School of Media, Creative Arts and Social Inquiry

The Role of Water Governance in Post-Conflict Peace-Building and Development: A Case of Timor-Leste

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Declaration

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council statement on Ethical Conduct in Human Research (2007) - updated March 2014. The proposed research study received human research ethics approval from Curtin University Human Research Ethics Committee (ECOO262), Approval number #RDHU-244-15.

Signature: …………………

Date…20/07/2021…………

Abstract

This PhD dissertation critically examines the role of water governance in the state of Timor-Leste (formerly East Timor), with particular reference to post-conflict situations. Successful implementation of water governance in post-conflict states cannot be entirely dependent on the state, as in these situations public institutions are often disorganised and beset by corruption. Therefore, the aim is to explore an alternative to the state-centric arrangement: undertaking a non-hierarchical approach to water governance with a broad consultative process coordinated between government levels, between state and civil society, and between local and transnational actors.

These new multilevel approaches seek to avoid the pitfalls and limitations of earlier approaches and advance water governance toward desirable norms such as local participation, representation, equity, legitimacy, accountability, innovation, and efficiency. More recently, polycentric governance has increasingly gained traction among scholars and policymakers. Their contention is that this polycentric approach to water governance is better suited to post-conflict environments where peace-building and development are critical.

Water governance is not required to be either small-scale or large-scale, but rather cross-scales of geographic space and requires action at multiple levels of jurisdiction to ensure the efficient and equitable use of water resources. The findings demonstrate that improved methods of matching multilevel policy coordination to the cross-scale of social processes provide a variety of stakeholders with access to the decision-making process and increases the capacity of environmental governance to adapt to change and uncertainty. The methodology remains qualitative in nature and incorporates three forms of data collection: observation, interviews, and photographic evidence. The purpose was to show how the transition from conflict to post-conflict occurred in a fragile state - using a case study about the efficient and equitable use of water resources underpinned by water governance that contribute to peace-building and development in a post-conflict environment.

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Acronyms and Abbreviations

ACIAR	Australian Centre for International Agricultural Research
ADB	Asian Development Bank
AIIB	Asia Infrastructure Investment Bank
ALDEIAS	Small Community within the Sucos
ASEAN	Association of Southeast Asian Nations
AUSD$	Australian Dollar
BESIK	Bee, Saneamentu Ijiene iha Komunidade - Timor-Leste Rural Water Supply and Sanitation Programme
CAS	Complex Adaptive Systems
COA	Chief of Aldeias
COS	Chief of Sucos
CPR	Common Pool Resources
CRS	Congressional Research Services
DFAT	Department of Foreign Affairs and Trade
DNSAS	National Directorate of Basic Sanitation & National Directorate for Water
EU	European Union
FSI	Fragile State Index
FWD	Four Wheel Drive
GHI	Global Hunger Index
GOTL	Government of Timor-Leste
IDA	International Development Agencies
IDP	International Displaced Peoples
IFI	International Financial Institutions
IL	International Law
IMF	International Monetary Fund
INGO/s	International Non-Government Organisations
INTERFET	International Force in East Timor
IPCC	Intergovernmental Panel on Climate Change
IPE	International Political Economy
ISIS	Islamic State of Iraq and Syria
LISAN	Traditional Law
NGO	Non-Government Organisation
NHMRC	National Health and Research Council
OECD	Organization for Economic Cooperation and Development
PM	Prime Minister
SDGs	Sustainable Development Goals
SOL	Seeds of Life
SUCOS	A community with Smaller Villages within its Precinct, such as an Aldeias (as stated above)
TARA BANDU	Traditional Governance Systems that Manage Natural Resources such as Water
TETUM	Official Native Language of Timor-Leste
UN	United Nations
UNDP	United Nations Development Programme
UNDSE	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environmental Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change

UNICEF	United Nations International Children’s Emergency Fund
UNMIT	United Nations Integrated Mission in Timor-Leste
UNPF	United Nations Peace-building Fund
UNSDFG	United Nations Sustainable Goal Fund
UNTL	United Nations Timor-Leste
UNWATER	United Nations Water
UNWOMEN	United Nations Women
USAID	United States Agency for International Development
USD$	American Dollar
USSR	Union of Soviet Socialist Republics
WASH	Water and Sanitation Hygiene
WATERAID	Water Resource Specialist INGO
WB	World Bank
WFP	World Food Programme
WGI	World Governance Indicators
WHO	World Health Organisations
WWDR	World Water Development Report

Figure 1: Acronyms and Abbreviations

1.0 CHAPTER 1: THESIS OVERVIEW

> I believe water will be the defining crisis of our century, the main vehicle through which climate change will be felt from droughts, storms, and floods to degrading water quality. We'll see major conflicts over water, water refugees. We inhabit a water planet, and unless we protect, manage, and restore that resource, the future will be a very different place from the one we imagine today (Cousteau, n.d. cited in Water Politics n.d., n.p.).

1.1 Introduction

Figure 2: A Map of Timor-Leste - in Red
Source: by (Wikimedia Atlas of Timor-Leste, n.d.)

This thesis sets out to describe and explain the complex challenges of water governance in Timor-Leste, characterised as a post-conflict state. The society of Timor-Leste remains traumatised by decades of Indonesian occupation and a protracted struggle for liberation. After a historic independence vote in 1999, much of the country's infrastructure was destroyed when the Indonesian forces departed. Just over 20 years on, peace in Timor-Leste is still fragile. The national government and subnational authorities struggle to marshal the resources necessary to tackle the enormity of the country's social and economic development challenges. Interventions by international agencies have had mixed results. Thus, new thinking and new ways of governing are needed.

This thesis recognises the need for innovation and foregrounds water governance as an opportunity to test new models and resolve the persistent social tensions over scarce resources that undermine the pursuit of durable peace in Timor-Leste. Polycentric governance is

advanced as the model best suited to analyse and address complex peace and development challenges. Polycentric water governance is a multilayered and dynamic process involving multiple social actors that often pursue competing interests (Ostrom 2010).

This governance approach is, in its ideal form, inclusive and empowering. The people directly impacted by the destruction of key infrastructure during intra-state conflict should, ideally, be given a voice in the reconstruction of their community and their nation's society. The thesis makes a special case for the empowerment of Timor-Leste's vulnerable actors, like females, who have a vital role to play in the reconstruction process. The research findings outlined here highlight the many obstacles to achieving the polycentric governance ideal in all communities in Timor-Leste.

