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Coastal tourism in Cape Town, South Africa – Integrated Coastal Zone Management as an approach to increase resilience of the coastal zone

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Abstract

Cape Town's tourism sector is constantly growing which puts the coastal social-ecological system (SES) under severe pressure. To prevent coastal degradation and consequently an economic downturn by declining numbers of tourists, coastal resilience to tourism impacts needs to be increased. As the coastal SES is constantly changing and adapting, flexible management strategies are required. Therefore, South Africa implemented Integrated Coastal Zone Management (ICZM) focusing on managing mutually exclusive activities and transforming coastal poverty into sustainable coastal livelihoods. To explore whether ICZM is a suitable tool to increase resilience of the coastal area in Cape Town to degradation from tourism, a document analysis, stakeholder analysis, and semi-structured interviews have been conducted. Although the ICZM system itself is well thought out, a lot of weaknesses and challenges have been identified, mainly relating to the implementation at the local level. As non-governmental stakeholder participation is limited, the coast is managed with prevailing political interests. Consequently, the benefits from a resilient coastal SES are unfairly distributed among the environment, society, and economy. However, as the coast constitutes an essential livelihood of many Capetonians, managing the coastal area in a sustainable manner is of greatest importance. This includes education and awareness raising about environmental issues among both inhabitants and tourists. Therefore, this thesis elaborates on a complementation of ICZM and Responsible Tourism as both approaches strive towards the same targets such as minimizing negative environmental impacts, including local communities in decision-making, striving for awareness raising and education, and aiming for a beneficial tourism economy. Thus, promoting Responsible Tourism and integrating it in ICZM might improve the environmental, social, and economic circumstances in Cape Town.

Keywords: Integrated Coastal Zone Management, Social-Ecological Systems, Resilience, Responsible Tourism, Governance, Community Involvement, Social and Environmental Justice

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List of Abbreviations

€	Euro
CAS	Complex Adaptive System
CMP	Coastal Management Programs
CWG	Coastal Working Group
DEA	Department of Environmental Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
ICM	Integrated Coastal Management
ICMA	Integrated Coastal Zone Management Act
ICMP	Integrated Coastal Management Policy
ICZM	Integrated Coastal Zone Management, Integrated Coastal Zone Management
MCC	Municipal Coastal Committee
MCMP	Municipal Coastal Management Program
NCC	National Coastal Committee
NCMP	National Coastal Management Program
NGO	Non-Governmental Organization
PCC	Provincial Coastal Committee
PCMP	Provincial Coastal Management Program
R	Rand
RTP	Responsible Tourism Policy
SES	Social-Ecological System
WG8	Working Group 8

1. Introduction

1.1. Coastal tourism in Cape Town – impacts and benefits

In 2016, 1.23 billion tourists were travelling the globe (UNWTO, 2017) of which 10 million visited South Africa. The country's tourism sector is constantly growing with a 12,8 % increase compared to 2015 (South African Tourism, 2017) and with Cape Town as leading tourism destination (Colenbrander & Bavinck, 2016). A successful tourism industry is dependent on its visitors' satisfaction (Cong, 2016), otherwise a tourism downturn might occur (Lucrezi & Saayman, 2015). Cape Town is the largest coastal municipality in South Africa with 3.8 million inhabitants, which is 65 % of the population of the Western Province (Colenbrander et al., 2013; Colenbrander & Bavinck, 2016). Figure 1 illustrates the City of Cape Town Municipality in red, located in the Western Province of South Africa.

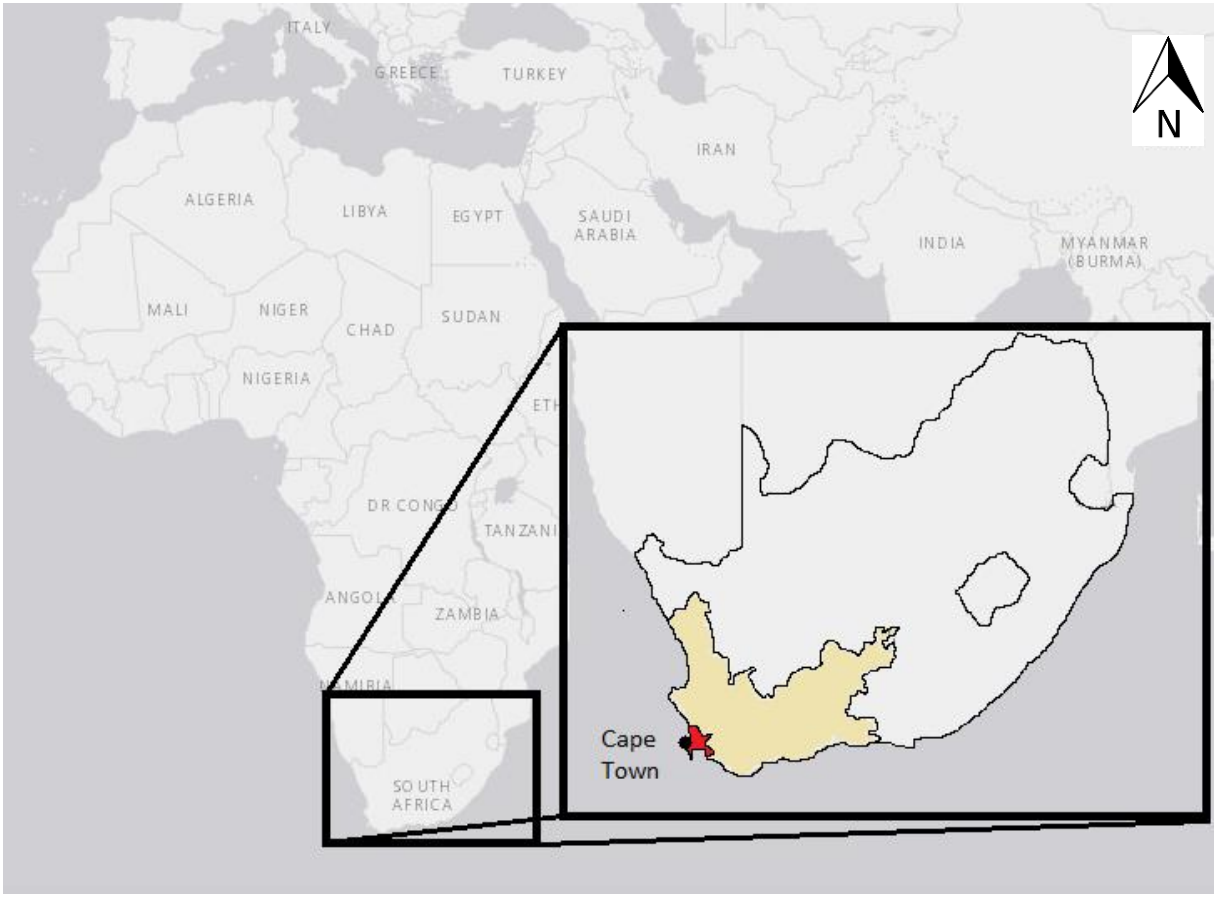

Figure 1: Case Study Area Cape Town, South Africa (author, 2017)

The coastal area of Cape Town consists of beaches and rocky areas (Lloyd et al., 2013) and has thus a high socio-economic value (Kantamaneni, 2016; Lucrezi & Saayman, 2015; Phillips & Jones, 2006) providing

many ecosystem services to the society (Turner & Schaafsma, 2015) as ecological diversity, a source of livelihood, recreation and tourism, and a buffer against flooding (Colenbrander et al., 2015). Due to these interdependencies between humans and the environment (Lloyd et al., 2013), the coastal zone can be described as a social-ecological system (SES) (Adger et al., 2005; Folke, 2006). The social sphere in this thesis represents tourists using the coast for recreational activities, inhabitants living in the coastal zone, and all stakeholders managing the coast's resilience consisting of governmental bodies, civil society groups, and management authorities (Government Gazette, 2009). The coast itself therefore constitutes the ecological sphere which is potentially influenced by these activities resulting in coastal degradation (Burak et al., 2004; Davenport & Davenport, 2005; Hall, 2001; Phillips & Jones, 2006; Lloyd et al., 2013; Arthurton & Korateng, 2006) or resulting in benefits such as enhanced protection and conservation (Pérez-Maqueo et al., 2017).

Tourism brings a lot of economic benefits (Davenport & Davenport, 2005), namely the creation of jobs, raising revenues and poverty alleviation (Arthurton & Korateng, 2006; Frey & George, 2010). Especially, local communities benefit from the development of infrastructure as well as from improvements of health and safety conditions (UNEP, 2009). Consequently, the city's economy is highly dependent from the tourism sector with a contribution of R 14.6 billion in 2012 (approx. € 1.05 billion) (CCT, 2015). However, Cape Town is one of the coastal municipalities in South Africa with a great concern to habitat fragmentation (CSIR & DEAT, 2005) due to the reduced ability of coastal ecosystems to provide ecosystem services because of unregulated recreational activities (Colenbrander et al. 2013). Most development that interferes with the natural coastal system has severe consequences for the long-term stability of the environment (Hall, 2001), affecting its resilience (Berkes et al., 2003). Historical planning has resulted in inappropriate coastal development in some areas due to the underestimation of the dynamic nature of the coastline by planners (Colenbrander & Bavinck, 2016; CCT, 2014). Consequently, the environmental quality suffered (UNEP, 2009) and the ecological balance became disrupted (Burak et al., 2004; Davenport & Davenport, 2005).

However, tourism is the primary tool for sustainable development and for fighting poverty in South Africa (CCT, 2009) and can therefore be classified as the most important factor of environmental and socio-economic change in Cape Town (UNEP, 2009). Especially Responsible Tourism aims at "maximizing the environmental, social, and economic benefits while minimizing costs to destinations" (CCT, 2009, p.3). It includes social responsibility by travelling to areas that conserve the environment and improve welfare of local people (Honey & Krantz, 2007; Frey & George, 2010). The principle outcomes are economic growth, environmental integrity, and social justice (CCT, 2009). Thus, Responsible Tourism management does not necessarily lead to a change in management but positively impacts the behavior of people (Frey & George, 2010).

Due to the damaging uses on the one hand and the potential benefits of the coastal SES on the other hand, there is a need for planning and coastal management (Lloyd et al., 2013; Arthurton & Korateng, 2006; Davenport & Davenport, 2005). Especially, as Pintassilgo & Silva (2007) point out, "tourism is the only sector that offers the natural environment as an important part of its product" (p. 209). Therefore, South Africa is now implementing a coastal management approach, namely Integrated Coastal Zone Management (ICZM). The major aim is to "promote the conservation of the coastal environment […] and to ensure that development […] within the coastal zone is socially and economically justifiable and ecologically sustainable" (Government Gazette, 2009, p. 2). Proactive interventions are needed to handle damaging and degrading activities along the coastline and further harness its potential to play a significant role in the economic development and prosperity of the urban and rural areas of Cape Town (Colenbrander et al., 2013; CSIR & DEAT, 1999).

1.2. Relevance of research

Coastal degradation from tourism is not only problematic in Cape Town but can arise everywhere in the world. Because the coastal tourism sector is globally growing constantly (Gormsen, 1997), the problem of coastal degradation will increase in the future. Human mobility affects biodiversity and ecosystem functioning through the disruption of natural systems, mainly through several activities and tourism infrastructure development (Gössling, 2002). As a result, the ecological system might degrade (Powell et al., 2009), if the system is unable to adapt to and cope with these situations. In this case, resilience of the coastal SES is low (Folke, 2006). Hence, proper management of the coastal area is needed (Colenbrander et al., 2013; Pintassilgo & Silva, 2007) to increase coastal resilience to degradation (Holdschlag & Ratter, 2013). Integrated Coastal Zone Management is a worldwide approach (UNESCO, 2006) and exists since decades. However, there are only little information available of successful strategies of managing the coast (Phillips & Jones, 2006). Reasons for this are provided by Christie (2005) stating that ICZM is quite young and therefore at the early stages of development, whereas Jackson (2017) relates to the high investments coastal management requires wherefore governments often do not engage in it. However, as coastal degradation threatens tourism and thus, the economy of a country or region (Phillips & Jones, 2006), further research on this is needed. Therefore, this thesis explores whether ICZM is sufficiently implemented and enforced in Cape Town to prevent coastal degradation and increase resilience of the coastal SES. The resilience concept comprises four questions which will be applied to the coastal area in Cape Town:

- Resilience of what? (Walker et al., 2002) -> Resilience of the social-ecological coastal system
- Resilience to what? (Carpenter et al., 2001) -> Resilience to tourism activities

- Resilience for whom? (Lebel et al., 2006)-> Resilience for the coastal environment on the one hand, and for tourists and inhabitants on the other hand, depending on the perspective
- Resilience by whom? (Lebel et al., 2006) -> Resilience by all stakeholders involved in coastal management

The three research fields of resilience, ICZM, and tourism have rarely been linked yet (as done by Powell et al., 2009), although their linkage seems clear. The problem of degradation from tourism will increase in the future. Thus, it is important to develop successful strategies of coastal management to ensure a growing and beneficial tourism sector by not negatively affecting the coasts' resilience. Furthermore, the tourism sector itself should become a more responsible sector supporting a healthy coastal environment. By providing such a link for Cape Town, this thesis constitutes a valuable contribution to science. The outcome of this study might also be beneficial for countries facing a similar situation of experiencing a growth in coastal tourism while being at risk of coastal degradation from this.

This thesis relates to planning practice by focusing on the importance of ICZM and the conditions needed for its successful implementation. Concrete suggestions for planning practitioners are given by bringing together the two concepts of ICZM and Responsible Tourism, in order to manage the coast more successful and thereby increase resilience of the coast to tourism impacts. Consequently, the threat of coastal degradation from tourism can be minimized.

1.3. Presentation of research question

The **aim of this study** is to explore, whether ICZM is a suitable tool to increase resilience of the coastal area in Cape Town to degradation from tourism.

The primary research question of this thesis is

To what extent can resilience to coastal degradation from tourism of the coastal area in Cape Town be increased by applying Integrated Coastal Zone Management?

Eight secondary questions have been formulated which will help to adequately answer the primary research question.

1) What is resilience to coastal degradation, what is a coastal SES, and how are they related?
2) Why is resilience to coastal degradation from tourism important?
3) What actor arrangements and governance structures are needed to increase resilience?
4) How can ICZM influence resilience to coastal degradation from tourism and how can Responsible Tourism support ICZM?

5) Why is resilience to degradation from tourism of the coastal SES in Cape Town relevant and for whom?
6) What are actors' interpretations of resilience to degradation from tourism?
7) What actor arrangements and governance structures are prevalent in the ICZM implementation in Cape Town?
8) What challenges does ICZM face in South Africa and how can Responsible Tourism contribute to overcome these?

1.4. Organization of the study

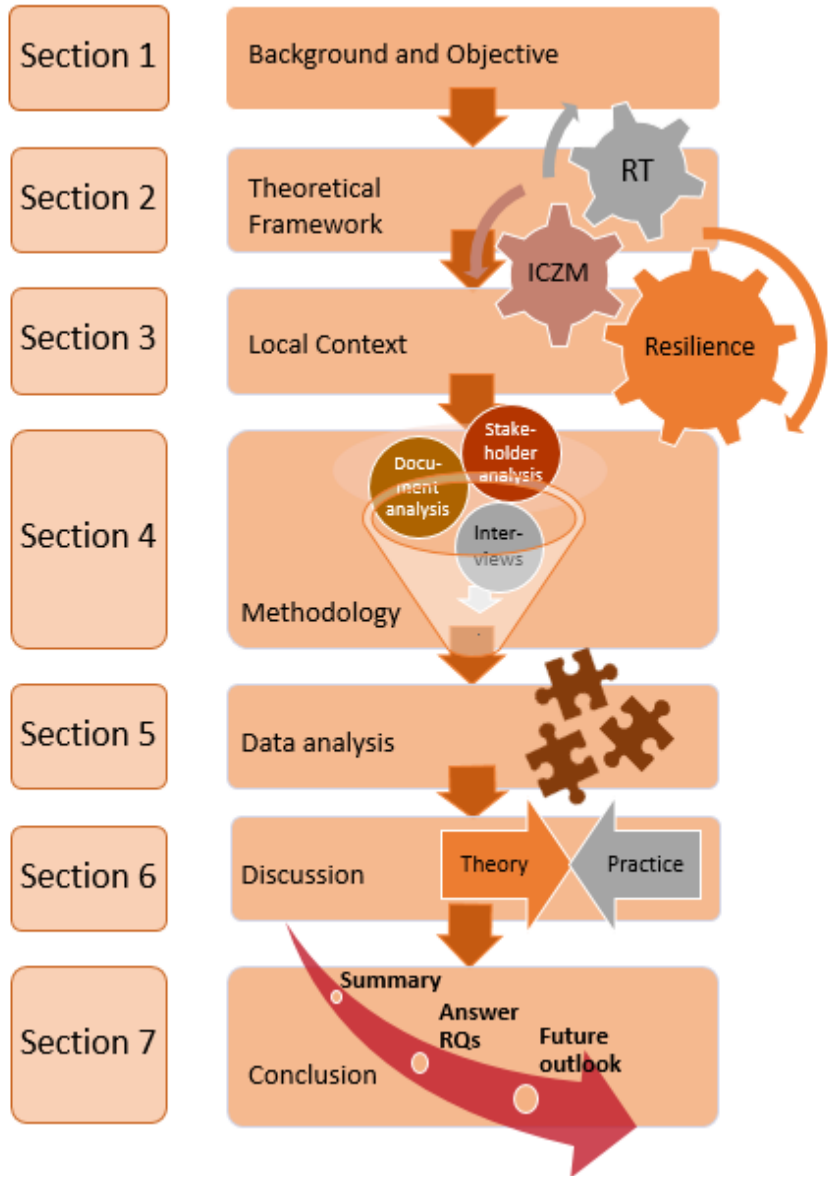

Figure 2: Organization of the study (author, 2017)

This study is built up as the following:

Section 1 introduces coastal tourism in Cape Town and thereof the problem of coastal degradation.

The theoretical framework provides information about resilience of a SES and how to manage it, and introduces Integrated Coastal Zone Management and Responsible Tourism. It further relates these topics to each other and therefore constitutes the basis for the data collection.

Section 3 describes the local context of ICZM and Responsible Tourism in South Africa and Cape Town.

Section 4 is the methodology chapter, introducing the three applied methods namely document analysis, stakeholder analysis and semi-structured interviews.

In section 5 the findings from the data collection phase are presented.

Section 6 discusses the findings and relates theory and practice to each other.

The last section summarizes the whole work, answers the research question, and provides an outlook as well as recommendations for further planning practice.

2. Theoretical Framework

2.1. The coast as a complex social-ecological system (SES) and its resilience

Social-ecological systems (SES) thinking developed during the 1990s and 2000s, due to the recognition that ecological and human social systems cannot be treated separately (Folke et al, 2010) due to their mutual interaction (Larrosa et al., 2016; Gallopín, 2006; Folke, 2006; Lloyd et al., 2013), such as a coastal area. Coastal areas are very diverse and complex and are characterized by immense human presence and activities (Lloyd et al., 2013). Thus, it prevails a "dynamic and unpredictable interplay of natural and social environments" (Lloyd et al., 2013, p. 925). Therefore, the coastal SES can also be defined as a complex adaptive system (CAS) (Larrosa et al., 2016; Gallopín, 2006; Folke, 2006; Lloyd et al., 2013) which assumes uncertainty (Lloyd et al., 2013) and non-linearity (Wilkinson, 2012) and therefore directly challenges stable-state and command-and-control strategies (Lloyd et al., 2013). Wilkinson (2012) mentions that "effects can have an irreducible tangle of causes" (p. 158). A CAS constantly adapts to changing circumstances which makes it unpredictable (Hesslinga et al., 2017; Gallopín, 2006) and not easy to understand (Carpenter & Gunderson, 2001).

