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Climate Change Adaptation in Small Island Developing Countries – A Case Study of the “Whole of Island” Approach of Kiribati



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Abstract

This thesis focuses on the effects climate change has on Small Island Developing States in the Pacific and aims at analysing the adaptation strategy followed by the island state Kiribati which developed the so-called “Whole of Island” (WoI) approach to address the impacts of climate change. The research question on which this paper is build reads *How does climate change affect the Small Island Developing State Kiribati and why did its government decide to follow a “Whole of Island” approach as adaptation mechanism to the effects of climate change?*

In order to answer the research question the thesis follows a qualitative research approach by analysing government documents related to the implementation process of the WoI approach, in particular it is be based on the *Abaiang Island, Kiribati – A Whole-of-Island Integrated Vulnerability Assessment* which was published in 2016. The deductive research applies state capacity theory and the governance concept as well as public governance theory for the analysis. Further three branches of new institutionalism, namely normative, historical and rational choice, are considered to identify the rationales behind the choice of a Whole of Island approach.

Following the elaboration on the chosen method and theories a background chapter provides information on Kiribati, its people and their governance system. Here it can be seen that due to the great distance between the different islands of Kiribati a complex governance system developed over the years with influential village and community leaders. In political decision making processes next to the central Kiribati government traditional tribal leaders still have a strong influence also in the context of climate change.

Further the background chapter portrays how climate change affects Kiribati and why it is particularly vulnerable. Aside from the general rising of the mean sea level climate change also causes an increased number of droughts and floods in Kiribati which leads to erosion and the salinization of scarce fresh water lenses on which the livelihoods of many people depend. In combination with socioeconomic factors like a rapidly growing population climate change can cause food shortages and other problems in Kiribati in the future.

The analysis focuses on the development as well as the implementation of the WoI approach and its initiator the Kiribati National Expert Group (KNEG). To begin with the objectives of the WoI approach are analysed which mostly centre around the idea of greater integration of adaptation initiatives across the islands, involved actors across sectors and more regional cooperation. Further it looks into the ways state capacity is used by the government to

implement the adaptation program and identifies that it applies mostly indirect state capacity through the involvement and sharing of authority with local leaders and communities. The analysis comes to the conclusion that there is high degree of state capacity in the context of climate change adaptation in Kiribati. As a next step the governance networks involved in the implementation process are examined. It is established that the KNEG resembles the type of network governance describes as it unites actors from different backgrounds including civil society, national and local government representatives to work towards the common goal of climate change adaptation. An important part of these networks are institutions which are understood as formal or informal frameworks that structure the behaviour of society. The KNEG as well as the WoI are interpreted as institution in the context of this paper. It is concluded that rational choice institutionalism can explain their acceptance by the population as they are seen as means of utility maximisation which in this particular setting would be the preservation of people's livelihoods. Further, the continuing importance of traditional tribal governance structures is expounded with historical and normative institutionalism as the preservation of traditional values can be understood to have developed into institutionalised behavioural patterns that shape the society.

In the discussion part of the analysis the previous findings are put into the context of the research question and interpreted. Three reasons stand out in the assessment of the results which can explain the choice for a WoI approach to climate change adaptation in Kiribati. They are characteristics particular to the circumstances of Kiribati, namely the great distance between the different islands of the country which require a more integrated approach to adaptation and secondly related to this the need for an approach the recognises the necessity of cooperation and coordination of various actors and does not only rely on top-down approach initiated by the central government. The third reason is the strong influence of tribal structures especially in the more remote parts of the country and the need to include them into the decision making process on adaptation measures in order for them to be effective.

The thesis ends with a conclusion which summarises the papers approach and results. Further it makes the recommendation to other Small Island Developing Countries to adopt the idea of an adaptation approach that pays attention to domestic particularities and to develop a program that is based on an assessment of the innate vulnerabilities and characteristics of the country.

Table of Contents

- List of Abbreviationsiii

- 1. Introduction1
- 2. Literature Review3
- 3. Methodology5
 - 3.1 Method5
 - 3.2 Sources6
 - 3.3 Limitations8
- 4. Theory9
 - 4.1 State Capacity Theory10
 - 4.2 Institutional Theory13
 - 4.2.1 Normative Institutionalism15
 - 4.2.2 Historical Institutionalism15
 - 4.2.3 Rational Choice Institutionalism16
 - 4.3 Governance19
 - 4.3.1 Public Governance Theory21
- 5. Background Information on Kiribati23
 - 5.1 Governance25
 - 5.2 The Effects of Climate Change on Kiribati27
- 6. Analysis29
 - 6.1 The “Whole of Island” Approach30
 - 6.1.1 Whole of Island Approach Objectives31
 - 6.1.2 State Capacity through the Whole of Island Approach33
 - 6.1.3 The Role of Governance34
 - 6.1.4 The Role of Institutions36
 - 6.1.5 Project Implementation under the Whole of Island Approach.....41
 - 6.2 Discussion43
- 7. Conclusion45

- Bibliographyiv

List of Abbreviations

AOSIS	Alliance of Small Islands States
ENSO	El Niño–Southern Oscillation
GK	Government of Kiribati
GIZ	Deutsche Gesellschaft für International Zusammenarbeit (German Corporation for International Cooperation)
HI	Historical Institutionalism
IMF	International Monetary Fund
KJIP	Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management
KNEG	Kiribati National Expert Group
LDC	Least Developed Country
MELAD	Ministry of Environment, Lands and Agricultural Development
MOE	Ministry of Education
MPWU	Ministry of Public Works and Utilities
NGO	Non-Governmental Organisation
NI	Normative Institutionalism
OTB	Office of <i>Te Beretitenti</i>
RI	Rational Choice Institutionalism
SIDS	Small Island Developing States
SPREP	Secretariat of the Pacific Regional Environment Program
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WoI	Whole of Island

1. Introduction

Growing evidence suggests that climate change will advance to become one of the main global security threats. Its effects, already perceptible in many regions of the world and negatively impacting livelihoods for example through the absence of rain, will continue to worsen over the coming decades and exacerbate the situation of many people. Even though climate change is an issue that will affect all parts of the world and cannot be contained within national borders there are regions and countries that, due their special circumstances and national situations, are more vulnerable to its effects. One of these areas is the Pacific and in particular the group of Small Island Developing States (SIDS).

SIDS' are especially vulnerable to climate change because of their size and isolation (Crick et al. 2013, 248) which exposes them in particular to the rising of sea levels and warming of the ocean. However within the group of island states there are also differences in regard to their stage of development as well in their natural composition as some are high volcanic islands whereas others are low-lying atolls (Aalbersberg et al. 2014, 221). Especially for the less developed island states the vulnerability of their biodiversity and marine ecosystems is accompanied by their already poor water and food security as well as limited institutional capacities (Crick et al. 2013, 248) which exacerbates the effects of climate change.

As a Least Developed Country that consists of low-lying atoll islets Kiribati can be characterized as particularly vulnerable to climate change. This is for example due to the fact that atolls are almost entirely coastal and the small inner inland parts of the country are barely inhabited (Aalbersberg et al. 2014, 223) which puts the coastlines in particular risk of increasing floods and storms. As the situation of Kiribati is expected to deteriorate rather quickly its government is required to put strategies into action that will help tackle future challenges related to climate change.

Generally, mechanisms to cope with the effects of climate change can be distinguished into two groups: 1. mitigation and 2. adaptation measures in which the first strategy tries to limit the ongoing effects of climate change for example through cuts in greenhouse gas emissions whereas the second aims at finding ways to live with the changing climate. Globally seen, the majority of taken measures can be regarded as adaptation measures, which is also the case for Kiribati. Over the past eleven years the government of Kiribati has issued several programs and strategies to organise its islands adaptation to climate change for example the *Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management* (KJIP) from

2007 or the *National Framework for Climate Change and Climate Change Adaptation* in 2014.

The experience from implementing these programs showed that even though many of the right measures and tactics were taken they lacked a degree of internal coherence and coordination. This is why in the 2014 *National Framework for Climate Change and Climate Change Adaptation* the President of Kiribati proposes to follow a “Whole of Island” (WoI) approach for future climate change adaptation. This concept was developed by Kiribati National Expert Group, a multi-stakeholder group initiated by the Kiribati government. The idea behind this approach is to view adaptation as a holistic strategy that has to include all socioeconomic and ecological aspects of island living into its approach. Instead of focusing on only certain projects or only one sector the goal of this approach is to tackle the problems caused by the effects of climate change in an integral way which for example involves actors from all parts of society and addresses marine ecosystems as well as improving government institutions or health and education.

This paper aims at identifying the national particularities of Kiribati that led to the development and implementation of a WoI approach. For this purpose it is going to focus on the effects of climate change on Kiribati as well as on aspects like governance or state capacity and the role they play in the decision making process. The research question of this thesis therefore reads: ***How does climate change affect the Small Island Developing State Kiribati and why did its government decide to follow a “Whole of Island” approach as adaptation mechanism to the effects of climate change?***

In order to answer this question an overview of the relevant academic literature concerning climate change adaptation by SIDS in the Pacific and on the particular case of Kiribati will be presented in the following chapter. Afterwards the methodological considerations on the theories and methods applied to answer the research question will be introduced. Next a background chapter will provide information on Kiribati in particular in regard to its governance system and the ways in which climate change affects the country. In the following analysis chapter climate change adaptation under the Whole of Island approach in Kiribati will be examined and possible reasons for this choice of adaptation mechanisms will be discussed. At the end of the paper there will be a conclusion summarising the results and answering the research question.

2. Literature Review

When it comes to the negotiation of international climate agreements small island states usually consult together as a group in order to build a bigger platform and gain a more influential negotiating position. For this reason the literature on internationally binding climate contracts mainly portrays the group of island states and does not cover the individual national efforts as much. Similarly to this paper's perspective however, academic literature and research becomes more state-centred when it comes to the different countries' specific adaptation to the effects of climate change within their territory. As this thesis takes a domestic approach to adaptation mechanisms, the majority of the reviewed literature also focuses on climate change adaptation in Kiribati individually and not on a whole group of islands. However, in order to also provide the global context of climate change adaptation, some literature on international agreements has been reviewed as well. Yet, no publications with an individual focus on the Kiribati role in this kind of negotiations were available.

Even though the group of small island states (AOSIS) is one of the smallest in regard to the actual size of international groups and negotiating blocks they had and still have a comparatively high influence when it comes to the negotiation of internationally binding climate agreements. Their shaping role in the development of conventions like the UNFCCC or the Paris Agreement is well documented in academic literature as well for example by Ashe et al. (1999) who analyse the successful negotiations of AOSIS leading up to the UNFCCC. They demonstrate that of the twelve goals AOSIS entered into the talks with, ten were adopted into the final document including points like the covering of financial obligations related to the implementation of the UNFCCC as well as of some mitigation and adaptation mechanisms in developing countries by industrial states (Ashe et al. 1999, 214). Similarly, Ourbak and Magnan outline AOSIS' three main goals for the Paris Agreement which are all contained in the final document as well. The three objectives were the recognition of SIDS' particular vulnerability and needs in regard to climate change, the inclusion of a fixed temperature target as the goal for international emission cuts and the recognition of the loss and damage concept in the agreement dealing with issues of compensation and liability (Ourbak & Magnan 2017, 3).

In the context of Kiribati various aspects of climate change adaptation are covered in academic literature. They range from comparative studies with adaptation mechanisms in other regions, over the significance of traditional environmental knowledge in regard to climate change adaptation to studies of the effectiveness of specific measures such as the building of seawalls.

A study by Crick et al. (2013) compares the different adaptation strategies that are applied in South Africa, Canada and Pacific Islands and identifies challenges and opportunities in the individual settings. Even though this study's approach takes a different, broader perspective on the whole group of Pacific islands it nonetheless is able to provide some interesting insights. The researchers were able to determine at least four common themes of adaptation that apply to every region, which are the crucial role of institutions for a successful implementation of adaptation measures, the access to human and social capital, the importance of differentiated analyses of communities in order to identify the most vulnerable within a society and the realisation that successful adaptation is "about adapting to multiple stressors" (Crick et al. 2013, 251). Further, they advocate the integration of Western and local knowledge in order to develop the best possible practice and were able to identify challenges in adapting to climate change organic to SIDS. These are themes that are also discussed in publications by Aalbersberg et al. (2013) and by Donner and Webber (2014).