The objective of this thesis is to explore the role of water governance, underscored by good governance in peace-building and development in post-conflict Timor-Leste. It examines how that may be achieved through various potential stakeholders, including actors from government at different levels, end-users, regulators, civil society, and donors. There are the two types of stakeholders: those affected by poor water governance and others who may have the ability to influence its governance.

Specifically, this thesis aims to investigate a hybrid (formal and informal) approach to water governance practices. Formal water governance is the 'establishment of rules, responsibilities, operating mechanisms, policies, and user and official accountability systems' for effective management of water resources (Barros 2013, p.57). In contrast, informal water governance is considered a 'means of decision-making that is un-codified, non-institutional and where social relationships and webs of influence play crucial roles' in the context of peace-building and development, in this case, Timor-Leste (Harsh 2013, p.481; World Bank [WB] 2018).

This chapter discusses the context and justification for the research presented in this dissertation, the significance and contribution that this study will make. It includes the research questions and objectives; followed by the research approach presented in this dissertation. This is concluded with the thesis structure (a brief description of the 8 chapters).

1.2 Context of the Research

Across the world in post-conflict states, establishing good governance refers to the public administration process that maximises public interest following years of arduous occupation and war; however, there are no 'objective standards for determining good governance'(Nanda 2006, p.269), as the term remains ambiguous – good governance is a normative notion underpinned by norms, values, and principles (Iftimoaei 2015). Nonetheless, in an ecology of fragile circumstances, good governance and water governance are considered tools for tackling poverty in both urban and rural parts of nation-states while meeting other social development needs such as health and education; and meeting the financial security demands of the general population and the state (Organization for Economic Cooperation and Development [OECD] 2021a; Waheduzzaman & Mphande 2014). Similarly, good governance should be considered a pathway to improved development (out of poverty) and a road to recovery after decades of occupation. Such measures encourage transparency and reduces corruption by stakeholders to strengthen relationships between the state and the people, including international organisations such as the United Nations (UN) (UN 2003). International organisations like the UN assist in the reconstruction of the state in the post-conflict phase while endorsing good governance practices that enhance the nation-state after conflict has concluded (Bruch, Weinthal & Troell 2020; Grindle 2017; Masango 2002; UN 2003).

In post-conflict situations, good governance promotes accountability among relevant authorities while building trust within the community that strengthens democratic values; for example, free and fair elections which are seen by the general population as equitable and representative of their needs as they begin to rebuild their country with hope of a better future (Asian Development Bank [ADB] 2017; Putnam 2004). At the same time, good governance should encourage,

> a respect for human rights and the rule of law, promoting transparency and accountability in public administration, enhancing administrative capacity, and strengthening democratic governance (Annan 1998, p.14).

In the 21st century, proponents of good governance frameworks face new challenges that require innovative solutions nurtured by audacious leadership. These challenges include the ability to mitigate the impacts of climate change and the destruction of natural resources like freshwater. At the same time, good governance practices through leadership can promote equality at both the local and national levels in states where governance is unclear, and resources like freshwater are in short supply (Franks & Cleaver 2007; Hannam 2021; WB

2017). Solutions that enhance fragile situations through good governance practices can also encourage development and create policy underpinned by effective governance of water resources for the benefit of all stakeholders, as

> water governance is a range of legal, policy and administrative arrangements in place to: develop, allocate and manage water resources and deliver water services at different levels of society (Mfodwo 2010, p.1).

The concept of good governance emerged in1989 in a report by the WB on the 'Sub-Saharan Africa, which characterised the crisis in the region as a crisis of governance' (WB 1989, n.p.). Later, in the 1990s, the WB were at the helm for defining the term good governance in which they described power that is executed in the administration of a nation-states socio-economic and political development underpinned by good governance characteristics (WB 1992). For the purpose of a post-conflict situation and employed in this study are eight good governance characteristics that encourage effective and efficient water governance (OECD 2015). They are: (1) accountability, (2) participation, (3) follow the rule of law, (4) transparency, (5) consensus-oriented, (6) responsive, (7) effective and efficient, (8) equitable and inclusive (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP] 2008; WB 1992, p.2). The above good governance characteristics with particular attention paid to accountability and participation are indistinguishably associated with the growth and development of a fragile environment as set out in the following parts of this section and critically examined in the literature review (United Nations Development Programme [UNDP] 2011). This study explores two perspectives: informal and formal governance practices.

In post-conflict environments where governments are under-resourced, and governance is inconsistent, the establishment of informal governance practices such as informal water governance encourages local actors to participate in enhancing water resources through governance frameworks provided by local initiatives and the international community. In war-torn countries, there usually are no other alternatives offered by the state, and a lack of water resources such as freshwater can make people's lives very challenging while threatening their very existence (e.g., water-related international non-government organisations (INGOs) (Swain 2015; WaterAid 2017). Good governance practices are critical but complex in post-conflict states, as informal governance practices like water governance can assist or impede the peace-building and development process because 'informal institutions are difficult to handle as the rule-making process is less transparent and the key actors are more difficult to identify' (Haider 2017, p.39). These include local populations through community-based engagement

that empowers people after years of occupation by foreign agents where accountability was non-existent, and participation was denied in the context of water governance practices (whole generations do not understand formal water governance for this very reason) (Lambourne 2013; OECD 2015; Weinthal, Troell & Nakayama 2014).[1] [2]

However, in contrast, and in an ideal world, formal water governance through participation initiated by local and state authorities encourages the local population to participate in the political process while promoting transparency from legitimate state actors and their representatives (Bruch, Weinthal & Troell 2020). In fragile states like Timor-Leste, some scholars and policymakers believe that in order to encourage the local population to be actively involved in formal water governance, good governance must first be established by the rule of law created by state authorities through formal levels of authority; and supported by global bodies like the WB (Hye 2000; Lovan, Murray & Shaffer 2017; Rogers & Hall 2003; Sobhan 2000; WB 2018). Other scholars and policymakers suggest this raises the stakes of economic stability and a return to a relatively normal life after years of occupation while promoting effective policies across state-run-departments, including local levels of government which encompasses cross-scale provisions (competing spatial jurisdictions) (Bruch, Weinthal & Troell 2020; OECD 2015; Sears et al. 2021).