The coast comprises coastal public property (e.g. natural resources, coastal waters), the coastal buffer or protection zone (from High-Water Mark 100 m inland in urban areas and 1000 m inland in rural areas), coastal access land (public access to coastal public properties), protected coastal areas, and the environment on, in, and above these as illustrated in figure 3 (Celliers et al., 2009). The state of the coast is at any time defined by its current values (Walker et al., 2002 & 2004) which also constitute an important part of the national pride and identity (Cicin-Sain & Knecht, 1998). Due to their high value and productivity, coastal ecosystems are among the most threatened worldwide (Holdschlag & Ratter, 2013). The multiple external perturbations this SES is exposed to make the system vulnerable (Gallopín, 2006), as for instance tourism activities in coastal areas (Davenport & Davenport, 2005). However, disturbances have also the potential to create opportunities for renewal, innovation, and development (Folke, 2006). The ability of a system to adjust and cope with stress and the consequences but also learn from it and take advantage of opportunities is named adaptive capacity (Lloyd et al., 2013; Gallopín, 2006; Gupta et al., 2010). However, the literature also offers other definitions of adaptive capacity as "the capacity […] to respond to, create and shape vulnerability and change in the state of the ecosystem" (Chapin et al., 2009, p. 241) or as an aspect of resilience reflecting learning (Walker et al., 2002; Carpenter et al., 2001). Folke et al. (2010) equate adaptive capacity with adaptability as "the capacity of actors in a system to influence resilience" (Folke et al., 2010, p.3). To provide ecosystem services also in the long-term, human activities should be managed towards ecosystem health (de Juan et al., 2017) and inform people about the use of

ecosystems (Lebel et al., 2006). Often, there is a mismatch between the desired ecosystems by people and the ecosystems attainable (Carpenter & Gunderson, 2001).

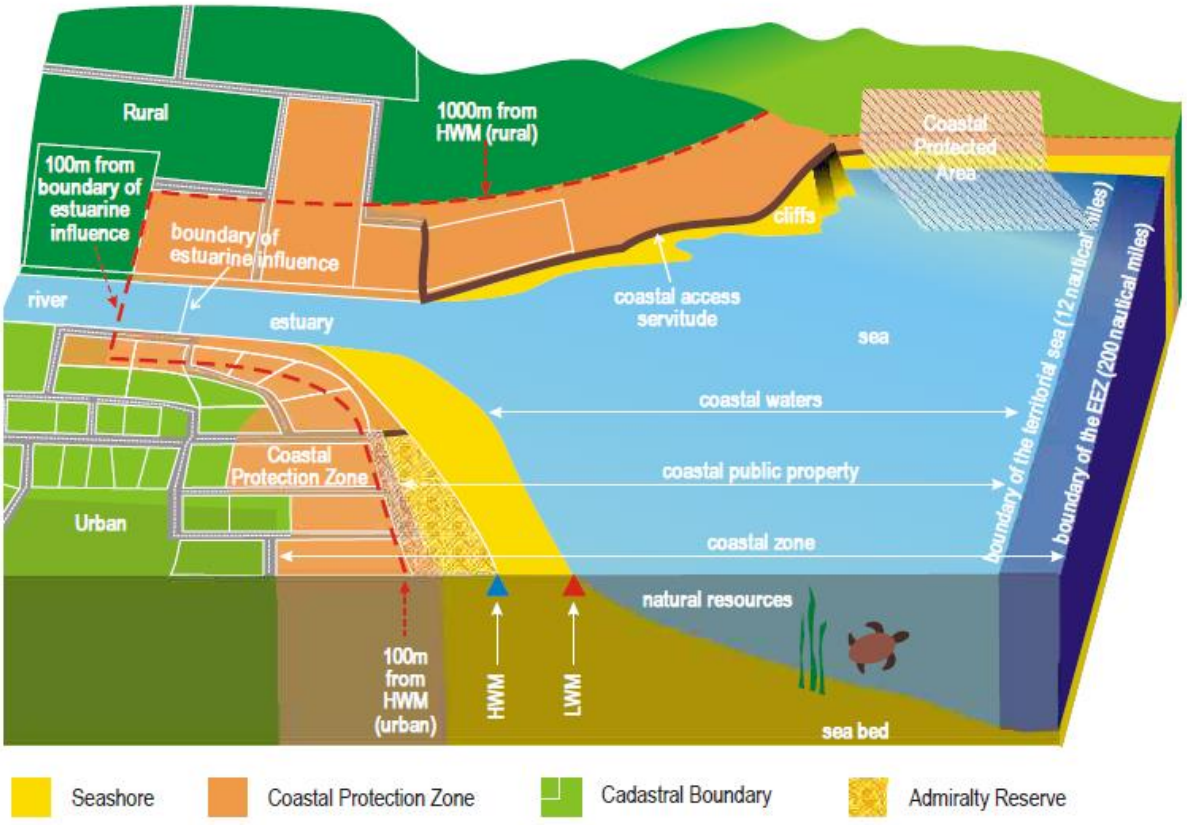

Figure 3: The Coastal Zone of South Africa (Celliers et al., 2009)

2.1.1. Resilience of the coastal SES

Resilience is an attribute of a SES and thus, its driver (Hesslinga et al., 2017). Folke et al. (2010) define it as "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure and feedbacks, and therefore identity […]" (p. 3). Resilience includes three important aspects, namely robustness, adaptability, and transformability. **Robustness** means the system has to be strong and withstand negative impacts (Restemeyer et al., 2015), for instance by establishing coastal protection zones (Celliers et al., 2009).

Adaptability is the capacity of actors to influence and manage resilience in a SES (Gallopín, 2006; Walker et al., 2004, Folke et al., 2010) which combines experience and knowledge. Actors in a SES with high adaptability have the capacity to preserve the system in a desired state, despite disturbances or changing circumstances (Olsson et al., 2004), or "allow for development along the

current trajectory" (Folke et al., 2010, p.1), for instance by introducing Integrated Coastal Zone Management (Ernoul, 2010).

Transformability describes the ability to change or transform to a new configuration (Restemeyer et al., 2015; Folke et al., 2010). This takes place when new variables are introduced because the old structures (ecological, economic, or social) make the existing system untenable (Walker et al., 2004; Folke et al., 2010; Olsson et al., 2004). Sometimes, the system is trapped in a state which is difficult to manage. Therefore, it is necessary to transform an entirely new structure (Walker et al., 2004). Related to the social sphere of the SES, for instance, this might imply fostering societal change (Restemeyer et al., 2015), a transformation from unsustainable trajectories towards new ones "that strengthen and enhance management of desired ecosystem states and associated values" (Olsson et al., 2004, p. 22), such as Responsible Tourism (Frey & George, 2010).

2.1.2. Adaptive Cycle

Due to the ability of a complex SES to self-organize, which is that open systems reorganize at critical points of instability (Berkes et al., 2003), the coast can buffer impacts from human systems (Lebel et al., 2006). Thus, it can maintain and re-create its identity (Lebel et al., 2006), even while undergoing radical changes (Gallopín, 2006). This can be demonstrated in an adaptive cycle (Holling, 2001; Carpenter et al., 2001; Carpenter & Gunderson, 2001). Understanding the cycle means, it can be identified where the system is vulnerable and where it is capable of change (Holling, 2001). The adaptive cycle, as shown in figure 4, is never stable but characterized by four different phases: The **r** phase describes rapid growth and exploitation, in which the dynamics of the system are predictable in a forward loop. Human use of the coast increases, as for instance more tourists arriving in the area exploiting coastal resources and its ecosystem services. **r** merges slowly into the conservation (**K**) phase, in which human use is growing and resources diminish. As this trajectory continues, the system progressively loses flexibility and responsiveness to external shocks as resources increasingly become locked up. Consequently, resilience decreases the more the cycle develops into **K**. **Ω** constitutes the collapse and release phase after a disturbance. A sharp reduction in human use can be observed as well as some lost attributes. Numbers of tourists might decrease as well as the amount and diversity of resources to use. However, together with the **α**-phase, it gives the system the opportunity to reorganize and form an unpredictable back loop. **α** is the renewal and reorganization phase which includes success, novelty, new ideas, innovations, and plans. For example, a new coastal management approach might develop which leads to more responsible and sustainable forms of tourism and thus, prevents the same degrading circumstances in the coastal zone. Resilience starts to increase again. The **r** phase may be similar or completely different to the

previous **r** phase (Carpenter et al., 2001; Carpenter & Gunderson, 2001; Walker et al., 2004; Abel et al., 2006; Holdschlag & Ratter, 2013). The phases from **r** to **K** (forward loop) and from **Ω** to **α** (back loop) comply with managing for sustainability and are therefore important objectives (Walker et al., 2002). However, the system can also move differently, for instance back from **K** to **r**, from **r** directly into **Ω**, or back from **α** to **Ω** (Walker et al., 2004). **Potential** describes where the system is available for change, which indicates different future options. **Connectedness** describes the degree of flexibility or rigidity in the system. The more connected the system is, the more it loses flexibility (Holling, 2001). The adaptive cycles occur at multiple scales. These cross-scale effects are illustrated in never-ending adaptive cycles (figure 5), namely panarchies (Holling, 2001, Walker et al., 2004) and explain the evolving nature of a complex adaptive system (Holling, 2001). The cross-scale connections are **revolt** and **remember**. **Revolt** illustrates that "disturbance in the small-scale system can cascade to the broader scale" (Seixas & Berkes, 2003, p. 272). An example for revolt are tourists stepping on coral reefs which leads to coral death, or tourists walking on dunes, in order to avoid crowded tracks which decreases stability of the dune and makes them prone to wind erosion (Davenport & Davenport, 2005). **Remembering** implies that a large-scale system provides resources for the renewal phase of the smaller-scale system, by "remembering […] elements through its release phase" (Seixas & Berkes, 2003, p. 272). An example might be providing dune vegetation to increase stability (Davenport & Davenport, 2005). Thus, it facilitates restructuring and uses experience (Holdschlag & Ratter, 2013). The discussion section of this thesis will further elaborate on how the adaptive cycle can be applied in Cape Town.

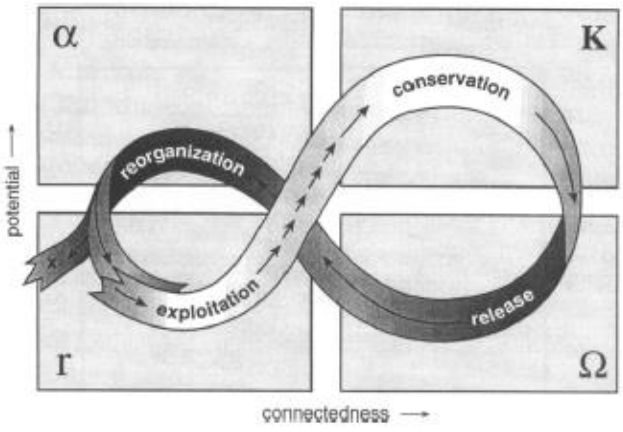

Figure 4: Adaptive cycle (Holling, 2001)

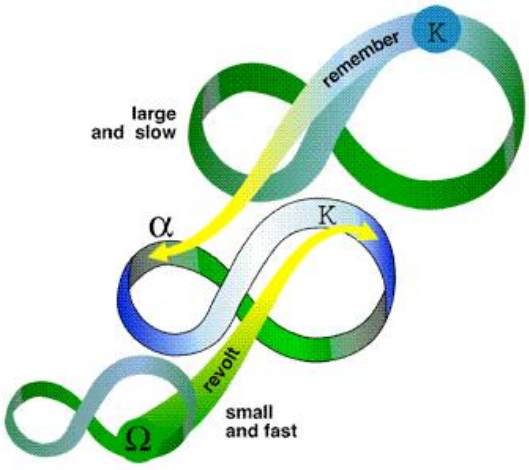

Figure 5: Panarchy (Resilience Alliance, 2015)

2.1.3. Resilience of what and to what

The central question is 'resilience of what and to what'. Walker et al. (2002) developed a framework for analyzing resilience as illustrated in figure 6. Resilience 'of what' means what system state is being considered (Carpenter et al., 2001). Its analysis includes spatial boundaries, the key ecosystem services of the system, involved stakeholders, key components of the SES, and its historical profile (Walker et al., 2002). Resilience 'to what' means the perturbations of interest (Carpenter et al., 2001). The analysis includes the external disturbances and the development process towards a desired and expected status of resilience. Different scenarios are developed, in order to figure out which state of resilience is actually desired. Walker et al. (2002) describe it as "if you don't know where you want to go, it doesn't matter which road you take" (p. 10). The actual resilience analysis then explores the interactions between these two questions and in response develops approaches for managing resilience. However, each resilience analysis is context dependent (Walker et al., 2002). Applying the resilience concept to the ecological impacts of coastal tourism, it means 'resilience of the coastal system' 'to human interventions relating to tourism'. In other words, minimizing the consequences *of tourism* but taking the possibility of *impacts from tourism activities to coastal systems* into account. Folke et al. (2010) call this sector-specific resilience as "specified resilience" (p. 4) and draw the attention to the danger of becoming too focused and therefore, losing the overview of other disturbances which also influence resilience of the system. However, resilience is not always good, for instances if it becomes an entrenched stakeholder interest or if established institutions do not allow for change (Zellmer & Gunderson, 2008). In such case, resilience needs to be overcome to make a change, which requires effective management (Walker et al., 2004).

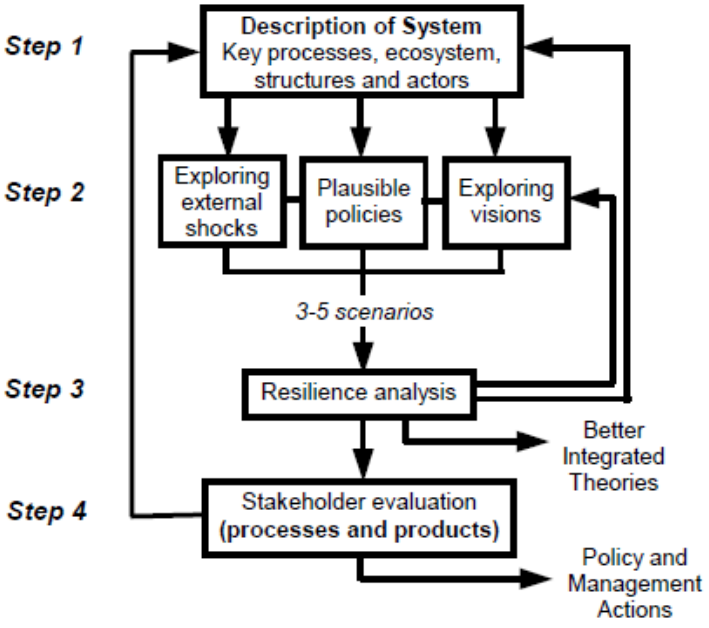

Figure 6: A framework for the analysis of resilience in social-ecological systems (Walker et al., 2002)

The next section focuses on the management of social-ecological systems, including interventions to increase resilience. Integrated Coastal Zone Management is chosen as a management and governance approach applied in the coastal area of Cape Town. Governance describes the process of defining goals for managing a SES, whereas management comprises the actions taken to achieve these goals. Management further includes monitoring and implementation (Biggs et al., 2012; Olsen et al., 1997).

2.2. Managing social-ecological systems – Integrated Coastal Zone Management

After recognizing the interlinkages of social and ecological systems (Adger, 2000), policies shifted towards managing the capacity of SESs to cope with change, adapt to change, and shape change (Folke, 2006). Thus, managing social-ecological systems implies mainly managing resilience of coastal zones. The linkage between people and the environment (Adger, 2000) is one of impact and dependency. Tourism generates impacts but is often highly dependent on environmental quality. Consequently, tourism can destroy tourism (Pintassilgo & Silva, 2007). Hardin (1968) introduced this phenomenon as 'tragedy of the commons'. It describes the process that open access will lead to overexploitation of common resources (Pintassilgo & Silva, 2007; Ostrom, 2015; GESAMP, 1996). As single individuals cannot be excluded from using benefits of the common pool resource (Ostrom, 2015), the freedoms of the commons will bring ruin to all (Hardin, 1968). The coastal area constitutes the resource system which produces ecosystem services. Therefore, all users benefit from maintaining the system (Ostrom, 2015). To avoid the tragedy of the commons the tourism destination needs to develop in a sustainable way which requires proper management including local community involvement, stakeholder participation, monitoring, revision of the management practices, and the regulation of tourism (Colenbrander et al., 2013; Pintassilgo & Silva, 2007). Government steering is needed by either limiting the number of tourists or limiting their environmental impacts (Pintassilgo & Silva, 2007). Further, resilience of the coast needs to be increased, in order to better cope with such disturbances. Therefore, a multiplicity of perspectives is needed (Berkes et al., 2003).

2.2.1. Resilience for whom and by whom

Managing for resilience depends on both the diversity of ecosystems as well as institutional rules which govern the social system (Adger, 2000; Hughes et al., 2005). The actual goal of managing for resilience is to reach long-term sustainability which means maintaining the system's functioning in the future. Hence, it needs to be understood "where resilience resides in the system, and when and how it can be lost and gained" (Walker et al., 2002, p. 3). Thus, management tries to reduce the

amount of change a system will undergo in an event of stress by enhancing resistance, strengthen the system to maintain a desirable configuration, or reduce resilience of an undesired configuration, in order to move it into a more desired one (Walker et al., 2002). However, the desired outcome might not be desired for all. Hesslinga et al. (2017) explain that a system might be resilient in an ecological sense but undesirable in a social sense. This might be the case, if access to a coastal area is prohibited for the society. Consequently, ecological resilience will increase whereas social resilience will reduce. Schaefer Caniglia et al. (2017) and Lebel et al. (2006) relate this to environmental and social justice respectively. Environmental justice implies that every individual "has the right to be free from ecological destruction and deserves equal protection of [the] environment" (Schaefer Caniglia et al., 2017, p.49). Thus, environmental justice increases the attention on the role of the social sphere of the SES including inequalities, agency, and historical accountability. Social justice means "actively protecting the rights and interests of or empowering social vulnerable groups" (Lebel et al., 2006, p. 11) like black, poor South African communities. Unjust distribution of benefits and risks, as has happened in South Africa's past, lead to inequalities, mainly arising from power structures and repressive social control. Just distribution of resources and ecosystem services however, "can help to maintain diversity and enhance the adaptive capacity of these vulnerable groups [which] helps reduce the vulnerability of the social-ecological system as a whole" (p. 11). Therefore, Lebel et al. (2006) raise questions about who decides 'what should be made resilient to what' and 'for whom and what purpose' resilience should be managed. Who decides when to intervene and who identifies which system configuration is desired? Thus, the 'resilience of what and to what' question needs to be complemented by 'for whom and by whom'. 'For whom' means the coastal environment from the ecological perspective and the tourists and inhabitants from the social perspective. 'By whom' comprises all stakeholders which are involved in Integrated Coastal Zone Management in Cape Town.