The article by Aalbersberg et al. deals with the fact that different adaptation measures are suitable for peripheral and core areas in Kiribati. The authors identify a disconnect between the current scientific knowledge and the adaptation measures applied in rural areas of the country and like Crick et al. argue for an integration of science and traditional knowledge. The three main challenges for adaptation in rural areas they detected are a "lack of awareness among key community decision makers, [...] the inappropriateness of traditional decision-making structures [...] [and] the short-term views of resource management" (Aalbersberg et al. 2013, 221).

Donner and Webber also focus on challenges to adaptation decision making, however, their article concentrates more on scientific obstacles posed e.g. by the unpredictability of sea level rising and weather phenomena as well as on the different adaptation options ranging from hard to soft and from short- to long-term solutions. Further they mention migration as a viable adaptation mechanism. Their main findings and recommendations in relation to the adaptation decision making progress include short-term planning of solutions, a regular revision of adaptation measures, considering more expensive solutions like migration and the requirement of stable, long-term staff and financial support (Donner & Webber 2014, 343).

One hard adaptation measure suggested by Donner and Webber which is examined in more detail in a study by Frankland et al. (2012) is the construction of seawalls along the coastlines of Kiribati. In this study the authors present the development of a new model of seawall and the expected related improvements. Here as well, the building on and inclusion of existing knowledge and the practicality for the local population is stressed as an important factor.

The aim of this paper is to identify what domestic reasons and particularities led to the development and implementation of the Whole of Island approach to climate change adaptation in Kiribati. The reviewed literature serves this purpose in several ways. Next to portraying the societal and geographical context of Kiribati which allows for possible conclusions on adaptation planning and explaining what means of adaptation have already been taken, the literature review also helps to shed light on the influence of traditional values and customs especially in remote parts of the country and to identify what possible impacts they have on climate change adaptation. Additionally, many of these articles stress the importance of compatibility of tradition and locally developed mechanisms and scientific knowledge on climate change adaptation. Even though there is a gap of research in regard to the particular role of Kiribati in the context of international climate negotiations the literature on the whole group of AOSIS allows for some conclusions on the impact that the negotiations had on the development of national programs which is why they are a useful attribute to the literature review as well.

3. Methodology

This chapter serves to provide an overview of the methodological considerations that were taken in order to structure this paper and answer its research question. In the beginning the method and research design will be presented followed by a methodological contextualisation of the applied sources. Further, possible limitations of these methodological steps will be introduced.

3.1 Method

The research design of this paper is based on a case study of the development and implementation of the Whole of Island approach to climate change adaptation in Kiribati. The main object of the analysis is a vulnerability assessment of the island Abaiang which was carried out in 2016 in order to determine the best suited places for a trial of the Whole of Island approach. In particular its deliberations on the WoI will be analysed. Further the governance networks required for development and implementation of the WoI and adaptation in general as well as correlated institutions will be considered for the analysis of the WoI approach through a deductive research strategy which will be based on three theories, namely state capacity, institutional and governance theory.

A case study of one particular approach to climate change adaptation in one country is a beneficial method as climate change is a very complex subject with different consequences in different regions of the world. Different models like a broader study or the comparison of

several approaches would not allow for an as detailed analysis as one case study does considering the timeframe and limited page number of this thesis. Case studies can provide an in depth study of one particular field and setting which presents the opportunity to determine in detail how climate change affects a country like Kiribati and what influences and dynamics led to the choice and development of its particular approach.

Yet, even though a case study appears to be the right method in approaching this topic it needs to be noted that this type of research design also has limitations. While they provide the opportunity to learn in detail about one case they make it difficult to draw universal conclusions. It needs to be remembered that the results of this study are only applicable to Kiribati and its national characteristics which can not necessarily be transferred to other countries. Concretely this would for example mean that even though the Whole of Island approach proves to be a good adaptation strategy for Kiribati this does not automatically imply that it will be effective in other countries as well.

3.2 Sources

This paper is based on the qualitative analysis of primary documents, in particular on the *Abaiang Island, Kiribati - A Whole-of-Island Integrated Vulnerability Assessment* from 2016 as well as on some preceding government programs related to climate change adaptation in order to contextualise the efforts made by the Kiribati government and citizens. Even though Kiribati as a small island developing state is limited in its institutional capacities by financial and staff constraints its government was nevertheless able to develop and publish several programs and documents in which the country's climate and adaptation strategies are laid out. In 2014 a vulnerability and adaptation assessment of Abaiang, the first implementation site of the Whole of Island approach, was conducted. The *Abaiang Island, Kiribati - A Whole-of-Island Integrated Vulnerability Assessment* which was published by SPREP and its partners in 2016 gives an overview over the biggest threats caused by climate change to Abaiang. Moreover, it lays out which areas of the daily lives of the people of Abaiang will be affected the most and how. As a next step the report gives recommendations for adaptation measures for each of the affected areas including Fisheries and Marine Resources, Coastal Ecosystems, Water Resources, Institutions, Traditional Knowledge and Education and Skills. Further, the report informs about the key principles along which the Whole of Island approach is guided which are the "inter-connectedness of social and ecological systems", (SPREP et al. 2016, 17) the sharing of lessons learned in the course of the implementation phase, prioritising community participation and traditional knowledge and inclusive decision making which gives a voice to the most vulnerable groups of society. In addition, the report highlights the

intention of spreading the ideas of the Whole of Island approach to other islands of Kiribati as well (SPREP et al. 2016, 17).

Another important adaptation plan by the Kiribati government which incorporated the idea of a Whole of Island approach is the *Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP)* for the period from 2014 to 2023 which was presented in 2014. This plan also highlights the fact that socio-economic and environmental pressures are increasing and calls for a “systematic and integrated approach” (OTB 2014). It aims at involving actors from the government as well as from civil society and the private sector and reduce risks with this “whole of country approach” (OTB 2014, 9). Furthermore the plan entails the establishment of new institutions to facilitate implementation and monitoring and thereby overcoming some of the country’s institutional shortcomings. A last important point the implementation plan makes is that the “KJIP is understood to be a living document” (OTB 2014, 48) which means that it will be revised and can be adapted to new scientific findings and changes. In the context of this thesis the KJIP will mainly serve as a supporting source for the analysis of project implementation under the WoI approach.

These documents are made available by the government of Kiribati as well as its international development partners. Even though accessing primary sources relate to climate change adaptation in Kiribati did not prove to be problematic the documents need to be considered with caution nonetheless. As official government papers these reports carry a natural, national bias for example in relation to who is to blame, and related, who needs to take financial responsibility for climate change and its effects. Further, the measures proposed in these documents are those considered most efficient by the government however this does not necessarily mean that they are in the best of interest of all parts of society. Consequently, programs issued by other actors than the state might suggest different measures. This means that even if the government programs are developed in cooperation with international partners and experts they still only represent a limited perspective of the issue which limits the credibility of the sources to some extent.

In order to address this bias this thesis also draws on a variety of secondary sources to guarantee a balanced analysis. They are mostly comprised of academic articles which have been published by a diverse group of authors with various backgrounds for example from developed as well as developing countries. This way it can be ensured that not only one but numerous and sometimes contrary perspectives of climate change adaptation in Kiribati are represented and taken into consideration for this paper.

3.3 Limitations

It needs to be noted that even with a carefully chosen and developed research method and a balanced pool of primary and secondary sources this paper as most academic publications is not immune to some kind of limitations.

In regard to research design this paper is relying on the qualitative analysis of documents to make statements and draw conclusions on climate change adaptation in Kiribati. However, this analysis is based on the results and findings of other scholars and not on own data collection like interviews with Kiribati citizens. Consequently, it is possible that not all questions intended to be analysed in this paper will be answered because they are not covered in the existing research. Furthermore, the sources need to be questioned critically and not simply accepted as given facts as they are likely to be affected by some bias or certain purpose and intention. Additionally, the aforementioned shortcoming that only few universally applicable conclusions can be drawn from a case study needs to be kept in mind.

The approach to study an adaptation program that is currently being implemented offers the possibility to include and react to new developments and findings. However, as the implementation is still in progress it is difficult to comprehensively evaluate the WoI's effectiveness. Therefore the lack of final results can be considered as a limitation to this approach. However, the novelty and progressiveness of the WoI still makes it a program worth analysing because even incomplete results can provide first insights.

As with any other academic paper it needs to be noted that all interpretations and understandings are influenced by the author's academic and social background which shapes the use and understanding of sources and theories. For this reason several interpretations of the same facts, or in the case of this paper theories and sources, are possible and depend on the researcher's background. This applies for the cited works as well as for the inferences made in this paper. Therefore, various interpretations and explanations for the findings of this paper are possible. Consequently, it is essential to point out that this study can only provide one possible interpretation and that other understandings and conclusions of the provided data are possible and that no interpretation can be entirely objective. This applies also for the choice and use of theories selected for the analysis of the reasons that led to the implementation of the Whole of Island approach in Kiribati which will be explained in the following chapter.

4. Theory

This chapter serves to introduce the theoretical considerations on which the analysis of climate change adaptation Kiribati is based. In order to develop a comprehensive analysis of the factors that led to the implementation of the Whole of Island approach this paper is going to draw on three theories. The main part of the analysis is going to be based on state capacity theory which is supposed to help explain if and how the state is able to implement this program. In particular state capacity theory will be applied to determine what forces and dynamics are at play that impact this capacity. Further it will be applied to answer the question where Kiribati's state capacity is rooted and if it is with the support and acceptance of society. One of the main objectives of this analysis will be to determine how state capacity is exercised. In this context institutions are often put forward as a major driving force, yet state capacity theory fails to give detailed information about their internal structure or the reasons for their creation in the first place. This marks a limitation in the use of this theory as these aspects are essential in order to contextualise where the institution's power is coming from as well as where their weaknesses lay or how to explain institutional change. For this reason institutional theory will be used to support state capacity theory.

In the context of this paper the purpose of institutional theory is to explain why institutions are influential or in other words why people abide by the state capacity they are exercising. Further it will be analysed how institutions can act as a provider of order and stability within the theme of climate change adaptation in Kiribati. The analysis will be based on three different branches of new institutionalism as it appears better suited for the examination of a complex concept like climate change adaptation than old institutionalism. The choice of normative, historical and rational choice institutionalism is partially based on reasons of relevance and on the fact that these different approaches are able to provide a balanced overview of the most relevant aspects of new institutionalism. The main emphasis will be on rational choice institutionalism as its characteristics appear best fitting to explain institutional change and development in Kiribati. However, the fact that this approach only focuses on rational motives can be considered a limitation since it might rule out important aspects of institutionalism in this particular case. Consequently, historical and normative institutionalism will be used to inform and complement rational choice institutionalism.

Yet, when looking at most programs it becomes clear that institutions are not the only implementing force but rather a whole groups of diverse actors that build a network in order to design and implement policies. These types of networks are often also referred to as governance. Even though institutions may be the main driving force in governance the

interaction with and between other actors should not be underestimated in the context of program implementation. Therefore, as a third concept governance and more precisely public governance theory will be informing the analysis as well. Different to the other two, governance should be understood more as a concept rather than as a theory. Concepts can be defined as “the building blocks of theory [that] represent the points around which social research is constructed” (Bryman 2008, 143). Concepts can be used to explain certain aspects or variations in research results which is also the objective of the concept of governance in this thesis.

The purpose of governance is to explain how the interplay of actors including institutions, government and the public and private sector helps the implementation of laws and the performing of state capacity. Mainly, governance will be used to determine where the steering capacity, which is closely related to state capacity, is located in Kiribati governance. Even though state capacity and governance appear to be similar concepts the main reason why both will be used in this paper is that governance addresses a broader circle of actors. While state capacity concentrates mainly on the government governance explicitly also involves other actors for example from civil society or the private sector. This wider perspective appears to be useful in the context of Kiribati as this country still has an influential tribal culture with own institutions like councils that exist next to the official state government. In order to properly include these and others players into the analysis as well, governance will be used as a supporting concept to state capacity and institutional theory. On the following pages the main ideas of the three theories and concepts will be introduced as well as their purpose in this paper and possible limitations to the range of explanation they are able to provide.

4.1 State Capacity Theory

State capacity theory aims at explaining how effectively the state or in other words the government is able to implement policies and enforce the rule of law in its national territory. It “originally referred to the power of the state to raise revenue” however lately research on the topic has been extended to other competences such as the “power to enforce contracts and support markets through regulations or otherwise” (Besley and Persson 2010, 1). In this context the relation and confrontation of state and society is of interest as it highly determines state capacity. Knutsen therefore defines it as the “states’ ability to implement official goals, especially over the actual or potential opposition of powerful social groups” (Knutsen 2013, 2).

