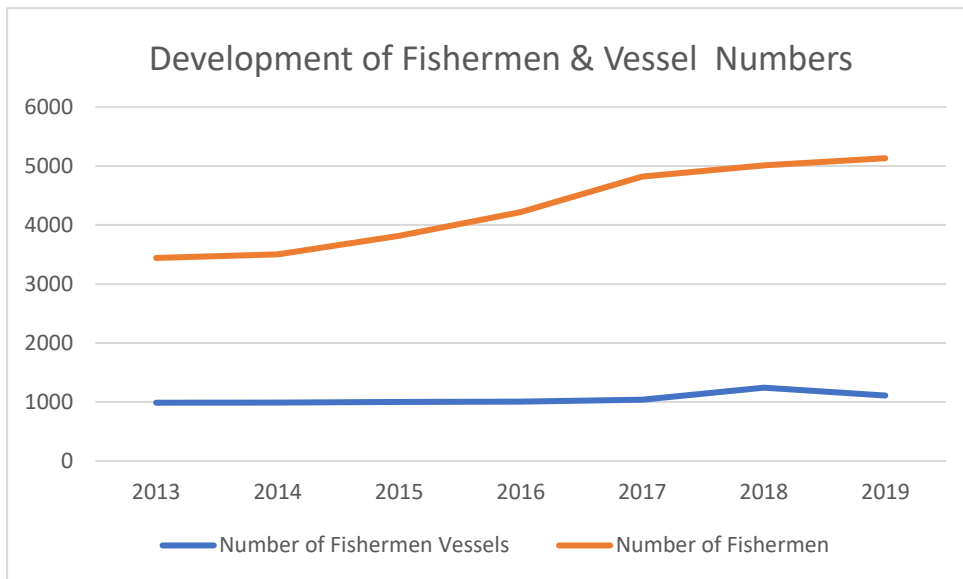


Figure 7: Development of Fishermen & Vessel Numbers (Mafia Island Fisheries Department 2019)

The big challenges regarding the fishing practices are the big changes within the fishermen population every year and the fishing methods from industrial fishing boats from the mainland. Every year new fishermen come to the island while others leave. This results in a shifting population of fishermen who are uneducated about the whale sharks (Operator 1: 94). Nonetheless, the fishermen stated that less whale sharks get hurt since the education workshops in 2007 (Fishermen: 16). Modern fishing boats from the mainland, mostly Dar es Salaam, come into the channel and reduce fish numbers so that sometimes people from Mafia sometimes have difficulties to catch enough fish (IT: 145).

The last environmental challenge for the whale shark tourism on Mafia is the national government's plan to construct a hydropower project in the Rufiji River (Lifegate 1/9/2020). If the project is executed as planned, it could have incremental consequences for the ecology of the channel. The dam would stop or slow down the nutrients flowing into the Indian Ocean and could prevent the plankton bloom in the delta and the channel. As the plankton is the feeding foundation for the whale sharks and other species, the fish would most likely migrate to other nutritious feeding places (IT: 2, 87; Tour Guide 2: 168).

Possible Improvements by the Local Government

Addressing some of the problems and challenges issued by the interview partners, three ways stood out to improve the situation and to develop the tourism industry. First, more information about the whale sharks at Mafia should be broadcasted on a national and international level to attract more visitors (Tour Guide 2: 116, 120; Manager 1: 58). Promoting the destination Mafia over the radio or in the television was one suggestion, while others aimed to make the whale sharks more accessible to researchers and biologists or to build a fisheries college on Mafia in cooperation with the Mafia Island Marine Park (Tour Guide 3: 60; Tour Guide 2: 120). Overall, marketing strategies of private companies have limits, but the government was attributed a wider range (Manager 2: 137). Second, awareness about conservation in general and the whale sharks in particular should be extended on Mafia, but also at the coastal areas of the mainland (Operator 1: 102). As WWF has offices all around the Tanzanian coast, they would be in a position to educate people about these topics (Operator 1: 104). Similar to what was done in schools on Mafia, the education should focus to teach children about the marine environment

(Tour Guide 2: 76, 144). Another option that was suggested is a collaboration between the District Council and tour operators, in which the government pays reduced prices for children to go and see the whale sharks and in this way sensitize the pupils about this marine resource (Tour Guide 2: 122). Third, the condition of the infrastructure on the island could be improved. This includes the sea transport to reach Mafia. A modern ferry to connect the island to Nyamisati could be an incentive for more tourists to come by the sea way. Especially for budget tourists such an introduction is interesting. Except for the road between Kilindoni and Utende the condition of the roads on Mafia was considered as bad. To reach the northern part, one can either take expensive private transportation or the public bus going once a day. Developing the road to the north could not only connect the northern and southern parts of the island, but also unlock new areas for tourism (Owner 3: 7; Tour Guide 4: 29). A last point can be made for the District Council to strictly control the system of the whale shark fee collection, possibly setting targets to be achieved by the officers each year. In addition, the speed limit at the ocean site, which is 4 knots/ 8 km/h according to the code of conduct, should be enforced to protect the whale sharks as well as swimmers in the water (Operator 3: 22, 28).

5. Discussion

Whale Shark Tourism Structure

To summarize the seasonality and structure of the whale shark tourism on Mafia, the season peaks in December and January, while in April and May most of the hotels are closed. The private sector encompasses the five biggest whale shark operators, up to 20 hotels and around 400 employees and is located in Utende and Kilindoni. Active NGOs on Mafia try to further the whale shark protection, mediation among stakeholders, and education. The District Council is responsible for the industry's regulation, but a general management plan for the whale shark tourism is not implemented yet. The international code of conduct for whale shark activities is accepted by the major operators and regulates both human and vessel actions at the ocean. Due to the whale shark presence, the tourism on Mafia has grown in the recent years. Most of the development is taking place in Kilindoni, where operators and accommodations have favorable conditions.

Mafia's advantage is the comparable long season in which the sharks are accessible. The high season in December and January collides with the Christmas holidays in Europe. Thus, the best time to see the whale shark is at the same time as the winter holidays in the Global North, making the island a prime destination to enjoy both tropical weather and remarkable wildlife. Compared to other whale shark sites, like Australia, where the whale shark can be seen for around seven or eight weeks (Davis et al. 1997, p. 259), the whale shark season on Mafia is longer than 20 weeks. Similar to Australia's government, the District Council is responsible for managing the regulations and setting the framework for a sustainable site to encounter the world's largest fish. Another similarity to the whale shark site in the Ningaloo Marine Park in western Australia is the rapid growth of the guest numbers over the years. In 1993 there were 1000 guests recorded in Ningaloo, while only two years later there was double the number of visitors (Davis 1998, p. 5). Although the computer with the data on whale shark trips and guest numbers on Mafia was out of service at the time of the fieldwork, the increase in boat and operator numbers over the years suggest that the development is alike. A difference between the two sites is the range of responsibilities the government takes. For example, the whale shark tourism in Australia is state managed and has the set goals of promoting tourism and conserving

the sharks. This is transparently established by reinvesting the whale shark revenues directly into the industry. The money is used for the tourism management, research on the whale sharks and consumer education (Davis and Tisdell 1999, p. 165). In Mafia, the District Council's activities are confined to the (irregular) control of passenger numbers at the jetty by the tourism officers. As the development on Mafia is more recent, the Ningaloo site can be used as a role model. One guideline can be the oceanic approach to management that focuses on the 'sustainable development of the industry ... for [which] partnership among operators and between the industry and government is essential' (Techera and Klein 2013, p. 27). In other words, the government efforts are directed towards strengthening stakeholder relationships by organizing more meetings, workshops and information nights for the public (Techera and Klein 2013, p. 27).

The present lack of regulation for whale shark operations can be also observed in the fact that there are 'official' and 'unofficial' operators running trips. Assuming that the members of the former group are registered with the District Council and have to declare their guests for the whale shark fee, it is unclear how the latter group is handling the payments. As the responsible government department is rumored to look for ways to bypass the electronic payments for its own benefits, it is reasonable to assume that unregistered companies act with the approval or at least to the knowledge of the people in the respective positions. Another factor that plays a role in this situation are the low access barriers to the whale shark tourism itself. With help of minimum equipment (boat, engine, snorkel gear), it is possible to offer whale shark trips without any administrative monitoring or obligations as to concur with the international code of conduct. On the one hand, this can result in missing revenues and income for the government. On the other hand, additional operators that neglect practices of human and animal security and protection endanger all of the people and the animals at the whale shark site. Moreover, tourists being unaware of the potential dangers and impacts of the activity are more likely to disturb the sharks or get injured.

The chances for employment in the tourism sector vary among the island's inhabitants. The group that benefits most from the industry are young people. Tourism work requires language skills and younger people have learnt more English in school. This is due to the fact that the Tanzanian school system has been reformed since 1995 to increase enrolment rates in Primary School and improve English classes (Ministry of Education and Culture 2000). As the majority of the tourism workers are young people from the Mafia archipelago that have completed the Secondary School, it is fair to assume that tourism favors this group of workers. To elaborate, the average age of my 14 interview partners that were employed in the whale shark companies, excluding owners, was 30 years, the youngest being 23 and the oldest 45. There is a trend visible, as mostly tour guides and managers in the local companies were under 30, while managers in foreign run companies were older than 30. In addition, while observing the employees in the multiple hotels, there were seldom elderly people working visibly. It is possible that work not directly in contact with tourists, like room maids or kitchen personal, is done by other age groups, but there was no data collected on this issue. Another point I would like to elaborate is the gender ratio of the employees. Even though only every fourth worker is female, tourism represents an important option for women to find work. The traditional social and religious circumstances in Mafia hold men responsible for financially supporting their families and place them at the head of the society. So, if a woman works it makes the man look bad, because it looks like he cannot support her. This puts women in a difficult situation to find work and be

socially accepted. Especially for single mothers, tourism is a possibility to have a job other than selling their bodies (Operator 3: 42).

The non-governmental organizations play a vital role for the ecological and managerial aspects of the whale shark industry on Mafia Island. The WWF field office in Kilindoni, the presence of SeaSense on the archipelago, and the establishment of WASCOS all contributed to the protection of the whale shark and the marine environment. As these organizations were active in advocating the ecological aspects of the whale shark tourism, they set the foundation for the present situation. The NGOs work in lobbying for a sizable whale shark fee resulted in the District Council's understanding of the potential and the importance of the whale shark tourism. At the time of the fieldwork, WWF was advising the District Council in its formulation of a management plan, taking over responsibilities like bringing together stakeholders or revising the strategic plan. The NGOs' engagement for the environment has already resulted in the increased awareness and protection for the whale shark in Mafia. The biggest potential for advocating the sharks' interests can be attributed to WASCOS, which was solely established for this purpose. Although it has been inactive for some years, the reactivation of this organization represents big chances for the future development. By including representatives from all stakeholders, maybe even tour guides, WASCOS has the capability to be a platform for meetings to discuss and plan the maturing of the whale shark tourism industry so it can benefit all interests and sustainably realize its potential for the island and its communities.