2.2.2. Governance

Governance describes the process of how change and uncertainty is handled in a complex adaptive system (Duit & Galaz, 2008) like the coastal SES. As it creates "the conditions for ordered rule and collective action" (Stoker, 1998, p.17), it emerges from interactions of all involved actors (Lebel et al., 2006) and is needed (Colenbrander & Bavinck, 2016) because enhancing resilience is a fundamental policy interest to provide social and economic well-being (Biggs et al., 2012). The purpose is not anymore to control change but to manage the capacity of a SES to cope with, adapt to and shape change (Folke, 2006). Wilkinson (2012) advocates for adaptive co-management to enhance resilience where multiple knowledge frames are present and agreements have to be

negotiated with all stakeholders (Hurlbert & Gupta, 2016). Adaptive co-management includes polycentricity (Wilkinson, 2012; Turner & Schaafsma, 2015; Cummin et al., 2017), which is defined as "a governance system with multiple, nested governing authorities at different scales" (Biggs et al., 2012, p. 437). In a polycentric governance system, each governance unit has different responsibilities but all are linked to each other (Biggs et al., 2012). In this nested and multi-level system (Turner & Schaafsma, 2015; Biggs et al., 2012; Cummin et al., 2017; Hughes et al., 2005), broader units can step in and support smaller units if they fail. Thereby, participation of stakeholders is enhanced (Biggs et al., 2012) making it a multi-agent interaction (Holdschlag & Ratter, 2013). Figure 7 illustrates important stakeholders like state agencies, NGOs, the tourism sector, and researchers, although neighborhood groups and others can potentially also be involved (Chapin et al., 2009). Essential for a polycentric governance system to be effective is building trust, enhance social capital, provide strong leadership, and high levels of coordination among all governance units (Biggs et al., 2012). However, the focus is mainly on the local level where action takes place and where successes can be shared (Biggs et al., 2012).

Figure 7: Stakeholder groups involved in coastal management in Cape Town to increase resilience of the coastal area (author, 2017)

But a polycentric governance system does not always work (Biggs et al., 2012). To reach long-term social-ecological resilience, flexibility in governance is crucial (Chapin, et al., 2009; Holdschlag & Ratter, 2013). A certain degree of leadership is necessary to be effectively "providing vision, social cohesion, and action" (Chapin et al., 2009, p. 246). More top-down approaches are needed, for instance if crises occur (Biggs et al., 2012). Decentralized governance without corresponding accountability may reduce the capacity to manage resilience, wherefore all activities and performances of authorities need to be monitored (Lebel et al., 2006). Furthermore, the 'resilience for whom and by whom' questions needs to clarify who bears the costs and who benefits from enhancing resilience (Biggs et al., 2012).

In a coastal area, resilience needs to be increased to avoid putting further pressure on the ability of ecosystems to recover, persist and adapt (Lloyd et al., 2013) and prevent the system from moving to undesired configurations (Walker et al., 2002), which might greatly affect its tourism potential, as for instance inappropriate development reducing the attractiveness of the coastal environment (Cicin-Sain & Knecht, 1998). Coastal management can further determine weaknesses of the current planning regime which may lead to new innovative strategic planning policy instruments, which are able to combine mutually exclusive activities (Lloyd et al., 2013), as for instance tourism and nature conservation (Phillips & Jones, 2006).

2.2.3. Integrated Coastal Zone Management

Integrated Coastal Zone Management (ICZM), also termed as Integrated Coastal Management (ICM), is an adaptive, multi-sectoral governance approach (Chevallier, 2015; Christie et al., 2005; Cicin-Sain et al., 2000), which involves government and society, science and decision-makers, and public and private stakeholders with an interest in protecting and developing the coastal system and its resources (Ernoul, 2010; GESAMP, 1996). The concept originated in the 1970s to achieve economic growth without damaging the environment. The concept became more popular after the Earth Summit in Rio in 1992 (Celliers et al., 2013) due to the growing interest of managing mutually exclusive activities (Lloyd et al., 2013). The previously used command-and-control and sectorial approaches often failed resulting in fragmented decision-making, conflicts over resources and missed opportunities for a more sustainable coastal development (Goble et al., 2014; Chevallier, 2015; Christie et al., 2005; Cicin-Sain et al., 2000; Cicin-Sain & Knecht, 1998; UN, 2011). Participation and cooperation of all stakeholders is important to achieve societal goals and management objectives (EC, 2000). ICZM aims at minimizing user conflicts while ensuring long-term sustainability of the coastal environment and well-being of the coastal population (UN, 2011; Chevallier, 2015; Christie et al., 2005; Cicin-Sain et al., 2000; EC, 2000; Maccharone et al., 2014; Olsen et al., 1997; WCGEA & DP, 2016; Olsen, 2003; GESAMP, 1996). Consequently, this thesis assumes the ability of ICZM to increase resilience of the coastal SES to degradation from tourism.

The term ‘integration’ in ICZM combines **intersectoral integration** among and between sectors, **intergovernmental integration** among different governmental levels, **spatial integration** between land and ocean sides of the coastal area, **science-management integration** among different disciplines relevant for coastal management, and **international integration** when international disputes over activities occur. Thus, it represents a new way of thinking (Cicin-Sain & Knecht, 1998; Cicin-Sain et al., 2000). The most important part in planning and the implementation of ICZM play local authorities (Chevallier, 2015) as at the local level the concrete integration occurs (EC, 2000).

However, the national level provides the legal framework and supports activities of the local and regional level (EC, 2000). It is responsible for implementing laws and policies and dealing with issues of concern to the whole country (Goble et al., 2014). The regional or provincial level, still closely aware of the specific local context, ensures coordination between local municipalities and counterbalances powerful short-term political and economic interests (EC, 2000; Goble et al., 2014).

ICZM embraces all three pillars of resilience, namely robustness, adaptability, and transformability. Robustness minimizes the probability of an event of stress (Restemeyer et al., 2015), adaptability comprises the management process itself (EC, 2011) and adjustments within the SES affected, transformability might imply the shift to more responsible forms of tourism, which reduces environmental damage (UNEP, 2009) and thus, may help to increase resilience of the coastal area.

According to GESAMP (1996) and Cummins et al. (2004), ICZM can only be successful if public participation is involved, the legal framework is given, and if it includes "collaboration between managers and scientists at all stages of the formulation of management policy and programs […]" (p. iv). The success can then be measured in its socio-economic benefits (Islam et al., 2009). Although ICZM claims that the approach offers 'win-win' situations in which no one loses and everyone gains (McKenna et al., 2008), ICZM is still rarely seen as an objective law in most countries. South Africa is an exception (Celliers et al., 2013) but also shows some weaknesses (Celliers et al., 2015). A lack of formal accountability, still isolated departments, insufficient coastal management competence, insufficient technique to deal with ICZM, and lacking support for decision-making lead to poorly defined roles, responsibilities, and mandates (Glavovic, 2006a; Goble et al., 2014). Although in the short-term ICZM may reduce risk and damages to social-ecological systems, far reaching negative and irreversible socio-economic and environmental impacts cannot be ruled out in the future (Celliers et al., 2015). Summarizing, the overall performance of governance in the coastal zone of Cape Town remains poor (Colenbrander & Bavinck, 2016). An explanation might be that the principles are "too abstract to be useful" (McKenna et al., 2008, p. 951) and offer no guidance on how to deal with particular problems. This leaves room for interpretations resulting in opposing preferred solutions among different stakeholders (McKenna et al., 2008). Consequently, a complete voluntary, bottom-up participatory model of ICZM cannot succeed (McKenna & Cooper, 2006) and complete ICZM is not achievable (Celliers et al., 2013). Hence, "ICZM has inhabited a twilight zone […] rather than a route to mature coastal governance" (Shipman & Stojanovic, 2007, p.390). As ICZM is very diversely practiced in the world (Taljaard et al., 2012), there is no 'one size fits all' solution that can be applied to all situations (Cicin-Sain & Knecht, 1998).

2.2.4. Responsible Tourism

A solution to overcome the weaknesses of ICZM might be provided by Responsible Tourism. Tourism is managed in a way benefitting itself, the local community, and the environment (Frey & George, 2010), whereas it is often termed as 'green tourism', 'low-impact tourism' and 'ecotourism' (Honey & Krantz, 2007). The effects of Responsible Tourism are mainly mid- and long-term relating to social responsibility, which has developed because people started to include social and environmental objectives in their management strategy (Frey & George, 2010). As a result, negative environmental and social impacts are minimized, economic benefits for local communities are increased, local people are involved in decision-making and get in contact with the tourists, heritage is conserved, and cultural sensitivity by tourists is increased (Caruana et al., 2014). Hence, the similarities to ICZM are clearly visible. Both aim at minimizing negative environmental impacts, both seek to include local communities, and both strive for awareness raising and education.

Although Responsible Tourism theoretically seems to be a good concept, research on it is lacking. According to Caruana et al. (2014), research mainly focuses on the business practices of Responsible Tourism. Consequently, there is only little information about "what it means to be a responsible tourist" (p. 116) from the tourist's perspective. This may lead to misunderstandings about the people's perceptions and interpretations of this term (Caruana et al., 2014).

2.3. Conceptual framework

Figure 8 comprises all concepts introduced in the theoretical framework of this thesis and how they relate to each other. Thereby, the four secondary research questions relating to theory can be answered at this stage.

The first question '**What is resilience to coastal degradation, what is a coastal SES, and how are they related?**' refers to the respective definitions and their linkage. Resilience means the ability of the coastal SES to better cope with disturbances, in this case coastal degradation from tourism. A SES, like the coastal area, is a constantly changing and adapting system consisting of human and ecological interactions. Thus, there is no equilibrium. To prevent degradation, the coastal SES therefore has to be robust, able to adapt to the circumstances, and transform if necessary. Only then, the SES can be considered resilient to coastal degradation.

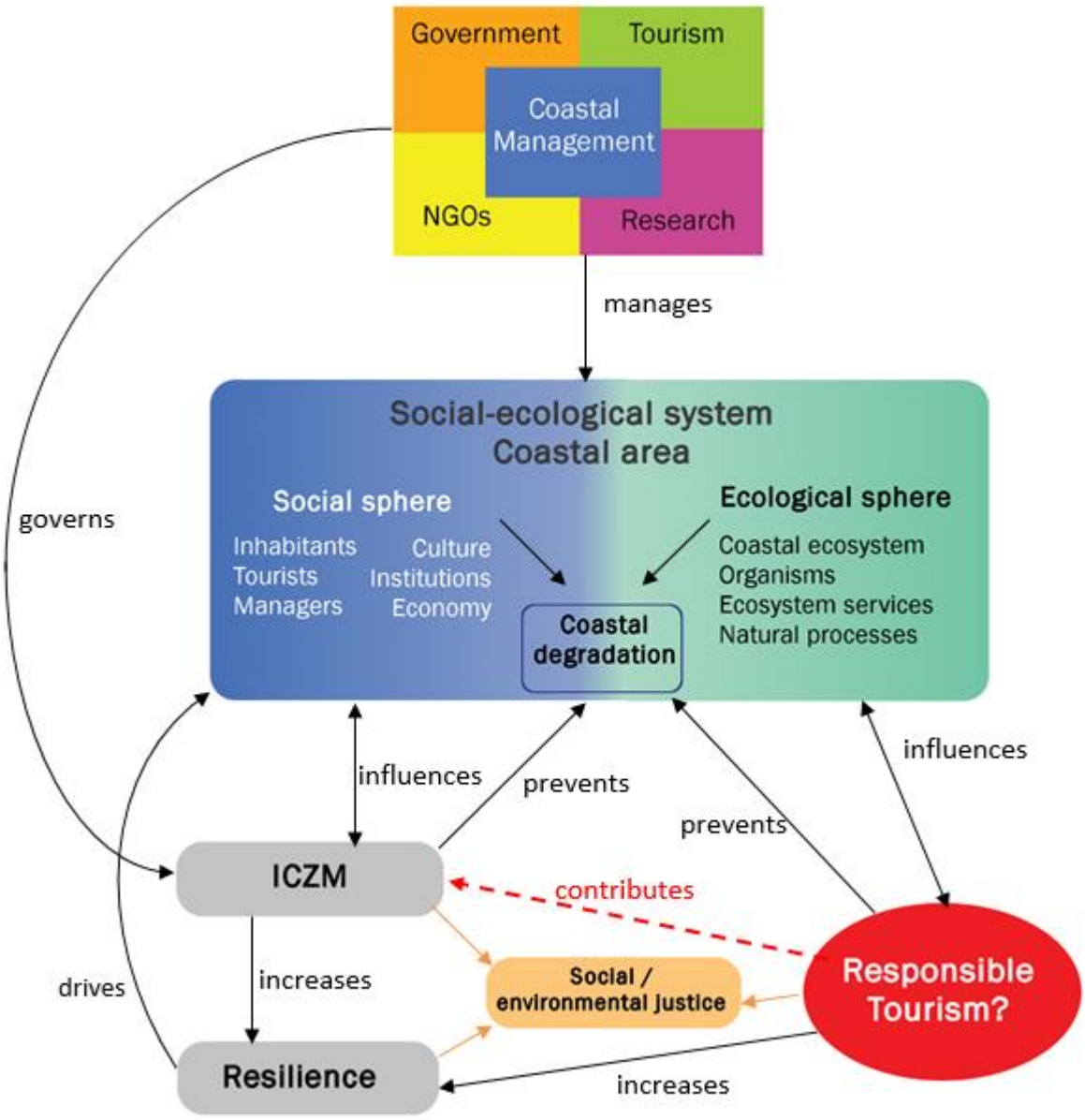

Figure 8: Conceptual framework (author, 2017)

The second question '**Why is resilience to coastal degradation from tourism important?**' concerns the problem of coastal degradation from tourism and thus examines why resilience is needed to prevent this from happening. If coastal degradation occurs due to insufficient management or unsustainable behavior, the environment suffers from a loss of habitats and ecosystem services. The society is negatively affected by a reduced quality of life as well as a loss of livelihoods. The economy experiences a downturn if tourists stay away. This in turn entails a loss of revenues which negatively affects the society. Thus, resilience to coastal degradation from tourism is very important to ensure a healthy environment, a well-functioning economy, satisfied tourists, and the well-being of the coastal population.

The third question **'What actor arrangements and governance structures are needed to increase resilience of the coast to tourism impacts?'** explores which governance system is required and what actors need to be involved. To enhance resilience of the coastal SES, a polycentric, nested governance system is advocated having different responsibilities at different governance levels. Due to their interaction, all levels support each other to ensure effective action at the local level. Polycentric also means to include a variety of stakeholders from several groups like public and private sector, non-governmental organizations, and others.

The fourth question **'How can ICZM influence resilience to coastal degradation from tourism and how can Responsible Tourism support ICZM?'** explores the concepts of ICZM and Responsible Tourism and how coastal resilience to tourism impacts can be increased by them. ICZM is a multi-sectoral coastal management approach aiming to control environmental impacts caused by human interventions. Thus, ICZM proved to be a tool to prevent coastal degradation, which can help to increase coastal resilience to tourism impacts. Responsible Tourism is a concept practically enforced at the local level which helps to overcome the weaknesses of ICZM. As both aim for the same goals, they would complement and promote each other. It is assumed that the responsible behavior of the tourists will prevent coastal degradation and increase the resilience of the coast to tourism impacts. Hence, it would be a win-win situation. However, both social and environmental justice are important to consider throughout the whole process of managing for resilience.

3. Research area

This thesis focuses on the coastal area of the City of Cape Town Municipality in South Africa. The coastline of South Africa offers a large variety of resources which are exploited for traditional as well as recreational activities (Goble et al., 2014). The coastline of the City of Cape Town has a length of 307 km of which 240 km are managed by the municipality (Colenbrander et al., 2013) and consists of 43 % sandy beaches (48 in total) and 57 % rocky shores (CCT, 2015). As South Africa is one of the countries with the most progressive environmental legislation in the world (Celliers et al., 2015), each governmental level regularly publishes State of the Environment Reports (Government Gazette, 2009). The local report describes the current state as improving (CCT, 2012), the provincial report characterizes it as declining (WCGEA & DP, 2013), and the national report outlines it as deteriorating (DEA, 2015). Large amounts of habitats are threatened and anthropogenic pressures lead to further deterioration of the oceans and coasts (DEA, 2014b). WCGEA & DP (2016) conducted a SWOTs analysis for the Western Cape coastal zone, including Cape Town. High biodiversity and endemism levels are considered a strength, whereas historical planning and overexploitation of resources are stated as weaknesses. The sustainable development of the coastal economy, the protected area network, and the best practice perception for future coastal development are characterized as opportunities. Climate change and its effects on humans and infrastructure as well as the growing demand for resources are the threats. CCT (2015) highlights a worsening trend of the coastal environment, which needs better management and actions.

In 2000, the country has implemented Integrated Coastal Zone Management (Chevallier, 2015) with the goal to improve the quality of life of local communities depending on coastal resources, while maintain the biological diversity and productivity of coastal ecosystems (Celliers et al., 2007; Government Gazette, 2009).

Looking back in history, coastal management in South Africa has undergone four paradigm shifts. In the 1970s, coastal management had an **ad hoc sector-based management** character. Sectoral activities, such as tourism or conservation, were taken in isolation and management was fragmented and uncoordinated (Chevallier, 2015). Due to the need to develop expertise in Coastal Zone Management (CZM) (Glavovic, 2006a), it turned into **top-down ecological regulations** in the 1980s (Chevallier, 2015; Glavovic, 2006a), which however, have not been successful. Coastal managers executed coastal management as something pure ecological but a-political, not including the impacts of apartheid (Glavovic, 2006a) resulting in undistributed access of the coast as well as unequally distributed resources (Goble et al., 2014). Though, first steps have been taken to provide environmental education and improve public awareness of the coast, its value, and its sensitivity to

human impacts (Glavovic, 2006a). Consequently, a shift occurred in the 1990s towards **participatory policy formulation** where coastal issues moved to the center stage of the governmental agenda (Chevallier, 2015). A focus on human wellbeing, including environmental health, economic development, and quality of life reflected the shift towards a holistic view on sustainable development. Policy dialogues enabled stakeholders to participate in the creation of a policy program to facilitate coastal management. However, the policy proved not to be sufficient to promote sustainable coastal development which doubted its practical implementation (Glavovic, 2006a). Therefore, a shift towards **people-centered, pro-poor ICZM** took place in 2000s to practically transform coastal poverty into sustainable coastal livelihoods (Chevallier, 2015). This shift promised great security for ecological ecosystems. Coastal Committees have been established on each governmental level (Chevallier, 2015) which are responsible for the implementation of ICZM (Celliers et al., 2013 & 2015). Further, coastal management programs (CMP) have been prepared at all governmental levels (DEA, 2014a; Government Gazette, 2009) to support decision-making and help to establish participation processes of stakeholders from all sectors of coastal communities (WCDEA & DP, 2016). As the CMPs evolve and improve over time, they are prepared for a 5-year period (DEA, 2014b, CCT, 2015). The Provincial Coastal Management Program (PCMP) needs to be consistent with the National CMP (NCMP) whereas the Municipal CMP (MCMP) needs to be consistent with the NCMP and PCMP (Government Gazette, 2009). All CMPs aim to prevent undesired potential impacts on the environment by achieving a common vision (Taljaard et al., 2012, p.44). The national vision relates to ecosystem protection as well as sustainable development (DEA, 2014b). The PCMP aims at enabling "a resilient-, sustainable-, quality- and inclusive living environment through improved spatial- and development planning, access, protection and Local Government support in the coastal environment" (WCGEA & DP, 2016, p.xiii). The City of Cape Town aims at developing the coastal environment regarding 5 pillars: The Opportunity City (care for sustainability implications), The Well-Run City (accountability for the citizens), The Safe City (reducing coastal risk), The Caring City (taking care of the people), and The Inclusive City (ensuring access to all) (CCT, 2015). However, the CMPs cannot provide detailed information regarding spatial coastal planning as well as a solution to all problems along the coast (WCGEA & DP, 2016).