Over the years several conceptualisations of state capacity have been developed which focus on different aspects or emphasise different points of the concept. The World Bank in its 1997

World Development Report identified three levels of state capacity. First, a minimal level of being able to provide public goods to society, second a middle-level which includes the provision of services like education and health care and third high-level state capacity in which the state is for example able to ensure market development (Chhibber et al. 1997).

Other scholars only focus on one particular capacity, in many cases the state's ability to generate economic growth and development. This "transformative capacity" to promote industrial and economic change can be found with several scholars (Knutson 2013, 2 and Alpermann 2010, 15). Consequently, state capacity is associated with the degree of development and low state capacity can be viewed as an indicator for weak and fragile states. Scholars like Besley and Persson see a relation between low state capacity, the inability to collect revenue and economic development. In their opinion "the ability to raise revenue is strongly positively related to the ability to support markets, as well as to the level of economic development (Besley and Persson 2010, 3). Developing or Least Developed Countries (LDCs) can therefore be expected to have a lower state capacity than more developed and industrial states.

To investigate the relation of state and society, state capacity theory sees two possible approaches, first state-centred and second society-centred. While a state-centred approach would regard the state above and to certain degree detached from society a society-centred understanding of the theory claims that society dominates the state which cannot make decisions on its own but only in consultation with societal groups. However, there are also scholars arguing that the two approaches should not be regarded separately and that only a combination of them, a so-called "state-in-society" approach will help understand state capacity to its full extent (Alpermann 2010, 12). No matter the approach however, it cannot be argued that a certain degree of state autonomy from society in the development and implementation of policies is necessary for the well-functioning of a stable, objective and fair governing apparatus.

It would appear that a high influence of social forces could diminish state capacity as they could use their power to shape laws in policies in their favoured direction and to their advantages. However, there are also scholars like Weiss (1998) who claim that autonomous consultations with these interest groups can be a way for the state to enact and increase its capacity (Alpermann 2010, 14). The argument here is that an inclusive yet autonomous development of policies is more effective than their simple imposition by the state which is only considered to be constructive in early stages of economic development. At later stages Weiss argues it is important to encourage cooperation and "to elicit cooperative responses"

from all sectors through involvement and consultation in the forming and carrying out of policy proposals (Alpermann 2010, 14). This way state capacity is not only carried and justified by the state itself but by all parts of society which promises more stable and sustained political system.

The definition developed by Hendrix sees three elements of state capacity which are 1. military capacity, 2. bureaucratic administrative capacity and 3. the quality and coherence of political institutions (Hendrix 2010, 273). Since the aspect of military capacity does not seem relevant in the context of climate change adaptation this paper will focus on the other two categories put forward by Hendrix. According to him a clear connection exists between political development, state capacity and the “professionalization of bureaucracy” (Hendrix 2010, 275). One could argue that without the development of a sufficient bureaucracy the other two cannot easily be achieved as bureaucracy serves as the basis for state capacity which in turn is responsible for triggering economic development. As the main task of bureaucratic capacity Hendrix identifies the “ability to collect and manage information” (Hendrix 2010, 274). This is an important task as information on the population as well as on the economy and other aspects of state life is crucial in order to determine the best suited policies or development strategies.

In regard to the quality of institutions Hendrix develops three criteria for determining institutional quality. They are 1. “regular, meritocratic recruitment and advancement processes”, 2. susceptibility to political pressure and 3. the ability to provide service during government changes (Hendrix 2010, 275). If all these requirements are fulfilled an institution can be deemed to be of high quality. From this definition it can be derived that the independence of institutions is crucial for an efficient enactment of state capacity. This means that institutions need to be able to operate freely without being prone to political pressure. The last aspect mentioned by Hendrix seems to be the most important as it is the task of institutions to ensure stability and the continuation of state business during political transition. As the aspect of institutions seems crucial for exercising state capacity as well as for the implementation of policies like climate change adaptation plans, the following chapter is going to explore in more detail the role of institutions and institutional theory.

State capacity theory appears to be a useful tool in finding explanations for the driving forces that are at play during the development and implementation of climate change adaptation programs and their enforcement. It can provide starting points for the analysis of the state’s motivations for initiating certain policies as well as for the interplay of interests of state and society during the development process. Further, state capacity theory should be considered in

the context of this paper as it puts forward the thesis that low state capacity is related to weak economic development. This would suggest that Kiribati as a LDC has a comparatively inferior state capacity which would in turn have implications for its ability to implement climate action plans. As the examination of existing literature on the theory demonstrated much of state capacity is believed to be connected to and exercised through institutions and institutional capacity is one of its main aspects. However, the majority of these approaches assumes the existence of institutions without question and does not elaborate on their inner workings and processes. Further, it does not explore in detail how institutions change or are affected by major shifts and developments like climate change. In the context of this thesis it seems therefore useful to add institutional theory as support to state capacity for the theoretical basis of this paper and the analysis of climate change adaptation in Kiribati.

4.2. Institutional Theory

In order to work with institutional theory an understanding of the term institution needs to be established. “In the broadest sense institutions are simply rules” (Steinmo 2015, 181) that structure political and social life. However, it is possible to distinguish between formal institutions like parliaments, courts or ministries which are regulated by written laws and rules and more informal institutions like community groups or policy networks that do not have a set of official agreements and yet demonstrate institutionalised behaviour shaped by shared norms or values (Bevir 2010, 700).

The general purpose of institutions is to “provide stability and meaning” or in other words, to structure and organise society (Comyns 2017, 3). In order to effectively play this role institutions require the ability to carry out regulative as well as normative and cultural-cognitive tasks. The regulative aspect of institutions establishes, monitors and enforces rules and regulations. Meanwhile, the normative part determines its goals and the appropriate ways of achieving them while the cultural-cognitive aspect refers to “individual human responses to external” influences and pressure points (Comyns 2017, 3). In combination with certain activities and resources they can then play a crucial role in the shaping of social life and interaction.

The study of institutions and their effect on societal life has been a characteristic of political science for a long time. However, in the course of time the research approach and focus has developed significantly and changed which eventually led to the differentiation into old and new institutionalism.

Old institutionalism is mostly concerned with the “law and the central role of law in governing” as well as with the aspect of structure and the question how structure shapes

behaviour and can help to make it more predictable (Peters 2012, 7-8). Achieving predictability of behaviour is one of the main objectives of institutions as it is a means of ensuring a stable, well-organised and functioning society. Overall it can be said that old institutionalism takes a more observant approach to the study of institutions while new institutionalism focuses on “the multiplicity and complexity of goals” which is to say it applies a broader and more in depth perspective (Peters 2012, 3). This for example also entails that while old institutionalism is mostly concerned with formal institutions, new institutionalism takes the individual into perspective and considers its impact on institutions and vice versa (Bevir 2010, 701). Further, the more detailed focus of new institutionalism also applies to its definition of the notion of the state. In this understanding the state is a much broader concept that is composed of many institutions and cannot be analysed as one entity. In combination with the perception that institutions outside of the state apparatus can be as important as the ones inside, these considerations also contributed to the development of new institutionalism (Steinmo 2015, 182). In conclusion, new institutionalism builds on old institutionalism in the sense that it incorporates some of its core elements such as the concentration on laws and mechanisms but it also includes a “broader concept of institution that includes norms, habits, and cultural customs” (Bevir 2010, 703). For reasons of relevance as well as time and space limitations old institutionalism will not be further considered for this paper which is going to concentrate in more detail on new institutionalism and its different characteristics instead. The more detail-oriented perspective of new institutionalism seems more appropriate for the study of institutions and the complex program they aim to put into action in the context of climate change adaptation in Kiribati.

Within the framework of new institutionalism several approaches have been developed which apply different understandings to the organisation and development of institutions. Even though there are “at least six versions of [...] new institutionalism in current use” (Peters 2012, 19) this paper is going to concentrate on the three most prominent ones in institutionalism literature which are normative, historical and rational choice institutionalism. This limitation is mainly due to the narrow frame of this thesis. Despite the fact that this selection leaves out some less prominent aspects of institutional theory and therefore does not provide a complete representation of the theory, the three chosen ones are nonetheless able to provide a sufficient overview of the different angles and are also able to support and complement each other to a certain extent.

4.2.1 Normative Institutionalism

As a first approach normative institutionalism was developed by March and Olsen and concentrates on the role institutions play in the development and preservation of norms and values and how they influence institutional behaviour. In this understanding institutional behaviour is determined by “values, symbols, methods and routines that an individual learns as member of the institution” (Peters 2011, 80) and through which they are maintained and spread. This means that by choosing to become a member of an institution the individual also agrees to abide by the institution’s norms and values. Through socialisation within the institution the values, decisions and general behaviour of its members are shaped and secured within them. Therefore the purpose of an institution is the creation as well as the maintenance of its values among its members (Peters 2011, 81).

Decisions within the institution are made according to a “logic of appropriateness” (Peters 2012, 20) guided by its norms and values which means that they have to be in line with what is regarded to be appropriate in the institution’s understanding. However, this decision making process is not a conscious choice but rather made subconsciously, influenced by the institution’s internalised values. Overall it can be concluded that normative institutionalism places “emphasis [...] on the norms of institutions as a means of understanding how they function and how they [...] shape individual behaviour” (Peters 2012, 20). This normative approach to institutions differs slightly from historical and rational choice institutionalism which explains institutionalised behaviour with historically developed behavioural patterns (HI) or the persuasive power of cost-benefit analyses (RI) which will be presented in the following paragraphs.

4.2.2 Historical Institutionalism

Historical institutionalism “explores how institutions, understood as sets of regularized practices with rulelike qualities, structure action and outcomes” (Schmidt 2011, 1194). In this understanding the repetition of certain behavioural patterns becomes the institution that shapes societal behaviour (Bevir 2010, 704). However, institutions are not seen as the only influence on political outcomes but as “structuring variables” (Steinmo 2015, 183) that provide order and stability to policy processes. By analysing how institutions have shaped particular outcomes historical institutionalists assume the future development of this institutions can also be determined as its evolution is predetermined and institutions are the place where the where the future design of institutions is decided (Steinmo 2015, 183).

This applies in particular to decision making processes which are believed to be determined by “initial policy choices, and the institutionalized commitments that grow out of them”

(Peters 2012, 20). The primary enforcement of a law or policy is expected to continuously shape the individual behaviour which is based in this policy. It assumes that once policies and institutions are in place and have set their ways they will continue to exist until a major shift or event occurs (Peters 2011, 81). This means that their path of development is predetermined as well, as they are set in their ways and will remain in this tradition until a notable adjustment becomes necessary or a significant force interferes. Up to this point they are “maintained through the positive feedback that the participants receive from the existence of the policy outputs” (Peters 2011, 81). This means that as long as the individuals are content with the results the institution provides there is no incentive for institutional change. As mentioned before positive outcomes are often related to predictability and stability. Particularly in regards to politics institutions provide stability “because they structure political choices” (Steinmo 2015, 184). Only when an institution proves no longer beneficial for its members a move towards change will become necessary. This path dependency is one of the main characteristics of historical institutionalism. Additionally, it is one of the reasons why historical institutionalism has difficulties explaining institutional change and the development of institutions (Schmidt 2011, 1194). Due to path dependency significant internal change or more precisely change initiated from the inside of an institution is barely possible as no development outside the historic path is intended. For this reason in historic institutionalism change or development of institutions usually needs to be set in motion externally.

4.2.3 Rational Choice Institutionalism

Very different to the approach of normative institutionalism which is guided by values, rational choice institutionalists aim to apply “formal logic and methods to the study” of institutions (Steinmo 2015, 182). At the bottom of this theory lays the assumption that “utility maximization can and will remain the primary motivation of individuals” (Peters 2012, 49). In this understanding individuals join institutions as the result of a cost-benefit analysis which determines that through an institution they have better chances of achieving their goals than when acting alone. This refers in particular to problems that individuals cannot address on their own like for example the enforcement property rights. However, in order to gain members, institutions have to offer a right balance of incentives and disincentives which attracts members and at the same time still enables them to achieve their goals (Peters 2011, 81). Incentives are the reason why individuals decide to join while the disincentives serve to ensure that the majority will achieve their goals. This marks a main difference between normative and rational choice institutionalism because rather than by

norms individual behaviour is shaped by the incentives provided by the institutions (Peters 2012, 20).