As post-conflict governments gain confidence through stability and good governance practices, people begin participating to improve their daily lives while witnessing positive outcomes such as access to freshwater. People also tend to be more accountable and transparent in their actions because of such outcomes, hence the significance of establishing good governance through formal systems that enhance their communities is encouraged while rebuilding their country after years of occupation (OECD 2015; Sirker & Cosic 2007). Participation also has its

> stakes, interests, knowledge, resources, and networking capability. Thus, while all models of governance stipulate some form of interaction, the trademark of interactive governance is its contextualization and informality of those interactions (Torfing et al. 2012, p.85).

In light of the above, water governance incorporates a broad spectrum of actors through a decision-making process and considers how water resources, such as freshwater and sanitation, are organised for the community as 'water crises are often governance crises since they tend to relate more to the 'who does what' at 'which scale' and 'how', than to the 'what' should be

[1] In Timor-Leste, the former governing authorities (the Indonesian army) controlled natural resources like freshwater with relative success (see Chapter 6).

[2] Participation empowers people, and empowered people threaten authorities, especially illegally occupying authorities such as the Indonesian military who occupied Timor-Leste for almost 25 years.

done' (OECD 2021a, p.10; Sears et al. 2021).[3] In the context of water governance, formal and informal processes occur through local organisations and other actors that include sub-national/national actors and regional/state/local governments and transnationally linked civil society groups and INGOs (Pahl-Wostl 2002). Water resource management is critical to the restoration of people's lives, economic stability, and conflict resolution. And in the context of water resources in a war-torn society, Bruch, Weinthal and Troell (2020, p.1) contend that,

> governance is critical for meeting the challenges in the water sector in post-conflict settings, not just for restoring livelihoods and basic human wellbeing, but also for supporting sustainable development and addressing emerging challenges such as the increasing prevalence of droughts and floods that threaten to erase many of the peace dividends that water may provide at war's end.

Through water governance mechanisms, water resource management skills are powerful tools when applied effectively and equitably in achieving peace-building and development objectives. And because of this, they underscore the equitable allocation of water resources while reducing the risk of conflict and promoting accountability and participation by the broader community (Weinthal 2006). Skills and resources enhance the good outcomes, including tangible economic results, that are critical to the peace-building and development process for the local community. Tangible results create strong relations between participating actors (state and non-state) while reducing the social impacts of waterborne illnesses and other diseases (communicable), such as dengue fever, malaria, and tuberculosis (Kliot 2005; Klitgaard 2017; United Nations International Children's Emergency Fund [UNICEF] 2016; World Health Organisation [WHO] 2013; WHO 2018).[4]

To build and improve on water governance in post-conflict states, Weinthal, Troell and Nakayama (2014) argue that a water governance framework should recognise a mix of global practices that are essential to effective water resource management. As there is no current

[3] Other challenges reflect on the fact that water governance is not considered small or large-scale. Various scholars ask us to reflect on the fact that water governance should consider a cross-scale approach to water-related matters and reflects an economic balance in a complex fragile environment like Timor-Leste. This is supported by a multitude of opportunities like new skills which facilitate the local population to earn a decent living wage through new industries and sectors like water resources that highlight such opportunities (Rogers & Hall 2003; Weinthal, Troell & Nakayama 2014).

[4] In a post-conflict state, implementing strategies such as decentralisation, capacity-building, and multi-stakeholder decision-making processes (co-management) are core components to water governance because skills and resources in the context of water-related matters can be limited due to years of conflict and unrest (Weinthal, Troell & Nakayama 2014).

international framework (template) that provides a global solution for water governance in the context of peace-building and development in post-conflict states. These practices such as local community consultation should consist of empirical and theoretical evidence drawn from case studies and individual states that can aid in understanding how water governance can promote peace-building and development in the post-conflict community, as research into this issue remains limited (Krampe & Gignoux 2018). However, in the context of water resources management, the

> key elements of governance are to create a framework (institutional and administrative) within which strangers or people with different interests can peacefully discuss and agree to cooperate and coordinate their actions (Rogers & Hall 2003, p.9).

Such coordination assists in establishing sustainable water governance practices that encompass all stakeholders, not just a few during the decision-making process, as unfair water allocations may cause disruption at the local and national levels. In a fragile war-torn society, water resource management is complex as various stakeholders utilise on the same potable water systems; however, an 'individual actor's decision-making on withdrawal and/or pollution of shared resources has the potential to create conflict' (Swain 2015, p.5).

Scholars agree that sustainable water governance in a fragile requires co-management, or what Ostrom (2010, p.3) describes as a 'polycentric' approach to water governance, that incorporates a framework focusing on power-sharing and decision-making. A reasonably new concept, the polycentric water governance (co-management) approach means encapsulating various stakeholders that make coordinated decisions through multiple levels of governance with sometimes, overlapping and competing agendas (Pacheco-Vega 2013).

It is in the best interests of the community that polycentric governance is employed through a process of collaboration in the context of natural resource management, including for water (Baldwin et al. 2018). A shared approach to water governance is supported by Principle 10 of the Rio Declaration on the governance of the natural environment. Principle 10 makes it clear that governments and concerned citizens are encouraged to cooperate together in the context

of managing the worlds' natural resources (United Nations Environmental Programme [UNEP] 2017). This is particularly important in a post-conflict state because the

> presumption that locals cannot take care of public sector problems has led to legislation throughout the world that places responsibility for local public services on units of government (Ostrom 2008, p.3).

Polycentric governance attempts to capture the needs of pertinent actors and is not arranged through traditional top-down hierarchical systems where certain actors like state actors have authority over alternative stakeholders when it comes to managing local water mechanisms (Komakech & van der Zaag 2013). Polycentric governance asks us to 'embrace the notion that the act of governing can be undertaken by non-governmental entities' such as the local community and other non-state actors like INGOs (Pacheco-Vega 2013, p.3). Therefore, it remains critical to this thesis to understand how conceptual ideas such as water governance, underpinned by good governance through a polycentric governance framework could work when applied in a post-conflict state like Timor-Leste.

1.3 Justification of the Research

Since Timor-Leste obtained independence from Indonesia in 2002, the 4th nation-state on earth continues to face numerous challenges in an unpredictable post-conflict environment as it charts its way through the 21st century. These include critical development issues such as outdated water resources that impede the population's ability to access freshwater (contaminated), the sanitation required to reduce waterborne diseases, and irrigation infrastructure that enhances agricultural outputs and promotes economic gains and food security for the people (see section 3.5) (OECD 2021a). Timor-Leste remains largely dependent on its regional neighbours for development assistance, including water-related knowledge and skills from international partners such as WaterAid, who assist various communities throughout rural Timor-Leste to better manage their water resources, because many communities in Timor-Leste could be characterised as 'water insecure' (Dixon 2021; Myers et al. 2011, p. 32; Takeleb, Sujono & Jayadi 2020; WaterAid 2017).