In 2009, South Africa adopted the Integrated Coastal Management Act (ICMA) to manage coastal and estuarine environments more holistically. It is the first legal instrument regarding the regulation and planning of the coastal space (Chevallier, 2015). The ICMA promotes the devolution of powers and decentralized decision-making. It provides the institutional framework for cooperative governance in the coastal area (Celliers et al., 2013) and controls activities which might be harmful to the environment (Celliers et al., 2009). The institutional framework is described as a "nested coastal governance system" (DEA, 2014b, p.47). The institutions, for instance coastal committees, remain

central. Coastal Committees are established at the national and provincial level to promote ICZM (Government Gazette, 2009). Municipal Coastal Committees are not mandatory (DEA, 2014b). However, additional partnerships with government, businesses, civil society, and science give the system a broader focus (DEA, 2014b). The PCMP describes the cooperative governance system as one that has "shared management responsibilities between all three spheres of government, civil society, non-governmental organizations, conservation authorities and other stakeholders in the coastal area [which] is the essence of integrated coastal governance" (WCGEA & DP, 2016, p.18).

Figure 9 illustrates the principles of ICZM in South Africa. Taking these principles into account, it can be said that successful ICZM is depending on (1) public participation (GESAMP, 1996; Celliers et al., 2013; Ernoul, 2010; Taljaard et al., 2012), (2) cooperative and transparent governance processes (GESAMP, 1996; DEA, 2016; UN, 2011; Olsen et al., 1997), and (3) collaboration between coastal managers and scientists at all stages of the formulation of coastal management programs (GESAMP, 1996; DEA, 2014a). However, the implementation of ICZM in South Africa is still largely fragmented and sector-based. Equitable access and utilization of coastal resources have not become a reality everywhere, even twenty years after apartheid (DEA, 2014a). There are also still existing inequalities in water access, energy, and income (CCT, 2012; WCGEA & DP, 2013) as well as inappropriate developments built during that time (CCT, 2012; WCGEA & DP, 2013; CCT, 2015; CCT, 2014). For achieving effective ICZM, this challenge needs to be overcome (Taljaard et al., 2012; Colenbrander & Bavinck, 2016; CCT, 2012; WCGEA & DP, 2013).

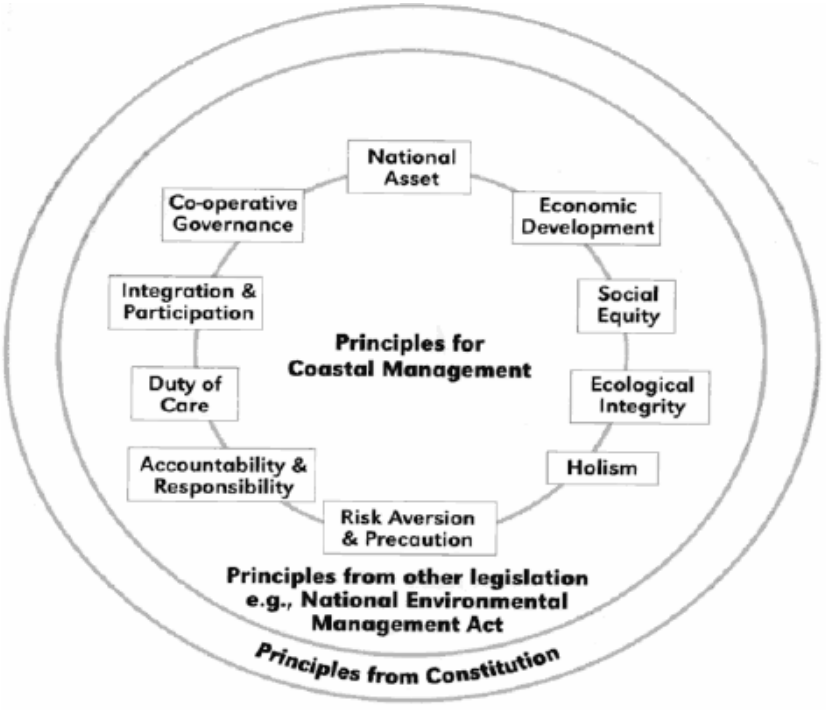

Figure 9: Principles of coastal management in South Africa (DEAT, 2000)

According to UNEP (2009), ICZM offers great opportunities for the transformation of coastal tourism towards Responsible Tourism. South Africa, especially Cape Town, is known as a Responsible Tourism destination (CCT, 2009). 5 million of the 10 million tourists in South Africa in 2016 travelled to Cape Town. This is an increase of 7 % compared to 2015 (Cape Town Tourism, 2017). The city aims at developing tourism as a key economic sector, contributing to economic growth of the city and the quality of life of its citizens. The City of Cape Town implemented the Responsible Tourism Policy in (RTP) in 2009, which recognizes that tourism will have negative impacts if it is unplanned or badly managed. An increasing number of tourists looks at the reputation and responsibility of the companies they buy from desiring guilt-free holidays (CCT, 2009). The focus of Responsible Tourism is illustrated as minimizing environmental, economic, and social negative impacts, using local resources in a sustainable manner, providing positive experiences for the tourists through interaction with local communities, and understanding environmental, cultural, and social issues (Frey & George, 2010; CCT, 2009). Of great importance is the cooperation between communities and public and private sectors (Frey & George, 2010). Although tourism is the key activity for national economic development (Visser, 2016), tourism has been a missed opportunity in South Africa in history (CCT, 2009). Only since the end of apartheid, it has received considerable policy prominence (Visser, 2016). However, South Africa has shifted from a leader in Responsible Tourism to a laggard in the past years. Local authorities and local tourism organizations still ignore the potential of tourism for poverty alleviation and social uplift. The RTP describes the state of implementation in South Africa as poor because only a low number of local governments have integrated Responsible Tourism policies, and because it is not mainstream yet. Limited reference to Responsible Tourism and a general lack of awareness among tourists and inhabitants are considered as weaknesses. As it is not obligatory for tourism businesses to conduct responsible practices yet, a large part of the sector is still not working towards this goal (CCT, 2009).

Therefore, this thesis elaborates the question whether ICZM in the City of Cape Town can promote the economic objectives of Responsible Tourism, such as poverty alleviation, economic empowerment, and job creation, the social objectives as the enhancement and protection of local lifestyles and heritage for tourism, and the ecological objectives, namely minimizing resource consumption as well as conserving natural resources (UNEP, 2009; CCT, 2009).

4. Methodology

This section will discuss the data collection methodologies. The thesis is based on a qualitative research including a case study from Cape Town. The methods have been chosen to get adequate data, which will help to answer the main research question '**To what extent can resilience to coastal degradation from tourism of the coastal zone in Cape Town be increased for the environment, inhabitants and tourists by applying Integrated Coastal Zone Management (ICZM)?**'. To answer this question, the following information are needed: (1) the extent of degradation in Cape Town's coastal area and whether tourism can be considered a cause for this, (2) the implementation status of ICZM at the local level and which stakeholders are involved, (3) the different benefits of a resilient coastal SES for people and the environment, (4) the intention to increase the Responsible Tourism sector in Cape Town, and (5) to what degree ICZM, Responsible Tourism, and coastal degradation are linked. Three methods have been chosen, which are semi-structured interviews, document analysis, and stakeholder analysis. Semi-structured interviews can provide detailed information by experts working in the field. The document analysis was expected to serve as background information and to complement the interviews. The stakeholder analysis was important to explore who is involved in coastal management and how these relate to each other.

The **aim of this study** is to explore, whether ICZM is a suitable tool to increase resilience of the coastal area in Cape Town to tourism impacts. It is assumed that the approach of ICZM will strengthen the relationship between tourists, inhabitants, and the environment due to awareness raising and will consequently increase resilience and prevent the phenomenon of coastal degradation. It further explains how the social and ecological systems relate to each other in this specific case. In order to do so, different perspectives are considered. The desired outcome of this study is the recognition, that coastal resilience can be increased by implementing ICZM as well as that this coastal management approach promotes Responsible Tourism. Furthermore, lessons can be learned by other cases facing similar circumstances.

4.1. Qualitative research

A qualitative research builds on words and languages instead of numbers or numerical data as in quantitative analysis (Taylor et al., 2015). It provides an in-depth picture which is useful to explore **how** and **why** things happen (Kothari, 2004), thus, it produces descriptive data. Qualitative research relies on reasons behind various aspects of behavior and gives an in-depth understanding of the behavior of humans and the reasons that govern it (Taylor et al., 2015; Kothari, 2004). To increase quality in qualitative research, Walby & Luscombe (2016) mention the criteria rich rigor, credibility, and resonance as qualitative research "should […] be judged on the worthiness of its topic, its sincerity, the significance of

its contributions, and overall exposition" (p. 3). It needs to be considered that the produced findings are not generalizable and universally applicable in qualitative research (O'Leary, 2004).

4.2. Case study

A case study belongs to qualitative research and is useful to study one single example in detail (Eisenhardt, 1989). The focus is on studying in depth rather than in breadth (Kothari, 2004) aiming at authenticity (O'Leary, 2004). This study focuses on coastal tourism in Cape Town and its impacts on coastal resilience. Cape Town experienced severe changes in the coastal state in the past years (Colenbrander et al., 2013). The case study helps to understand the problem in its individuality (de Vaus, 2001) and explores the background of the problem of tourism impacts and the development of ICZM. It gives an overview of the correlation between resilience, tourism development and ICZM – an issue which might be rather thoughtless in society, however, is of greatest importance for future development. It further offers in-depth knowledge about hardly accessible research fields by considering subjective meanings (de Vaus, 2001). The aim of this case study is to provide a description (Eisenhardt, 1989) of what happens in Cape Town regarding tourism impacts and the corresponding changes of the coastal SES. A case study contains limitations. It is not comparable due to the specific focus (Kothari, 2004) and sometimes, information is not accessible for the researcher. Like qualitative research, case studies are not generalizable (O'Leary, 2004).

4.3. Document analysis

A document analysis analyses the content and the use and function of documents. It is about what is in the document and how is it used to achieve a goal (Prior, 2004). They are never fixed and static but need to be seen as situated products (Owen, 2014). Relevant are all documents which include data that support answering the research question. All documents are taken as a source of data (O'Leary, 2004). This thesis focuses on four different types of documents: Acts, policies, programs, and reports. Policies are statements or action plans, something that "ought to be". Prior (2004) describes policies as "things that can be produced and manipulated, used or consumed, and as things that can act back on their creators" (p. 77). All policies are designed to solve problems and contain solutions to these (Hammond & McDermott, 2017). Therefore, they can be used as background information. The advantage of a document analysis is that it provides facts to the reader. However, these can be interpreted in different ways and therefore, come never in a pure form (Owen, 2014). Another advantage is the provision of information about "who is important in making decisions and thus who might be interviewed for further information" (p. 11). Therefore, the document analysis in this thesis is used to find the most appropriate experts, serve

as background information for the stakeholder analysis, and provide information about the theoretical aims of Integrated Coastal Zone Management in Cape Town.

The analyzed documents are listed in table 1. All these documents have been identified during online research. However, all of them have also been mentioned by the interviewees which ensures its relevance.

The documents relating to ICZM are the legal Acts and policies in South Africa and Cape Town. The Programs implement ICZM in the respective governmental tiers and provide information about responsibilities and priority areas. The Responsible Tourism Policy aims at promoting Responsible Tourism in Cape Town and outlines its objectives, principles, and implementation strategies. The State of the Environment reports provide information about the degradation of coastal areas in the country. All these documents are relevant for this thesis as they link the different issues addressed, namely resilience, coastal degradation, ICZM, and tourism.

Table 1: Documents used for document analysis (author, 2017)

Type of document	Name of document	Short form	Published by	Published in	Content
Act	Integrated Coastal Management Act	ICMA	Goverment Gazette	2009	• Why ICZM has been implemented • Institutional structure
Policy	Integrated Coastal Management Policy of the City of Cape Town	ICMP	CCT	2014	• Local framework for ICZM
	Responsible Tourism Policy for the City of Cape Town	RTP	CCT	2009	• Framework for the management of RT • Aims to make the city a RT destination
Program	National Coastal Management Program	NCMP	DEA	2014	• Period 2013-2017 • Vision ecosystem protection and sustainable development
	Provinicial Coastal Management Program	PCMP	WCG DEA&DP	2016	• Period 2014-2019 • Needs to be consistent with the NCMP • Provides insights to the provincial coastline • Aims at enabling a resilience coastal environment
	Municipal Coastal Management Program	MCMP	CCT	2015	• Must be consistent with the NCMP and the PCMP • Develop coastal environment as: The Opportunity City, The Well-Run City, The Safe City, The Caring City, The Inclusive City
Report	State of the Oceans and Coast Report	Natio-nal State Report	DEA	2015	• Focus on the marine system
	State of Environmental Outlook Report for the Western Cape Province	Provin-cial State Report	WCGEA & DP	2013	• Environmental state for air quality, biodiversity and ecosystem health, inland waters, oceans and coastal, land, water management, energy, climate change, and human settlements
	State of the Environment Report	Local State Report	CCT	2012	• Environmental state for biodiversity, invasive species, access to natural green space, water use, freshwater quality, coastal water quality, wastewater, and air quality

4.4. Stakeholder analysis

A stakeholder analysis in this thesis is applied to identify the stakeholders involved in the Integrated Coastal Zone Management landscape. The aim is to add a structural component to this thesis (Butts, 2008) by analyzing, who exactly is involved in the management process including governmental departments, public and private stakeholders, as well as local people, and what their different tasks are. Reyes-Alcázar et al. (2012) define a stakeholder as ‘‘any group or individual who can affect or is affected by the achievement of an organization’s objectives” (p.365). It constitutes a tool for understanding social structures and relational data but it is highly dependent on the contextual knowledge (Butts, 2008). Network structures and relationship increase the understanding of outcomes of processes regarding the individuals and organizations (Williams & Shepherd, 2017). Each stakeholder plays at a specific scale: local, provincial, national, where coastal committees and working groups have been established (Government Gazette, 2009). The scale has a direct influence on the actor’s frame of reference and his/her perspective on the network (Celliers et al., 2007). However, some of these stakeholders are multi-scalar involved in more than one coastal committee or working group. A Coastal Committee is one of the institutions of ICZM in South Africa. Stakeholders sitting on these comprise governmental bodies, management authorities, and civil society groups such as NGOs and research groups (Government Gazette, 2009). The Municipal Coastal Committee (MCC) is replaced by a coastal working group consisting of several local government departments (CCT, 2015).

The identified stakeholders are visualized in a diagram according to their positions in the different coastal committees. However, there is the danger of creating a stakeholder network which is not complete. An “effective […] analysis depends as much on knowledge of the phenomenon at hand as any other area of scientific study” (Butts, 2008, p. 37). To ensure completeness of the stakeholder analysis, the analyzed documents have been studied for roles and responsibilities. Furthermore, several have been asked for information regarding the involved stakeholder groups.

4.5. Semi-structured interviews

Semi-structured expert interviews have been chosen as third method to gain qualitative, case specific information. Therefore, a guide has been developed including several topics and questions as a starting point for the interviews. This guide of questions can be found in the appendix. Semi-structured interviews are flexible compared to structured interviews (O’Leary, 2004). For the interviewer, it is important to have full knowledge about the problem of concern. During the interview, emergent findings can be discussed directly. These kinds of interviews use techniques of reflection by the interviewer to ensure that the

statements of each interviewee are understood correctly. The interviewer needs to be friendly and informal, and listen carefully (Kothari, 2004).

Due to the distance between the Netherlands and South Africa, the majority of interviews have been conducted via skype. One interview was conducted on the telephone and one interviewee responded via email in a written form. Skype offers the advantages of a face-to-face interview as seeing the interview partner's face as well as its nonverbal communication, but includes the disadvantages of a telephone interview, which are the fact that the interview is restricted to people with telephone or internet access and that questions have to be to the point. (Kothari, 2004). Six interviews have been conducted with video function, six used the audio function only. This was mainly reasoned by ensuring a good audio quality. One questionnaire has been mailed to the respondent which was returned after completion. This questionnaire has to be prepared carefully to ensure effectiveness in collecting data (Kothari, 2004). All interviewees have been anonymized because of data protection (Gebel et al., 2015) and the interviewees privacy (O'Leary, 2004). This is important to ensure the interviewee is not exposed to any disadvantages resulting from the interview (Flick, 2009). Each interviewee has been assigned to a code illustrated in table 2. All interviews have been recorded with the permission of the interviewees. In total, 48 persons from different fields of expertise have been contacted of which 13 agreed on an interview. The interview experts were allocated to the following groups as illustrated in figure 10.

Figure 10: Pie chart presenting the groups of interviewees including the number of conducted interviews (author, 2017)

Public sector: These experts comprise governmental bodies from environmental (4 interviewees) and tourism departments (2 interviewees) at all three governmental levels. Al are involved in Integrated Coastal Zone Management.

Tourism: This category involved local tourism businesses, which are practicing Responsible Tourism.

NGOs: These representatives are concerned with social and environmental issues in South Africa. One of these representatives is sitting on a Coastal Committee.

Research: These representatives work on oceans and coasts, resilience, or related issues. One of them is also sitting on a Coastal Committee.

These four groups have been chosen as they provide information regarding all issues addressed in this thesis. Therefore, the interview questions have been adjusted regarding the different interviewee groups. The questions were categorized in three groups: the coastal SES and resilience (ecosystem services, usage of coastal resources, state of environment, resilience of the coastal system, benefits for environment and people of increasing degrees of resilience to tourism impacts), ICZM (practices, responsibilities, governance structures, successes, weaknesses, challenges, community involvement, historical influences), and tourism (development of tourism sector, Responsible Tourism, initiation of transformation). Depending on the different expertise, the emphasize was put on the related issues, which have been discussed in more detail. The interviewees belonging to the public sector were expected to provide the most in-depth information about ICZM and Responsible Tourism in South Africa and Cape Town as well as the current state of the environment. The representatives from the tourism sector were expected to provide information regarding the practical enforcement of Responsible Tourism. These interviewees were asked a larger amount of questions relating to tourism. The NGO and Research representatives constitute in-between groups. They could basically provide information to all topics and relate them to each other. Due to their various research and interest fields, some interesting links could be made to connect tourism and ICZM.

All interviews have been transcribed afterwards, in order to analyze them. All transcripts are available on request.