In this context it is important to regard individuals as rational actors that are willing to accept a certain amount of constraints in order to ensure that their interests are secured against those of many other individuals (Schmidt 2011, 1189). As indicated before utility maximization is the main interest of all individuals. However, a scenario in which each individual fights for itself without any rules or regulations does not provide an environment in which most individuals are likely to achieve this goal. It is therefore in their interest to submit to some degree to an institutionalised regulating force which is also able to ensure the enforcement of those rules even if this means becoming subject to some constraints themselves. At first sight it might be perceived as a paradox that individuals are willing to create institutions which then constrain them (Peters 2012, 65). However, this is perceived to be acceptable because the competitors in the battle over utility maximization are constrained as well. In fact, constraints or rules are in the interest of all of society because they increase the predictability and reliability of human behaviour (Peters 2012, 50). Institutions can be regarded as “solution to collective action problems” as they ensure that the collective functions in the best interest of the majority of people (Bevir 2010, 703). It is therefore the sensible decision of rationally thinking individuals to join an institution and its institutionalised set of laws and constraints. Predictability in this scenario serves as the incentive for becoming a member which is worth giving up a certain degree of individual freedom.

In regard to the design of institutions rational choice institutionalism has a slightly different understanding compared to other types of new institutionalism. To begin with, since the aspect of incentives plays an important role in rational choice institutionalism it needs to be considered that the designers of institutions are in the position to manipulate individual behaviour if they manage to create the right incentives. Consequently, promising incentives for certain behavioural patterns carried out by institutions gives the designers the chance to produce the kind of societal conduct they desire (Peters 2012, 50). However, manipulating behaviour is not the only objective the designers of institutions aim to achieve. Ideally, they succeed at creating conditions under which this conditioned behaviour remains in place over time, regardless of time and changing players (Peters 2012, 66).

As a next step the question needs to be asked how institutions are created and by whom. Rational choice institutionalism supports the idea that “institutions arise from the desire of one or more individuals to impose their will on others” (Peters 2012, 62). Behind this will, again, stands the pursuit of personal utility maximization. The creation of institutions is then

either supported through joining or opposed by individuals. Either of the two choices as well as the creation of an institution itself are rational choices (Peters 2012, 62) which are supposed to ensure that the individual interests are covered most effectively. Rational choice institutionalism does not assume that the creation of institutions is a continuous or evolutionary process. Rather, it believes that “if there is a logical need for an institution it will be created” (Peters 2012, 61). As rational choice institutionalism assumes that institutions are created and shaped according to the interest of people or individuals this also implies that institutions change as the interests change (Bevir 2010, 703). Ultimately, this means that if an institution has failed to live up to its assigned purpose it will be replaced by a more sufficient one. Finally, the design and development of institutions requires a set of certain resources like time, talent or financing. In the tradition of rational choice institutionalism it needs to be asked in this context whether the investment of the allotted resources is worth the possible benefits (Peters 2012, 67). Only after this cost-benefit analysis the creation of a new institution will take place.

When analysing the work of institutions it is helpful to determine what features characterise a good institution. In the understanding of rational choice institutionalism a good institution is “capable of coping with common pool resources well and efficiently” and to commit “to other powerful norms such as democracy” (Peters 2012, 68). The rationing and structuring of access to common goods is an essential part of good practice of institutions as this is a way of ensuring the regulated utility maximization for all individuals of society. This means for example to rationalise a rare crop or natural resource so that all of society can profit from its benefits for longer. Further, this also achieved through the dedication to democratic values which means to concentrate on the well-being of the majority of society. The main driving force behind the constraints enforced by a good institution in rational choice institutionalism can be summarised as rationality. An ideal good institution would, guided by rationality, limit “individual maximization when maximization is collectively destructive” (Peters 2012, 68). Next to rationality another feature that needs to be considered is efficiency which refers to the institutions ability to react quickly and sufficiently at the same time. In rational choice institutionalism it can be defined as the “capacity of a political organization to map a set of preferences expressed by the public into a policy decision in a way that produces the least unacceptable decision” (Peters 2012, 68). This would mean efficient behaviour as all interests are considered and a possible solution is presented.

The examination of the three approaches to institutional theory demonstrates their differences particularly in regard to the reasons that lead to the establishment and the joining of

individuals of an institution. While there are valid reasons for recognising the impacts of norms and values as well as the historical development of habits and customs in the development of institutions this paper is going to focus in particular on rational choice institutionalism for the analysis of climate change adaptation in Kiribati. This is mainly due to the fact that the rapidly changing condition of climate change calls for the establishment of new institutions as rational choice institutionalism pictures, namely that a new development requires the establishment of a new institution. As historical and normative institutionalism see this establishment more as a slowly developing process or influenced by historic developments they do not appear as fit for this part of the analysis. Further, it can be expected that the main driving force and incentives for its inhabitants to commit to these institutions is caused by rational choice rather than by values or historically developed customs. Therefore, the main part of the analysis of this paper that is concerned with institutions will be guided by rational choice and supported and informed by normative and historical institutionalism.

In many cases institutions are part of a wider network of players who interact and cooperate during the development and enforcement of policies and programs. Often these types of networks can be summed up under the term governance which provides a broader conceptualisation of the working and collaboration of not only institutions but also government and other actors from the public and private sector in the development and implementation process of policies. The concept of governance is closely related to the evolution of new governance which refers to the study of informal institutions like policy networks that function as or with institutions is a main characteristic of this new approach (Bevir 2010, 703). In order to support the theory on institutions and to identify what other forces and dynamics need to be in place in order to effectively carry out policy proposals this paper is therefore also going to draw on governance and public governance theory.

4.3 Governance

Closely related to the topic of policy implementation and programs is the concept of governance. Even though this is a broad and sometimes difficult to define term, in the general understanding it refers to the government and other related actors like “public policies, institutions, a system of economic relationships” or the non-governmental sector and their relation and cooperation with each other (Katsamunskaja 2016, 137). The understanding that the concept of governance should not be used interchangeably with government and that it includes more than the executive power of a state is crucial when working with this notion. Further, it needs to be distinguished between governance and public policy as it is more inclusive and joins more actors together than public policy which also usually focuses on only

one issue at a time (Peters 2011, 79). Generally, governance can be defined as the “institutional capacity of public organizations to provide public and other goods on demand by a country’s citizens or the representatives thereof in an effective, transparent, impartial and accountable manner, subject to resource constraints” (Katsamunska 2016, 134). From this definition it can be derived that the main task of governance is to ensure a smooth and stable organisation of state and society.

There are various conceptualisations of governance that sometimes apply a more state-centric and sometimes a more society-centred approach (Katsamunska 2016, 133), a choice of perspective that also marks the difference between old and new governance. Regardless of the approach however, the general observation can be made that governance is related to the steering capacities of a state.

While old governance is more concerned with the state’s steering capacity of society through policy implementation and mostly top-down approaches, new governance lays its focus more on the centre of society and on “self-steering of networks” (Katsamunska 2016, 133). These networks are often constituted of actors from different sectors with similar interests who form a coalition to pursue their goals. Depending on how big and influential these networks manage to become they can have serious impacts on the process of policy implementation. Very strong networks can for example even develop the power to block implementation. On the other hand the support of these networks of a policy proposal can significantly help the process of implementation which is why new governance has the ability to increase as well as decrease the state’s steering capacity (Katsamunska 2016, 134). In fact, policy networks including actors like interest groups and institutions are often regarded as a type of governance themselves because they “facilitate the coordination of public and private interests and resources” and support the efficient implementation of policies that are in their own interests (Katsamunska 2016, 135).

Institutions play an important role in the understanding and analysis of governance as they highly “influence the capacity of the political system to govern effectively” (Peters 2011, 80). They for example have impacts on the structure and organisation of governance which affects its overall efficiency in developing and implementing policy (Peters 2011, 82). By shaping structure and governance, political and economic institutions also signify implications for the state’s steering capacity because the better equipped and organised institutions are the more efficiently they can take part in the steering of politics and society. Generally, it can be said that an “institutional definition of governance refers to the setting, application and enforcement of rules” (Katsamunska 2016, 141).

Law and rule enforcement can be regarded as the main task of institutions in the field of governance. It is exercised through the state's structure as well as through the law and a "hierarchical system of command and control" within and between institutions (Katsamunska 2016, 135). This hierarchy is crucial for an effective functioning of the state as it ensures a smooth division of labour and competence sharing between the different institutional actors. Apart from their internal decision making processes institutions also play an important role in "creating opportunities for [...] involvement" (Peters 2011, 80). This again refers to the aforementioned capacity of integrating and involving different actors by bringing them together to work towards a common goal. Without institutions viewing this as their purpose, effective governance would be more complicated as a uniting force for interest groups would be missing. Overall it can be said that the interplay of institutions and governance is a significant aspect of the successful implementation of policies and for example environment programs that serve the adaptation to climate change.

Another aspect important to mention in relation to governance is the concept of good governance, a practice often related to development work which aims at supporting and increasing civil society participation in governing (Katsamunska 2016, 134). It is a still evolving term with various definitions and understandings often depending on the organisation and context in which it is used. However, generally it refers to institutional efficiency, equality and the rule of law. Good governance was first mentioned in UN papers on development work. In this context it mostly concerned with "the importance of participation, consultation, transparency and the rule of law [...] and service efficiency" (Katsamunska 2016, 139). Opposite to this, organisations like the World Bank and IMF focus more on ways of new public management and administration while academic literature pays more attention to the efficiency of state institutions and the impartial role of the state (Katsamunska 2016, 139). The main difference between the conceptualisations of UN and IMF/ WB lies in the role that society plays in them. While IMF/ WB focus only on the administrative and management part of governance which is usually carried out by state institutions the UN applies a more society-focused understanding. In their definition participation and consultation can be regarded as the most important words that portray the main difference between this and other interpretations of good governance.

4.3.1 Public Governance Theory

While governance appeals to the more general institutional organisation and structuring of state and society by providing public and other goods, public governance has a more narrow focus. It refers to the "capacity to administer the phases of design, implementation and

enforcement of regulatory policies” (Carlei et al 2012, 117). It is therefore connected to a clearly defined purpose which is the imposition of regulatory policies, rather than the more general provision of goods and services. This task applies to several actors of governance ranging from government and its authority to decide on and implement policies to the coordination of different ministries and regional actors and their cooperation among each other (Carlei et al 2012, 117). As public governance is a tasks carried out by multiple actors their work needs to be closely coordinated in order to be effective and not to overlap. It is fair to assume that the more actors are involved in the processes of regulatory policies the more difficult the task of coordinating their work becomes. This “institutional complexity has negative implications for public governance and the effectiveness of regulatory forces” (Carlei et al 2012, 117). For this reason it appears to be crucial to install a supervising force that coordinates the work of the different agencies.

Similarly to governance, public governance also stresses the importance of networks in the implementation of policies. Public governance theory assumes that these organisational networks are the main driving force behind policy making which “emerges from the interaction among several actors” (Carlei et al 2012, 118). This particular case further emphasises the fact that the different players involved in these networks are all interdependent which means that they are not able to design and put laws into action without the support of each other. On the contrary, “policies can only be designed, implemented and enforced on the basis of cooperation” (Carlei et al 2012, 118). These networks of the aforementioned actors like government, ministries and regional representatives therefore form the public governance of a country. In conclusion, “public governance refers to the ensemble of public actors in charge of designing, implementing and enforcing a given regulatory policy understood as an organization with the capacity to supervise and coordinate the multiple public entities involved in political, regulatory and administrative processes” (Carlei et al 2012, 118).

In this paper governance and in particular public governance theory is used to support and inform the application of institutional theory. The interplay of institutions and governance has already been touched upon in the beginning of this chapter however, institutionalism as a theory has implications for the concept of governance as well. The three approaches to institutionalism, which are applied in this paper all share the feature that they support the maintenance of policies and programs that are currently in place rather than the establishment of new ones. They all “emphasize routinization and uniformity, and tend to favour stability over change” (Peters 2011, 81) as could be seen for example in rational choice institutionalism where predictability of behaviour serves as a main incentive for becoming

part of an institution. Similarly, “institutional approaches to governance will emphasize the predictability of policy responses within governance” (Peters 2011, 81). An institutional understanding of governance determines predictability as the main interest of policy proposals. This refers for example to programs which make the behaviour of governing networks predictable and thereby possible to make plans accordingly.

State capacity theory, the governance concept as well as the three branches of new institutionalism will be applied in this paper to analyse the motives for following a WoI approach to climate change adaptation in Kiribati. In order to provide the context for this analysis the following chapter is going to elaborate on the most important national features of Kiribati, particularly in regard to its governance system and to the effects climate change has on the country and its population.