Regulatory Framework for the Whale Shark Industry

As the sector is young and has only recently gained in popularity, the institutional authorities are slowly adapting to the situation. An example is the introduction of the two tourism officers in 2017. Nevertheless, the fact that the official whale shark operators have all accepted to work according to the international code of conduct is a big step towards an undisruptive wildlife encounter. Two of the main challenges of the industry, overcrowding the whale shark site and the lack of regulation, can be engaged by the District Council at the same time. The research and experiences from the whale shark site in Australia show that a 'combination of legal requirements and non-binding soft law instruments' led to best practices and compliance among the operators (Techera and Klein 2013, p. 26; Fatima 2017). Moreover, Davis et al. (1997, p. 269) designated four management considerations essential for sustainable whale shark tourism:

- The impact on the whale shark and its behavioral change needs to be monitored.
- The tourism experience has to be balanced with the potential impacts.
- The number of vessels that are allowed to operate needs to be controlled and licensing arrangements are required to be appropriate.
- There is a high level of willingness to pay for the whale shark experience among tourists.

I want to focus on the third point, more precisely on the licensing arrangements, as there is a lot of potential for regulating the operating industry through in this way. In Australia, the license period for the operators was adapted from three years to 10 years in order to allow for planning security for the companies (Davis et al. 1997, p. 268; Techera and Klein 2013, p. 23). Moreover, a maximum of 15 licenses were given to operators, which had to nominate a vessel each season (Davis and Tisdell 1999, p. 165). The effect was the limitation of tourist boats at the ocean and whale shark operators offering tours. Furthermore, limiting the number of operators can result in reciprocal monitoring and contribute to a 'culture of compliance' (Techera and Klein 2013,

p. 26). As the entry to the industry is limited this way and operators holding a license are advantaged, 'operators [are] required to pay 750 Australian Dollar deposit each year, which is deducted from the total user fees payable in a season and represents the minimum annual charge payable by the operators (Davis and Tisdell 1999, p. 165). An obligatory deposit to the government was introduced along the license conditions, guaranteeing a minimum income for the authorities and putting operators under pressure to perform. Using license conditions to govern the number of boats and people at the ocean can also be applied in Mafia. Although it is an advantage for the big and established operators, it can also provide the District Council with secure income and planning security to both the private sector and the authorities. The exact number of operators and boats can be flexible over the season. This allows the District Council to determine how many boats are appropriate depending on the time of the year and the average number of whale sharks encountered at that time. For example, in the months with more whale shark surfacing operators are allowed to bring additional vessels to the ocean, while in the beginning or end of the season each operator can only bring one boat to the whale shark site. Another possibility is to expand the number of operators that can go out in these busier months. On the one hand, such an adaptable approach requires the District Council to monitor whale shark encounters and judge the situation at the ocean. On the other hand, the risks of overcrowding single sharks and endangering swimmers can be reduced in months with less sharks around. In our meeting, the District Executive Director stated that he wants to secure governmental income by reforming the collection system for the whale shark fees. His ideas were to set yearly collection targets for a collection tender or to install a control point at the beach where each whale shark guest has to check through and pay on the spot. In combination with additional license conditions, these options have the long-term potential to secure the District Council's income and make corruption more difficult.

Overall, licenses should be transferable and have provisions to prevent speculative buying or monopoly holdings of licenses. As an example, unused licenses can be forfeited (Davis et al. 1997, p. 270). Moreover, it is possible to embed the tourist briefing on the whale shark behavior and the code of conduct into the license conditions and sanction failure of compliance with fees (Davis and Tisdell 1999, p. 165; Techera and Klein 2013, p. 24). Especially briefings with visual mediums, e.g. posters, helped to balance the situation at the ocean in the Ningaloo Park (Davis 1998, p. 10). In Mafia, I witnessed only one operator to use visual instruments in the tourist briefing. In order to spread the use of visual instruments, some options are viable. A possibility is to let the (underworked) tourism officers create posters with the code of conduct and distribute laminated copies among the operators and hotels. It would suffice to have one big poster per operator, as it can be used to brief a group of people at the same time. Also, these posters can be installed in hotel lobbies or at the beach, where the whale shark boats leave and where tourists are prone to noticing them.

In regard to the governmental regulatory framework, the site at western Australia can serve as an orientation point again. In lack of an international binding law for shark conservation and management, the federal state included the whale shark under the Environmental Protection and Biodiversity Conservation Act in 1999 (Techera and Klein 2013, p. 22). On a regional level, the whale shark is protected under the Western Australia Wildlife Conservation Act, which includes fines with up to 10 000 Australian Dollars for offenses (Davis 1998, p. 7). Fisheries limitations that benefit the whale shark tourism operations were introduced in and around the Ningaloo Marine park (Techera and Klein 2013, p. 22). The official regulatory priority focuses upon the conservational aspects to ensure the future of the whale shark as a tourism attraction

(Davis and Tisdell 1999, p. 164). Other than reducing fishing and limiting operator numbers, educational components and requirements for research data collection are key aspects of the legal framework in Australia (Techera and Klein 2013, p. 26). To keep up to date with social and environmental research and to sustainably develop the tourism industry, compulsory minimum periods for reviewing the regulations and legislations are needed (Techera and Klein 2013, p. 27). The governmental income in form of the whale shark fees is directly reinvested in the tourism industry. As a major factor, the fees are used to finance a governmental vessel with Ningaloo Marine Park wildlife officers that go to the ocean and monitors the situation (Davis and Tisdell 1999, p. 164). Moreover, the fees utilization is demonstrated to visitors by the provision of a souvenir quality validation pass for swimming with the whale shark for all participants (Davis et al. 1997, p. 262). The introduction of all these official regulations, and especially the installment of the monitoring vessel, 'provided the impetus for the operators to develop an industry steering committee to represent their interests when management proposals were to be discussed' in the future (Davis and Tisdell 1999, p. 164). For Mafia, introducing and imposing a management plan would be the first step. Similar to Australia, the focus should be put on the long-term development of the industry through protection of the whale sharks and the environment. Next to introducing a patrol boat to enable the tourism officers to monitor the whale shark site, the option of establishing an area with restricted fishing activities should be realized by the District Council. Especially the former is crucial for the authorities to stay informed on the situation at the ocean, human and animal security, and to be in a position to punish non-compliance. For example, it would be possible to prevent tourists being allowed to swim with the whale shark inside of fishing nets. In addition, a patrol boat would be positioned to charge otherwise unchartered tours or private boats coming from the mainland or Mafia. This was also echoed by the operators on Mafia, as they used their interviews to call for more regulation and monitoring of the industry and a patrol boat at the whale shark site. They themselves suggested to split each day into shifts for operators to go in turns and through this way reduce swimmer numbers. Splitting the day into two or multiple shifts for operators has the potential to increase the total number of participants while spreading the encounters throughout the day. By this, the possible stress of overcrowded whale sharks can be reduced. As the Mafia Island Marine Park has multiple boats on Mafia, one option for the District Council is to cooperate with the Marine Park in order to rent or obtain a patrol boat. On a national level, knowledge about the existing whale shark protection needs to be extended along the coastline. Fishery officers all over Tanzania should be educated about the whale shark and its meaning for the wildlife tourism industry. An operator exemplified the lack of knowledge:

'I get information from my friends at the ferry, from the international fishing market in Dar es Salaam. The fishermen caught a whale shark, a small whale shark and they went there to sell it. They already took the fins and put it there to sell. So, one of my friends, he called me: I saw your whale shark, the fishermen caught him. - I told him to go to the fisheries officer there and talk to them. When he went there, they didn't know about the whale shark, fisheries officers that don't know about the whale shark. They don't know anything about the whale shark. They say it is a kind of shark and according to the regulation it is allowed to catch them.' (Operator 1: 102).

Furthermore, fishermen in bordering regions as Dar es Salaam, Kilwa or Mtwara should be made aware of restrictions for fishing the whale sharks. A channel for this can be the field offices of WWF, which are located all around the coast. The Fisheries Department and WWF can

collaborate to educate communities on the whale shark issues. An operator illustrated the problem that even in close proximity, Dar es Salaam, people are unaware of the whale sharks:

Development of the Tourism Industry

Kilindoni can be regarded as the hotspot for shark-based touristic growth. There are several reasons for this progress. First, it is easy to access the whale shark and offer tours to earn money. As the demand for the tours increases, new players start to get involved by offering tours, accommodation, and other services. Second, building regulations are less strict than in other areas of the island. For example, environmental directives for wastewater in the Mafia Island Marine Park are stricter than outside of the park. In general, local people can build small facilities on their land without much concern from the District Council. This includes touristic facilities and explains why there are an increasing number of local investors getting involved in tourism accommodation. Another reason for the tourism to expand beyond the Mafia Island Marine Park are the daily fees (around 20 US Dollar) visitors to the marine park have to pay and which are not due if tourists stay at Kilindoni. This trend can also be observed in the graphs that show the total number of arrivals to Mafia and the entrances to the Mafia Island Marine Park (Mafia Island Marine Park 2019). Although only a marginal increase of total arrivals can be observed at Mafia, the Mafia Island Marine Park entrances show a steady increase over the years (See figure 8). The constant arrival numbers are due to the limited flight companies that fly to Mafia. On the contrary, the substantial increase of Mafia Island Marine Park entrances in the last five years can be interpreted in two ways. For one, there are more tourists coming to Mafia in total and thus more people enter the park to either stay there or participate in activities. Considering the second option, the increase in numbers can be an indicator that more day trips to the Mafia Island Marine Park are taking place. The Mafia Island Marine Park registration counts people that stay for multiple days in the park as one entry, while a person entering the park on two different days needs to register for each day. If the second interpretation is followed through, the result indicates that more day trips from Kilindoni are taking place. Hence, an accumulating number of visitors stays in the western town of the island compared to five years ago. Even if the first interpretation is reasoned for, the conclusion is that more tourists visit the island. This kind of development is also coherent with the District Council’s plan to enhance the tourism industry on Mafia. Not only does the District plan to make additional tourist attractions, like the German lighthouse in Bweni or the old German Boma on Chole, accessible and generate revenues from visitors, but also are investment plans for Mafia in progress. In its coastal investment plan, the regional government has identified Mafia’s western coast, including Kanga