Nonetheless, during the last two decades, the Government of Timor-Leste have made critical advances by using their Petroleum-Funds to plan for multiple infrastructure and development needs for its current and future populations as the 'oil industry acts as a state-building and nation-building apparatus' across the country (Simangan & Bose 2021, p.79) in what is considered an 'oil dependent country' (John, Papyrakis & Tasciotti 2020, p.141). Further, this

demonstrates to the people of Timor-Leste and the global community that the country's leaders are reconstructing the nation's infrastructure and improving development within the country as it moves through the coming decades and beyond. Other national infrastructure projects are now operating, such as international freeways to Indonesia that are critical for economic trading and the movement of people while sharing new skills and knowledge that are essential to the future of Timo-Leste (partly funded by international actors like the European Union). These are critical factors for future development projects that will restore Timor-Leste as they build on the nation-states' economy and create recovery programmes that will enhance its socio-economic future (Krampe & Gignoux 2018; Rofi & Saragih 2019; WB 2017; WB 2018).

Incremental development milestones are evident in urban areas such as Dili, the capital of Timor-Leste, as various innovation sectors such as health and education emerge while offering people in Timor-Leste a better future at enhancing their lives in decades to come through better employment and economic opportunities. Encouraged by this, the Ministry of Health has made important strategic investments with international partners such as the WHO while making provisions that develop state policy and facilitate institutional structural reform (human services). Such provisions enable the delivery of modern technology and essential health treatment across Timor-Leste while minimising infectious disease risk such as waterborne illnesses like bacterial diarrhea (water resource management will be critical to the success of such health-related programmes) (Kruk et al. 2010; WHO 2017; WHO 2018). Recent evidence indicates a reduction in child mortality rates across Timor-Leste while an increase in the participation of citizens and the incremental institutionalisation of state organisations such as education, which have progressively improved since independence (UNICEF 2108). Unfortunately, water resource reconstruction (formal) is not one of the areas to show marked improvements (WB 2018).

Just as critical, other challenges exist such as extreme poverty in remote rural provinces which is exacerbated by a lack of government engagement, unemployment, particularly for young people between the ages of 15 and 25; and an inadequacy in vital labour skills. Studies indicate that just under 70 per cent of the state's population lives in rural Timor-Leste, this makes accessing essential social services like education an impediment to the development for school-age students, particularly in remote areas of the country where transport infrastructure is outdated and in need of urgent repairs (UNICEF 2016; WB 2018). Further, due to the COVID-19 pandemic, it is estimated that many thousands of school-age students across Timor-Leste

have stopped attending school while many more students have withdrawn from classes altogether (Agencia Noticiosa de Timor-Leste 2021). This comes at a time when,

> the economic shocks of the COVID-19 pandemic reverberate through household and national budgets just as awareness of the importance of hygiene in infection prevention and control soars (UNWater 2021, n.p.).

Current studies estimate that 45 per cent of the people across both rural and urban Timor-Leste live beneath the poverty line while approximately 25 per cent live in extreme poverty (WB 2018). Extreme poverty has dire consequences for socio-economic development across all sectors of the nation-state, aggravated by power struggles and corruption at many levels of society, including the government that create a divide and mistrust between state and non-state actors (WB 2017). The need for broader capacity-building programmes by the state, assisted by the international community remains essential to water governance and other related development programmes, for example, food and water security provisions. Such capacity-building programmes create pathways out of poverty in post-conflict conditions where resources and skills are limited. Rogers and Hall (2003, p.9) point out that

> (p)overty reduction is enhanced by a stable and just social order founded on clear institutional rules and effective and equitable markets. Effective governance is thus essential to poverty reduction and can help the poor to help themselves.

The government of Timor-Leste has created a strategic pathway out of poverty by embracing the post-2015 (17) Sustainable Development Goals (SDGs) and creating a bridge between the private and public sectors (see Chapter 2). These initiatives are designed for foods that are grown locally, while being sustainable, rich in nutrients and ensuring the country is able to feed its people while relying less on its international partners (regional) like Australia (DFAT 2017a). These combined objectives address malnutrition (maternal and child) while promoting a struggling private sector (see chapter 3). Still, they require effective water resources that provide access to freshwater and irrigation services that are equitable and sustain agriculture for both economic and food security purposes (United Nations Sustainable Development Goal Fund [SDGF] 2017; WHO 2014).

Major hurdles that have prevented Timor-Leste's water resource sector from moving forward include the lack of 'institutional capacity and absence of technical support services, accountability, and incentives for sustaining services' in water governance practices, including a lack of essential water-related skills and knowledge (National Directorate of Basic Sanitation & National Directorate for Water [DNSAS] 2014, p. 3). However, attaining new skills improve

the population's ability to manage water resources during unusual weather patterns while greatly impacting on the general population to be able to access potable water – safe drinking water (Rofi & Saragih 2019). Other water-related challenges such as the affordability of water resources by local individuals and communities will continue to increase as 'little progress has been made in integrating affordability into national and global monitoring' of water resources around the world by relevant authorities and policy makers (United Nations Water [UNWater] 2021, n.p.). Further, water scarcity will also be aggravated by anthropocentric global warming and will be challenging for Timor-Leste to manage in the coming decades as weather events such as floods and droughts become more prevalent and extreme as recently witnessed throughout Timor-Leste in 2021 with catastrophic floods (see section 3.2) (Myers et al. 2011; Rofi & Saragih 2019).

Previous scholarly research on water-related matters in Timor-Leste has been scientific and sociological in nature and do not underscore the role of water governance in peace-building and development efforts. It has mostly been conducted in rural Timor-Leste by academics, international development agencies such as the WB, and INGOs like WaterAid, with little attention being paid to the urban areas such as Dili (Myers et al. 2011; Neely 2015; Palmer 2010). In relation to post-conflict states, some scholars argue that much of the previous research on the governance of natural resources such as freshwater has 'failed to develop a thorough theoretical understanding' in fragile environments (in relations to the social and political processes), and how it contributes to peace-building and development (Krampe & Gignoux 2018, p.187; Krampe, Hegazi & VanDeveer 2021). Therefore, this study seeks to fill the research gaps by examining the role of the relevant stakeholders through a broad participation process including collective governance mechanisms while presenting a critical examination of the post-conflict environment that offers an alternative approach: the non-hierarchical undertaking of water governance with a broad consultative process.