Table 2: Interviewees (author, 2017)

	Interviewee	Code	Date and Place
Public sector (Environment)	National Government Department of Environmental Affairs (DEA)	Nat.Gov.DEA_Interviewee, 2017	08.05.2017 – Skype (audio)
	Local Government City of Cape Town	Coast1_Interviewee, 2017	08.05.2017 – Skype (video)
	Local Government City of Cape Town	Coast2_Interviewee, 2017	09.05.2017 – Skype (video)
	Public Sector	Coast3_Interviewee, 2017	18.05.2017 – Whatsapp (audio)
Public sector (Tourism)	National Government of Tourism (NDT)	Nat.Gov.NDT_Interviewee, 2017	29.05.2017 – Email
	Provincial Government	Prov.Gov_Interviewee, 2017	22.05.2017 – Skype (video)
Tourism	Tourism business	Tourism1 _Interviewee, 2017	23.05.2017 – Skype (video)
	Tourism business	Tourism2 _Interviewee, 2017	25.05.2017 – Skype (video)
NGO	NGO	NGO1_Interviewee, 2017	24.05.2017 – Skype (audio)
	NGO	NGO2_Interviewee, 2017	29.05.2017 – Skype (audio)
Research	Research	R1_Interviewee, 2017	15.05.2017 – Skype (video)
	Research	R2_Interviewee, 2017	22.05.2017 – Skype (audio)
	Research	R3_Interviewee, 2017	05.06.2017 – Skype (audio)

4.6. Analyzing qualitative data

A qualitative content analysis focuses on the content and core ideas emerged from the interviews and documents. It is defined as the optimal method for describing meaning in communications (Drisko & Maschi, 2015). Therefore, coding was used to identify different categories (Kothari, 2004), illustrated in table 3. A code is a word or phrase (Saldaña, 2009) aiming to get all necessary information, in order to fully address the research questions that frame the study (Drisko & Maschi, 2015) and limit the amount of data (Kothari, 2004). Coding has been conducted with colored pencils.

Table 3: Codes (author, 2017)

Category	Code
Coastal SES	Ecosystem services
	How the coast is used
	Use of tourists
	Use of inhabitants
	State of coastal environment
	Degradation
	Monitoring
	Trigger for degradation
	Coastal planning
Governance	Stakeholder
	Governmental departments
	NGOs
	Local communities ICZM
	Civil society
	Governance
	Top-down
	Bottom-up
	Nested
	Centralized
	Decentralized
	Polycentric
	Multi-level
	Multi-scalar

Category	Code
Resilience	Resilience
	Benefits of resilience
Justice	Social justice
	Environmental justice
	Apartheid
ICZM	ICZM
	Successes
	Weaknesses
	Challenges
	Link ICZM degradation
	Link ICZM resilience
	Link ICZM RT
Resp.Tourism	Development
	Focus
	Strength
	Weaknesses
	Challenges
	Community involvement
	Initiation
	Link RT coastal degradation
	Deliberate choice
	Support from government

After coding, tabulation helped to logically order and summarize the most important data. Tabulation was done by hand according to the amount of data (Kothari, 2004). To achieve greater credibility (O'Leary, 2004) and improve the quality of the research, triangulation has been included. This is the strategy of combining different perspectives within the same method or combining different methods (Flick, 2009). Therefore, different documents have been analyzed addressing the same issue as well as more than one person has been interviewed from the same sector. Consequently, all methods used complement each

other. The benefit of triangulation for this study is the bigger picture that can be created including new or additional insights. However, there is the risk of encountering contradictory results (Flick, 2009). In this case, possible explanations will be debated in the discussion section where potential reasons for these contradictions will be elaborated.

4.7. Positionality / Reflexivity

This research has been done by a female, white, European student studying Water & Coastal Management as well as Environmental & Infrastructure Planning in two European countries Germany and the Netherlands. Consequently, the researcher can be considered an outsider to coastal management in South Africa. Kusek & Smiley (2014) outline that being an insider might facilitate the research process due to mutual trust and a sense of community between the researcher and its respondent. But it might also lead to a certain level of competition between them. These facts might influence the research process.

First, the research process might be influenced by the researcher`s gender and student status. According to Kusek & Smiley (2014), gender and status affect how researcher and respondent interact. The respondents of this thesis belong to different groups of power (Muhammad et al., 2015) ranging from governmental representatives to local businesses and community-based NGOs. Especially male respondents thus might "not fully value [a female student] as a researcher" (Kusek & Smiley, 2014, p. 160). However, all interviewees both male and female treated her in a friendly and open manner, willing to share their stories. Thus, being female might even facilitate the research process due to open, empathic, and personal conversations.

Furthermore, race is important to consider in the research process. As this study was done by a white European person intervening in sensible racial issues like the apartheid history of South Africa, a certain amount of racial and cultural consciousness is required (Milner, 2007) to avoid "misinterpretations, misinformation, and misrepresentations" (Milner, 2007, p. 388). Especially black respondents might feel uncomfortable, compared, and evaluated when interviewed by white persons which are often viewed as "the norm" (p. 389). Therefore, it is important for the researcher to create mutual trust and respect to overcome this difficulty (Muhammad et al., 2015). However, South Africa's history highly influenced this study because it felt uncomfortable for the researcher to ask detailed questions about its influence on today's coastal planning and management, especially to those interviewees directly affected by it. But all respondents both black and white talked in a very open manner about their experiences, indicating trust and confidence in the researcher. The fact, that the researcher has visited Cape Town once, wherefore certain knowledge about location and the people is in place might have allowed to better connect with them (Kusek & Smiley, 2014) and getting the feeling of being an insider (Kusek & Smiley, 2014).

5. Analysis of the Research Results

This section presents the main findings of the data collection addressing the four practical research questions (5-8) listed in the introduction.

5.1. The relevance of resilience to tourism impacts of the coastal SES in Cape Town

The environmental state

As the State of the Environment Report of the City of Cape Town described the current state as improving (CCT, 2012), the interviewees have been asked for their presentation of the coastal state. This indicates the extent to which the coastal environment is degraded. From this the level of resilience can be derived. The interviewees present a string of answers ranging from overall pretty good conditions (R2_Interviewee, 2017) to a shocking state (Coast1_Interviewee, 2017), which makes it evident that there are very different perceptions of the environmental state in Cape Town. Figure 11 shows all responses ordered from positive to negative statements. However, overall it is dependent on the exact location along the coast and is therefore difficult to say (Coast3_Interviewee, 2017). Some areas are hotspots of tourists and inhabitants, which are more degraded due to human pressure (Nat.Gov.DEA_Interviewee; Prov.Gov_Interviewee, all 2017). Likewise, the city's coast is more degraded than the more rural areas in the municipality (Nat.Gov.DEA_Interviewee; Research2_Interview, all 2017). One interviewee mentions that "the trend is probably not as good as the current state" (R1_Interviewee, 2017) which counteracts the statement made in the report.

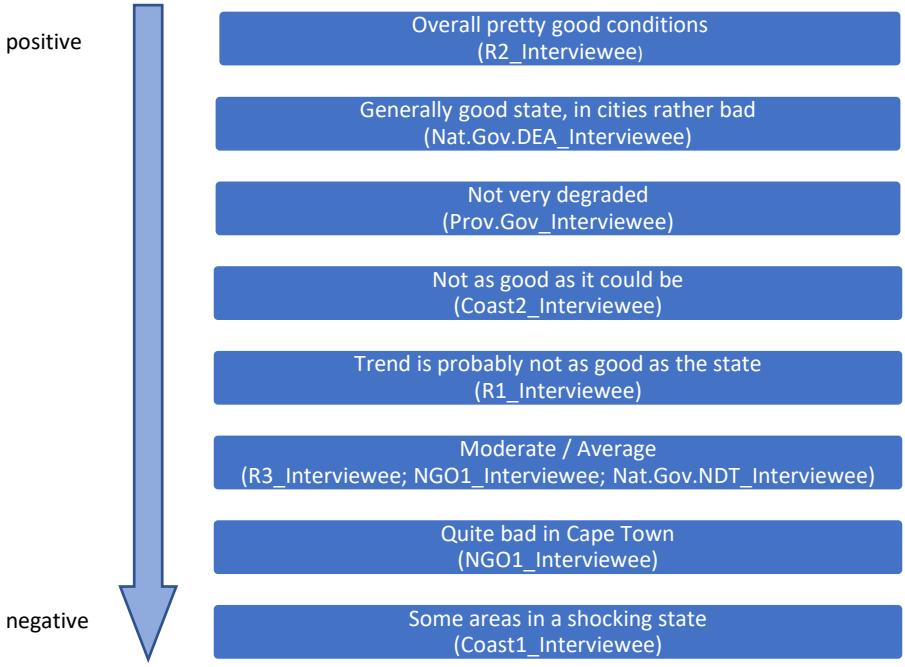

Figure 11: Interview responses regarding coastal state in Cape Town from positive to negative (author, 2017)

Nine interviewees have also been asked to identify the most important ecosystem services of the coastal area in Cape Town to illustrate the relevance of coastal resilience to degradation. Table 4 provides an overview of their responses. Eight interviewees concur that the coastal area in Cape provides various ecosystem services and ‘‘there is [not] such a thing as ‘main’’’ (R1_Interviewee, 2017). One person does not know what ecosystem services are. One person outlines that the coast does not provide services but privileges which cannot be expressed in monetary value (NGO2_Interviewee, 2017).

Table 4: Main ecosystem services mentioned by the interviewees, in order of number of replies (author, 2017)

Ecosystem service	**How often mentioned**	**Mentioned by**
Recreation / tourism	4	Nat.Gov.DEA_Interviewee, 2017 Coast1_Interviewee, 2017 Coast3_Interviewee, 2017 Nat.Gov.NDT_Interviewee, 2017
Marine living resources	4	Coast1_Interviewee, 2017 R1_Interviewee, 2017 R2_Interviewee, 2017 NGO1_Interviewee, 2017
Protection	4	Coast1_Interviewee, 2017 Coast2_Interviewee, 2017 R1_Interviewee, 2017 R3_Interviewee, 2017
Transport service	2	Coast1_Interviewee, 2017 NGO1_Interviewee, 2017
Biodiversity	2	Coast2_Interviewee, 2017 R3_Interviewee, 2017
Estuaries	2	R1_Interviewee, 2017 NGO1_Interviewee, 2017
Cultural services	1	R3_Interviewee, 2017
Space	1	R1_Interviewee, 2017
Attractor for urbanization	1	NGO1_Interviewee, 2017
Scenic beauty	1	R3_Interviewee, 2017
Pollination services	1	R3_Interviewee, 2017

Tourism as cause for coastal degradation in Cape Town and the aim of ICZM to prevent it

The State of the Environment reports and Coastal Management Programs all highlight tourism as an important economic factor (DEA, 2014b & 2015; CCT, 2012 & 2015; WCGEA & DP, 2013 & 2016), whereby coastal recreation is considered among “the largest social activities in Cape Town” (CCT, 2014, p.11). ICZM is needed to eliminate activities that have a degrading effect on the coast (Government Gazette, 2009)

and therefore, prevent a negative affection of the coastal value (CCT, 2014). Causes mentioned for coastal degradation are historical bad planning (CCT, 2014), environmental disasters, inappropriately managed and implemented coastal signage (CCT, 2015), human settlements, and resource extraction (WCGEA & DP, 2013). Tourism is not specifically mentioned as one of these activities, wherefore there is no direct connection made between tourism and coastal degradation in any analyzed document.

Five interviewees do not see tourism as cause for coastal degradation because tourists do not use the coast extensively (Coast2_Interviewee, 2017), they are generally aware of their impacts (Tourism2_Interviewee, 2017), and there is good infrastructure in place to deal with it (R1_Interviewee, 2017). However, six interviewees do see a relation. This relationship is based on insufficient management (Nat.Gov.NDT_Interviewee; NGO2_Interviewee, all 2017), the location (Prov.Gov_Interviewee; R2_Interviewee, all 2017), the demand for further development and higher amounts of waste (NGO1_Interviewee; R3_Interviewee, all 2017). Five interviewees categorize tourists as more responsible than inhabitants regarding the environment, consequently having lesser impacts than locals. This is attributed to the tourist's short-term stays (Tourism2_Interviewee; R2_Interviewee, all 2017) and greater environmental awareness (R1_Interviewee; R2_Interviewee; Tourism1_Interviewee, all 2017). One interviewee has the opinion that inhabitants care more for the coast (Coast3_Interviewee, 2017). Another interviewee outlined that making such a statement would only be an assumption (Coast3_Interviewee, 2017). The main causes of coastal degradation named are development (Coast1_Interviewee; R1_Interviewee; R2_Interviewee; NGO1_Interviewee, all 2017), waste (NGO2_Interviewee; R2_Interviewee; NGO1_Interviewee, all 2017), natural processes (Nat.Gov.DEA_Interviewee; NGO1_Interviewee, all 2017) and human behavior (Prov.Gov_Interviewee, 2017).

Eight interviewees agree that ICZM is a tool to prevent coastal degradation, if it is put into practice and properly monitored and enforced (Coast1_Interviewee; Coast3_Interviewee; R1_Interviewee; R2_Interviewee; NGO1_Interviewee; Prov.Gov_Interviewee; Nat.Gov.NDT_Interviewee; Nat.Gov.DEA_ Interviewee, all 2017). R2_Interviewee (2017) highlights that this is the whole point of ICZM. NGO1_Interviewee (2017) outlines that only policies do not solve the problem whereas it needs to be put in practice. Nat.Gov.NDT_Interviewee (2017) sees that ICZM aims for minimum environmental impacts. One interviewee has an opposite view, stating that notions of justice need to be incorporated to make it work. ICZM needs to be relevant to people that they can support and benefit from it. According to this person, such initiatives are lacking (NGO2_Interviewee, 2017).

The historical influence of the apartheid era on the current coastal development

The influence of South Africa's past on today's coastal management needs to be considered when answering the research questions. It needs to be taken into account that the identified benefits (secondary question 5) for instance might not relate to everyone in the city. To identify this, seven interviewees representing the public sector (environment), NGOs, and research have been asked about the role apartheid still plays in coastal planning and management. A big influence on their everyday practices has been expected. However, only some documents pick up the apartheid era including inequalities (CCT, 2012; WCGEA & DP, 2013; CCT, 2014; CCT, 2015). All seven interviewees agree that it still is a big issue, especially regarding inappropriate developments and settlements that lead to impacts on the coast (Nat.Gov.DEA_Interviewee; Coast2_Interviewee; Coast3_Interviewee, all 2017). All representatives from the public sector (environment) are influenced by the apartheid past in their daily tasks when making decisions (Coast1_Interviewee, 2017), for instance about inappropriate developments (Coast3_Interviewee, 2017). Although there are still crossed inequalities (Nat.Gov.DEA_Interviewee, 2017), this is more related to economic than racial issues today (R1_Interviewee; R2_Interviewee, all 2017). Coast1_Interviewee (2017) explains that coastal development is seen as a vehicle to uplift communities. However, it is mainly the white upper- and middle classes that are interested in conservation issues (R2_Interviewee, 2017). NGO2_Interviewee (2017) goes even further stating that for the poor black community life is terrible and that they do not get any benefits.

5.2. Interpretations of resilience and the benefits of a resilient coastal SES to tourism impacts

All documents have been analyzed regarding the term 'resilience'. It is mentioned in the provincial and local environmental reports and the NCMP, relating it to climate change and the regional economy (CCT, 2012; WCGEA & DP, 2013; DEA, 2014b). The PCMP relates it to environmental hazards, and natural disasters as goal for successful climate change adaptation (WCGEA & DP, 2016). The MCMP is the only document providing a definition of resilience as "the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions" (CCT, 2015, p.22) and "resilience means the ability to resile from or spring back from a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of needs" (p.22). The ICMP relates resilience to coastal overlay zones, saying that these zones will

fulfil the ICM Policy to "[…] build resilience and promote sustainable coastal development" (CCT, 2014, p.16).

During the interviews, nine definitions of resilience have been given which are presented in figure 12. In general, it was stated that resilience in Cape Town has been lost in some regions, especially in urban areas. Areas in which the environment is respected (Coast2_Interviewee, 2017) and rural areas are more resilient than urban areas (Nat.Gov.DEA_Interviewee, 2017). NGO2_Interviewee (2017) recognizes many systems as not resilience because of human and scientific arrogance and overexploitation. One interviewee brought up the question who manages and measures resilience, in order to ensure it remains sustainable (R2_Interviewee, 2017). NGO2_Interviewee (2017) explains that resilience is a multifaceted thing that cannot be seen in isolation. Anything that is resilient is theoretically seen as something positive (Coast1_Interviewee; R1_Interviewee; NGO1_Interviewee; NGO2_Interviewee; Nat.Gov.NDT_ Interviewee, all 2017), that can resist or withstand more than something with low resilience (Coast3_Interviewee, 2017). According to Coast2_Interviewee (2017), the coastal area was highly resilient before people started to develop these areas. A resilient coastal SES can be beneficial to tourism which can be undertaken sustainably as well as to inhabitants and the coast, which can absorb the impacts from tourism. Thus, everyone wins (R1_Interviewee, 2017). NGO1_Interviewee (2017) and NGO2_Interviewee (2017) both find the benefits relate more to the tourism economy, which will grow if resilience increases. Thus, resilience ensures that the benefits from tourism are sustained (Nat.Gov.NDT_Interviewee, 2017). R3_Interviewee (2017) differentiates between social resilience and ecological resilience. High ecological resilience will probably result in reduced social resilience. To achieve a win-win-situation for the environment and the people, he suggests improving social resilience "in a way that it enables […] to better manage the environment and manage tourism development" (R3_Interviewee, 2017).

Resilience can theoretically be increased by ICZM (Coast1_Interviewee, 2017). However, NGO2_Interviewee (2017) outlines that the statement resilience would improve something is an assumption. Coast3_Interviewee (2017) also highlights that all these links are depending on the definition of resilience.

Figure 12: Definitions of resilience (author, 2017)

5.3. Integrated Coastal Zone Management in South Africa

<u>Governance structures and actor arrangements of ICZM and its implementation at the local level</u>

The NCMP is the only document relating to governance structures. It uses the term 'nested' to describe the relation between the coastal management programs at the different levels and to further describe the ICZM system as a "nested coastal governance system" (DEA, 2014b, p. 47).

The interviewees did not find a matching answer to governance structures of ICZM in South Africa. The governance structure of ICZM has been described as 'nested' (R1_Interviewee, 2017), 'centralized but devolved down to provinces and municipalities' (NGO1_Interviewee; Coast3_Interviewee, all 2017), 'centralized and decentralized depending on the issue' (Coast1_Interviewee, 2017), and 'decentralized' (Nat.Gov.DEA_Interviewee; R2_Interviewee, all 2017). The local governmental level is implementing and managing ICZM practically (Coast3_Interviewee; Coast1_Interviewee, all 2017). However, this is also considered a weakness as "there is a serious gap in literature on how to institutionalize, to set up organizational structures at the local governmental level to enhance ICZM" (Coast1_Interviewee, 2017).