5. Background Information on Kiribati

The central equatorial state of Kiribati consists of 32 coral atolls and reef islands spread over an area of 3.5 million km² in the Pacific Ocean (Frankland et al 2012, 46). In comparison to other states in the Pacific Kiribati is particularly “small, remote and dispersed” which enhances its islands’ vulnerability to climate change because efforts for disaster relief or adaptation cannot be coordinated and managed across the islands easily (Aalbersberg et al 2013, 223). They are divided into three main island groups, namely the Gilbert, Phoenix and Line islands. Further, the higher ranging lime stone island Banaba belongs to the Kiribati territory as well. However, as this island does not portray the general characteristics that make the other islands particularly vulnerable to climate change, Banaba will not be further considered for the analysis of the effects of climate change and adaptation in this paper. Even though there is no “comprehensive topographical data [...] available studies of atolls in the Gilbert Islands and neighbouring Tuvalu suggest that two-thirds of the land is less than 2m above mean sea level” (Donner and Webber 2014, 333) which makes it easily affected by rising sea levels. Overall, the land area of Kiribati measures 726 km² with the biggest island being the Kiritmati Atoll in the Line islands. The capital of Kiribati is South Tarawa located in the Gilbert islands.

The Kiribati population is estimated at around 118.414 citizens according to UN approximations with 91% of it living in the Gilbert Island line and 48% in the capital South Tarawa (World Population Review 2017). In 2016 Abaiang was home to 5.502 people which represents 5.3% of the entire population (KNEG et al 2016, 17). Data indicates that the Kiribati population is growing rapidly and could reach as much as 141.350 inhabitants by the

year 2030. This suggests a “roughly sixfold increase in population since 1969” causing problems like a lack of sufficient available housing opportunities especially in the more populated areas around the capital (Donner and Webber 2014, 333). This issue is exacerbated by the increasing migration away from the more remote parts of the country. The gross national income of Kiribati is less than 2000 Dollars per capita, making it one of the poorest countries in the Pacific. Additionally, its economy is very dependent on foreign sources like remittances which support about half of Kiribati’s economic force (Donner and Webber 2014, 333). Most people, especially on the outer islands of the country like Abaiang still mainly live of subsidiary agriculture which means that they grow and collect food only for their own use not in order to sell or further process it. This applied in particular to locally grown fruit and vegetables as well as fresh marine foods (Aalbersberg et al 2013, 229). It can therefore be deduced that the dependency on these crops to ensure food security is rather high as the import of food to the outer islands is very limited and it is mostly the islands’ ecosystems that provide for the people.

The Kiribati people, which call themselves *I-Kiribati*, are a fairly homogeneous group with some ethnic influences from other island states such as Samoa, Tonga or Fiji. There is a slight majority of female citizens who also have a greater life expectancy of 63 years whereas it measures only 57 years for their male counterparts (World Population Review 2017). The main reasons for this comparatively low life expectancy is grounded within the insufficient health as well hygiene and sanitation systems in Kiribati. In these sectors the country displays many typical characteristics of developing countries for example an insufficient sanitation infrastructure which in return often leads to the pollution of the scarce fresh and groundwater sites. As a consequence the bacterially contaminated water causes a wide spreading of diseases like diarrhoea (SPREP et al 2016, 7).

Tradition and customs still play an important role in the daily lives of *I-Kiribati*, in particular in the more remote parts of the country like Abaiang. On many islands and in villages there continues to be a strong influence of traditional tribal structures that often still shape the political decision making in these areas. Further, customary knowledge also in the context of nature and climate still plays a crucial part in deciding and implementing policies and programs (Aalbersberg et al 2013, 229). This is partially due to the fact that especially on the outer island agriculture or fishery is still practiced in the traditional ways and influenced by the elders’ knowledge on the local nature. However, the field in which the influence of tradition is the most obvious is in the governance structure of the individual islands.

5.1 Governance

Since the governance structure of Kiribati plays an important role in its choice for applying a WoI approach a part of this chapter will be dedicated to pointing out the most important actors and institutions as they will become relevant for answering the paper's research question.

Due to Kiribati's geographical particularities, mainly its separation into over thirty islands, it has developed a unique governance system. The central Kiribati government including government agencies and ministries as well as the office of the prime minister (*te beretitenti*) are located in the capital South Tarawa. It has the authority to decide on the country's strategy in relation to climate change and adaptation which involves the negotiation of international agreements on behalf of Kiribati as well as the development of domestic programs and plans for adaptation. Institutions like the Kiribati Joint Implementation Plan as well as the Kiribati National Expert Group on Climate Change and Disaster Risk Management (KNEG) which developed the WoI approach are examples for initiatives of the Kiribati central government. The most relevant ministries in the context of climate change and adaptation are the Ministry of Environment, Lands and Agriculture Development (MELAD), the Ministry of Public Works and Utilities (MPWU) and the Office of the President of which some also have line ministries located away from the capital on some of the bigger islands. Further, through the Ministry of Internal Affairs (MIA) the central government acts as an overall manager of the different island governments and also supports them financially by providing office spaces or employing island government workers (KNEG et al 2016, 59).

However, apart from the central government there are several other actors that shape and influence governance and decision making, particularly in more remote areas like Abaiang. Here, three other key players and institutions can be identified which are the Island Council, the *Botaki ni Umniwane*, a council of village elders, and the *maneaba* system which is an assortment of committees and groups that advise the Island Council on various issues (KNEG et al 2016, 59). The Island Council is the officially elected governing body on the island. It consists of "councillors who are elected by their villages or communities every four years" and the mayor of the council who is also elected for four years and chairs the monthly conferences of the council (KNEG et al 2016, 59). Next to their elected councillor every village also has an *umniwane*, the oldest male community member, who governs together with the councillor. Even though the *umniwane* has no authority through election he still is a very influential actor in the governance system of Abaiang, an indicator for the still prevailing importance of traditional society structures and customs. This impression is enforced by the

fact that not only the local communities but also the central government respect the *Botaki ni Umniwane* and its members as equal negotiating partners on island governance matters for example in regard to climate change adaptation. Yet, even though the *umniwanes* and their council are perceived as a powerful instance in decision making processes on the Island Council and in general, their “role and function is not enforced and articulated through legislation” (KNEG et al 2016, 59). Their power and influence is therefore rooted in customs and traditional values. In addition to their position in governance it can also be noted that the *Botaki ni Umniwane* and the *maneaba* system take up the important task of preserving the traditional Kiribati culture and customs (KNEG et al 2016, 59). This function is mentioned prominently within the WoI approach which further underlines the importance of tribal tradition in Kiribati. The significance of these traditional institutions was also identified as influential in a study by Aalbersberg et al who discovered that “almost all decisions about the environments made outside the cores are contextualized within traditional decision-making frameworks and are uninformed by global agendas” (Aalbersberg et al 2013, 223). In conclusion, it can be noted that traditional tribal structures and leaders still highly influence the governance and decision making processes particularly in the more remote parts of Kiribati even if they are only informal structures without an official election or written framework. For this reason it is important to consider them in the analysis of climate change adaptation policy development and implementation.

Another relevant organisation, however less institutionalised and influential as the other three in regard to climate change adaptation in the Abaiang governance system is the Island Development Committee. The members of this committee range from representatives of the government to actors from various other sectors including “non-governmental groups, church, women and youth groups” (KNEG et al 2016, 59). Its main task is advising the Island Council on development related issues and also managing and carrying out projects and plans. Even though the committee plays a quite important role for the development progress of the island it functions rather informally without an official framework or regular meetings. Instead it only meets when it is perceived to be necessary. Overall it can be concluded that even though the Island Development Committee is the most inclusive and exemplary in the way its members are balanced it is the least influential of governance actors on Abaiang. Apart from its informal character the weaker influence of the committee could also stem from its novelty within the governance system which gave it less chances to become as institutionalised and thereby influential as the other three. In sum, it can be noted that apart from the central

government three local institutions shape the decision making process on Abaiang of which two can be considered as representatives of the traditional, tribal governance system.

5.2 The Effects of Climate Change on Kiribati

As a country mainly consisting of low-lying atolls Kiribati is particularly vulnerable to climate change and the rising of sea levels endangers its citizens' livelihoods and future. Several geographic characteristics reinforced by socioeconomic aspects sustain this vulnerability.

To begin with the general geographic position of Kiribati makes it vulnerable to different types of environmental phenomena. As many other Pacific islands it is located in an area which is often hit by tropical cyclones or droughts, incidents which can be expected to increase with continuing climate change (Aalbersberg et al 2013, 221). Another climate occurrence that needs to be considered in the context of Pacific islands is the El Niño–Southern Oscillation, short ENSO variability. This phenomenon takes place quite periodically every few years and causes the warming of the equatorial Pacific Ocean surface (Hurtley 2013, 9). Further, the changing winds during this time lead to a rise in sea levels in the central and western Equatorial Pacific which also impacts the shores and freshwater reserves of Kiribati by causing more “westerly storms, which can drive waves into the lagoons and exacerbate erosion and flooding” (Donner and Webber 2014, 336). These events which have been naturally occurring for a long time produce natural disasters and put stress on small island states like Kiribati. However, the question is debated among scientists whether climate change and the rise of atmospheric temperatures affects and reinforces the ENSO variability in the region (Hurtley 2013, 9). It could therefore at least be argued that climate change negatively impacts and strengthens the effects of El Nino. Additionally, the counterpart to El Nino, La Nina affects Pacific island states like Kiribati as well by causing droughts which can lead to the “failure of rainwater tanks and salinization of freshwater lens” (Donner and Webber 2014, 336).

Even though these weather phenomena make life on Pacific island states challenging its inhabitants have developed certain coping mechanisms over the centuries. However, with the growing threat of climate change El Nino and La Nina pose a new obstacle because by impacting the sea levels they do not only cause floods but also make the measurement and predictions of sea level rising for the future more challenging (Donner and Webber 2014, 336). This is due to the fact that it is difficult for scientists to detect and fracture in which increases depict a constant rise in the mean sea level and which are only temporarily caused by the ENSO variability. In turn this also complicates appropriate adaptation planning for the

responsible authorities. Therefore it is essential that adaptation plans and programs are constantly revised and include a certain degree of flexibility in their measures in order to be able to react to changing predictions of sea levels risings.

Another characteristic of the Kiribati islands which needs to be considered is the fact that they “are composed largely of unconsolidated sediments” which makes them susceptible to coastal erosion (Aalbersberg et al 2013, 229). This is particularly dangerous in the context of Kiribati as it is a very coastal country with most of its settlements being located on the shorelines rather than in the inner parts of the islands and most of the times even those communities depend on the coast for their economic activities nonetheless (Aalbersberg et al 2013, 223). The proneness to coastal erosion which will be increased by climate change in the future therefore poses a threat to livelihoods as well as to the islands’ crucial infrastructure, particularly the limited roads between villages on more remote islands.

Related to this is the problem of inundation and salinization which affects the infrastructure as well but also agricultural and freshwater sources (Aalbersberg et al 2013, 223). The salinization of the groundwater causes severe implications for the agricultural force of countries like Kiribati in which big parts of society still live of subsidiary agriculture and depend on it for their livelihoods. “Subsidiary concerns relate [in particular] to drought, groundwater pollution, storm-surge impact and marine resource depletion” (Aalbersberg et al 2013, 229). This dependency on agricultural productivity is another aspect that underpins Kiribati’s vulnerability if the effects of climate change continue to develop in the same manner.

The natural particularities of Kiribati which increase its susceptibility to the effects of climate change are accompanied by socioeconomic factors particular to this country which further augment its vulnerability. They for example include the reliance on subsistence farming by big parts of the population which could signify severe implications for their food security if climate change continues to negatively affect their livelihoods by causing droughts or floods. In combination with a growing population these developments could also lead to food shortages, especially in the more densely populated areas of the country (Aalbersberg et al 2013, 221). Another important aspect relates to the state of Kiribati’s development. As a LDC it displays many difficulties and challenges in regard to its state capacity, particularly when it comes to the enforcement of plans and programs and the required institutional capacity. Essentially, this means that the institutions responsible for overseeing the adaptation process are either not in place at all or poorly equipped to fulfil the task. This is a problem referred to by Donner and Webber (2014) as a “dual challenge” meaning that the

institutions that are supposed to develop and implement climate change adaptation programs need to be build and set into motion at the same time as the adaptation plans themselves. This difficulty of lacking institutional capacity can be observed on the example of the Ministry of Public Works and Utilities (MPWU) which is responsible for the construction and maintenance of public properties including sea walls meant to protect the coastline from floods and erosion. However, due to a “lack of existing information, poor knowledge of the condition of coastal assets and limited maintenance budgets, [the] MPWU has historically taken a reactive approach to management of the coastline” (Frankland et al 2012, 47). This example underlines how crucial well-functioning institutions and their access to sufficient resources are for successful adaptation to the effects of climate change.