1.4 Significance of the Research

The significance of this research is that it is a comprehensive investigation of the role of water governance in post-conflict peace-building and development using the case study of rural and urban Timor-Leste. In the context of fieldwork, this research is the first extensive study to be undertaken on water governance in urban and peri-urban Dili, Timor-Leste. It introduces new factual materials in the empirical evidence Chapters 5, 6 and 7 while presenting an interpretation of the information collected about water governance from across Timor-Leste.

The research presented in this dissertation is the first of its type in understanding why good, effective, and equitable water governance in Timor-Leste requires a multifaceted and complex polycentric water governance approach as previous outlined. Multifaceted because a post-conflict state has many actors with varied interest that are interrelated both nationally and internationally in the recovery of Timor-Leste after a long period of occupation and conflict that spanned 24 years. Many of these actors work with local community stakeholders to enable sustainable resource management such as water. It remains complex, as polycentric governance in the context of water resources encapsulates the interests of all stakeholders, including vulnerable actors while enhancing the lives of the people of Timor-Leste within a framework that is inclusive (Carlisle & Gruby 2017; Ostrom 2010). Further, this framework has to be flexible enough to accommodate a diversity of needs and practices, which is challenging to both state and non-state actors in an unstable social and political environment (Bruch, Weinthal & Troell 2020).

The research methods in this dissertation are qualitative in nature and incorporated three forms of data collection: observation, interviews, and photographic evidence (all photos used in this thesis are by the author, unless otherwise stated). The qualitative approach applied to this study will be justified in Chapter 4 and looking at the issues from an international relations (IR) perspective. Each empirical evidence Chapter 5, 6 and 7 is an analysis of data collected alongside relevant literature (therefore this study outlines a findings and discussion approach).

The research in this dissertation will underscore a new understanding required in the water governance space in the post-conflict state of Timor-Leste that enhances peace-building and development. Evidence in this research supports a comprehensive approach to water governance and polycentric governance in Timor-Leste which is highlighted by good governance characteristics through a broad actor participation process in water resource management and includes pertinent stakeholders throughout this study.

Academic knowledge: This study will contribute to the current literature and a new understanding of formal and informal water governance in Timor-Leste. The research examines state and non-state actors, including the international community, emphasising themes such as good governance, water governance, polycentric governance, and community stakeholder engagement with a bottom-up approach. This dissertation will present how broad actor participation through local action contributes positively to peace-building and development in a post-conflict environment.

Empirical knowledge: The empirical significance presented in Chapters 5, 6 and 7 of this study will further highlight the practical importance and consequences of how both state and non-state actors contribute to programmes that relate to and impact water resource management through water governance. And research includes the development of essential sanitation, freshwater supply, infrastructure programmes, and provisions that advance economic frameworks in the context of both formal and informal water resource management.

1.5 Research Questions and Objectives

As mentioned earlier in this chapter, there are limited academic studies on water governance in post-conflict peace-building and development in states like Timor-Leste. Previous global studies have examined post-conflict states where the population has participated in water governance with elected officials, such as subnational actors and transnational actors like INGOs. However, in Timor-Leste thus far, this has not been effective in the context of water governance. While previous studies are relevant, discussion of them is limited in this thesis to understanding both formal and informal (hybrid) water governance practices that are made up of decisions made by a cross-scale of stakeholders in the water resources management space in Timor-Leste. Therefore, this study will examine the role of water governance practices in Timor-Leste by pertinent stakeholders while identifying the gap between theory and the practice of good governance, water governance and polycentric governance.

Questions

1. Investigating the value of water governance (**Social equity**) - *In what ways does water governance contribute to peace-building and development in the post conflict social, economic, environmental, and political and gendered landscape of Timor-Leste?*

2. Examining the informal and formal policy processes of water governance (**Political viability**) **-** *How do we grant water stakeholders and citizens participatory opportunities to influence and monitor processes and outcomes of water governance?*

3. Assessing the functional level of water governance (**Sustainability**) **-** *How to ensure the water governance needs of the people of Timor-Leste continue to be sustainable while creating frameworks to meet the water resource needs of future generations?*

Based on the previous questions, the following objectives have been formed to encapsulate the framework of this dissertation. Objectives can be regarded as steps to answer the research questions. In other words, the objectives should add up to answering the questions (Bloomberg & Volpe 2012).

Objectives

- Identify the role of water governance in both urban Dili and rural post-conflict Timor-Leste (**governance venues**);
- Examine the role of the local actors, subnational/state actors and international/transnational actors that participate in peace-building and development through water governance (**stakeholders**);
- Explore collective water governance characteristics underpinned by the social, economic, environmental, and political components that are relevant to post-conflict Timor-Leste (**sectorial characteristics**);
- Investigate the collective tasks of multi-faceted governance frameworks and horizontal and vertical cross-scale collaborations that will create opportunities for relevant actors to participate in the decision-making process (**multilevel and cross-scale coordination**);

- Ultimately suggest a water governance framework based on primary and secondary evidence relevant to this case study (**good governance**).

Responses and outcomes to the questions for this dissertation will be analysed and interpreted to build a water governance framework. Such an approach will meet the water governance needs of post-conflict Timor-Leste while building on peace-building and development.

1.6 Inquiry and Research Approach

Research Approach ⟶ Duality of Structure & Agency ⟶ Broad Actor Participation

Figure 3: Research Approach

It has been suggested that the agency-structure problem is about the question of how human actors are related to social structures and vice versa (Kolbjornsrud 2017). For this reason, this section explores the implications of this relationship for water governance. While structure comprises the sets of factors that constitute the environments in which agents (actors) operate, agents are the entities capable of decisions and actions in any given environment. They may be

single individuals or groups, and they may be characterised by conscious intentions or by patterns of behaviour which in part do not result from deliberation. In general, actors have independent will, and exercise collective decision-making, yet collective decision-making on water governance is a process of interaction between multiple actors embedded in a range of different structures. While individual actors do originate action, they are often constrained in their options by their environment. This thesis demonstrates that the links between agency and structure are mutually constitutive, as constructivism suggests (Slaughter 2011; Theys 2017).