The ICM Act 2008 outlines, which stakeholder are included in ICZM. The Minister of the National Department of Environmental Affairs (DEA) is responsible for the implementation and enforcement of ICZM in South Africa (Government Gazette, 2009). The Working Group 8 (WG8) chaired by the DEA is responsible for oceans and coasts and constitutes the National Coastal Committee (NCC) (DEA, 2014b). The NCC involves persons with expertise in the field, provincial and municipal representatives, representatives of management authorities, and representatives from departments which might have an influence on the coastal zone. Each province needs to have a lead agency which in the Western Cape is the provincial Department of Environmental Affairs & Development Planning (DEA & DP). This lead agency inter alia has to coordinate the implementation of the PCMP, monitor the state of the environment, and promote education and awareness raising to the public. The Provincial Coastal Committee (PCC) includes persons with expertise in the field, municipal representatives, NGOs, and science representatives or research institutes (Government Gazette, 2009). Municipal Coastal Committees (MCC) include persons with expertise in the field, representatives from management authorities, and communities or organizations with high interest in the coastal area. If the municipality does not comply with its tasks, the provincial lead agency can take action (Government Gazette, 2009). As MCCs are not mandatory (DEA, 2014b), Cape Town created a Coastal Working Group (CWG) instead, which comprises several departments and is inter alia tasked with the implementation of the ICMP, decision-making on coastal issues, and the identification and budget allocation of priority projects (CCT, 2015).

The interviewees identified the following stakeholder as necessary for the coastal committees: representatives from national, provincial, and municipal governments, academic and research institutions, NGOs, civil society groups, and the tourism sector (Prov.Gov_Interviewee; Nat.Gov.DEA_Interviewee; Coast1_Interviewee; R1_Interviewee; NGO1_Interviewee; R2_Interviewee, all 2017). The opinion about the extent of local community involvement in ICZM is distributed along the interviewees. Five interviewees did not provide a clear answer (Nat.Gov.DEA_Interviewee; Coast3_Interviewee; R2_Interviewee; Prov.Gov_Interviewee; Nat.Gov.NDT_Interviewee, all 2017). Four think that local communities are rather indirectly involved through political elections, but could play a

bigger role (Coast1_Interviewee; NGO2_Interviewee; Coast2_Interviewee; NGO1_Interviewee, all 2017). One person identifies many opportunities for local communities to engage (R1_Interviewee, 2017). Three interviewees are not involved in ICZM and do not know about its enforcement (Tourism1_Interviewee; Tourism2_Interviewee; R3_Interviewee, all 2017).

Figure 13 illustrates the stakeholder groups of the three relevant coastal committees and working groups of ICZM in Cape Town. Its structure derives from the ICMA and is filled with information provided by the interviewees. The inner circle represents the Coastal Working Group in Cape Town, in which twelve local government departments are involved. The middle circle illustrates the Provincial Coastal Committee of the Western Cape Province. Here, the provincial lead agency is represented as well as three national departments, three provincial departments, and four coastal municipalities. Further, there are two management authorities, two NGOs, and one research group represented. The outer circle constitutes the Working Group 8 (WG8). Involved are the Minister of the DEA, six national departments, four provincial departments, and two coastal municipalities of which one is the City of Cape Town. Furthermore, there are five management authorities included as well as one NGO, and two research groups. Some of the departments, civil society groups or management authorities involved in WG8 are also represented at the provincial level.

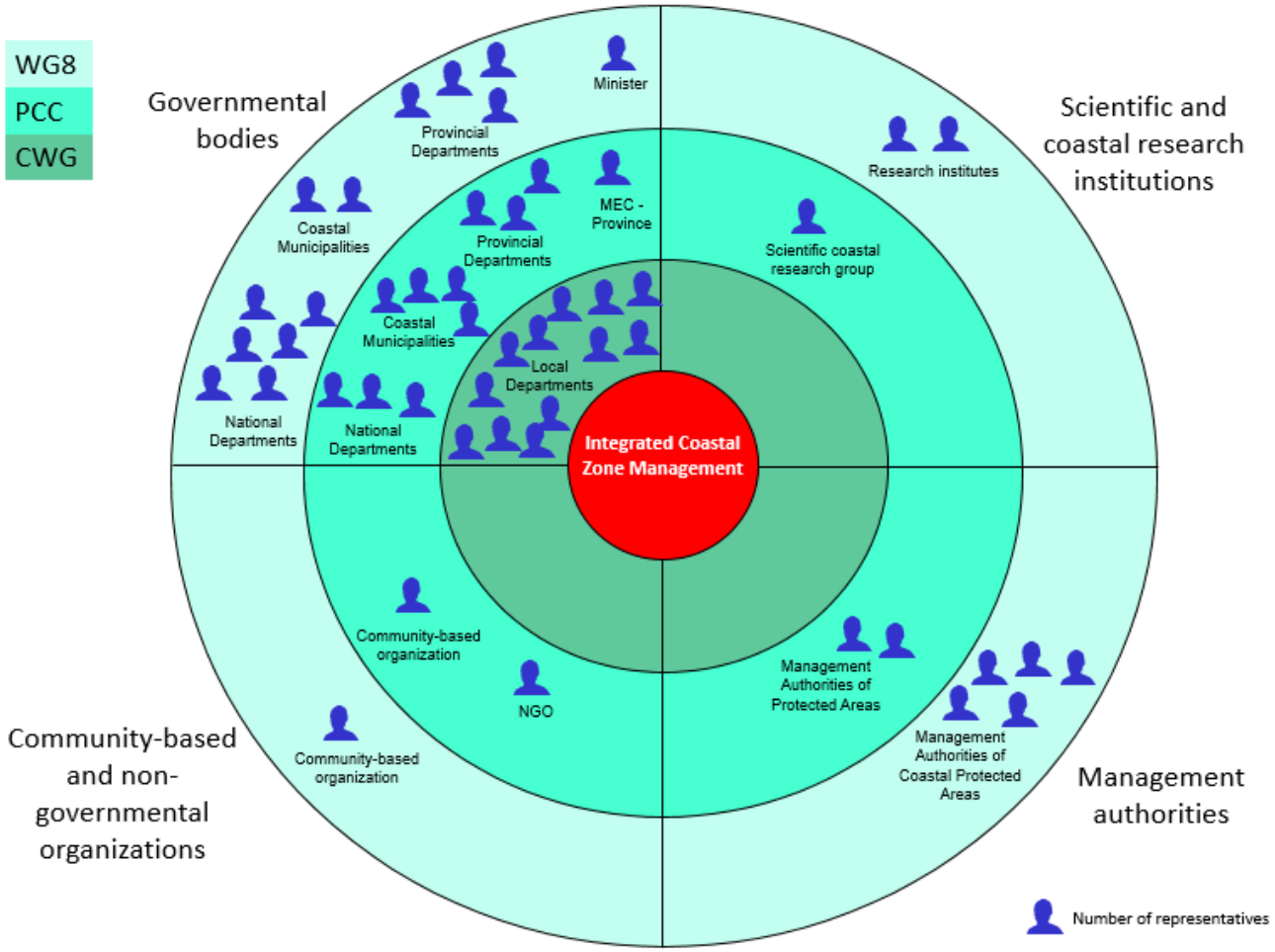

Figure 13: Stakeholder network analysis (author, 2017)

ICZM implementation in Cape Town – Successes and weaknesses

To create a fuller picture of the ICZM implementation at the local level, the documents have been analyzed regarding successes and weaknesses of the ICZM approach.

The NCMP identifies a lack of human capacity in all governmental levels. This causes a butterfly effect on effectiveness and efficiency of the coastal management institutions (DEA, 2014b). The PCMP further addresses the lack of clarity on roles and responsibilities, sharing scientific information between government and NGOs, the practical implementation of ICZM, funding and tourism infrastructure development, and awareness and education (WCGEA & DP, 2016). A success, a positive outcome of the ICZM implementation, constitutes the 'Working for the Coast Program' which provides jobs to unemployed people in coastal communities to achieve a better and cleaner environment (DEA, 2014b).

Figure 14 lists all successes and weaknesses mentioned by the interviewees. The successes relate to the ICZM system itself which for R1_Interviewee (2017) "is certainly a very good model for ICZM in the world", Cape Town as progressive and leading municipality in the country, and the benefits resulting from ICZM such as growing awareness, passion of employees, and new cooperations between government and civil society. The weaknesses comprise the bureaucracy focussing rather on power and financial interests which leads to the missed opportunity to involve local people, lacking resources, and the lack of how to implement ICZM at the local level.

Figure 14: Successes and weaknesses of ICZM in Cape Town identified by the interviewees (author, 2017)

5.4. Future challenges of ICZM in Cape Town and the contribution of Responsible Tourism to overcome these

Challenges of ICZM in Cape Town that need to be overcome

Next to successes and weaknesses, seven interviewees identified challenges of ICZM, illustrated in figure 15. These relate to failures made in the past, involving local people, changing the economic system to stop corruption as well as the regulatory system to enhance voluntary compliance, and ensure that the coastline does not become a "political playing field where it's profits versus people" (NGO1_Interviewee, 2017).

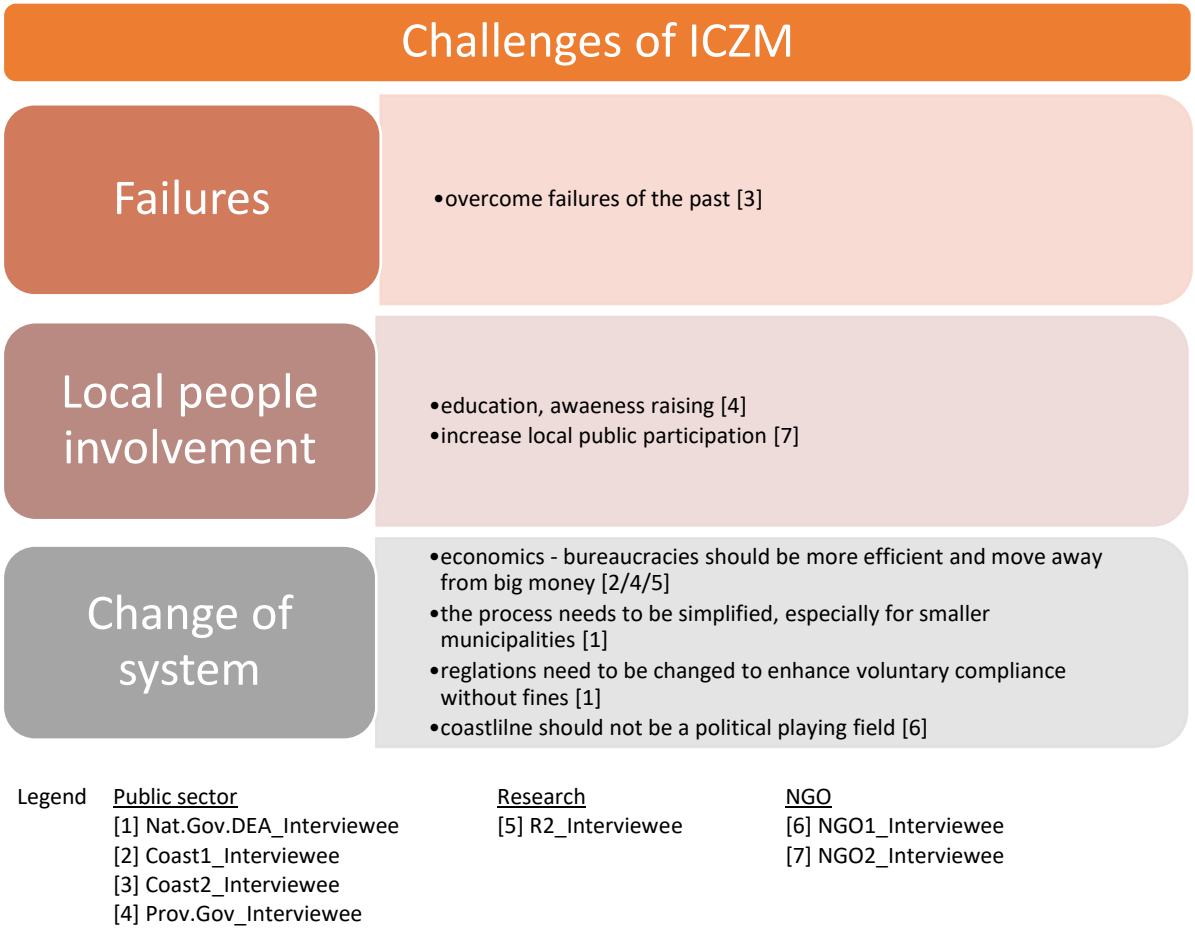

Figure 15: Challenges of ICZM in Cape Town identified by the interviewees (author, 2017)

Responsible Tourism in Cape Town

The interviewees belonging to the public sector (tourism) as well as the local tourism businesses describe tourism in South Africa as constantly growing, especially since 1994 when apartheid ended. A shift towards more Responsible Tourism can be recognized by eleven interviewees due to the growing awareness of people (Prov.Gov_Interviewee; Tourism1_Interviewee, all 2017) and the intention of businesses to become greener (Nat.Gov.NDT_Interviewee; Coast3_Interviewee, all 2017). The interviewees are divided about who initiated this shift. Four interviewees see it as a multidimensional concept which comes from all sectors (R1_Interviewee; R2_Interviewee; NGO1_Interviewee; Coast3_Interviewee, all 2017), four believe that the tourists themselves are the initiators due to a growing demand (NGO2_Interviewee; Prov.Gov_Interviewee; Tourism1_Interviewee; Tourism2_Interviewee, all 2017), and three see the government as the initiating body (Coast1_Interviewee; Coast3_Interviewee; Nat.Gov.NDT_Interviewee, all 2017). However, competition between businesses might degrade responsible practices to a certain extent (NGO1_Interviewee, 2017). Tourism2_Interviewee (2017) points out that Responsible Tourism is not effectively managed. Two interviewees do not know this approach.

The focus of Responsible Tourism has been described as "leaving something better for the future" (Tourism2_Interviewee, 2017), "sustainable development" (Nat.Gov.NDT_Interviewee, 2017), and "actually on everything" (Tourism1_Interviewee, 2017). However, the Responsible Tourism sector is not sufficient yet (Prov.Gov_Interviewee; Nat.Gov.NDT_Interviewee, all 2017) and is moving too slow (Tourism2_Interviewee, 2017). The local tourism businesses both see that only parts of tourists are aware of Responsible Tourism practices and choose these products deliberately (Tourism1_Interviewee; Tourism2_Interviewee, all 2017).

Responsible Tourism to prevent coastal degradation

The Responsible Tourism Policy does not speak about degradation but outlines that Responsible Tourism aims at minimizing negative environmental impacts, "including minimization of resource consumption and the conservation of natural resources" (CCT, 2009, p. 9).

Six of seven interviewees concur that Responsible Tourism can prevent coastal degradation, at least theoretically (NGO1_Interviewee, 2017). Nat.Gov.DEA_Interviewee (2017) explains it by the more responsible the tourists, the less pressure is put on tour operators to do unsustainable practices. Nat.Gov.NDT_Interviewee (2017) depicts that it promotes for minimum environmental impacts. According to R3_Interviewee (2017) however, Responsible Tourism needs to become mainstream to prevent coastal degradation. NGO2_Interviewee (2017) has an opposite view because "it will simply increase pressure, and the management and the enforcement will fall behind even more". Tourism2_Interviewee (2017) outlines, that a lot of education is needed to make a change.

The contribution of Responsible Tourism to improve ICZM

The ICMP and PCMP are the only policy directives that make a link between ICZM and Responsible Tourism/ecotourism. The ICMP wants "to use Integrated Coastal Management as a vehicle […] to promote long-term sustainable employment opportunities across a range of sectors including ecotourism […]" (CCT, 2014, p.10f.). The PCMP aims at "supporting the development of Responsible Tourism products in the coastal zone" (p. 37), in order to achieve economic and social development (WCGEA & DP, 2016).

According to the interview analysis, no clear statement can be made regarding the link between ICZM and Responsible Tourism. Eight interviewees have been asked whether they see a connection between these two approaches. The public sector (environment) representatives see it as two different things (Nat.Gov.DEA_Interviewee, 2017) and that the link has not been made yet (Coast3_Interviewee, 2017). According to the researchers and NGOs, there is a link. R2_Interviewee (2017) emphasizes that

“otherwise, why would we bothering with Integrated Coastal Management?” (R2_Interviewee, 2017). Two interviewees stress that they should go hand in hand but this is not sufficiently done yet (NGO2_Interviewee, 2017), whereas it remains a potential link (NGO1_Interviewee, 2017). NGO1_Interviewee (2017) also states that practical Responsible Tourism would benefit ICZM. The tourism representatives and public sector (tourism) representatives also see a link. According to Nat.Gov.NDT_Interviewee (2017), Responsible Tourism contributes to ICZM. For Tourism2_Interviewee (2017), they don’t work closely enough. Prov.Gov_Interviewee (2017) thinks that ICZM would not be needed, if Responsible Tourism worked.

6. Discussion

This section discusses the findings from the data collection phase and relates them to the theoretical framework of this thesis. The aim is to find an adequate answer to the primary research question '**To what extent can resilience to coastal degradation from tourism of the coastal area in Cape Town be increased by applying Integrated Coastal Zone Management?**'.

To answer the research question, this chapter is built up according to the four empirical secondary research questions.

6.1. The relevance and benefits of a resilient coastal SES in Cape Town to tourism impacts

The coastal area in Cape Town is a highly valuable and productive ecosystem (Goble et al., 2014; R1_Interviewee, 2017) which constitutes an important part of the national pride and identity (Cicin-Sain & Knecht, 1998). Therefore, it is important to keep the functions of the coast (ecosystem services) as productive as they are. As degradation negatively affects the value of the coast, the tragedy of the commons (Hardin, 1968) as well as an economic downturn (Lucrezi & Saayman, 2015) need to be prevented, which might occur, if the state of the environment deteriorates and tourism numbers decrease (Clark, 1992). Maintaining the coast is also important for inhabitants who rely on the coast as a source of livelihood. Although the State of the Environment Report of Cape Town outlines that the state is improving (CCT, 2012), the interviewees overall agree (figure 11) that depending on the location the status is rather poor, especially at tourism hotspots (Tourism2_Interviewee). The statement made by R1_Interviewee (2017), "the trend is probably not as good as the current state" highlights that the situation is expected to get worse in the future, relating to rapidly losing coastal ecosystems and ecosystem services.

Figure 16 shows at what point Cape Town stands now. This historical profile of coastal management in Cape Town indicates how the adaptive cycle introduced by Holling (2001) (figure 4) can be applied to the research area.