As seen, various causes increase Kiribati’s susceptibility to the effects of climate change and make it particularly vulnerable. This vulnerability is enforced by several national characteristics and its state of development. For these reasons an elaborate adaptation program like the WoI needed to be developed which would be able to address these variables more effectively than previous programs. In the following chapter the rationales behind the development and implementation of the WoI to approach the impacts of climate change on Kiribati will be analysed.

6. Analysis

The analysis chapter is going to focus on the governance system of Kiribati and its islands and the role institutions play in it as well as in the development and implementation of the KNEG and its WoI approach. Further it will be analysed how state capacity is used to developed and implement this adaptation mechanism and what Kiribati characteristics led to the choice of the WoI approach.

It is going to concentrate on the site of the first implementation of the WoI approach, the island Abaiang, a comparatively remote atoll located in the Northern Group of the Gilbert Islands. Abaiang is characterised by a large lagoon but the land area of the island itself only measures 17km² and not more than 1km² in width which makes it very vulnerable to floods caused by storms or rising sea levels. Abaiang is home to 18 villages most of which are connected and accessible via roads (KNEG et al 2016, 17). The analysis will be based the vulnerability assessment of Abaiang as well as the WoI approach in general and aims at clarifying what results of the vulnerability assessment led to the choice or possibly even necessity of a WoI approach for Abaiang and Kiribati. After an introduction into the WoI approach this chapter is going to analyse how state capacity is exercised under the adaptation

program and what roles governance systems and institutions play in its development and implementation. Furthermore, it is going to focus on the concrete implementation of projects within the WoI program. In the end a discussion of the analysis' results will illustrate the reasons that led to the choice of a WoI approach for Kiribati.

6.1 The “Whole of Island” Approach

The dispersal of the Kiribati islands led to the development of numerous, local adaptation mechanisms which stand alone and are detached from the adaptation programs of other atolls and sometimes even villages on the same islands. Even though the inhabitants of the different islands proved to be very resourceful in the establishment of means of adaptation and even demonstrated the ability to decrease their vulnerability to a certain extent, the realisation was made that through better linking and coordination of adaptation programs across the islands under one approach monitored by one authority, more effective adaptation could be achieved. The idea to move “beyond ‘project-by-project’ approaches (KNEG et al 2016, 3) was also picked up by the National Expert Group on Climate Change and Disaster Risk Management (KNEG) which presented to concept of the Whole of Island approach in 2013.

The KNEG started out as a “multi-sectoral ministerial working group” in 2011, which was formed in order to develop “a more holistic and integrated approach” to climate change adaptation (KNEG et al 2016, 3). However, it quickly advanced from a ministerial to a multi-sectoral group which next to government officials also involved representatives from other sectors. Its members include island councillors, elders, island mayors, police, teachers, nurses, youth and women (SPREP 2016). This representation of different fields and actors in the KNEG could later also be identified as a marking characteristic in its proposal for the Whole of Island approach which among other things is defined by its goal to bring together actors from different sectors to cooperate on the issue of climate change adaptation. This objective of the WoI approach which will be considered in more detail at a later point of the analysis.

After the introduction of the WoI approach in 2013 the KNEG commenced an extensive assessment of several locations that could serve as site for the first implementation of the program. After a careful evaluation that involved consultations with experts, the reviewing of previous research on the island, surveys with the local community as well as field assessments and testing, the atoll Abaiang was chosen to be the best suited setting for the first implementation of the WoI approach (SPREP et al 2016, 3). It is the fourth-most populated island of Kiribati and is located in the Northern Group of the Gilbert Islands about one degree north of the equator. Its geographical location makes it very susceptible to the changing conditions of the ENSO variability (KNEG et al 2016, 17) which can cause floods and the

salinization of freshwater lenses. Additionally, a vulnerability assessment was conducted which had the goal to determine where the greatest climate-specific vulnerabilities in regard to “exposure, sensitivity and adaptive capacity” are located and also to specify what resources are available and to identify “the institutional structures and processes that influence people’s resource access” (KNEG et al. 2016, 7). In accordance with the assessment’s results twelve areas were identified that needed to be targeted by the WoI approach. They range from more environment-related fields like fisheries and marine resources to coastal ecosystems to more socioeconomic areas like institutions, education, infrastructure or health. Additionally, the preservation of traditional knowledge is identified as an individual aspect that needs to be considered in adaptation planning (SPREP et al 2016. 13-15). The KNEG published these results in the *Abaiang Island, Kiribati- A-Whole-of-Island Integrated Vulnerability Assessment* report in 2016 which further elaborates on the different vulnerabilities as well as on possible adaptation mechanisms to target the different problem areas. Further, it provides an overview of the governance structures on Abaiang which makes it possible to draw conclusions about the responsibilities and competences in implementing the program.

The WoI approach is entailed within the Kiribati Joint Implementation Plan and its twelve objectives and is also in line with the Abaiang Island Strategic Development Plan 2014 - 2017 which has been initiated by the Abaiang Island Council in 2014. In sum, the WoI approach has become a guiding principle for adaptation planning in Kiribati whose objectives are visible in various programs and measures. Overall the approach’s main ambition can be summarised as “implementing climate change and disaster risk projects and programmes as a means to support and promote sustainable development” (KNEG et al 2016, 3). This implies that climate change adaptation is also perceived as a chance to enhance economic and social development on the islands and to improve Kiribati’s overall state and institutional capacity at the same time, thereby addressing the “dual challenge” pointed out by Donner and Webber (2014).

6.1.1 Whole of Island Approach Objectives

The WoI plan entails an important recognition that is crucial for the successful promotion of sustainable development in Kiribati which is the interconnectedness of social and ecological systems. Accordingly, these systems impact each other and changes in one of them also have implications for the others for example in the field of marine ecosystems which also affects the social systems of the people living from it. A comprehensive approach to climate change adaptation as the WoI approach should therefore not only target one area but address various related fields in its planning and their connection. “A single-focused approach risks not

responding to the interconnectedness of social and ecological systems that shape atoll people's livelihood needs" (KNEG et al 2016, 3). Consequently, this marks one of the key influences of the WoI approach.

Another key feature of this approach is the changed perspective on ownership and implementation of adaptation mechanisms. Whereas before many programs were implemented through top-down approaches by the government the WoI approach stresses the importance of local ownership of projects as this is where the knowledge of local characteristics and also of the people is located. For locals it is easier to decide what problems need to be prioritised in adaptation planning and what are the most sufficient ways of solving them under the local circumstances. The WoI plan envisages that these programs then are merely supported by "national expert and regional development partners" (KNEG et al 2016, 4). The responsibility of successfully implementing means of adaptation is supposed to shift away from the central government towards local authorities like mayors who are in the position to monitor the development and possible necessary alterations more closely. Further, the plan emphasises that even though local authorities are the responsible jurisdiction in the end, efforts should nonetheless be made to include more of the population, and marginalised groups in particular, into adaptation planning by following a more participative approach in regard to decision making and implementation (KNEG et al 2016, 4). The fact that adaptation is more effective if supervised by local authorities rather than central government ministries was also pointed out in the study by Aalbersberg et al 2013 who discovered that the communication between the local government and the Ministry of Internal and Social Affairs (MISA) was perceived to be very complicated and time consuming by the local decision makers and more of a hindering to implementing adaptation programs (Aalbersberg et al 2013, 230). Therefore, as the island community has a better knowledge of the local needs and circumstances and is in a better position to monitor the implementation process it is a logical consequence of the WoI approach to rely more on local ownership of adaptation programs. Further, the involvement can lead to a broader acceptance of projects and initiatives.

However, even though local ownership is the main goal of this approach the WoI plan also includes the mission of increased regional cooperation and to "strengthen partnerships and coordination at the regional level" (KNEG et al 2016, 4). Facing a global challenge like climate change makes it indispensable to also work across national borders in order to effectively address the growing problems that not only affect one country like Kiribati but the whole region and group of Pacific island states. The central theme of integration which shapes

the WoI approach in many fields therefore also plays an important role in the context of closer regional cooperation.

Overall, the main objectives of the WoI approach can be summarised under the themes of interconnectedness of adaptation areas, local ownership and participation and integration across islands, sectors and regions. However, generally, the main emphasis of the WoI lays in domestic adaptation measures and the most effective ways of implementing them. In this context the question needs to be asked how strong the central government's state capacity is and if it is in the position to successfully play its role.

6.1.2 State Capacity through the Whole Island Approach

As pointed out the WoI suggests a decentralisation of power and to grant more decision making competences to local authorities. However, this does not necessarily imply decreasing influence and capacity for the Kiribati government. As explained in the theory chapter 4.1 state capacity theory centres around the relation and confrontation of state and society and the question if and how the state is able to impose its will in the form of laws and policies upon society. In a simplified way it can be argued that the higher the ability to implement policies even against the will of society the higher the state capacity is.

When analysing the WoI approach and its development and implementation it becomes clear that the KNEG as well as the Kiribati government developed a more society-centred understanding of state capacity that does not view the state as a superior entity but rather stresses the importance of cooperation between the two. The aforementioned hypothesis put forward by Weiss (1998) that state capacity is more sustainable if policies are developed in consultation with all parts of society seems to have been taken into consideration in the composition of the KNEG as well as in the development of the WoI approach which declares the involvement of all parts of society including traditional tribal leaders as well as marginalised groups like women and youth into the adaptation planning process as one of its key objectives. The KNEG as a multi-stakeholder group also represents all parts of society and not only the central government. Following this line of argumentation it can be assumed that the state capacity of the Kiribati government is rather high or at least sustained and backed by the Kiribati society which is also indicated by the acceptance of the implementation of the WoI in general. With a more state-centred approach to a new adaptation program this kind of success and acceptance might not have been achieved as easily. As state capacity theory points out this balance between autonomy and consultation is crucial for the successful and efficient exercise of state capacity. It appears that the government was able to find a good balance between community involvement and

autonomous decision making by providing the main framework and guidelines along which the KNEG was supposed to work and developed but to also still leave room for society input. Another aspect that indicates a high degree of state capacity enacted through the KNEG can be detected when applying the state capacity definition by Hendrix (2010) which identifies the bureaucratic ability to collect data and information as one of the key indicators of state capacity. As the KNEG was able to conduct evaluations of several possible sites for the WoI implementation as well as the vulnerability assessment of Abaiang this also suggest influential state capacity.

However, it needs to be considered that this assessment of Kiribati state capacity is only valid for the analysis of climate change adaptation under the WoI program. In regard to other areas, for example the government's ability to generate economic growth and development, the country is still far behind which implies a lower degree of state capacity. Nonetheless, as seen in this paragraph, in regard to climate change policies the state capacity is high as the development and implementation of the WoI was a well-balanced process between state autonomy and consultation with society.

The overview of the ideas behind the WoI approach shows that even though the program itself is initiated by a central government institution its implementation is supposed to happen mostly on the local level and with the support and inclusion of multiple stakeholders as well as the local communities and minorities. State capacity therefore seems to be exercised only indirectly through the government in South Tarawa and rather through its extended arms on the individual islands. It thereby follows the assumption that local ownership and involvement will make policy proposals more successful and sustainable in the long term which indicates a high degree of state capacity.

6.1.3 The Role of Governance

The organisation and structure of decision making on Abaiang but also Kiribati in general demonstrates why it is important to differentiate between the concept of governance and the government. As the elaboration on the governance system of Abaiang demonstrated the central government is only part of a broader network of actors that together shape and influence political decisions on Abaiang. Most strikingly this is revealed in the great authority the position of the *umniwane* still holds in most decisions even though he is not a democratically elected leader. The composition of the KNEG, or more precisely, its development from a ministerial towards a multi-stakeholder group also underlines the impression that governance networks composed of representatives from various sectors shape the climate change adaptation processes in Kiribati. As pointed out in the theory chapter 4.3

of this paper, the uniting of actors from different backgrounds to work towards a common goal is one of the key responsibilities of institutions in within the concept of governance. The KNEG as well as the WoI approach itself fulfil this task by joining government representatives, tribal leaders and civil society groups to work towards successful and comprehensive climate change adaptation. The formation of the KNEG can therefore be explained with the concept of new governance which also offers an explanation as to why Kiribati decided to follow this type of adaptation strategy which centres around the uniting of different actors. Further this is in line with at least parts of the UN definition of good governance which identifies integration and opportunities of equal participation for all societal groups as one of the key characteristics.