As we understand it, structure remains concerned with how culture/society/community moulds the individual and considers both the limitations and choices that may occur. Meanwhile, agency is how individuals make decisions for themselves while influencing the community in which they live. There is no supremacy between agency and structure; however, different theories explain the relationships between agency and structure differently (Bourdieu 1989; Giddens 1984). Giddens (1984, p. 376) considers 'the structuring of social relations across time and space in virtue of the duality of structure'. Therefore, this dissertation will pay attention to Giddens (1984, p.162) 'duality of agency and structure' with a qualitative approach to data collection that promotes a broad scope of inquiry (see above Figure 3). Agency underscores the human perspective and action from individual actors, while structure highlights elements that include existing state agents, institutions, and local systems such as the influential religious and cultural aspects of the Catholic Church in Timor-Leste (Shah 2012). Structure can be seen as certain regularities in the social relationships in which people engage. On the other hand, agency refers to the volitional and purposeful nature of human activity (Waters 1994).

Throughout this study, the author seeks to capture a coherent picture of individual agency while highlighting human subjectivity (Guo 2013) and the structure of culture and politics around water governance in terms of the rules, regulations, and policy at play in both urban and rural Timor-Leste. Relevant stakeholders have various degrees of responsibility that share similar challenges. These responsibilities can include representing the state (structure-related departments) to local actors (agency). In some cases, they (state and non-state actors) are also building partnerships with the international community at the local level in development and policy related to water. It is essential to understand how decision-making and performance affect social equity and economic efficiency in the context of water governance in a post-conflict environment, as this can determine the outcome of peace-building and development. Life in Timor-Leste differs between rural and urban areas, as explored throughout this

dissertation. For this reason, the case studies here include communities in both rural and urban Timor-Leste and incorporate both state and non-state stakeholders.

Therefore, the research approach in this dissertation is designed around the inclusion of all relevant actors in the water governance space in post-conflict Timor-Leste. These include local, subnational/state, and transnational actors that reflect both formal and informal water governance processes. As a result, this hybrid approach (agency/structure) highlights and compliments both the agency of individuals (subjective) and structure (power) of such groups that prevents and/or promotes good governance reinforced by the previously mentioned characteristics: accountability, participation, and transparency. These characteristics will emphasise the environmental, social, economic, and political challenges in Timor-Leste in the context of water governance, peace-building, and development in a post-conflict environment as set out in the literature review.

1.7 Thesis Structure

This dissertation is structured into 8 chapters. A brief outline is given below.

Chapter 1

Chapter 1 offers an overview of this dissertation and demonstrates the focal point of this research and why it is being conducted. It begins with an introduction, followed by the context, justification and significance of the research leading to research questions and the research objectives. This is followed by a discussion of the inquiry and research approach looking at agency and structure. The chapter concludes with the thesis structure

Chapter 2

Chapter 2 begins by understanding the complexities and challenges of a post-conflict state, followed by contextualizing good governance while presenting the theories and concepts that underpin it, such as accountability, participation, peace-building, and international development in Timor-Leste and other post-conflict states.

The next part of Chapter 2 also conceptualises water governance and emerging themes such as cross-scale governance, decision-making (various actors), gender equality and water governance, informal and formal water governance, and socio-cultural issues like social capital, adaptive capacity, trust, culture, and customs.

The final part of the literature review outlines polycentric governance theory, including water-related concepts in the context of water governance in a post-conflict state. Chapter 2 will also capture the gaps or evolving issues in the research.

Chapter 3

Chapter 3 offers a brief background of Timor-Leste since its independence from Indonesia in 2002 due to the referendum in 1999. It includes a review of its modern past, and the countries current and future challenges in the context of the political, social, and pertinent to this study, the countries water resources, global water issues; and challenges that highlight food insecurity across rural and urban Timor-Leste as it navigates its way through the 21st century.

Chapter 4

Chapter 4 outlines the research design undertaken in this PhD and justifies why the chosen method was considered the best approach to the thesis topic. It also demonstrates how the methodology and research design are linked to the research questions and objectives set out in Chapter 1 of this study.

Chapter 4 also provides a rationale for using a triangular approach for data collection and for taking a qualitative approach. An explanation is provided as to why the case study includes data analysis, the strengths and limitations of the research design, the role of trustworthiness, and why ethical considerations are critical to this dissertation. This includes why having a translator is crucial when conducting qualitative research in a foreign place.

Chapters 5, 6 and 7

Chapters 5, 6 and 7 are the empirical evidence chapters, analysing qualitative data where theory and practice intersect and are mutually constitutive. Chapter 5 investigates the value of informal and formal water governance across Timor-Leste perceived by relevant stakeholders (social equity). Chapter 6 examines the strengths and weaknesses of stakeholders in water governance in urban Dili (political viability) and explores the role of women in this context. Chapter 7 assesses the sustainability of informal water governance and the transnational actor in Timor-Leste.

Chapter 8

Chapter 8 provides a discussion and conclusion of the findings from this PhD study use of primary and secondary research. It presents key outcomes and results in the context of Timor-Leste, including a water governance framework, and then suggests policy recommendations and further investigations on the topic. Additionally, Chapter 8 includes an examination of the methodological issues including its strengths and weaknesses as well as possible further research possibilities.

1.8 Conclusion

The introductory chapter of this thesis has presented the context of the research while outlining how good governance, water governance, and polycentric governance frameworks can contribute to peace-building and development in a post-conflict state.

Further, the justification section of this chapter has underscored the challenges and opportunities that Timor-Leste has endured during its post-conflict period after the illegal occupation by the Indonesian authorities for almost 25 years. It includes socio-economic successes and failures while outlining future issues that require innovative leadership and engagement between the state and general population.

The introductory chapter has also presented the significance and contribution of the research while briefly outlining the methods (see Chapter 4) used for this study. In this chapter, the research questions and observations are also presented while identifying the inquiry and research approach. The introductory chapter has also underlined the structure of the entire 8 chapters for this thesis.

The following Chapter 2 will present the literature review on post-conflict complexities and challenges, good governance, water governance, and polycentric governances in post-conflict societies. These sections will include relevant literature that complements the themes and topics associated with peace-building and development in post-conflict Timor-Leste.

2.0 CHAPTER 2: LITERATURE REVIEW

> A decade after independence, there is evident frustration over homilies on good governance by development partners whose own institutions may be less than exemplary. Equally, there is frustration at the criticism of approaches pursued in Timor-Leste that do not adhere to orthodox models of the structure of the liberal democratic state when patently the homegrown approaches work on the ground (Ingram, Kent & McWilliam 2015, p.6).