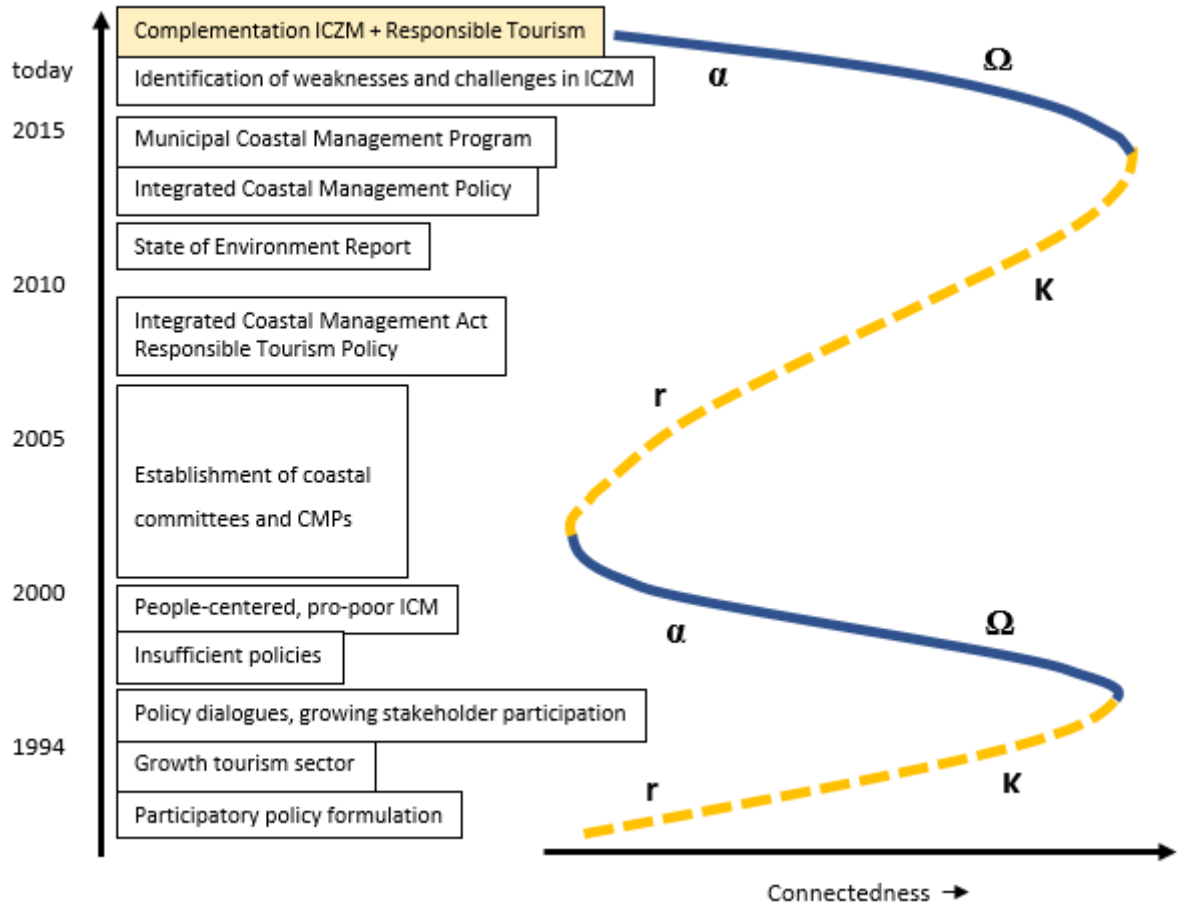

Figure 16: Historical profile of coastal management in Cape Town indicating the adaptive cycle (author, 2017)

The historical profile starts in 1994 when the tourism sector started to grow after the apartheid era as stated in section 5.4. This phase indicates the r-phase, characterized by rapid growth of tourism and resource exploitation. Resilience at this point is high but starts to decrease. During that time, coastal management shifted towards participatory policy formulation where coastal issues increased in importance (Chevallier, 2015). As section 3. explains, policy dialogues offered an opportunity for stakeholders to engage in coastal management, in order to promote sustainable coastal livelihoods. At this point, the system moves into the K-phase, where it loses flexibility as indicated by increasing connectedness. The system finds itself in a lock-in situation. Restemeyer et al. (2016) define a lock-in as a "situation in which sub-optimal solutions persist" (p. 924). They result from path-dependence which means "that the flexibility of a system is limited by how a system developed in the past" (p.924). Consequently, resilience decreases further. However, the K-phase offers high potential for change. Due to the recognition that the created policy is not sufficient to promote sustainable coastal developments (Glavovic, 2006a), the adaptive cycle moves into the Ω-phase, where the current coastal management

paradigm collapses. Thus, changing coastal management towards people-centered, pro-poor ICM in the 2000s (Chevallier, 2015) indicates the α-phase. This new shift in coastal management offers new opportunities for future management and gives the coastal SES the possibility to reorganize and increase resilience again. The creation of coastal management programs as well as the establishment of coastal committees indicate the next r-phase, where resilience is still high. Meanwhile, the tourism sector grows even more. As ICZM is just in its initial stages by formulating the ICM Act, it is not able to prevent coastal degradation by ecosystem loss yet. This is also stated in the Responsible Tourism Policy and the Environmental State Report, which outline that the implementation of Responsible Tourism remains poor (CCT, 2009) and that the coastal environment is still not in a good state (CCT, 2012). The Municipal Coastal Management Program (CCT, 2015) leads to further conservation (K-phase) of the current status, probably resulting in another lock-in situation. The system is moving towards a new Ω-phase, which is just waiting to happen, if the ICZM implementation status does not show signs of improvement. Due the high connectedness, the system has lost flexibility again, and a change is needed. The identification of weaknesses and challenges of ICZM in Cape Town, as done in this thesis, constitutes another Ω-phase. To bring the system into a new α-phase, ICZM should be complemented with Responsible Tourism. Thus, the system has the opportunity to increase resilience again.

Although resilience to degradation from tourism has theoretically shown to be very important, the data collection outlined, that tourism does not seem to be the main reason for coastal degradation in South Africa but coastal development, waste, infrastructure, and human behavior. However, all these causes can be indirectly related to tourism. The more tourists are attracted by the destination, the demand for development increases as well as more infrastructure is required to access resources highly exploited (R1_Interviewee; R3_Interviewee; NGO1_Interviewee, all 2017). Nat.Gov.NDT_Interviewee (2017) therefore outlines that coastal tourism activities should be managed consistently with the coastal carrying capacity, which is the "capacity of an ecosystem to sustain specific resource uses" (Clark, 1992). Human behavior relates not only to tourists but also inhabitants, wherefore there is a massive need for education and awareness raising (Prov.Gov_Interviewee, 2017) provided by Blue Flag beaches and Responsible Tourism. Blue Flag beaches are awarded beaches focusing on environmental information and management aiming at "connecting the public with their surroundings and encouraging them to learn more about their environment" (Blue Flag, 2017).

It is of greatest importance to prevent the coast and its resources from degradation. Figure 11 shows however, that this is not successfully done at the moment because resilience has been lost in certain areas along Cape Town's coastline (Coast1_Interviewee, 2017). Research 2_Interviewee (2017) and Prov.Gov_Interviewee (2017) also ask the question how to measure resilience and who is responsible for managing it. Therefore, this section relates to the question 'resilience for whom?'. Who benefits from a

resilient coastal SES in Cape Town? This discussion is an environmental and social justice issue. The environment would benefit if the ecological resilience increases, e.g. by preventing people from accessing the coast (R3_Interviewee, 2017). However, the result would be a reduced social resilience (R3_Interviewee, 2017) as people could not use the coast anymore as a place for recreation or for their livelihood. Thus, restricting access would not be a clever task as it reduces the quality of life (Davids & Gaibie, 2011). According to Prov.Gov_Interviewee (2017), "there are a lot of hungry people and desperate people and they will do what they can do to put food on the table. […] they don't care if some little fishies need to be preserved. […] they need to eat now". This demonstrates the importance of the coastal area in Cape Town to the inhabitants and further exemplifies how prevailing poverty in South Africa still is.

As the coast is a social-ecological system, a compromise needs to be found, where social resilience and ecological resilience work in concert. Picking up the suggestion by R3_Interviewee (2017), to improve social resilience by enabling people to better manage the environment and tourism, high adaptability is required in successfully managing for resilience (Gallopín, 2006; Walker et al., 2004; Lebel et al., 2006). Consequently, tourism would become more sustainable and the impacts from tourism can be absorbed (R1_Interviewee, 2017).

However, the question remains what exactly the benefits are. The literature does not provide clear examples of benefits but they can be seen as a chain reaction. If for example people would stop walking over dunes, the coast benefits from more stable dune systems. This again benefits the people living behind this dune system as they enjoy a well-functioning storm surge protection. If the environment keeps producing ecosystem services, inhabitants can still use the coast as a livelihood, tourists benefit from a nice coastal area, the tourism sector would grow which again benefits the inhabitants. The overall goal is clear: that everyone benefits from the ecosystem services produced from an intact coastal environment, which relates to the definition of resilience by Folke et al. (2010) used in the theoretical part of this thesis, the "capacity […] to still retain essentially the same function […]" (p.3). However, NGO2_Interviewee (2017), does not know any examples of any democracy that has successfully managed to bring the benefits to the people. But he outlines that "the benefits don't flow to our people". With 'our people' the person refers to the black community. This relates back to the statement made in section 5.1. that the apartheid's influence needs to be considered. To change this situation, costs and benefits need to be fairly distributed, that no one loses but everyone gains. Therefore, it is important to "holding to account those are creating the problem and not allowing them to externalize the costs onto the innocent" (NGO2_Interviewee, 2017). This would also be an opportunity to stop poaching in the Cape Town area, which underlines poverty and inequalities from apartheid and constitutes a big problem resulting in serious, armed conflicts (Prov.Gov_Interviewee, Tourism2_Interviewee, NGO1_Interviewee, and R2_Interviewee, all 2017).

Summarizing this section, the question **'Why is resilience to degradation from tourism of the coastal SES in Cape Town relevant and for whom?'** can be answered. Resilience to degradation from tourism is important as the environmental system needs to be kept alive, in order to produce enough resources for people. Only then, the tourism sector will grow further which contributes to the city and its inhabitants. The adaptive cycle shows that coastal management in Cape Town seems to be in a lock-in situation at present, constantly losing resilience and flexibility. To ensure a healthy coastal environment, which inhabitants rely on, a change is needed. As the quality of life drops, if coastal degradation increases, resilience needs to be increased. But who benefits from a resilient coastal SES? Overall, the benefits cannot be distinguished and assigned to one system or sector but it is rather a chain reaction. Thus, environmental and social justice play a big role. Environmental benefits resulting from high resilience of the environmental system positively affect the inhabitants and tourists. Consequently, high social resilience has a positive effect on the environment. Therefore, high resilience of the coastal SES to tourism impact can be beneficial to all, if it is properly managed. However, the exact benefits could not be explored as this is contextual. But because of the still visible influence of the apartheid, the benefits most likely do not flow to certain parts of the inhabitants of Cape Town.

6.2. Actor's interpretations of resilience to coastal degradation from tourism

The data collection identified ten different definitions of resilience. One was given by the MCMP and nine by the interviewees, which are illustrated in figure 12. Figure 17 divides these nine definitions according to the three elements of resilience, namely robustness, adaptability, and transformability.

Five definitions by the interviewees, illustrated in red, include the terms resist, withstand, and absorb, which can be related to robustness. Davoudi (2012) assigns it to engineering resilience which means to bounce back after a shock and the amount of disturbance the system can take before changing its structure. However, this assumes there is an equilibrium, a 'normal' state the system can bounce back to, what Holling (1973) describes as stability. Regarding coastal degradation from tourism, these definitions apply only if resilience of the coast is high. In this case, it has the ability to withstand tourism impacts. However, the definitions do not include adapting to a situation or even transforming. As the coastal SES is a dynamic, unpredictable complex adaptive system (Gallopín, 2006), there is no equilibrium (Davoudi, 2012). Thus, changes in the system might already imply low resilience or degradation.

Three definitions, illustrated in yellow, relate to adaptability as the system adjusts, adapts and responds, and copes with disturbances. Two definitions relate to the coastal system only ([3], [8]), the other one ([4]) to the whole SES. However, these definitions can be better applied to coastal degradation from

tourism than the afore mentioned five definitions relating to robustness because they recognize the coast as constantly changing to the permanent pressures from human activities.

The definition illustrated in purple includes changes of the system and can therefore be related to transformability. But it implies not to intervene in the natural system, which is impossible to relate to coastal tourism. However, this definition only relates to the ecological system and not to the whole SES. In this case the system would be managed towards transforming. As there is no definition given indicating this, there might be no intention to change the system because this would mean it is not the same as it was before. As the coastal area in Cape Town is very valuable, a change might stand for something negative such as degradation, loss of biodiversity and ecosystems, habitat fragmentation, and others (Davenport & Davenport, 2005).

Figure 17: Definitions of resilience related to robustness (orange), adaptability (green), and transformability (purple) (author, 2017)

The main difference between the definition by Folke et al. (2010) used in the theoretical framework and the definitions provided by the interviewees is that the former one relates to a SES, whereas most of the latter ones relate to the coast, which is only the ecological part of the SES. Thus, the resilience 'of what' and 'to what' questions are applied differently. This thesis relates 'of what' to the ecological system, whereas the 'to what' relates to the social system, which are impacts from tourism. In the resilience analysis by Walker et al. (2002), 'of what' relates to (1) the spatial boundaries, which is the coastal area of the Cape Town Municipality, (2) the key ecosystem services, which have been identified as biodiversity, livelihood, recreation and tourism, and a buffer against flooding in both theory and practice, (3) the stakeholders having an interest in the coastal area, which are inhabitants, tourists, the economy, and politics, and (4) the historical profile illustrated in figure 16 but being influenced by inequalities, unequal access to the coast, and inappropriate development resulting from the apartheid era. Resilience 'to what' means the perturbations of interest. These are all recreational activities belonging to coastal tourism taking place in the coastal area and to develop high resilience, activities have been regulated (CCT, 2015). It is for example not allowed to enter the beach with 4x4 vehicles (Prov.Gov_Interviewee, 2017), to walk dogs at certain beaches, or to drink at the beach (Coast2_Interviewee, 2017), which leaves a lot of litter. There is a focus on sustainability and the intention to educate people towards a responsible behavior.

Another difference between the various definitions of resilience is the interpretation of adaptability. The theoretical part of this thesis relates this to the social part of the SES as the capacity of actors to influence and manage resilience (Gallopín, 2006; Walker et al., 2004; Folke et al., 2010). The definitions given by the interviewees relate adaptability more to the ecological system as the ability of the coast to adapt to the circumstances. A reason might be that the social capacity to manage a system in practice is better known as adaptive capacity instead of adaptability. Looking at various definitions (e.g. Lloyd et al., 2013, Gallopín, 2006, Gupta et al., 2010) of both terms it is striking that their distinction is often blurry, definitions are overlapping or equating. However, as a SES is the combination of a social and an ecological system (Lloyd et al., 2013), both terms should apply to both parts of the system.

Summarizing, the question **'What are actors' interpretations of resilience to degradation from tourism?'** can be answered. This discussion has shown that each interviewee has a different understanding of resilience, however, all definitions can be assigned to either robustness, adaptability, or transformability. The three definitions relating to adaptability are the ones most fitting for this study. Reasons for the several different definitions have been identified as different understandings of adaptability and different frames of reference for resilience. Although the coastal system is a SES, which requires social-ecological resilience, some interviewees relate resilience only to the ecological system. This might indicate that social-ecological thinking is not as mainstream as it has been assumed in the theoretical part of this thesis.

6.3. ICZM to increase resilience of the coastal area in Cape Town and its local implementation

It is striking that almost all papers referring to ICZM that have been used in the theoretical part of this thesis do not mention the term resilience. This might imply that resilience does not have a high focus. But it can also be reasoned with the statement given by NGO2_Interviewee (2017) that the term resilience often relates to climate change. Thus, it is difficult to make a concrete link between ICZM and resilience. However, it can be discussed whether ICZM can prevent coastal degradation which consequently might be connected to managing for resilience. The ICMA outlines that coastal degradation is the reason, why ICZM has been implemented in South Africa aiming at minimizing negatively affecting coastal activities (Government Gazette, 2009). Although according to section 5.1. all interviewees agree that ICZM can prevent coastal degradation, all other representatives conditioned and explained their answers more detailed than the public sector (environment) representatives did, stating, it needs to become a more practical approach, incorporate justice, increase the availability of resources, and have better monitoring and enforcement. The representatives of the public sector (environment) simply answered the question with yes. As all these interviewees are directly involved in coastal management, this simple answer might indicate that preventing coastal degradation with their everyday tasks is a matter of fact.

However, the question needs to be asked what exactly ICZM is doing. The literature does not provide clear examples rather than that it is context dependent and there is no 'one size fits all' solution. Post & Lundin (1996) provide a list of characteristics and guidelines of ICZM and its implementation but every nation should "develop an ICZM structure that is uniquely suited to that nation" (p.5). But what exactly does this mean? How does the Capetonian context differ from other cases?

The interviewees overall agree that ICZM can prevent coastal degradation in Cape Town when it is taken into practice. As NGO1_Interviewee (2017) highlights, "just having good policy by itself without quite robust and agile and energetic and multidimensional enforcement and implementation" does not solve the problem. However, due to an insufficient number of resources and capacities in Cape Town (R1_Interviewee, 2017), the enforcement is rather low and nobody stops people from doing activities that are prohibited (Prov.Gov_Interviewee, 2017). Thereby, the question arises who manages resilience and who needs to be involved in ICZM. According to Clark (1992), it involves all stakeholders that have an interest in coastal resources. However, no information could be found who exactly is included and what the different tasks are. This might be an explanation why ICZM in Cape Town shows some weaknesses.

Officially, South Africa has a nested ICZM system which means there are institutions and responsibilities at all levels that complement each other (DEA, 2014b; Nat.Gov.DEA_Interviewee, 2017). This corresponds with Turner & Schaafsma (2015), Biggs et al. (2012), Cummin et al. (2017), and Hughes et al. (2005) which

all suggest a nested, polycentric governance structure to effectively manage resilience. However, for the interviewees this does not seem to be clear. Section 5.3. demonstrates that there are several understandings of the prevailing governance structures reaching from centralized to decentralized or something in between. The overall perception is that the national government has the overarching responsibility which is delegated down to the provinces and municipalities. This shows how complex the system is, although it corresponds with Chapin et al. (2009) and Lebel et al. (2006) that a certain degree of leadership is necessary to make a decentralized system work. Though, when taking the mentioned weaknesses of ICZM into account as illustrated in figure 14, it is striking that many responses relate to the implementation and enforcement at the local level where the practical implementation takes place.

The local level requires high adaptability (Gallopín, 2006) to make ICZM work which would imply the inclusion of several stakeholders having an interest in coastal issues (Clark, 1992). This is not the case in Cape Town. Because a Municipal Coastal Committee is not mandatory, the local level established a Coastal Working Group. As figure 13 illustrates, there are only governmental bodies involved at the local level. To avoid turning the coastline into a political playing field (NGO1_Interviewee, 2017), more different stakeholders should be included in ICZM at the local level. According to Clark (1992), ICZM requires community action to work properly. Burby (2003) also supports public involvement as it ‘‘creates the potential for planners to expand their understanding of problems and to develop a stronger set of policies for dealing with them’’ (p. 35). Hence, this thesis suggests replacing the Coastal Working Group by a Municipal Coastal Committee involving management authorities, community representatives as well as organizations representing local people and research institutes among others. Although there are such groups involved at the provincial and national level, ICZM institutions in South Africa are overall represented and managed by governmental bodies (figure 13). This might potentially be the reason, why the practical implementation of ICZM at the local level does not work the way it is envisaged in the Act and policies. Although the interviewees identify a lot of successes (figure 14), many weaknesses have been mentioned. The research and NGO representatives found more and stronger arguments than the representatives from the public sector. The successes mentioned by the public sector (environment) representatives all fit in one cluster as they relate to the ICZM progress in Cape Town. The research and NGO groups however, provided more varied successes referring to the system itself and the growing awareness ICZM entails.