The implementation of projects and plans under the WoI approach also demonstrates parallels to Public Governance Theory which, different to the general concept of governance, focuses more on the development and enforcement of regulatory policies. The WoI approach can be understood as such a policy as is it contains many rules and guidelines which restrict the people for example by enforcing the protection of certain parts of the marine ecosystem in order to promote more sustainable fishing in the future. Public Policy Theory also stresses the importance of the aforementioned governance networks in implementing policies, however it also points out that the involvement of too many actors can slow down decision making processes and make them more difficult. For this reason it suggests a coordinating authority. This resembles the networks responsible for implementing the WoI which consist of government representatives, local leaders and communities as well as civil society members and international partners. However, the general framework and thereby the steering capacity is with the KNEG which can be understood as a coordinator of the network's efforts. As this line of argumentation shows Public Governance Theory can help explain the need to form a governance network of several actors with the KNEG as a coordinating force in order to successfully implement a regulatory policy like the WoI approach in Kiribati.

The theories and concepts chosen for this thesis are closely connected, especially state capacity theory and governance which is why the analysis of the governance system also allows for interpretations of the distribution of state capacity in Kiribati and how it is exercised. As pointed out, the remoteness of islands like Abaiang makes it indispensable for them to develop an own local government and institutions that structure societal life and ensure order and stability within their communities. The local leaders and institutions can therefore be considered as the main authorities in these settings. However, through the Ministry of Internal Affairs (MIA) and particularly its financial support of local governments,

the central government still has the ability to impact matters and decisions on the outer parts of the country as well. The steering capacity as the governance concept pictures it is therefore still located with the central government. Here the local and national actors and institutions form a governance network to achieve a common goal. In conclusion, it can be argued that within this governance system the Kiribati central government exercises its state capacity through its ministries and the use of financial resources.

The WoI approach can be analysed under the governance perspective as well. It can be argued that it represents the concept of new governance and self-steering networks, mainly through emphasising the importance of community involvement and creating opportunities for participation for all parts of society. This again marks a more society than state-centred approach to governance which recognises the power of the people's support or endorsement for policy proposals.

In order to determine what national Kiribati particularities influenced the choice and development of an adaptation mechanism an understanding of the different actors that shape the governance of the country are of importance. As this paragraph demonstrated, the interplay of different actors and institutions also on different levels characterises Kiribati's governance as well as its adaptation program. The concept of governance and Public Governance Theory can help to clarify the part these networks and its members play in the context of climate change adaptation. Institutions appear to have a particularly important role in these networks and will be analysed in more detail on the following pages.

6.1.4 The Role of Institutions

In the planning as well as in the implementation of adaptation programs institutions play a major role as it usually is their responsibility to monitor the successful execution and progress of a program. If they fail to live up to this responsibility either because of a lack of capacity or resources or because of missing institutional structures in general, effective climate change adaptation becomes more difficult and unlikely. The KNEG as the developer of the WoI approach was aware of this crucial role of strong institutions and made them one of the main objectives to be targeted with the program which can be seen in the emphasis it put on the role of institutions in the Abaiang vulnerability assessment. Further, the vulnerability assessment also identified institutions as a possible weakness or risk in the case of nature or environment disasters. In the course of this analysis the KNEG as well as the WoI approach will be analysed as institutions that shape societal behaviour. Further, the role institutions play in the WoI approach and their conceptualisation in this context will be analysed under the perspective of institutional theory.

In the tradition of institutional theory the WoI understands institutions as informal mechanisms and formal rules that “shape the way people and groups respond to climate change” (KNEG et al 2016, 58). Thereby it also recognises the twofoldness of the institutions which includes official rules like laws and regulations as well as more informal guidelines like values, norms or customs. As institutional theory points out it is the combination of those two aspects that shape the behaviour of society. However, it can be assumed that in communities like Abaiang, which are characterised by their remoteness and the strong influence of tribal structures and customs, the informal rules have a comparatively high impact on societal behaviour.

The WoI continues to outline characteristics that institutions should reflect if they are to play a role in climate change adaptation. They include features like flexibility, decentral and democratic organisation, opportunities for participation or the prioritising of sustainable development principles (KNEG et al 2016, 58). Further, it stresses that it should be local leaders and communities that “create, maintain or re-create such institutions” (KNEG et al 2016, 58). These desired features depict parallels to the aforementioned task of institutions within a governance network which is to create opportunities for cooperation and involvement.

The section of the WoI on institutions and institutional adaptive capacity provides insights into how the main objectives of the WoI are supposed to be achieved. It puts a clear emphasis on the involvement of local communities and leaders as opposed to being mainly decided and implemented by the central government and its ministries. This can also be seen in the attempt to decentralise government structures, especially the ministries. Through these steps a new type of state capacity and the exercising of it can be observed as top-down approaches by the central government are being reduced and replaced by more locally owned programs and plans. However, since this is initiated by the KNEG, originally a government initiative, it is still using its power and capacity to shape climate change adaptation but at the same time recognising and involving local and tribal structures.

As explained in the theory chapter in this analysis state capacity theory will be complemented by several branches of new institutionalism as it appears to be more suited for the topic of climate change adaptation than old institutionalism. The concept put forward in the WoI approach seems to be based more on this understanding of institutional theory as well as it applies a broad perspective beyond the mere observation of the state and also takes variables like norms, habits and cultural customs into account. However, the application of only one of the several sub-categories of new institutionalism will not suffice to explain the

considerations that led to the development of a complex program like the WoI approach. A combination of several branches is more likely to provide a comprehensive understanding that takes to various layers of the program under consideration.

From an institutionalist point of view the forming of the KNEG and the WoI approach can be well explained with Rational Choice Institutionalism (RI) which assumes that utility maximization is the core interest of each individual. In the case of this paper utility maximization would mean the implementation of a program that helps to successfully adapt to the effects a climate change. This requires the willingness of individuals to succumb to a new institution, namely the WoI program, which will put certain constraints on their lives but in a mid- or long-term perspective might be able to preserve their livelihoods. As pointed out earlier RI mainly comes to pass when individuals see themselves confronted with a problem that can easier be tackled in group than alone. Climate change certainly fulfils the criteria of such a problem as individual mitigation as well as adaptation attempts are not likely to cause any real change. For this reason it is the more sensible choice for the people of Kiribati to support the implementation of a program such as the WoI approach.

This is related to the RI assumption that there is the need for an incentive for individuals to abide by the rules of an institution. In this particular setting the overall incentive is the possibility to protect one's livelihood at least for a certain amount of time which seems to be one of the strongest incentives possible. For an inducement like this the people of Abaiang are willing to accept constraints that even target some of their traditional ways of living for example the establishment of protected areas in the lagoon in which fishing and harvesting activities are no longer allowed (KNEG et al 2016, 65). There are numerous other examples of adaptation measures that constrain the inhabitants of Abaiang and require them to develop new ways of providing for their families in order to more sustainably use e.g. the fishing grounds which in a long-term perspective might lead to utility maximisation and protect their livelihoods. Further, this understanding is in line with the RI definition of a good institution whose tasks it is to manage common goods fair and efficiently.

The understanding that an issue like climate change and the adaptation to its effects requires cooperation can also be found in the WoI itself which stresses the importance of integration and coordination of adaptation measures and programs across the different islands but also sectors. Additionally, it encourages increased regional cooperation on climate change adaptation mechanisms, another argument for the hypothesis that climate change resembles a threat that is too big for an individual country to address on its own and for this reason succumbs to an institution. As this paragraph demonstrates the RI characteristics of

incentives, the inability to address a problem individually as well as the willingness to constrain oneself apply to the implementation to the WoI approach in Kiribati which can be interpreted as one of the reasons that led to the choice and acceptance of this approach by the inhabitants.

The formation of the KNEG in 2011 as well the initiation of the WoI approach in 2013 to some extent depict the signs of the formation of new institutions as RI describes it. Their development was not an evolutionary process or grounded in the manifestation of customised habits or values but rather because it was perceived to be a necessity. RI assumes that an institution will be founded if one or a group of individuals regards this to be imperative. With the growing threat of climate change and the increasing effects on the livelihoods of the *i-Kiribati* there was a clear demand for an institution to tackle these problems which is why the KNEG was established and expanded over time and developed this type of approach. Therefore, overall the rationales behind the establishment of the KNEG and its development of the WoI approach can be explained with the idea of rational choice institutionalism and its understanding of institutional change and creation.

Even though RI appears to be able to explain many aspects regarding the founding, the content as well as the acceptance of the KNEG and its WoI approach there are nonetheless features in particular to the adaptation program itself that cannot be justified with rational choices for example the prevailing importance of traditional knowledge and customs. In order to provide answers for their existence in the WoI approach Historical and Normative Institutionalism will be applied in its analysis as well.

Normative Institutionalism is relevant in the context of the tribal societies and structures that still determine much of the political process on Abaiang and that are also one of the targets of the WoI approach. The norms and values that are kept alive through these structures still have a great influence on the daily lives in the community ranging from more practical customs like the traditional ways of fishing or growing crop to the preservation of values like honouring the male elders of the communities. These norms and values act as institutions within the communities as well as the example of the *Botaki ni Umniwane* demonstrates and shape the behaviour of society. However, different to RI theory explanations the individuals do not recognise the *umniwane* as a leader out of a rational choice or as a result of a cost-benefit-analysis but rather because as members of this community and institution the norm of following the eldest male as leader is internalised simply through being raised within this community by the individuals and functions as an institution. At the same time, through continuing to abide by the tribal governance system the individuals also ensure the

preservation of these norms for the future. As pointed out in the theory chapter NI envisages a mutually dependent relationship between the institution and its members because the institutions provide the norms and values and therefore guidance and stability but at the same time also depend on its members to uphold and spread them. Consequently it can be argued that internalised norms and values within the Abaiang community act as institutions that shape the behaviour of society.

The WoI approach recognises the special role of the tribal institutions as well by referring to them as “guardians of Kiribati culture and custom” (KNEG et al 2016, 59). This quote demonstrates the twofoldness of institutionalism also within the WoI program which on the one hand proposes hard measures like planting mangroves or protecting fishing grounds but also identifies traditional knowledge a key aspect for successful adaptation. This impression is reinforced by statements in the Abaiang vulnerability assessment which points out that “a lack of use of traditional skills had led to destructive fishing practices” (KNEG et al 2016, 64). The preservation of customs and values consequently even has very tangible consequences for the communities on Abaiang and demonstrates the importance of involving these types of institutions in adaptation plans. As seen, NI can provide reasons for including the preservation of traditions and values into an adaptation program which aims at gaining the approval of all parts of the Kiribati society and therefore helps to explain why an approach like the Whole of Island idea was chosen.

The part of the WoI approach concerned with the tribal structures and traditional values and practices can also be analysed under the perspective of Historical Institutionalism which proposes that regularised practices become institutions that shape the behaviour of societies. With this branch of new institutionalism the institutionalised traditional decision making processes in the Abaiang governance system can be explained. The fact that traditional structures like the *Botaki ni Umniwane* and the *maneba* system are still in place and influential is due to the fact that the previously put down government structures are still recognised and over several hundreds of years developed into fixed institutions. Further this is in line with the HI understanding of institutional change which assumes that once an institution is in place its ability to change decreases significantly due to its path dependency. This explains why these very old institutions are still functioning and influencing political decisions. HI suggests that institutional change needs to be initiated externally, however in the case of Kiribati, it appears that so far no external force has been strong enough to trigger alterations in the system. However, it is possible that an issue as complex as climate change could have the potential of causing such change by making newer institutions like the Island

Development Committee more important in the future. It is possible that climate change will require a more modern institution in regard to its composition as well as to the means it can access to adapt to climate change for example new technologies are scientific expertise. This kind of development could decrease the importance and thereby also influence of the traditional tribal governance system even in the more remote islands like Abaiang. Nevertheless, an understanding of the rationales behind the prevailing importance and acceptance of traditional institutions is important to understand what reasons led the particular characteristics of the WoI approach and why the Kiribati government decided to follow this kind of proposal for its climate change adaptation planning.