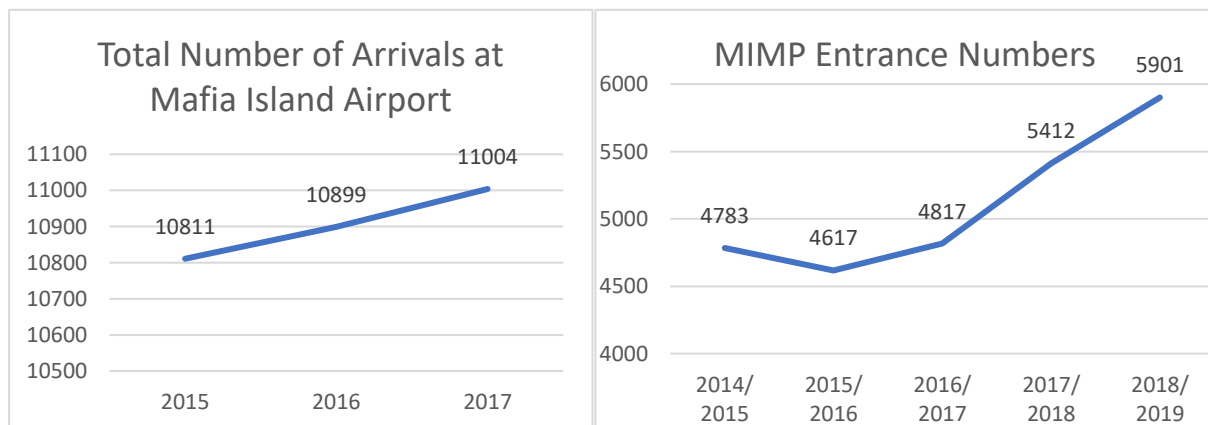


Figure 8: Arrivals at the Mafia Island Airport & Entrance Numbers of the Mafia Island Marine Park (Mafia Island Airport Authorities 2019; Mafia Island Marine Park 2019)

Beach, as a prime site for tourism development (The United Republic of Tanzania 2018). Moreover, at the time of my fieldwork a feasibility study for a Mafia Tourist Town had been concluded and its results presented. The study looked at land in the north of the island to construct tourism infrastructure (The United Republic of Tanzania 2019). To summarize whale shark tourism on Mafia, the industry represents a major chance to develop the island. If it is possible to sustainably grow the industry and maintain the quality of the marine resources by conservational efforts, the whale shark tourism can become Mafia's major economy and generate income for both the District Council and the communities. As the number of tourists increases, it will be necessary to balance whale shark tourism and the pressure put on the marine environment. With the growth of a tourist site, the challenge of changing from wildlife specialized tourists to more generalist tourists will arise, meaning that less experienced participants will come and the human safety concerns will intensify (Techera and Klein 2013, p. 24). Another challenge will be to manage touristic waste in general, and wastewater in particular, in such a fashion that the environment is not polluted. As marine attractions are the most significant ones for Mafia, it is important to formulate regulations that protect the ocean and its inhabitants from expanding tourism services.

Impacts of the Whale Shark Tourism Industry

In a nutshell, the tourism impacts the island in various ways. It brings employment and governmental revenues to the island's economy. Especially the whale shark revenues have increased since the introduction of an electronic payment system. A ripple-effect can be witnessed in the tourism's supporting industry. Mostly the demand for transportation services and food supply has risen. On a socio-cultural level, Mafia's communities experience impacts that on the one hand expand the locals' horizon, and on the other hand oppose the traditional Muslim customs. One important benefit is the spread use and learning of foreign languages, foremost English, which mostly young people can practice. In an ecological dimension, the whale shark tourism sensitizes the communities and tourists' awareness for environmental issues while the increasing amount of visitors' stress the archipelago's ecological capacities.

The economic impacts to the island are probably the most obvious ones. As the tourism infrastructure and facilities get developed, the communities can increasingly expect to economically benefit from the industry. Above all, Kilindoni town is the main area for experiencing direct income and a passive ripple-effect from whale shark tourists. More guests in town brings about more demand for services like transportation or food. Beyond supplying accommodations, local restaurants and shop owners have the chance to welcome tourists and conduct business. This phenomenon is enhanced by the fact that hotels encourage their guests to walk around town and visit the local communities on their own. My general observations suggest that the direct economic benefits favor the younger generations. Employment in hotels requires language skills, which mainly are possessed by more recently educated Mafians. On the opposite, elderly community members struggle to get directly involved in tourism and mostly benefit passively from infrastructural development or through family and community relationships. As whale shark tourists also undertake other activities and spend money otherwise, the benefits exceed the whale shark industry and flow into other areas. Similar to the site in the Ningaloo Marine Park in Australia, a considerable amount of money is injected into a relatively small industry within a short amount of time (high season) and can result in local development, as well as enabling a greater use of a range of infrastructure (Davis et al. 1997, p. 266). A comparable situation can be observed at the whale shark industry in Oslob, Philippines, where the sharks' presence has led to alternate livelihoods for 177 fishers and

diversified livelihoods among the community (Lowe and Tejada 2019, p. 80). Next to a significant income from ticket sales, the tourism's ripple-effect benefits fishers, their families, other residents of the municipality and other residents of the region. The local and regional government has generated finances to develop tourism infrastructure and services, community infrastructure, health, education, and social welfare programs, livelihood training, support for community meetings, protection of the whale shark and the marine environment (Lowe and Tejada 2019, p. 83, 85). A resembling approach can be taken in Mafia, where the whale shark revenues are used for public services with the distinction that the District Council's income is comparably smaller than at the other sites. Nevertheless, the whale shark tourism represents a major income source for the District Council. According to its estimations, the income from whale shark revenues in the business year 2019/ 2020 amounts to 80 million TzS. (Local Government Revenue Collection Information System 2019) Hence, solely the contributions of the whale shark operators amount to 5 % of the District Council's total income estimated for that period (roughly 1,5 billion TzS). The importance of marine resources for Mafia and the income generation for the government becomes apparent in regard of the fact that the District Council originates half of its income from the ocean. Including fisheries and whale shark tourism, more than 750 million TzS are estimated to be generated by the District Council from marine resources in 2019/2020 (Local Government Revenue Collection Information System 2019). Even though the whale shark tourism is not the major component of this income, its non-consumptive nature does not rely on extracting fish populations around Mafia. Therefore, this kind of income does not depend on the consumption of resources, but on a repeatable experience. As the trend of the whale shark revenues is rapidly growing, whale shark tourism depicts an ideal industry to expand the use of the island's marine resources. An important factor that should be considered is that part of the revenues should go back into the whale shark industry to finance and facilitate the sustainability of the tourism and the protection of the environment.

In a socio-cultural dimension, the tourism impacts the communal power relations on the island. As the main profiteers are the communities' young people while elderly members are put at a disadvantage, the traditional power structures get transformed. Next to regular income for younger generations, the tourism industry portrays a work opportunity for women, where they can find employment and work without depending on men. These processes shape Mafia's society by diminishing the relevance of traditional (Muslim) values and norms. At the same time, the process of westernization that comes with increasing globalization is enforced. As technological modernization allows for the increasing interconnection and interdependence of the world's economies, societies, and cultures, the result is homogenization across the continents. Especially the spread of western values and norms is one of the major components of the globalization process. The change on Mafia gets reinforced by the fact that most tourists originate from Europe and the US, spreading western lifestyles through their local contacts and expectations. As the primary contact group for tourists are young community members, this group is mainly impacted. Also, it is arguably the reason why the majority of the interviewees under 30 years were living in single households, a trend that is also dominant in western societies. In a practical perspective, the household situation can also be the result of shortening the way to work. Another change the tourism entails is the shift in gender relations on Mafia. Women are traditionally and historically in a position where they depend on men and have little possibilities to break the social structures that are based on the Islamic beliefs. Tourism, on the contrary, functions outside these traditional structures, enabling women to perform independently from male domination. As many tourism companies and hotels are owned and run by foreign investors, tourism empowers women by providing new prospects outside the

traditional structures. In the answers of the interviewees and in the results, a tendency of critically assessing the socio-cultural impacts can be detected. This tendency can be explained by the fact that most of the interview partners were male and that these were also the people that were more outspoken about the change. This group tends to lose out in such a development, and therefore tries to depict the change in a dramatic and exaggerated way in order to preserve the status quo. This opinion is also shared by one of the foreign whale shark operators, who called this group the 'formerly advantaged':

'What tourism is doing, it is changing the traditional power structures, which were very dominated by few old men, who could pick and choose among the young ones as for their lovers, wives, whatever. They don't have that power anymore and they could exploit people like crazy. Those people, I call them the 'Formerly Advantaged', they hate this change.' (Operator 3: 42).

A similar cultural development was documented at the whale shark site in Oslob. There, the tourism strengthened the women's position in the community by livelihood trainings and new livelihood opportunities. Identical concerns of inappropriate dressing by female tourists at the waterfront and an increase in gambling, drug, and alcohol abuse were stated (Lowe and Tejada 2019, 85, 86). In Mafia, these risks are also existent and can potentially be attributed to an acute vulnerability by conservative societies to alcohol abuse since the populations are inexperienced with its consumption.

The impacts the shark-based tourism has on the island from an ecological perspective are twofold. On the one side, the tourism influences the environment and its perception in general, while on the other hand, the human-animal interaction can potentially change the whale sharks' behavior. An important aspect of the whale shark tourism is the pressure on marine resources which is transferred within the ecosystem from extracting fish towards encountering the whale shark population. By transferring their livelihood basis away from fishing to the tourism industry, local people have relieved pressure away from consuming marine resources. In other words, the reliance on coral reef resources and fishing efforts in the area has been reduced. At the same time, an expanding tourism industry stresses the ecosystem through the generation of waste. The risk of polluting the archipelago's environment should be considered by the District Council as the environmental regulations outside the Mafia Island Marine Park are insufficient to deal with a growing tourism industry at Kilindoni and the west coast. This kind of problem is also documented in other whale shark sites that developed rapidly. For example, the water quality was negatively affected by sewage overflow and shower runoffs at the waterfront in Oslob, where the lack of sewage treatment worsened the situation (Lowe and Tejada 2019, p. 86). In order to facilitate a sustainable and non-damaging industry, this topic needs to be addressed by the regulating authorities. An inclusive approach needs to be formulated, so that the environment can be protected and community members whose livelihoods are already restricted by the whale shark tourism are not put at a further disadvantage. An example are fishermen, who already lose access to fishing grounds through the whale shark tourism, and whose livelihoods rely on a healthy marine ecosystem. A positive aspect of the shark-based tourism is the broadening awareness of ecological issues throughout the community. The workshops conducted by the NGOs, the internships offered by an operator or the school visits from another whale shark company spread the knowledge about the environment and the whale shark. Even if the long-term impact of the workshops was perceived as minimal by an interviewee, the most important receivers of this message are the future inhabitant of the

ecosystem, the children. An idea to raise the communities' awareness of whale sharks, their behavior and proper interaction is to install posters or signs at the beach and at central places in Kilindoni town. For example, the big roundabout is already home to various whale shark models and represents a fitting place for the installation of a more detailed whale shark education sign. So that locals and tourists can both read and learn from these signs, they should be written both in English and Swahili. The education process for tourists can be elaborated and the usage of visual instruments introduced as a necessary tool for the whale shark briefings.