2.1 Introduction

The objectives set out below in this chapter conceptualise four key themes as presented in Chapter 1: (1) understanding the complexities and challenges faced by post-conflict societies, (2) good governance, (3) water governance, and (4) polycentric governance; and outlines their relevance to peace-building and development in post-conflict states (see below Figure 4). These themes are underpinned by actor-specific understandings (local actors, elected officials, and civil society) of the process-oriented position that refers to the facilitation, innovation and improvement of good governance practices and its relation to water from the late 20th century through to the present 21st century. Thus, it remains critical in understanding how efficiency and equity in water resources and water allocation in a post-conflict environment, where the allocation and management of these resources are generally vague due to years of conflict and occupation (Bruch, Weinthal & Troell 2020).

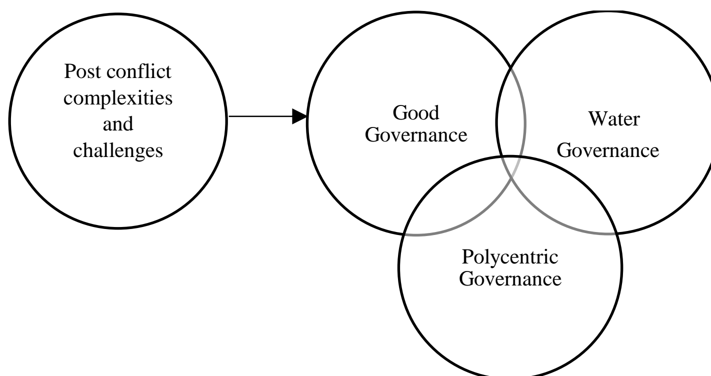

Figure 4: Post-conflict Peace-building and Development Challenges - Collective Governance

This chapter will present four sections that justify the above themes and objectives. The first part of this literature review will analyse the complexities and challenges of a post-conflict state, and how those complexities impact on rebuilding the nation-state after years of occupation and conflict. This will be followed by the second section which underscores good governance and its relevance to post-conflict societies like Timor-Leste through the key characteristics outlined in Chapter 1. Such characteristics are based on global definitions by

academics, policymakers, and international development agencies, focusing on the first two characteristics such as (1) accountability, and (2) participation. The remaining six characteristics support these definitions: (3) the rule of law, (4) transparency, (5) consensus-oriented approaches (6) responsiveness, (7) effectiveness, and efficient, (8) equitable and inclusive actions as explored throughout this literature review (Klitgaard 2017; UNESCAP 2008; WB 1992). However, good governance does not always result in good outcomes, as good governance does not always create effective development if there is no accountability and transparency. In addition, the evolution, improvement, and sustainability of good governance while meeting 21st century challenges is critical to peace-building and development in a post-conflict environment. These issues are critically examined throughout this chapter and includes aspects of culture, corruption, and power.

Peace-building, an international relations concept and pertinent to this study, is conceptualised in this section and underpinned by shared knowledge from the international community while also reflecting on norms and beliefs in a post-conflict society through a constructivist lens. Also in this section, an analysis will highlight the current local political environment in Timor-Leste and conceptualise the themes of development and neoliberalism while investigating the roles of various individuals, groups, and actors in development through indigenous resource mobilisation and foreign aid. The focus of the actor-specific investigation into peace-building and development will be the role of civil societies, INGOs and other non-state actors such as the Catholic Church who remain a dominating influence in Timor-Leste society (Shah 2012).

The third section of this literature review includes an analysis of water governance and water resource management while exploring some preferable institutional solutions (a mix of state and non-state) to ensure the efficiency and equity of water use. It also includes an examination of the role of informal (disruptive) and formal water governance and bottom-up approaches that best fit a post-conflict environment. To this end, I draw on cases from leading scholars from post-conflict communities across the globe, including Timor-Leste. The second section will also examine horizontal policy integration that minimises trade-offs between the cultural (indigenous), social, economic, and political dividends, including vulnerable actors such as females. It will also analyse vertical policies, such as institutional norms, in structures such as administrative frameworks that integrate cross-scale tiers of governance and the complexities that make up the post-conflict environment of Timor-Leste. The subnational actors considered here provide a nexus of consultative processes, and the transnational actors provide the

sequencing of provisions, resources, and aid. To this end, the review presents an exploration of the decision-making processes evident in past water-related studies in Timor-Leste. It will provide an overview of how decisions are made at the local level regarding social capital, adaptive capacity, and trust, and how culture, customs, and traditions impact water governance.

The fourth section of this literature review reflects on the policy gaps in water governance and identifies a complex range of both public and private realms of functionality and responsibilities which sometimes overlap. According to the literature, if a problem-solving mechanism is required by multiple levels of local and national government and diverse types of agents who influence decision-making outcomes, it may be regarded as a polycentric system of governance (Ostrom 2010). A polycentric governance framework proposes a non-hierarchical informal approach to water governance with overlapping characteristics, such as a co-management perspective to water governance (and decentralisation). These characteristics promote a bottom-up consultative process in a complex and unpredictable post-conflict environment. In the end, the literature review will present emerging issues that underscore the gaps in the literature with a concluding statement.

2.2 A Post-Conflict State: Complexities and Challenges

Scholars agree that defining a post-conflict state can be complex and challenging in both theory and practice (Brown, Langer & Stewart 2011; Bruch, Weinthal & Troell 2020; Lambourne 2013). However, countries that are considered post-conflict states like Timor-Leste can be politically unstable while corruption is rife, and social services such as water resources have been destroyed and are weak and/or non-existent following years, sometimes decades of chaos and destruction. In post-conflict situations, destruction and chaos emerge due to the actions or inactions by foreign agents, and/or local actors who have been at war with each other for a protracted period of time. In Timor-Leste, both foreign agents and local actors were the cause of the chaos and destruction towards the end of the illegal occupation by the Indonesian authorities. The Indonesian military also supported the involvement of the local militia during the referendum in 1999 as the narrative of chaos and destruction appeared to be for targeted purposes in order to create further social upheaval while destabilising not only Timor-Leste, but the immediate region (Del Castillo 2008; Job 2021; Lemay-Hebert 2021; Simangan & Bose 2021).