6.1.5 Project Implementation under the Whole of Island Approach

In order to better understand the reasons and intentions leading to the application of the WoI approach and what local, national and international actors shaped this process the following sub-chapter will look closer into the implementation of concrete projects entailed in the WoI approach. In 2014 KNEG commenced the implementation of the first programs under the WoI approach which touched upon various aspect of island live on Abaiang. When looking into the different projects it is striking that they are facilitated and also financially supported by a diverse group of donors and contributors. However, a parallel is that all of the projects are at least co-sponsored and organised by an institutions representing the Kiribati central government. Generally the implementation authority lays with the local institutions and government, in particular the Island Council. However, the government through the KNEG shaped the priorities to be targeted with the program and also came to Abaiang to oversee the launch of the first projects (SPREP 2014). This reinforces the impression that even though the intention of the WoI approach is to increase the number of locally owned projects the central government nonetheless ensures its influences on the implementation processes.

One of the first projects to be implemented is concerned with the availability of freshwater. As bacterially contaminated drinking water due to open wells is one of the main problems and health risks on Abaiang priority was given to adaptation measures that ensure access to clean water. This project made the testing of drinking water and the instalment of so-called “Tamana pumps” its focus and is supposed to provide an alternative to open wells as the pumps facilitate the access to lower lying drinking water. It has been initiated with the support of the Ministry of Public Works and Utilities as well as from SPREP and USAID. The Ministry of Environment, Lands and Agricultural Development introduced a project aiming to tackle the growing issue of food insecurity on Abaiang due increasing periods of droughts and

or less access to freshwater. It does so through the “promotion of agro-forestry practices [or the] breeding of improved livestock” (SPREP 2014).

Another project targets education on climate change by training the teachers on Abaiang how to convey the issue to their students and providing them with specifically developed teaching materials for the Pacific community called “Learning about climate change the Pacific Way”. This initiative is mainly conducted by government educational institutions with the support of an international partner, the German Corporation for International Cooperation, short GIZ (SPREP 2014). Further, basic weather stations have been built in three schools in order to bring students in touch with the measurement and interpretation of rainfall patterns and the development of temperatures. This initiative has been backed up by the Kiribati Meteorological Services (SPREP 2014). These projects also serve as examples for the regional integration and cooperation, for example through the involvement of the SPREP that is supposed to be targeted with the WoI approach as well. Further, it indicates that the Kiribati government requires support in the form of finances or expertise in order to implement its adaptation plans which can provide insights into the degree of state capacity in Kiribati.

The analysis the development and implementation of concrete programs under the WoI approach can help to identify in more detail what capacities are required from which actors in order to achieve successful climate change adaptation. As time and space of this thesis are limited it is going to focus on one exemplary project implementation which is the training and equipment of teachers. This project can be sorted into the objectives the Kiribati Joint Implementation Plan aims to achieve. Under goal seven *Delivering appropriate education, training and awareness programs* the KJIP depicts in great detail *the* outcomes it hopes to achieve as well as the indicators, the responsible agencies and the estimated cost of the different objectives. The training of teachers and the provision of teaching materials falls under sub-outcome *7.1 Students and professionals have capacities to take action on adaptation, and risk reduction and coping strategies before, during and after disasters and emission mitigation* (GoK 2014, 95). The guiding institution in monitoring this part of adaptation is the Ministry of Education (MOE), however it is supported by several other agencies including other ministries, the office of the president, the KNEG as well as several NGOs like the Foundation of the People of the South Pacific Kiribati. Further it is supported by a number of international development partners including Australian and German government development agencies, UN agencies SPREP and also international NGOs. Next to financial support their involvement is mostly concerned with the provision of external experts and consultations.

The example demonstrates the high number of actors required for the implementation of such a program and how the distribution of competences is organised among them. As pointed out the leading institution in charge of implementation and monitoring is the MOE, a representative of the central Kiribati government. The main control over the project is therefore located within the government and it has the capacity to at least determine the main framework and guidelines of the project. However, as the project description indicated the central government requires the support of several other actors for a successful implementation. As the governance concept suggests this group of actors is not only composed of government representatives but also of civil society actors or in other words, actors from different backgrounds that are united by a common interest and therefore form a network to achieve their shared goal. This example again demonstrates why it is important to look beyond the government as the only relevant actor when it comes to climate change adaptation. As this is an issue which affects all parts and groups of society, the distinction between government and governance and the understanding that it in fact requires the collaboration of these various actors, are crucial for a successful planning and implementation process. Further this approach to project implementation can also be interpreted in regard to its meaningfulness to state capacity. It could be argued that the state capacity is not strong enough to implement these projects alone however, it can also be read as a deliberate distribution of authority in order to involve more parts of society and thereby achieve greater support and acceptance for the programs within the communities.

6.2 Discussion

The aim of this thesis is to determine what reasons led to the choice of an adaptation program like the WoI approach in Kiribati. In the course of the analysis of some of the key aspects and objectives of this approach at least three features stand out that seem to have had a crucial influence on its development and implementation. Also supported by theoretical considerations on state capacity and the role of institutions as well as the governance system of the country in general it becomes clear that **first** the geographical location and in particular the great separation between and remoteness of some of the islands, **second** the big number of actors required for a successful development and implementation of the adaptation program and **third** the prevailing influence of the traditional tribal culture are key influences.

The great distance between many of the 32 islands especially from the government in the capital on South Tarawa led to the uncoordinated development of many local adaptation mechanisms and measures. Already between villages on the same islands great differences for example in regard to what sectors were prioritised in adaptation planning, could be identified.

This type of adaptation without a broader strategy and long- or at least mid-term perspective was decided to be not effective enough to significantly improve the protection of livelihoods on the islands. Some of the main characteristics that distinguish the WoI approach from other previous adaptation plans is its focus on the terms integration and coordination. By integrating measures and programs across communities, islands but also sectors while managing the implementation locally and with the support of the communities, the WoI is supposed to achieve more efficient and sustainable adaptation and through participation possibilities more rooted and accepted in society. Therefore, the geographical particularities of Kiribati are one of the key reasons why its government decided to follow a WoI approach to climate change adaptation.

However, it does so without passing over the local leaders and communities because another consequence of the significant distance between the islands is the challenge of implementing top-down programs or even monitoring them. The analysis showed that a successful implementation of adaptation policies required the involvement and consultation with various actors from different backgrounds. In particular this implies a greater involvement of local communities that have a bigger knowledge of their own needs and priorities. This becomes especially important in countries like Kiribati in which top-down approach did not prove to be successful due to the numerous separate islands and communities. Experience showed that the state's capacity often does not go this far and therefore requires the support of local authorities. This is why the WoI approach proposes an influential role for local governments but also for the communities in general and previously marginalised groups like women or youth. The need for an adaptation approach that distributes authority and seeks to involve and integrate the efforts of various actors can therefore be noted as another reason for the choice of the WoI approach.

The other main domestic feature of Kiribati that influenced the choice for the WoI approach is the continuing importance of traditional tribal institutions and customs e.g. in growing crop or fishing. Due to the prevailing influence of institutions like the *Botaki ni Umniwane* it was clear that the successful implementation of a program like the WoI approach could only be achieved with their involvement. A comprehensive adaptation plan for the whole country would therefore require consultations with the traditional leaders and also need to include the importance of preserving traditional knowledge. The chance of success for a program that leaves out these important aspects of island life in Kiribati would have significantly lower chances of being accepted. The tribal culture of Kiribati therefore is another reason why the government decided to develop and implement the WoI approach. As this analysis

demonstrated the great distance between the Kiribati islands as well as its strong tribal traditions can be identified as the main reasons behind the choice the following the WoI approach to climate change adaptation in Kiribati.

7. Conclusion

Climate change can be defined as one of the biggest global security threats however, due to geographical settings and particularities some regions like the equatorial Pacific are already more significantly impacted by its effects, for example a growing number of floods and droughts or the rise of the mean sea level. Within this region it is particularly the group of Small Island Developing States that is highly affected and struggling to cope with the effects of climate change. This is partially caused by their geographical and geological nature as many of the islands are composed of low-lying atolls but also by their backward state of economic and social development which has implications for their institutional capacity. Kiribati as a Least Developed Country unites many of these features and disadvantages and can therefore be defined as highly vulnerable to the effects of climate change.

As this paper showed climate change affects the Kiribati nature and environment but also has socioeconomic impacts on the country and its inhabitants. The effects on nature include an increased number of droughts and floods which are possibly also caused by a reinforcement of the ENSO variability through climate change which also complicates the prediction of future sea level rising and related adaptation planning. Further effects are coastal erosion and the salinization of soils and freshwater lenses. As these are indispensable requirements for agricultural activity on the islands, climate change also affects the livelihoods of many people and thereby causes socioeconomic problems like food shortage. Additionally, the impacts of climate change are exacerbated by the state of Kiribati's economic development which in particular affects its institutional capacity and consequently also its adaptive capacity.

In order to better tackle the problems caused by the effects of climate change the government of Kiribati initiated adaptation programs under the Whole of Island approach in 2013. As this paper showed the program is characterised among other things by its objective to be integrating and inclusive. It differs from former adaptation programs mainly because of the idea to coordinate adaptation measures across communities and islands and across sectors which is expected to facilitate more effective and sustainable adaptation in the future.

The aim of this paper was to determine which national characteristics led to the need for and development of such an approach in Kiribati and to answer the research question *How does climate change affect the Small Island Developing State Kiribati and why did its government*

decide to follow a “Whole of Island” approach as adaptation mechanism to the effects of climate change?

In order to answer this research question the governance system of Kiribati and in particular of Abaiang, the involved institutions as well as of the WoI program itself were analysed on the basis of several theoretical considerations. For this purpose state capacity and institutional theory as well as the concept of governance were introduced. After the theory based analysis of the WoI and the KNEG it could be concluded that for the development and implementation of the WoI approach the Kiribati government has a high degree of state capacity which is grounded in its cooperation and consultation with society groups before and during policy implementation. This state capacity was determined to be indispensable for effective climate change adaptation. Further the acceptance of the WoI program by the Abaiang communities was explained with different branches of new institutionalism. By framing the successful adaptation as utility maximization and the preservation of livelihoods as incentive for abiding by the WoI's rules and constraints, Rational Choice Institutionalism can clarify why the Abaiang community was open to the WoI implementation and provide explanations for this choice. The continuing influence of traditional customs and values on remote island communities is another striking aspect that stood out in the course of the analysis. In order to explain its occurrence Historical and Normative Institutionalism were added to the theoretical framework of the analysis. They showed that traditional values can develop into institutions that shape societal behaviour as well as political decision making in communities like Abaiang. Additionally it became clear that due to the difficulties of coordinating adaptation measures between islands and communities a whole governance network is required that cooperates in achieving the common goal of successful climate change adaptation.

Overall the analysis showed that three main reasons that led to the choice of a WoI approach for Kiribati which are the geographical setting of the country, the need for a network of actors for successful project implementation and the influence of traditional tribal structures and norms within its communities. The analysis showed that both the KNEG as well as its WoI approach can serve as institutions that help to overcome these challenges innate to Kiribati climate change adaptation. In order to properly integrate the traditional values and customs of the Kiribati people it was essential for the adaptation program to be inclusive in the sense that it dedicated a special role to the preservation and passing on of traditional knowledge and values. Particularly the cooperation and consultation with the tribal institutions turned out to be one of the key objectives of the WoI approach. Another main reason for the WoI choice the analysis presented is the wide spreading of the numerous Kiribati islands which made the

implementation of a national adaptation strategy difficult in the past. Instead most islands and communities developed their own mechanisms and measures to adapt to the effects of climate change. Related to this is the third reason that the analysis presented which concerns the need for an adaptation approach that distributes authority and seeks to involve various actors in the implementation of adaptation programs as mere top-down approach by the central government did not prove to be effective.

As state capacity is an important aspect in these areas, an adaptation program that centres around the principal of integration and consultation between state and society appears to be the right measure to address the effects of climate change on Kiribati. For this reasons an extension of the program onto other Kiribati islands is intended if the implementation on Abaiang proves to be successful. Concluding from this paper's results the WoI approach is an adaptation program that is a good solution to many of the particularities of Kiribati even though an in-depth evaluation of its results is not yet possible due to the continuing implementation process. However, in particular its attempt of involvement and integration appears to be worth taking into consideration for the adaptation programs of other SIDS as well as this seems to be the most effective strategy to precisely target the problems of a country or region caused by the effects of climate change. The conclusion can therefore be made that the idea behind the WoI approach of Kiribati to specifically address national particularities, could serve as a role model for adaptation mechanisms in other SIDS as well.

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