Another threat the increase in tourism facilities among the coastline brings is the removal of the existent mangrove forests. The mangrove trees are a substantial part of the local ecosystem and fulfill multiple functions. First, they protect the shorelines from the ocean's tides and storms. Thus, these forests stop the natural erosion of coasts that marine flows effect through their movements. Second, the forests serve as habitats for both marine and terrestrial organisms. Especially for small and juvenile fish, the mangroves are the perfect hiding place from predators. As a last point, the mangrove trees bind CO₂ out of the atmosphere and therefore play a role in the climate regulation.

The direct impacts that the human-animal encounter has on the whale sharks are indefinite. On the one hand, research at the Ningaloo Marine Park was unable to identify long-term impacts of tourism (Lester et al. 2019, p. 126). According to the authors of the study, the findings are 'consistent with research in Mozambique and the Philippines, where no significant relationship was found between encounter duration and the number of previous tourism encounters' (Lester et al. 2019, p. 126). Nevertheless, the same study remarked that less swimmers led to an increase in encounter duration and that whale shark avoidance behavior, like banking or eye rolling, could be an indicator for the level of disturbance the animals experience during the interaction (Lester et al. 2019, p. 122). On the other hand, it is documented that tourism encounters can change the short term behavior of the whale shark in the Philippines (Araujo et al. 2017, p. 986). These possible impacts include the increase of the sharks' metabolic rates, forsaking feeding opportunities or breeding patterns, as well as the loss of site fidelity (Lester et al. 2019, p. 128; Techera and Klein 2013, p. 25). Overall, the whale sharks are rated as endangered due to their 'slow growth, poor recovery potential after exploitation, and long time to reach maturity' (Lester et al. 2019, p. 122). The tourism induced behavioral changes can change the energy budget of the animal and in this way possibly reduce the energy available for growth (Lester et al. 2019, p. 128). For the tourism industry on Mafia, the possible impacts on the whale shark are similar. As the resident sharks are predominantly juvenile male (Rohner and Pierce 2019, p. 5), effecting their energy management and growth potential can have long-term impacts on the individuals as well as the whale shark population. This consideration emphasizes the importance to limit and monitor swimmer numbers and to make tourists aware of avoidance behavior and potential impacts in advance of the encounter. Even though the site fidelity at Mafia appears to be quite high (Rohner and Pierce 2019, p. 5), the potential to disturb the sharks' feeding pattern is more likely. The time of the tourism encounter and the time of the feeding is taking place simultaneously, depicting it a vulnerable period for the marine giants. During my participation of the whale shark tours, I witnessed the banking of a whale shark multiple times. As far as I was able to observe, the whale shark banked in case one or more swimmers came too close. For swimmers, the challenge is to stay distanced from the whale shark and, at the same time, to not collide with other swimmers. The swimming tour guides were observed to keep their distance from the sharks and in general caring for the animal. In hindsight, this is logical as their livelihoods depend on the sharks' wellbeing. One remark is the

process of dropping tourists too close to the whale shark and often in the animal's swimming direction. According to the code of conduct, such a practice should be avoided as it can disturb the shark and lead to the diving of the shark, 'burning' it from the encounter.

Challenges for the Whale Shark Tourism Industry

Next to general problems for tourism destinations in the Global South, like lacking marketing or cultural disparities, the shark-based-tourism faces some specific problems. The ocean site is perceived to be overcrowded and thus poses threats to both animals and humans. Especially the number of fishers and fishing vessels has increased, which pressures the marine resources. According to the interviewees, possible improvements include an increase of destination marketing and conservation efforts along the Tanzanian coastline to protect the whale sharks. Also, the infrastructure to reach and on the island should be improved to facilitate the growth of the tourism industry.

Tanzania is internationally known for its famous tourist destinations. Attractions like the spice island Zanzibar, the continent's highest mountain Kilimanjaro or the wildlife safaris in the Serengeti draw huge numbers of visitors every year. With these prominent places to compete with, Mafia stays under the radar. As the direct competition for tropical island vacation, Zanzibar has better tourism infrastructure and is more easily marketed to tourists. Together with its close proximity to Dar es Salaam and an international airport, Zanzibar has been established as a prime location for beach holidays and marine wildlife. The comparison and similarities between Mafia and Zanzibar were also topic in some of the interviews. For one, the interviewees thematized the developmental aspect of Zanzibar, where the tourism has become the major economy and the government received a lot of income. For some of the interview partners, the whale shark presence was perceived to have similar potential to develop Mafia, and for the tourism industry to grow in a comparable way. The reasoning for such a growth is the fact that Mafia is the most convenient aggregation of whale sharks for people from Europe to visit in the world. It is located in the same time zone, comparably close to the mainland and affordable to reach. Contrarily, the general opinion in the interviews was against mass tourism like on Zanzibar. Two of Mafia's major factors for its attractiveness are the tranquility of the island and the quality of the ocean. If the tourism industry grows similarly to Zanzibar, Mafia's environment and culture can suffer tremendously. Hence, the present function of providing relaxing beach days after safari tours is the most fitting for the small island's capacity. The national government has also identified Mafia's potential to be connected to the country's Southern Safari Circuit and the possibilities to exploit its 'off the beaten-track' character (The United Republic of Tanzania 2002, p. 55). Thus, the national government has not shown public intentions to develop Mafia as a tourism hotspot, but rather keep it as a destination for relaxation and special marine wildlife encounters. If the national government has little interest in such a development, it is unlikely that the archipelago becomes as popular as Zanzibar. Nevertheless, the tourism industry can be expected to grow for the above-mentioned reasons. Overall, the destination Mafia fulfills its role in the national tourism economy and broadens Tanzania's already exceptional range of wildlife experiences by providing access to the whale sharks and the Mafia Island Marine Park.

Concerning tourism on Mafia, the issue of transportation concerns the reachability of the archipelago. The fact that there are two different flight prices for residents and foreigners by every company is unreasonable and creates a barrier for visitors to come. In comparison, the modern ferries from Dar es Salaam to Zanzibar take around two hours and costs 35 \$ US one way, in disregard of the permit status. Moreover, it can be complicated to reach Mafia from

other places in Tanzania by plane. At the time of my fieldwork, I met a couple that had to take five different flights to get from the Serengeti International Airport to Mafia. Although this is an extreme example, the airport on Mafia is only connected to the one in Dar es Salaam and all passengers coming from other places need to change planes at least once. It is a sensible addition to offer direct flights to Mafia from other places, for example Zanzibar or the Kilimanjaro. Not only does it simplify travelling opportunities for international tourists, but there is also the potential to target the Tanzanian population as possible visitors. Still, the transportation mode of choice for the daily businesses of Tanzanians is to access Mafia by boat. The daily ferry from Nyamisati brings people and goods to the island and plays a vital role in Mafia's provision. The wooden boats that take at least four hours to cross the channel and which are dependent on the weather are too uncomfortable for the generalist tourist to consider. As the travel time from Dar es Salaam to Nyamisati is another four hours, one has to plan at least eight hours to get from Dar es Salaam to Mafia, while the flight takes only 30 minutes. In my interviews, multiple people have stated that a modern ferry connecting Mafia to the mainland would have immense potential for development. In fact, a new jetty is currently under way of construction in Nyamisati. The new landing port is supposed to allow for a modernized transportation boat and socio-economic development for Mafia (Alpha Logistics 2019). A downside of a potential high-speed ferry to Mafia is the risk of harming and killing whale sharks which are feeding at the surface. If a modern ferry should get introduced, the responsible ferry companies should be made aware the risk of hurting the sharks and an additional speed limit introduced for ferries in Kilindoni Bay.

One of the main challenges for the whale shark tourism on Mafia is the situation at the ocean. On an international level, overcrowding a whale shark site is a common problem. It has been documented and discussed by researcher in Australia, the Maldives and the Philippines (Davis et al. 1997; Lowe and Tejada 2019; Mulder 2016). At the Maldives, the sharks received injuries on their flanks and fins due to high-speed collisions (Mulder 2016, p. 20). Due to poor boat and swimmer behavior the whale sharks were disturbed in their habitat and their natural behavior was partly disrupted (Mulder 2016, p. 21). Similar to Mafia, tourists were dropped into the water too close to the sharks (Mulder 2016, p. 22). As it is easier for operators to spot ongoing whale shark encounters from other boats than finding a shark on their own, rushing to such a site results in speeding tourist boats, which are a threat to both the fish and the swimmers (Mulder 2016, p. 22). On my various whale shark tours, I observed the same procedures at Mafia. While each boat was looking for the whale shark in the water independently, once another operator let his guests into the water everyone knew that a whale shark had been located and tried to get to the site as well. The result was speeding boats that tried to identify the direction in which the whale shark was moving. When dropping the guests into the water, most operators tried to get diagonally in front of the whale shark, so that the swimmers can observe the fish feeding with an open mouth. Sometimes, the guests were dropped directly on top of the swimming fish, splashing with their entrance and blocking swimmers that were following the shark. Especially the splash entrance can stress the shark and cause it to dive away from the encounter. In contrast to the big sharks, the risks for the people in the water are more severe, even lethal at times. As the swimmers are focused on the sharks below them, things that are taking place next to them or at the surface are out of their visibility and awareness. Thus, speeding boats in close proximity pose great threats. Especially boat propellers can do great harm to both humans and fish. An advisable introduction are safety guards for the propellers (See Figure 9), which could be established as a mandatory regulation for operators by the District Council. An additional option is to enforce the speed limit that is set by the code of conduct and to control and punish

operators which are not complying with speed or distance rules. In order to manage tourist behavior in the water, penalties for touching the whale shark can be introduced for the operators, taking them responsible for possible guest misbehaviors.