However, it is also striking that every interviewee started to mention the weaknesses before the successes. This indicates that a lot of things need to be changed to make the system work well. Therefore, the identified weaknesses need to be discussed in more detail. First, bureaucracies constitute a problem. According to Coast1_Interviewee (2017), strong, rigid bureaucracies are not compatible with dynamic coastal systems. This corresponds with Chapin et al. (2009) and Holdschlag & Ratter (2013) which outline

the importance of flexibility in governance to manage social-ecological systems. However, this strong and efficient bureaucracy in Cape Town managed to stop corruption in the city (Coast1_Interviewee, 2017). The corruption issue has also been addressed by R2_Interviewee, NGO1_Interviewee, and Prov.Gov_Interviewee (all 2017) relating it to "big financial interests [that are] difficult to counter [leading to] legitimized corruption" (R2_Interviewee, 2017).

Second, local people are not linked to ICZM. R2_Interviewee (2017) mentioned a weakness in "how much civil society oversight there is". However, it is not clear if this person considers too much or too little oversight and whether the government oversees the civil society or the civil society oversees the ICZM process. But as both NGO representatives confirm that civil society is underrepresented and that issues are not linked to the problems of the people the statement can be interpreted that the civil society has low control of the ICZM process. A solution, as provided by NGO2_Interviewee (2017), might be to organize ICZM in a way that local people have the opportunity to be involved in the process and receive benefits from their support.

Third, the process needs to be simplified because it is too difficult and smaller municipalities are not able to manage ICZM which leads to problems in enforcement. An explanation might be that ICZM in South Africa is a very young approach (Nat.Gov.DEA_Interviewee; Coast1_Interviewee, all2017) and things need to be improved through learning by doing.

Finally, there is not enough resources available including educated staff and financial means to conduct ICZM. This relates back to adaptability as has been discussed before.

All these weaknesses have been compared to the weaknesses addressed in literature. These relate to the implementation at the local level, a lack of responsibilities, and financial support to the local governments (Steward et al., 2013; Celliers et al., 2015). Hence, the weaknesses identified by the interviewees correspond with the weaknesses addressed in theory. This however means, that the theoretical weaknesses are not new but well-known whereas a solution should be found as soon as possible.

Overall, ICZM in South Africa is moving in the right direction. But at the local level a lot of gaps need to be filled to ensure the system works in practice as well as proposed in theory. This might imply changing the institutions to a certain extent, especially relating to the actor arrangements at the local level. But institutions are often resistant to change which makes it difficult to do so (Gupta et al., 2010). However, the question '**What actor arrangements and governance structures are prevalent in the ICZM implementation in Cape Town?**' could be answered. The data collection has shown that ICZM officially has a nested coastal governance system where every tier of government has a role to play. However, this was not recognizable from the interviews conducted. Because of the various responses from centralized to decentralized structures, the system can be considered as being highly complex. The stakeholder

analysis has also shown that ICZM is mainly governmental driven in South Africa, involving no other body than governmental departments at the local level. This might eventually be a reason why the implementation at the local level is lacking even nine years after adopting the Act.

6.4. Responsible Tourism to overcome the challenges of ICZM

Figure 15 demonstrates the challenges of ICZM mentioned by the interviewees that need to be overcome in the future to have a better functioning system. First, Coast2_Interviewee (2017) suggests considering the failures of the past. This means to start respecting the environment, appreciating the value of the coastline, and putting coastal issues on the agenda for planning. R1_Interviewee (2017) adds that South Africa's past "had a very strong impact on how the coast was developed". ICZM as a people-centered, pro-poor approach tries to address that. Pro-poor relates to the "transformation of coastal poverty into sustainable coastal livelihoods" (Chevallier, 2015, p.15) and aims at empowering coastal communities to strive for coastal sustainability (Glavovic, 2006b). However, equitable access to the coast and its resources is still limited for certain parts of the society (R1_Interviewee, 2017) and inappropriate development is continuously being built in areas where it affects the environment (Nat.Gov.DEA_Interviewee, 2017). Hence, it needs to be asked whether pro-poor failed. Glavovic (2006b) underlines that coastal poverty can only be overcome, if ICZM actively changes the prevailing circumstances.

Another challenge to overcome is the involvement of local people in the ICZM process which was also discussed as a weakness. NGO2_Interviewee (2017) and Coast1_Interviewee (2017) both think that local participation should be increased. Prov.Gov_Interviewee (2017) further highlights that a lot of skilled and educated people are needed to enforce ICZM.

However, the biggest challenge remains the implementation at the local level and economics. Thereby, the ICZM process could also be simplified. Nat.Gov.DEA_Interviewee (2017) further addresses the current regulations which result in arrest, if people do not comply. The system needs to be changed towards educating people to understand the logic behind the rules "so that they comply voluntarily and […] understand what they have to do".

This thesis advertises Responsible Tourism to overcome the above discussed challenges. Although the local tourism representatives did not know the ICZM approach and three of the four public sector (environment) representatives were not aware of the Responsible Tourism approach, both concepts have the same goals such as promoting sustainability of the coastal environment, ensuring local community interaction and their well-being, and combining the mutually exclusive activities of tourism and conservation (e.g. UNEP, 2009; CCT, 2009; UN, 2011). As both approaches move in the same direction, Responsible Tourism could constitute a practical component of the more theoretical concept of ICZM.

Relating Responsible Tourism to the challenges of ICZM in Cape Town, it is striking that Responsible Tourism finds a way to overcome these. Past failures of unsustainable behavior can be overcome by tour operators trying to reduce negative impacts wherever they can and tourists deliberately choose tour operators that offer responsible practices (Tourism2_Interviewee, 2017). Although being responsible is more expensive (Tourism1_Interviewee (2017), it can be assumed that most of the tourists, mainly coming from oversees (NDT, 2017), will have the financial resources to support conservation projects promoted by responsible suppliers. This again would be in the sense of ICZM. However, R2_Interviewee (2017) asks the question to what extent tourists that "come with a 12-hour flight here" can still be considered responsible tourists.

Local communities have a high focus in Responsible Tourism as social upliftment is supported by caring about communities and teaching them (Tourism2_Interviewee, 2017) because "teach a people how to fish and they have fish for a lifetime" (Tourism1_Interviewee, 2017). To raise environmental awareness, many municipalities offer beach clean ups, often in cooperation with authorities and local businesses (Tourism2_Interviewee; R2_Interviewee, all 2017). This would also solve the problem of not having enough resources and capacities in ICZM because Responsible Tourism complements. Local inhabitants could be used for coastal monitoring and ensure that people comply with the rules such as not driving on the beach, not leaving litter, and not accessing areas where it is prohibited. ICZM would therefore be better enforced. Blue Flag beaches already constitute a tool to raise awareness among people by educational programs and provide facilities, although they are not directly linked to Responsible Tourism (NGO1_Interviewee, 2017). This will also lead to voluntary compliance with the rules as desired by Nat.Gov.DEA_Interviewee (2017). However, education along tourists and inhabitants is important to ensure social sustainability and enhance tourists to choose responsible offers deliberately. Tourism2_Interviewee (2017) further highlights that Responsible Tourism "is something that you've got to sustain over a long period and invest in", indicating that it has to be passion-driven to participate in this sector.

However, the Responsible Tourism sector needs to improve as well. The data collection results made clear that the sector is not at a sufficient level yet but growing too slow. It needs to become mainstream to make a change (R3_Interviewee, 2017). However, Gössling (2002) points out that a better understanding of the complex environment and higher environmental consciousness do not necessarily lead to a more sustainable behavior of tourists but rather to an increased resource consumption. Thus, it would be useful to better promote Responsible Tourism by both the National Tourism Department (NDT) but also the Department of Environmental Affairs (DEA). Furthermore, local businesses should be encouraged by the government to participate in Responsible Tourism by providing incentives. At present, local businesses

are not supported financially (Tourism1_Interviewee; Tourism2_Interviewee, all 2017) and cooperation is needed.

At this point, the last question **'What challenges does ICZM face in South Africa and how can Responsible Tourism contribute to overcome these?'** can be answered. The data collection phase has shown that there are several visible challenges, mainly relating to the implementation at the local level. Therefore, South Africa's past needs to be overcome, local people need to be more and better involved in the process, and the focus of political and economic interests in the coast needs to be changed towards the people. Responsible Tourism has been found as an approach to perfectly complement ICZM in all fields of interests. Although this connection has not officially been made and could only be indirectly identified by the interviewees, both approaches strive for the same targets. As Responsible Tourism is a highly practical approach taking place at the local level, it could support and positively influence ICZM. ICZM in turn, could promote Responsible Tourism in the country which is not sufficiently implemented yet. This win-win situation would result in a healthier and more productive environment, more benefits for local people due to the provision of more jobs in both sectors and the direct interaction with tourists as well as better experiences for tourists which positively influences the tourism economy in South Africa. Consequently, the Responsible Tourism sector would grow faster which is in the interests of all stakeholders involved.

7. Conclusion

The aim of this thesis was to explore whether Integrated Coastal Zone Management is a suitable tool to increase resilience of the coastal area in Cape Town to degradation from tourism. This topic has been chosen because there is a considerable research gap in linking the three fields of interest, namely resilience, ICZM, and tourism. Cape Town is the leading tourism destination in Africa with constantly growing numbers of tourists, which is expected to continue in the future. Thus, the coastal area is increasingly under severe pressure from recreational activities running into danger to lose coastal ecosystems, their services, and habitats. As coastal tourism is depending on the coastal environment, the economy would decline as well, if the environment suffers. This would also negatively affect the society as tourism constitutes the main driver of environmental and socio-economic change in Cape Town. Therefore, it can be considered highly important to manage the coast and its resilience to degradation from tourism.

The coast as a social-ecological system can be considered resilient if the system can buffer impacts from tourism and still maintain its identity. As the coastal SES is constantly changing and adapting, flexible management strategies are required. Therefore, its management necessitates high adaptability by all stakeholders, including a certain amount of leadership while ensuring decentralized decision-making. Thus, a polycentric, nested governance structure is of advantage. Social and environmental justice need to be considered to ensure the benefits of a resilient SES are fairly distributed along the people and the environment. This is especially important in case of this study, referring to South Africa's past, marginalizing vulnerable groups during apartheid.

Integrated Coastal Zone Management and the appropriate institutions in South Africa try to address the failures made in the past by not only managing mutually exclusive activities but also transforming coastal poverty into sustainable coastal livelihoods. Although the system itself is well thought out, a lot of weaknesses and challenges have been identified, mainly relating to the implementation at the local level. However, the City of Cape Town is highly willing to implement and enforce ICZM at the local level, as this would conserve the coastal environment on the one hand but increase the economic and social potential of the coast on the other hand. Properly performed ICZM would theoretically be beneficial for both people and the environment. However, inequalities resulting from apartheid lead to an unfair distribution of these benefits. For that very reason, managing the coastal area towards sustainability is of greatest importance as the coast constitutes an essential livelihood of many Capetonians. Educating people about environmental issues would further help to solve existing problems of the country such as poverty and high unemployment rates to a certain extent so that they take care of their livelihood in a sustainable manner, and by creating jobs in the environmental field. Tourists travelling to Cape Town need to

participate in this process as their responsible behavior contributes to a healthy coast and well-being of the inhabitants. Thus, promoting Responsible Tourism and integrating it in ICZM might improve the environmental, social, and economic circumstances in Cape Town.

Considering all these findings, an answer to the main research question of this thesis '**To what extent can resilience to coastal degradation from tourism of the coastal area in Cape Town be increased by applying Integrated Coastal Zone Management?**' could be found. ICZM is quite a useful tool to increase coastal resilience to tourism impacts, if certain requirements are fulfilled. In theory, ICZM aims at minimizing user conflicts by integrating certain stakeholders with an interest in coastal protection and resource conservation from various sectors, different governmental levels, and science. Although ICZM in Cape Town includes all various kinds of integration, local implementation and enforcement is lacking. A reason for this has been identified as the imbalance of stakeholders included. It could be seen that especially at the local level no other stakeholder groups are involved than governmental bodies. Consequently, the interests in the coastal zone are mainly driven by politics which creates another imbalance between the government and society, consequently leading to incomprehension and conflicts, such as poaching or corruption. In this way, ICZM will not be able to sufficiently increase social-ecological resilience of the coastal area to tourism impacts as the benefits would only flow to the political and economic sector. What needs to be done is involving local communities and local tourism businesses in decision-making. Thereby, a better communication between society and government would arise and their understanding of the environment and awareness about their activities would be fostered. This knowledge will be passed to the tourists buying from and interacting with these. Consequently, their environmental conscious will also be increased. All these developments will lead to an increase in coastal resilience to tourism impacts, which in turn will be minimized. With the horizon widened, ICZM would become a more practical approach instead of a theoretical concept like it is at present.

This theory-practice gap can be filled by combining ICZM with another more practical approach. Therefore, this thesis recommends a combination of ICZM and the concept of Responsible Tourism as both aim towards the same goals, like minimizing environmental impacts, enhancing interaction between tourists and local communities, and raising awareness among social, cultural, and environmental issues. Although research on Responsible Tourism is not sufficient yet and being a responsible tourist is still not clearly defined, both have the opportunity to increase resilience of the coast, if they are properly enforced. Such a contribution would further result in a mutual support. ICZM would promote the Responsible Tourism sector which is still growing too slow leading to increasing numbers of sustainable and responsible tourists taking care of the environment and deliberately choosing responsible practices. Consequently, coastal degradation from tourism will decrease as the people's awareness raises. On the other hand, Responsible Tourism would support ICZM, not only with more staff and different stakeholders

than government to ensure enforcement, but also with practical solutions how to overcome the challenges of ICZM. Hence, coastal degradation from tourism could be minimized which benefits the environment on the one hand, and the resource users like inhabitants and tourists on the other hand. At present, ICZM cannot fully influence coastal resilience to tourism impacts in a positive way on its own. This could also be highlighted by the adaptive cycle in which the system finds itself in the transition from the K-phase into the Ω-phase, indicating a collapse of the current management strategy.

However, ICZM in South Africa is still a very young approach that needs to mature over time through learning by doing. Therefore, it is likely that this thesis would bring different, probably more positive outcomes, if this research was done years or decades later. In this case, probably a higher amount and more recent documents could have been analyzed. The number of relevant documents for this study has been limited and some have been published already years ago. Consequently, its relevance to the current situation is debatable. Furthermore, the distribution of interviewees has influenced the outcome of this study. It was expected to interview the same amount of people from all three tiers of government as well as NGOs, research institutes, management authorities, tourism businesses, and inhabitants. However, many potential interviewees did not feel in the position to give adequate responses and forwarded the request to further contact persons. In addition, some requests remained unanswered whereas e.g. no management authority could be interviewed. Furthermore, inhabitants needed to be excluded from this study as it proved to be impossible to filter who is eligible to participate.

Nevertheless, the outcome of this study might not only be beneficial for Cape Town but also for other countries facing a similar situation of experiencing a growth in coastal tourism while being at risk of coastal degradation from it. These countries can learn from South Africa, which ICZM system will be successful. However, they can also learn which gaps to address to ensure proper local implementation and enforcement and thus, not repeat the same mistakes Cape Town has done. Areas just starting to become a tourism destination should focus on Responsible Tourism right from the beginning to prevent the coastal SES from moving into an undesired state resulting from unsustainable tourism activities leading to a loss of coastal resilience to degradation from tourism.

Consequently, for planning practice it could be highlighted what conditions need to be fulfilled to successfully implement ICZM. Coastal issues like degradation from tourism need to be considered to ensure the coastal area remains a source of life. As the coast is the center of attraction for tourists, it therefore is an important source of revenue for South Africa and other countries. It should have highest priority to keep this ecosystem healthy and well-functioning, whereby its resilience needs to be increased and maintained. By bringing together the two concepts of ICZM and Responsible Tourism, concrete suggestions for planning practitioners could be provided. For planning theory conversely, it could be outlined, how important it is to better research on the link between resilience, ICZM, and tourism. There

is only very little literature available dealing with this connection making it difficult to provide adequate interrelations between them. As each of these fields is quite broad itself, connecting them resembles more a 'pick and mix' choosing the most suitable parts. If a full body of research would exist, the data serving as theoretical basis for this study could be considered more valid. Therefore, research should focus more on the connection between resilience, ICZM, and tourism. The problem of coastal degradation from tourism is expected to increase in the future due to a growing tourism sector, consequently leading to more pressure on the environment exhausting the limits of its carrying capacity. Successful strategies of coastal management need to be developed to ensure a growing but beneficial tourism sector by not negatively affecting the coasts' resilience. By including responsible tourism in this process, a healthy coastal environment would be supported and the threat of coastal degradation from tourism can be minimized.

Concluding, the process of this thesis revealed some aspects, which would be interesting to research in the future. Firstly, defining a tourist is rather blurry. What constitutes a coastal tourist and how does it distinguish from other forms of tourists? How to describe an inhabitant using the coast for recreational activities? To what extent can this person be considered a coastal tourist? Secondly, research is needed on finding incentives how to get local tourism businesses to participate in the responsible tourism sector. As being responsible is more expensive and certain requirements need to be fulfilled, it seems rather detrimental for the businesses to become more responsible suppliers. Lastly, research should elaborate on a guideline of how to successfully implement ICZM in different contexts. According to the literature, its implementation and enforcement is depending on the local context. However, it is not clear who different contexts can be distinguished and what specific type of ICZM implementation is needed respectively.

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Appendix

Full questionnaire

Coastal SES / Resilience:

- What do you consider the main ecosystem services of the coastal area in Cape Town?
- Do you see a difference in how tourists and inhabitants use the coast?
- How would you describe the current state of the coastal environment?
- Do you monitor the state of the environment?
- Do you see a relation between coastal degradation and tourism activities?
- Is tourism a trigger for coastal degradation?
- What do you understand by resilience?
- How would you relate coastal resilience and coastal degradation to each other?
- How would you relate coastal resilience to tourism impacts to social and environmental justice?
- Do you consider high resilience of the coast in Cape Town positive or negative?
- What are the benefits for the environment and the people if resilience of the coast to tourism impacts increases?

Coastal planning:

- How would you describe the current planning regime?
- Did the planning system change in the past to prevent environmental degradation by inappropriate development?
- What role does the apartheid era still play in coastal planning/management/development?

ICZM:

- How is ICZM practiced in Cape Town?
- Who is involved and responsible for what?
- Which governance structures are prevailing?
- Where do you see successes and weaknesses in the ICZM process?
- What is the major challenge for the future (local level)?

- To what extent are local communities involved in integrated coastal management?
- Do you think ICZM prevents coastal degradation from tourism?
- Can ICZM increase resilience of the coast?

Tourism:

- How does the tourism sector develop?
- Do you see a shift towards more responsible tourism?
- What is the focus of responsible tourism?
- Who initiates that (tourist operators, policies, tourists themselves)?
- How are local communities included?
- Do people chose responsible tourism offers deliberately?
- What is the major challenge for the future in this sector?
- How is the Blue Flag status related to responsible tourism?
- Do you think responsible tourism prevents coastal degradation?
- Do you see a link between ICM and responsible tourism?

Declaration of Authorship

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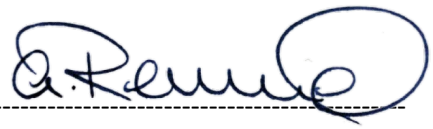
Ariane Remmel	Groningen, 12.08.2017 
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