Figure 9: Example for a Propeller Safety Guard (Source: www.compass24.de)

If the national project of the dam construction in the Rufiji River is implemented, there will be severe consequences for the environment in the channel and on Mafia, as well as inestimable developmental implications for the island's whale shark tourism industry. People whose livelihoods depend on the marine resources around the Rufiji Delta will be affected. As the brackish water from the river causes the plankton bloom on which fish populations feed, coastal communities will be strongly impacted should the fish populations decrease. For the whale shark industry on Mafia, the construction's completion likely signals the beginning of its end. It is reasonable to assume that the world's largest fish will cease to visit the channel if their food supply in the area is put to an end. In this case, the existent whale shark tourism industry on Mafia will be obsolete and a similar development that has happened to the great white shark industry in Cape Town is likely. In the South African city, a large tourism industry has been built upon cage diving with the great sharks. Since early 2019, there have been no white shark sightings in the area and the whole industry has come to a stop, causing the loss of employment, revenues and income (Sguazzin 2019). To qualify the issue at hand, the timeline and the undetermined finish date of the massive project are variable. Moreover, the gear used for the whale shark tours is the same equipment that the operators use for other excursions around the archipelago. This means that at least the equipment value is not lost for the operators and that they can still conduct other tourism activities. However, the attraction of the whale shark presence would fall away, likely causing a decrease in visitor numbers. Due to the government running out of finances or other reasons, it is also possible that the dam project will never be finished. Overall, this thesis can only highlight the possible impacts the Rufiji River Dam can have on the whale shark tourism on Mafia, the marine environment, and coastal livelihoods.

Challenges for the District Council

The topic of distributing the whale shark revenues was thematized in various interviews. According to the general opinion, the money should be reinvested into the tourism industry in order for it to grow and continue to develop the island. Especially the introduction of a patrol boat was a major concern for the operators and tour guides. On the other hand, fishermen asked for a part of the income as they are restricted in their activities by the tourism and would like to be compensated in this regard. A stated option was to give the BMUs some income which they can use for the interest of the fishermen. Compared to other whale shark sites like the Ningaloo

Marine Park, where the money is primarily reinvested into the whale shark industry, its management and biological research, Mafia faces different challenges. The District Mafia requires its income to develop public infrastructure and public services. Thus, it is difficult to disperse the money among the different stakeholder groups. An argument can be made for the reinvestment into the whale shark tourism industry, so that it can fulfill its function for the island and expand the range of its impacts. A factor that should be considered is to transparently communicate for which services the whale shark revenues are used, or to set rules by which the money has to be invested. This has the potential to make the benefits for all of Mafia public. Furthermore, transparency can attribute a sense of ownership over the resource and spread the notion of the value that is generated from the whale shark tourism. In this way, the importance of the whale shark and the shark-based tourism can be communicated to the communities, possibly leading to an increase in acceptance and protection of the whale sharks. If the fishermen are made aware of the benefits the island receives from the tourism, the conflict of interests between the operators and the fishermen can also be partly resolved. Communication and transparency are two ways of including all interested parties in the industry and to spread knowledge and acknowledgement about regulatory adjustments. For example, whale shark revenues used to construct or renovate school buildings affects fishermen insofar that if they have kids visiting this particular school, their family experiences direct benefits from the District Council's income. This can be a way of demonstrating that direct community development is achieved through the shark-based tourism. In Oslob, transparency around finances and income from the regulating institutions strengthened the island's resident asset base in a financial and social way (Lowe and Tejada 2019, p. 85).

Another reason to include fishermen into the revenue distribution and decision making is to prevent the process of 'blue grabbing' to spread even more in Tanzania (Benjaminsen and Bryceson 2012, p. 335). For the purpose of wildlife and marine conservation, Tanzanian communities are gradually excluded from benefitting from their land and natural resources (Benjaminsen and Bryceson 2012). By restricting access to the resources, state officials, conservation organizations and tourism companies dispossess local communities, while simultaneously accrue the benefits derived from these resources (Benjaminsen and Bryceson 2012, p. 335). According to Benjaminsen and Bryceson (2012, p. 348), the communities within the Mafia Island Marine Park experienced such a development. The villagers lost access to formerly traditionally governed and utilized natural resources, including the best fishing grounds and beaches, while foreign run tourism companies and state agencies were put into a position to take advantage (Benjaminsen and Bryceson 2012, p. 351). As the local people are the most vulnerable group on Mafia, they have difficulties to recover from livelihood shocks. To avoid the repetition of 'blue grabbing' on Mafia, it is important to consider the interests of communities and fishermen in the formulation of a management strategy and future measures towards the tourism industry's development. Otherwise, a process of privatizing the tourism's benefits by the state, conservation organizations and tourism companies is likely to take place (Benjaminsen and Bryceson 2012).

An issue that has to be addressed by the responsible authorities is the increasing degree of fishing in the channel. Fishermen and fishing vessel numbers are consistently increasing, pressuring the marine environment in the channel. As argued above, some livelihoods on Mafia have transferred from fishing to tourism, but not enough to balance the actual growing fishermen numbers. The yearly rotation in the fishermen population, which come from all over the Tanzanian mainland and even other countries, poses a monitoring challenge to local

authorities. The lacking awareness of the newcomers about the whale shark population displays a threat to the marine giants. Even if the local boat captains know about the whale shark protection and their meaning to the District Council and therefore can prohibit their crew to harass the sharks (Fishermen: 20), accidents are more likely to happen with unaware fishermen. In regard of spreading the knowledge about the whale shark among the fishermen, the above-mentioned information boards along the beach are an option. Because most of the fishermen pass the fish auction market at the beach in Kilindoni every day, this is a possible location for such a board. One way to regulate fishing activities and protect the whale shark in the channel is to introduce a restriction area. In my talk with the District Executive Director, he stated that such an area is supposed to be introduced around the site of the whale shark sightings. The aim of this zone is to create a safe zone in which whale sharks can feed and be encountered undisturbed. For this purpose, necessary regulations are a restriction on fishing activities in general or at least for the time of planned tourism operations, and the enforcement of a speed limit by all boats. This includes fishing vessels, tourist boats, and transportation ferries. Especially in case of the introduction of larger and faster ferries, the protection zone is an important element to consider for the sharks' safety. The problem with such an area lies in earmarking the designated area as the sharks are flexible in their feeding behavior and have been observed to surface in a wide range of Kilindoni Bay (Rohner and Pierce 2019, p. 3). In the Philippines, the introduction of a protection area has resulted in the increase of fish stocks in and around that zone (Lowe and Tejada 2019, p. 87). As the District Council has already identified the decline of fish species in the channel as a problem (Mafia District Council n.y.), the possibility to regenerate local fish populations as a by-product of such a protection area presents a valuable advantage. However, in order to realize this measure and enforce compliance with restrictions, a system of monitoring is required by the District Council. The easiest way is to add these responsibilities to the function of a patrol boat, which can fulfill these tasks and simultaneously oversee whale shark encounters.

To structure and centralize the general situation of the whale shark tourism industry on Mafia, the District Council and the involved stakeholders should aim to combine their efforts. One suggestion, which has also improved the situation in Oslob (Lowe and Tejada 2019, p. 90), is the construction of a whale shark visitor center. On Mafia, it is economically more reasonable to open a tourism center that encompasses all touristic activities on the island, not only the whale shark tours. Such a center and the respective workers, possibly the tourism officers, can help to increase coordination in and visibility for the whale shark industry by presenting a location where tourists and also locals are informed, stakeholder meetings can be held, collected data brought together, and where the industry's regulation and development is planned. Next to biological data on the sharks, information on the recreational aspects of the industry, particularly the expectations and experiences of users and their willingness to pay for a quality experience need to be collected. Moreover, the ability of operators to provide these experiences within the framework of the management system needs to be considered in the decision-making (Davis et al. 1997, p. 261). Other data that a central tourism institution could collect is the demographic characteristics of the whale shark participants, their income and the amount of money spent on Mafia. Should such a center be realized, the District Council is put into a position to gather necessary data to sustainably develop and manage the tourism industry.

Practice Theory and the Whale Shark Tourism

To summarize practice theory, the aspects of habitus, capital and the institutional framework determine agents' activities and positions in the social space. The relative position in the field frames the degree of freedom agents have in their practices. Thus, social power relations between (groups of) agents structure social practices (Etzold 2013, p. 29). State agents take a special role in the field, as they can act as powerful bricoleurs (Etzold 2013). Within an arena, the 'space of conflict and contest', players struggle for the access to resources, positions and profits. Arenas represent distinct physical spaces, where the practices, positions and material manifestations of agents take shape (Etzold 2013, p. 30).

To apply the approach and theorems of practice theory onto the whale shark tourism on Mafia helps to understand the social dimensions and changes that are taking place on the archipelago. One way to understand practices is to see them as tacit local knowledge that is shared within the society. For example, the local knowledge on where to find fish and whale sharks in Kilindoni Bay is common on Mafia. Thus, the fishermen and the operators have the same tacit knowledge on the fish locations, whale shark feeding places, weather conditions, and marine currents in the channel. This shared local, practical knowledge of navigating in the channel, judging factors like wind or marine currents underpins the human activities and organizes their procedures with the aim of finding the sharks. Same can be argued for the fact that all operators start their tours in the morning. Even if there is no official rule for such a procedure, knowledge on the weather conditions at Mafia and the shark behavior in the bay has led to the result of collective departures early in the morning.

Reflecting on Bourdieu's (2010) notion of space, one interesting phenomenon sticks out. The ocean, and foremost Kilindoni Bay, can be argued to pose as an open space that is accessible to all community members. Thus, being a public space theoretically makes it possible for everyone to access and exploit its resources. Regarding the whale shark presence, every person on Mafia could be able to offer tours to swim with the gentle marine giant. The fact that there are 'only' five official operators demonstrates that the ocean and the whale shark site are not open for everyone and that there are certain groups included and excluded from accessing this resource. The entry into the whale shark tourism industry on Mafia is restricted by the people's access to capital and knowledge. On an economic level, equipment to run the tours can be expensive and difficult to obtain. For example, fins, masks, and snorkels are equipment for which the local providers must travel to Zanzibar to buy them, as they are difficult to be obtained on Mafia or the mainland. Another factor limiting access to the industry are different kinds of knowledge. On the one hand, it is necessary to realize the potential that the whale shark presence poses to earn a livelihood and then to have knowledge on the animal themselves to offer excursions for which knowing how to swim is imperative. On the other hand, knowledge on tourism is the foundation for such an enterprise. Not only it is required to have language skills to communicate with guests, but to successfully offer tours one is required to have certain marketing skills that allow for visibility among the hotels and visitors. Another way to get guests is to have social capital in the form of personal relations with hotel staff that are in a position to mediate their guests. All these factors restrict the entry to the whale shark industry and exclude groups of people that have neither the capital nor the knowledge to access the market. Comparing fishermen and operators, the difference in knowledge becomes clearer. Both groups own boats and know where the whale sharks can be found. The differences lie in the specific knowledge needed for the tourism. Most fishermen are unable to offer tours, as they lack marketing knowledge to acquire guests and generally are unable to speak English to communicate with

foreigners. Although some fishermen own part of the equipment and even have some specific knowledge needed to offer whale shark tours, the lack of language skills and marketing skills stops this group's members from entering the industry. On the contrary, these requirements and necessary skills make the participation for other groups easier. Foreign investors active in the tourism sector on Mafia tend to already own the equipment and most of the lacking knowledge, such as the whale shark location or human-animal interaction guidelines, can easily be acquired by hiring someone with that particular knowledge. Thus, the momentary situation on Mafia facilitates a trend of favoring foreign investors while local community members struggle to participate and benefit from the tourism's growth.

According to Bourdieu's (2010) understanding, the whale shark site at the ocean can be regarded as an 'appropriated physical space'. In this arena of contestation, the agents of the tourism industry struggle for the access to resources. The whale shark arena extends the ocean and encompasses Kilindoni, where the field's rules are made and where the agents' physical space is materialized (See Figure 10). As the regulating actor in the whale shark industry, the state power is located in the center of the arena. Using instruments like the introduction of the whale shark fees, the threatened punishment for harassment of the animals, and regulations like the code of conduct, the District Council is in the process of monopolizing symbolic capital over the whale sharks and the shark-based tourism. The intended establishment of a restriction area and a strategic management plan for the industry can be perceived as part of the state's effort to increase its symbolic claim and authority over this natural resource. The people in the tourism office on Mafia own an authoritative position within the arena, as they are responsible for the on-ground reinterpretation of the official rules. Due to their relative proximity to the state power, these agents use their freedom and power to circumvent official rules for their own benefits. Various interviews showed that this is happening on Mafia, as the people in tourism office are actively corrupting the whale shark fee's system to enrich themselves at the costs of the District Council. Other than the state, various stakeholders have accumulated symbolic capital over the whale shark resource. Two of the local operators, which were some of the first people to offer the tours on Mafia have acquired locally acknowledged claim on the giant fish. This became transparent in their interviews, as one of them was called from Dar es Salaam to be informed that one of 'his' whale sharks had been caught by fishermen, while the other stated to be a 'superstar' within the island's communities due to his successful work with the whale shark (Operator 1: 102; IT: 37). Concerning the notion of habitus and it to be a 'product of history' (Etzold 2013, p. 21), the tourism changes the involved people's habitus by new experiences and training. Especially within groups of workers similarities can be observed, combining members into 'spaces of lifestyles' (Etzold 2013, p. 21). For instance, tour guides from various operators and hotels shared many similarities. Most of them have finished Secondary Education, were under 30 years old and lived in single households, while exclusively all of them were men. As the guides have grown up on Mafia, it is fair to say that their habitus are structured by same socio-cultural norms and values that are dominant in the island's social field. Furthermore, the theoretical concept can be used to explain the observed behavior at one of the tour operators who also offers accommodation. Following the idea that a habitus structures the appreciation and evaluation of him-/ herself and others in the field and on this basis guides a person's actions (Etzold 2013, p. 21), the behavior of a tour guide can be examined. Over my time at this accommodation, I was able to observe that the guide spent most of his free time at that place. Even after finishing the duties as a guide, the person would return to the compound. The explanation that the concept offers is that he was in this social space, because it would allow him to be in a position to accumulate social and symbolic capital, while collecting knowledge

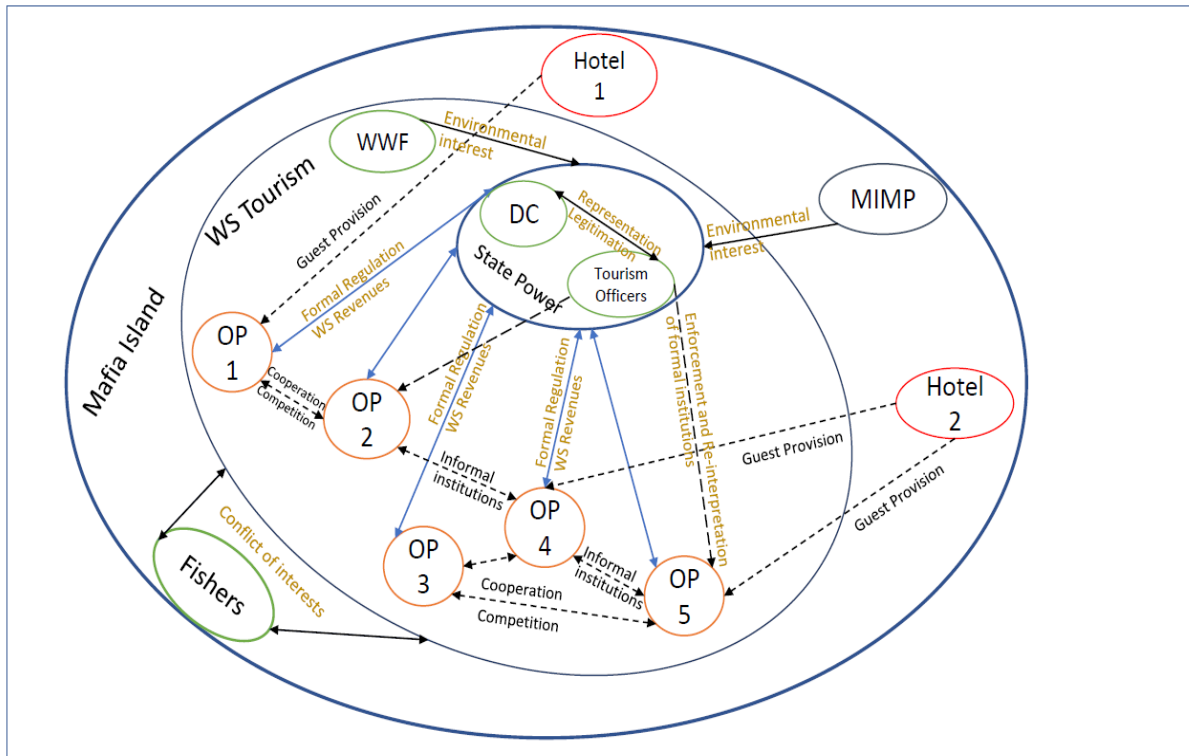


Figure 10: The Arena of the whale shark Tourism on Mafia Island (Adapted from Etzold 2013)

about the whale shark industry. In this person's understanding, being close to such an accumulation of capital results in a partial transfer of the same to himself, raising his position in the social field and the whale shark arena.

The social field of the whale shark industry and the actions of the field's agents on Mafia are structured by both formal and informal rules. On the one hand, actions are determined by 'regulative rules' which guide human action (Etzold et al. 2012, p. 186). In the whale shark industry, the code of conduct serves the function of regulating the human-animal encounter on the ocean by predefining human behavior. Should an official management plan for the industry's development be introduced, it would also fall into this category of regulative institutions. An important aspect of regulation is their interpretation on the ground. At the ocean, operators and tour guides have to navigate between the formal and informal rules that structure the field. To realize their personal interests of satisfying customer needs, the compliance with official rules, like the code of conduct, is relative to the daily situation. Thus, these regulative institutions get ignored if there is only one whale shark in the area and operators let their guests into the water, basically re-interpreting the code of conduct to their own situational needs. The rules of the field are one point of contestation among the powerful agents, as they can change these rules according to their interests. If an acknowledged operator exemplifies the non-compliance of the code of conduct, it is easy for others to follow his way, strengthening his position to imitate the behavior. At the same time, other bricoleurs in the field are in the position to do the contrary. One operator who is lobbying for and offering 'responsible whale shark encounters' stated that he himself tries to lead by example so that other operators have the chance to copy his procedures conduct non-intrusive wildlife encounters. Due to his capital and specialist knowledge on the whale shark and the tourism, he owns a strong position in the island's tourism industry. As he is respected by many stakeholders, he is enabled to alter the institutional structures. On a normative level, the traditional and local institutions that regulate the social field on Mafia collide with the foreign norms and values which are introduced

by the tourism. As the agents in the fields shape the fields' rules, traditionally predominant informal rules get questioned by young community members that interact with these foreign set of institutions. Due to the challenging of traditional institutions and practices, tourism changes power relations within a society. As discussed above, the tourism is changing gender relations on the archipelago, empowering the position of women at the cost of the 'formerly advantaged'. Symbolic for such a change are foreign language skills, as these represent the adaptation and spread of outside institutions.

Regarding tourism as practices, the interaction of swimming with whale sharks is a touristic practice which is offered by local providers and practiced by tourist. On the basis of a human-nonhuman interaction, a repetitive pattern is followed at the ocean: Searching for the shark, getting ready, jumping in the water, swimming with the shark, and getting back onto the boat and finally to the island. The visitors' actions and experiences are repeated practices, creating patterns that shape the practice itself. The guests' experiences are produced by a local, practical knowledge that the employees of the whale shark companies have accrued. This special knowledge required to run the tours is the weather conditions in the channel and the knowledge to judge the tourists' characters. Depending on the employees' judgment that informs their work practices, tours can vary in their range of education, intra-human interaction and human-animal encounter. Moreover, knowledge on weather conditions like wind directions or wind strength informs the guides' decisions in their search for the whale sharks. Depending on these conditions, aspects like the time spent at the ocean or the number of whale shark encounters per trip are variable. Overall, the practices and local knowledge of the tourism workers determine the touristic practices of swimming with the whale shark and the experiences tourists make on these occasions. Other practical aspects of the tourism include the considerations of a seasonal business and the impacts of technology on business practices. The former can be observed in the practices of hotels to use the raining season with no tourists to maintain their facilities and give vacation to the employees. The effects of the latter are more dominant in the touristic season, as businesses manage the majority of their bookings online. A dependency on these online services can be observed and according to a company's capacity to carry out these practices, its success is measured. For example, one local company has grown faster than any other and now is the biggest operator on Mafia due to its really good internet presence.

6. Conclusion

Reflecting on the preliminary expectations I formulated ahead of the fieldwork, the actual situation on Mafia differs in various ways. The entire tourism industry on Mafia is one of the most important economies for the island. In particular the growth of the whale shark tourism in Kilindoni has impacted the population beyond the Mafia Island Marine Park and poses potential for continuous future development. In my expectation of finding a tourism industry dominated by foreign investors, my research showed that although this group of people is favored by the industry's institutions, there are plenty of local players involved. Especially the local whale shark operators own a central role in the island's supply for whale shark tours. My assumption that the local community members only receive minimal benefits from the whale shark tourism was proven to be fair, as only people involved benefit directly. Nevertheless, the District Council is receiving increasing amounts of revenues and the public infrastructure is being constantly improved. The main area for changes is Kilindoni town, as it is the location for the whale shark industry and the home of most the employees. Also, Kilindoni is the area where the social and

ecological impacts of the tourism can be best observed. These impacts have been discussed to be both of positive and negative nature, and one of the main challenges remaining for the industry and its stakeholder is to balance the tourism's impacts with the social and environmental resources Mafia has to offer. In this regard, the conservational efforts should aim to be compatible with the recreational activities of the tourism. Contrarily to my expectations, the fieldwork showed that the expanding tourism can have positive effects onto the archipelago's ecosystems by educating the local resource users. Overall, the island sees more tourism than I expected, especially in the months August, December, and January. The industry and its stakeholders, foremost the District Council, face challenges on balancing the tourism's impacts while regulating its development. Other whale shark sites around the world showed how this can be approached and this thesis illustrated practices relevant for Mafia. Overall, achieving long-term benefits from whale shark tourism requires protection for the sharks, the environment, and the broadening of human education. The research showed that the whale shark tourism on Mafia is perceived as a driving force for the island's development and that it is attributed to have an immense potential to improve public services so that all community members can experience benefits. People outside of the tourism industry struggle to see the benefits it has for Mafia and thus focus on the changes and problems the industry poses for their lives. As the tourism industry on Mafia has a growing relevance role for the island's economy and the District Council's income, its development gets a favorable treatment from the authoritative institutions. Nevertheless, the CO-VID 19 pandemic in 2020 demonstrates how vulnerable and fragile tourism industries that depend on international visitors in the Global South are. Without visitors to come and spend their money on Mafia, the entire tourism economy on Mafia is halted and the involved people lost access to their livelihood foundations. Should the whale shark industry recover from the recent collapse and is matured sustainably, it has the potential to boost public services and benefit members across the archipelago's communities.

7. Recommendations

Implement an official Management Strategy for the whale shark tourism industry

This is a crucial necessity to formulate the wanted development of the industry and communicate the goals to all stakeholders. The various groups and their interests should be included in the decision-making process in order to be able to contribute to the success of the project. The priorities should be sustainable and long-term functioning industry for which an intact environment is required. Thus, the strategy's goals need to aim for the protection of the whale sharks and the marine environment in the channel. To improve the quality of the tourism and its benefits for Mafia, the official targets for the development can be oriented at be employment rates and the revenues generation from the activity.

Revise licensing conditions

Licenses represent a prime instrument of regulating the whale shark industry in general, as well as the situation at the ocean. One way can be to issue a limited number of licenses and like this limit the number of operators and boats at the ocean. It is possible to adjust the number of operator licenses throughout the season, depending on the number of whale shark sighted. Licenses should be transferable, and the conditions should include regulations to prevent monopoly holdings. Other mandatory conditions could be visually assisted whale shark briefings or the compliance with the code of conduct. Also, operators holding a license can be demanded to make a seasonal deposit to the District Council. Such a deposit allows for planning security and minimum income for the government and can later be deducted from the total seasonal payments by the operators.

Bring a patrol boat to the whale shark site

A patrol boat represents the best way to monitor the situation at the ocean and regulate operator, fishermen and tourist behavior. Moreover, unofficial tours from Mafia or even the mainland can be prevented or charged at the site. A vessel with District Council representatives would be in the position to enforce the code of conduct and at the same time manifest the local governments claim on this natural resource.

Introduce boat propeller guards as mandatory equipment for operators

To ensure secure encounters between whale sharks and tourists, propeller guards can be introduced as obligatory equipment for operators. The (lethal) risks for humans and sharks can be reduced by these precautions. Should a patrol boat be installed, the model way is for it to be equipped with a propeller guard.

Invest in infrastructure

To deal with the growing tourism industry in Kilindoni, it is necessary to facilitate and adapt to the development.

- *Install a (whale shark) tourism center:*

The option to create an area of combined interests, where stakeholders can come together. Also, it can be the place for research on the industry and whale sharks to come together and where public information seminars or nights can take place.

- *Waste management:*

Find a system to manage the increasing waste production from tourism. This includes the amounting wastewater from tourism accommodations. Especially the flow of shampoo runoff should be avoided at the waterfront to prevent pollution of the marine environment.

Increase cooperation between the District Council and the Mafia Island Marine Park

The whale shark presence and the management of this resource represents a chance for the authorities on Mafia to increase their cooperation. The project of developing an inclusive shark-tourism industry can be used to combine efforts of both the District Council and the Marine Park. It is a chance to find a way to review and possibly renew the Memorandum of Understanding these two administrative bodies have agreed upon.

Incentivize local people to benefit from and participate in the tourism industry

To spread the benefits from tourism, local people can be informed about the possibilities the industry entails. Education seminars for helping the people to get involved in the industry's supply chain are an option. Also, souvenir shops or restaurants for tourists pose another option to increase the range of income generated by the tourism.

Revise handling of the whale shark revenues

Make the people own the resource by communicating the income the tourism provides. An important aspect is the transparency in the revenues handling, which allows for the communities to know for what purposes the income is used. A possibility is to introduce a fixed income-plan according to which the revenues are percental distributed among the various purposes. For example, the plan could define that the BMUs along Kilindoni Bay get 10 % of the total income generated by the whale shark fees, while 20 % are reinvested into the industry. In combination with transparent communication, this measure can assist in making the people on Mafia acknowledge be tourism and its benefits. Investing money into the tourism industry facilitates long-term development, while a share for the BMUs has the potential to make up for missed fishing opportunities for fishermen due to the tourism.

Conduct further research

It is advisable for the District Council to cooperate with other stakeholders to further its understanding on the tourism. For this purpose, research on Mafia can be of help.

- *Conduct a carrying capacity study:*

To forestall the overextension of Mafia's environment and infrastructure, it would be sensible to learn about the number of visitors that can be simultaneously hosted on the archipelago. Such a study can also inform possible renegotiations with flight companies to lobby for bigger planes to come to Mafia and other airports to be connected to the island.

- *Conduct tourist research:*

To better recognize the potential of tourism on Mafia, basic research on the island's guests should be conducted. Data on the visitors' demography, the amount of money spent, and the character of activities can help to improve the offers. Also, tourist experiences on the whale shark tours could be collected to identify best practices for the operators.

Spread the awareness and knowledge about whale sharks

Protection of the whale sharks and the marine environment is the foundation for the marine tourism on Mafia and thus should be prioritized. One way is to spread the knowledge and awareness of environmental issues among the population. Regarding the whale sharks, various instruments can be used to spread the improve the situation.

- *Install posters/ signs in public places on Mafia:*

Signs or posters in public spaces on Mafia have the potential to reach large numbers of people. The pictured information can include whale shark biology, avoidance behaviour and the code of conduct. To reach both tourists and locals, the signs should be written in both Swahili and English. Fitting locations are Kilindoni town at the roundabout, the fish auction house at the beach, and hotel lobbies.

- *Beyond Mafia:*

To spread awareness about the whale sharks and their importance for Mafia, fishing officers and communities around the coastline should be educated about these issues. A cooperation between the government and WWF can be a way to conduct information seminars or public information events. As WWF has field offices around the coastline, this is a channel that can be used for such activities.

Reactivate WASCOS

The purpose of this organization is to be a platform to promote whale shark conservation. The potential it has to contribute to the conservative aspect of the tourism industry's development is immense. The founding members all have a lot of knowledge on the whale sharks and an option is to bring in interested individuals from the industry (e.g. tour guides) to revitalize the organization.

Bibliography

- Alpha Logistics (2019): Construction of Nyamisati Jetty. Available online at <https://www.alphalogisticsafrica.com/construction-of-nyamisati-jetty/>, checked on 5/31/2020.
- Araujo, Gonzalo; Vivier, Fabien; Labaja, Jessica June; Hartley, Daniel; Ponzo, Alessandro (2017): Assessing the impacts of tourism on the world's largest fish *Rhincodon typus* at Panaon Island, Southern Leyte, Philippines. In *Aquatic Conservation: Marine and Freshwater Ecosystems* 27 (5), pp. 986–994. DOI: 10.1002/aqc.2762.
- Benjaminsen, Tor A.; Bryceson, Ian (2012): Conservation, green/blue grabbing and accumulation by dispossession in Tanzania. In *Journal of Peasant Studies* 39 (2), pp. 335–355. DOI: 10.1080/03066150.2012.667405.
- Bourdieu, Pierre (2010): Outline of a theory of practice. Cambridge: Cambridge Univ. Press (Cambridge studies in social and cultural anthropology, 16).
- Cleaver, Frances (2002): Reinventing Institutions: Bricolage and the Social Embeddedness of Natural Resource Management. In *Eur J Dev Res* 14 (2), pp. 11–30. DOI: 10.1080/714000425.
- Davis, Derrin (1998): Whale Shark Tourism in Ningaloo Marine Park, Australia. In *Anthrozoös* 11 (1), pp. 5–11. DOI: 10.2752/089279398787000850.
- Davis, Derrin; Banks, Simon; Birtles, Alastair; Valentine, Peter; Cuthill, Michael (1997): Whale sharks in Ningaloo Marine Park: managing tourism in an Australian marine protected area. In *Tourism Management* 18 (5), pp. 259–271. DOI: 10.1016/S0261-5177(97)00015-0.
- Davis, Derrin; Tisdell, C. A. (1999): Tourist Levies and Willingness to Pay for a Whale Shark Experience. In *Tourism Economics* 5 (2), pp. 161–174. DOI: 10.1177/135481669900500203.
- Ellenberg, Ludwig (1997): Ökotourismus. Ein Instrument für den Naturschutz. Heidelberg: Spektrum Akad. Vlg.
- Etzold, Benjamin (2013): The politics of street food. Contested governance and vulnerabilities in Dhaka's field of street vending. Stuttgart: Franz Steiner Verlag.
- Etzold, Benjamin; Jülich, Sebastian; Keck, Markus; Sakdapolrak, Patrick; Schmitt, Thomas; Zimmer, Anna (2012): Doing institutions. A dialectic reading of institutions and social practices and its relevance for development geography. In *Erdkunde*, pp. 185–195. DOI: 10.3112/erdkunde.2012.03.01.
- Fatima, Johra Kayeser (Ed.) (2017): Wilderness of wildlife tourism. Oakville, ON, Waretown, NJ: Apple Academic Press.
- Fennell, David A. (2006): Ecotourism. An introduction. 2nd ed., repr. London, New York: Routledge.
- Flick, Uwe (1998): An Introduction to Qualitative Research. London, Thousand Oaks, New Delhi: SAGE Publications.
- Flick, Uwe (2013): An introduction to qualitative research. 4th ed., repr. London: Sage.
- Gosh, R. N.; Siddique, Muhammed Abu B.; Gabbay, Rony (2017): International tourism and economic development. In R. N. Ghosh, Muhammed Abu B. Siddique, Rony Gabbay (Eds.):

Tourism and economic development. Case studies from the Indian Ocean region. First edition. London: Routledge., pp. 19–29.

IUCN Red List of Threatened Species (2016).

Lester, Emily; Speed, Conrad; Rob, Dani; Barnes, Peter; Waples, Kelly; Raudino, Holly (2019): Using an Electronic Monitoring System and Photo Identification to Understand Effects of Tourism Encounters on Whale Sharks in Ningaloo Marine Park. In *Tourism in Marine Environments* 14 (3), pp. 121–131. DOI: 10.3727/154427319X15634581669992.

Lifegate (1/9/2020): Tanzania to build Stiegler's Gorge dam in a wildlife reserve and Unesco site. Available online at <https://www.lifegate.com/people/lifestyle/stieglers-gorge-dam-tanzania>, checked on 4/3/2020.

Local Government Revenue Collection Information System (2019): Mafia District Income Numbers. Edited by Mafia District Council.

Lowe, Judi; Tejada, Johann Friedrich C. (2019): The role of livelihoods in collective engagement in sustainable integrated coastal management: Oslob Whale Sharks. In *Ocean & Coastal Management* 170, pp. 80–92. DOI: 10.1016/j.ocecoaman.2018.10.018.

Mafia District Council (n.y.): The Mafia Whale Shark Management Strategy 2018-2021. United Republic of Tanzania.

Mafia Island Airport Authorities (2019): Monthly Arrival Numbers. Edited by Mafia Island Airport Authorities.

Mafia Island Diving (n.y.): Short info about Mafia Island. Available online at <http://www.mafiadiving.com/mafia-island.php>, checked on 1/28/2020.

Mafia Island Fisheries Department (2019): Fisheries Frame Survey Report. Edited by Mafia District Council.

Mafia Island Marine Park (2019): Annual Activity Progress Report. Edited by United Republic of Tanzania. Marine Parks and Reserves Unit of the Ministry of Livestock and Fisheries.

Mattisek, Annika; Pfaffenbach, Carmella; Reuber, Paul (2013): Methoden der empirischen Humangeographie. Braunschweig: Westermann.

Mayring, Philipp (2000): Qualitative Inhaltsanalyse. In *Forum Qualitative Sozialforschung*, pp. 1–10. Available online at <http://qualitative-research.net/fqs/fqs-d/2-00inhalt-d.htm>.

Mayring, Philipp (2014): Qualitative Content Analysis. theoretical foundation, basic procedures and software solutions. Klagenfurt.

Ministry of Education and Culture (2000): Education in a Global Era. Challenges to Equity, Opportunities for Diversity. United Republic of Tanzania. Available online at https://www.tanzania.go.tz/egov_uploads/documents/EDUCATION_IN_GLOBAL_ERA_sw.pdf, checked on 6/7/2020.

Mulder, Elisabeth Maria (2016): Finding the balance between tourism and conservation. The pathway to safe and sustainable whale shark tourism in South-Ari Atoll. University of Edinburgh.

National Bureau of Statistics (n.y.): Mafia District Council Population estimate for 2019.

Nchanji, Eileen Bogweh; Bellwood-Howard, Imogen (2016): Traditional Provisioning Responsibilities of Women in Northern Ghana. In Marcia Texler Segal, Vasilikie Demos (Eds.):

- Gender and Food: From Production to Consumption and After, vol. 22: Emerald Group Publishing Limited, pp. 41–64.
- Newsome, David; Dowling, Ross Kingston; Moore, Susan A. (2005): Wildlife tourism. Clevedon, Buffalo: Channel View Publications.
- Rohner, Chris; Pierce, Simon (2019): Mafia Island Whale Shark Research 2018. Marine Megafauna Foundation.
- Rohner, Chris; Prebble, Clare; Paulsen, Jens; Pierce, Simon (2016): MAFIA ISLAND WHALE SHARK RESEARCH PROJECT 2015 REPORT. Marine Megafauna Foundation.
- Rohner, Chris; Prebble, Clare; Pierce, Simon; Cagua, Fernando; Cochran, Jesse; Sinclair-Taylor, Tane; Berumen, Michael (2014): Mafia Island Whale Shark Research Project. Season 2013/14. WWF; Marine Megafauna Foundation.
- Schatzki, Theodore R. (Ed.) (2010): The practice turn in contemporary theory. London: Routledge.
- Schatzki, Theodore R. (2012): A Primer on Practices. Theory and Research. In Joy Higgs, Ronald Barnett, Stephen Billett, Maggie Hutchings, Franziska Trede (Eds.): Practice-Based Education. Perspectives and Strategies. Rotterdam: Sense Publishers, pp. 13–26.
- Sguazzin, Antony (2019): Cape Town searches for answers in disappearing shark mystery. Available online at <https://www.smh.com.au/world/africa/as-great-white-sharks-disappear-cape-town-searches-for-answers-20191001-p52wez.html>, checked on 6/2/2020.
- Souza Bispo, Marcelo de (2016): Tourism as practice. In *Annals of Tourism Research* 61, pp. 170–179. DOI: 10.1016/j.annals.2016.10.009.
- Techera, Erika J.; Klein, Natalie (2013): The role of law in shark-based eco-tourism: Lessons from Australia. In *Marine Policy* 39, pp. 21–28. DOI: 10.1016/j.marpol.2012.10.003.
- The International Ecotourism Society (2015): Ecotourism. Available online at <https://ecotourism.org/>.
- The United Republic of Tanzania (2002): Tourism Master Plan. Strategy and Actions.
- The United Republic of Tanzania (2018): Pwani Region Investment Guide.
- The United Republic of Tanzania (2019): feasibility study report for mafia tourist town, mafia district, coast region. draft final report.
- Youell, Ray (1999): Tourism. An introduction. 2nd ed. Essex, England: Longman.

Appendix

Interview Guideline

Background information

Gender:

Age:

Profession:

Local population

Work

1. How did you get into the Whale Shark business?
 - 1.1. What did you do before?
2. What is your occupation?
 - 2.1. employed: what are your working conditions/ times?
 - 2.2. self-employed: how did you establish your business?
 - 2.3. Self-employed: difficulties establishing your business?
 - 2.4.S-e: do you own your equipment?
 - 2.5.Do you have any side-jobs? IF yes: Which? Why?
3. Could you describe a usual working day?
 - 3.1.What equipment do you need to do your work?
 - 3.2.What skills are important to do your job?
3. Where do you see problems/ limitations for your business?

Whale Shark Tourism Sector

1. What can you tell me about the tourism on the island?
2. Is it changing? And if so, how is it changing?
3. What is your opinion on the tourism sector?
4. How would you describe the competition within the sector?
5. Are there official management plans for the tourism development?
 - 5.1.Which kind of plans? (land use, dispossession, tourism promotion/ management)
 - 5.2.Who introduces these plans?
 - 5.3.What is your opinion on these plans? Do you comply with them?
6. Are there any rules in the sector?
 - 6.1.Where do These rules come from?
 - 6.2.Who introduced these rules?
 - 6.3.What is your opinion on these rules? Do you comply?
7. How is the cooperation in the sector organized?
 - 7.1.Between different stakeholders and within one group?
 - 7.2.Within the tour guides/ local workers?
8. What do you Need to do in order to Work in Tourism?
 - 8.1.Obstacles? / Regulations?/ steps?

9. What do you know about the regulations on land use/ ownership? IF: Business owner
- 9.1. Did they change in the recent years? IF so: How?

Social

1. Are you part in any organization connected to Whale Shark Tourism?
 - 1.1. Who started the organization?
 - 1.2. How can you become a member?
 - 1.3. What are the requirements for the membership?
2. Are there any other groups or organizations?
3. Are there official/ in-official regulations according to which people in the sector have to cooperate?
4. Has the increasing tourism impacted the communal cohesion/ structure?
5. Are there activities in the community connected to Whale Sharks?
6. Household/ Family structure:
 - 6.1. How many people does your household include?
 - 6.2. How many are involved in the tourism sector and what are they doing?
 - 6.3. What do you do outside of Tourism?
 - 6.4. What is your and your households' members educational background?

Challenges

1. What do you think are problems and challenges in the sector?
2. How do you deal with the seasonality of the tourism?
 - 2.1. What do you do out of season?
3. Has the population on the island changed in recent years?
 - 3.1. Immigration due to tourism?
4. Are there conflicting interests among the tourism stakeholders?
 - 4.1. How are they dealt with?
5. What are your future expectations for the sector?
 - 5.1. Where do you see possible improvements/ necessary changes?
6. Are there problems connected to the behaviour of the tourists?

Community Leader/ Elder

Personal Family ties in the sector?

What is your opinion on the tourism sector?

Where do you See Challenges in the Tourism?

Where do you See opportunities in the Tourism?

What changed and how did it change?

- the islands infrastructure change?
- Social cohesion/ interaction? Community change?
- Livelihoods?
- Governmental activities/ interests?

Government official

Occupation/ Job/ Role in the Sector?

How is the Whale Shark Tourism perceived from their side?

What are existing plans and strategies? Are they enforced and if so, how?

Future expectations? And how are these to be met with management plans/ strategies?

How is the whale shark tourism promoted?

Which governmental levels and departments are involved and what are their responsibilities?

Who is part of the decision-making process in the sector?

Cooperation with other stakeholders?

Problems/ Challenges?

Opportunities?

NGO/ CBO

What is their role/ Occupation/ Goal?

With whom do they cooperate?

Challenges/ Problems in the sector?

Who are the key stakeholders in the sector and how are they involved?

Opportunities?

Private Sector/ Hotel Owner

How did they get into the business?

Since when?

Number of employees, Tanzanians?

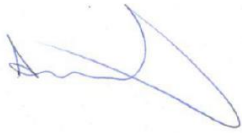
Cooperation with other stakeholders? E.g. tour guides

Challenges/ Problems?

Opportunities?

Declaration of independent work:

I hereby declare that the submitted thesis is the result of my own, independent work. All external sources are explicitly acknowledged in the thesis.

A handwritten signature in blue ink, appearing to read 'Max Amling', with a large, sweeping flourish at the end.

Max Amling