In post-conflict conditions, administrations that normally plan and execute social services no longer exist while the relationship between the state and the general population are thwart with various challenges such as mistrust and a lack of confidence in the ruling authorities. Overcoming such challenges require 'strategies designed to promote a secure and stable lasting peace in which the basic human needs of the population are met, and violent conflicts do not recur' remain critical during the post-conflict period (Lambourne 2004, p.3; Lambourne 2013). These strategies include attempting to create and implement development policy that benefits the post-conflict environment through the construction water and sanitation infrastructure, health and education while rebuilding the local and national economy that invigorates the people of the country to begin forging ahead in a new era of hope and freedom (Brown, Langer & Stewart 2011; Krampe 2017; Lambourne 2013; Richards 2005).

A post-conflict society is first considered a fragile state after conflict has come to an end. However, an end to conflict with foreign actors and local militia does not necessarily mean an end to violence within the state itself (Junne & Verokren 2005). Local conflict can also emerge as local stakeholders are often excluded from the negation process during the peace-building period which causes tensions between pertinent actors who have been left out of the political decision-making processes. In post-conflict states, 'situations remain tense for years or decades and can easily relapse into large-scale violence' (Junne & Verokren 2005, p.1), reversing the peace process after hard-fought negotiations and important peace milestones have been reached, for example, an effective and stable government (Frere & Wilen 2015). In their post-conflict typology, Brown, Langer and Stewart (2011, p.4) suggest the following as indicators or milestones that best fits a post-conflict environment:

> cessation of hostilities and violence: signing of political/peace agreements: demobilisation, disarmament, and reintegration: refugee repatriation; establishing a functioning state: achieving reconciliation and societal integration; and economic recovery.

Such milestones should also be encouraged during sporadic conflict, even at the local level during upheavals where fighting for water resources between communities is the cause of local conflict between state and non-state authorities, which occurs often in urban Dili, Timor-Leste, as investigated in Chapters 5, 6 and 7 of this study. Milestones also encourage the implementation of provisions where objectives can assist the government and other pertinent stakeholders to employ basic human needs like access to water for the general population while promoting a process of justice and reconciliation between the local and state actors that can

assist in the healing between past warring parties (Brown, Langer & Stewart 2011; Lambourne 2013).

In a post-conflict environment, both Danesh (2011) and Rothstein (1999, p. 3) argue that the 'human needs theory' underscores justice and reconciliation and are 'fundamentally significant goals that need to be addressed in the design of successful post-conflict peace-building processes mechanisms, especially in the aftermath of genocide' which includes the illegal occupation of a sovereign state by a foreign power (reconstruction of tangible infrastructure). Scholars like Paffenholz (2014) draw on 'conflict transformation' where she suggests the emergence of friend and foe after years of conflict creates a sense of empathy that can transform the processes which make up post-conflict challenges, as seen with Indonesia and Timor-Leste during recent times (formal sharing of water resources on the land borders between Indonesia and Timor-Leste) (Handoyo 2011).

Spence (2001, p. 137) describes various components that encourage a pathway to post-conflict peacebuilding success that:

> focus on the root causes of the conflict, rather than just the effects; support the rebuilding and rehabilitation of all sectors of the war-torn society; encourage and support interaction between all sectors of society in order to repair damaged relations and start the process of restoring dignity and trust; recognize the specifics of each post-conflict situation; encourage and support the participation of indigenous resources in the design, implementation and sustainment of activities and processes; and promote processes that will endure after the initial emergency recovery phase has passed.

During the post-conflict period, some scholars argue policymakers must first begin with state-building as this can be seen as the beginning of a stable and sustainable government after years of warfare (Bovensiepen & Nygaard-Christensen 2018). Nonetheless, evidence suggests that state-building after conflict without the input and negotiations of local actors can further weaken the relationship between the state and the general population where transparency is lacking while opportunities for corruption emerge amongst the ruling elite (see 2.3.4) (Allouche 2008; Del Castillo 2008).

Negotiations between pertinent stakeholders should include policies that relate to the economic and social development at both the local and state level, which require a stable and secure environment to operate from, thus a process of negotiations is critical after the occupation and chaos has concluded (Bruch, Weinthal & Troell 2020). National policies lay the foundations for effective governance through strong public institutions that serve the people, which creates economic, social, and sustainable frameworks for state-building success (Del Castillo 2008).

The international community must also play a role in the process of state-building to assist the post-conflict state to rebuild not only tangible infrastructure like water resources. Tangible infrastructure should also include water resources services that not only appease the local population, but the local population must also be engaged on how best to place such resources, hence the reconstruction of the state begins with the future of the people at the forefront of the state-building process (Bruch, Weinthal & Troell 2020). However, Allouche (2014, pp. 31-32) argues that

> current debates on state-building are flawed because they employ a European and Weberian conception of state-building premised on the conception of the state as a legal personality, an ordering power, and a set of formal arrangements that institutionalize power.

Therefore, state-building models underpinned by peace-building (liberal peace theory) should be built around the post-conflict state in question, and not exclusively from external actors (only) that fulfil their own agendas without assisting the needs of the people they should be serving while 'acknowledging the virtues of alternative approaches' to peace-building and development (Ghunta 2018, p.1).[5] [6] In Timor-Leste, and with the respect to state-building and the liberal-peace-theory, Simangan and Bose (2021, p.75) suggest

> the shortcomings of liberal peacebuilding and state-building led the state to formalize local socio-political institutions, support local ceremonies and practices, and incorporate local justice systems.

Across the globe in fragile situations such as post-conflict states, prior advocates of the liberal peace theory 'attempted to unite the world under a hegemonic system that replicated liberal institutions, norms, political, social, and economic systems' (Richmond 2011, p.1). Nonetheless, liberal institutions that pursue the reconstruction of the nation-state from a fragile situation to a stable economic and political situation require a broader consultive approach that is inclusive of local and international stakeholders supported by good governance frameworks. These consultations should include 'obvious normative advantages, political inclusivity is an important enabling condition for post-conflict economic recovery' including the local population and other relevant non-state stakeholders such as INGOs (Brown, Langer & Stewart 2011, p.16). Governance frameworks such as good governance are considered critical to the

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[5] Australia has provided an estimated AU$2 billion in financial aid and resources, including water resources during the post-conflict period (2002 until 2017) (DFAT 2017a).

[6] In post-conflict Timor-Leste, regional partners like Australia have acted as 'key donors for Timorese state-building, they have also been among the most critical of Timorese political development and state management' since independence in 2002 (Bovensiepen & Nygaard-Christensen 2018, p.417).

above processes in a post-conflict state as examined throughout the following sections of this literature review (Grindle 2017; Richmond & Visoka 2021).

2.3 Contextualising Good Governance

To explain the relevance of good governance in regard to water governance in peace-building and development in Timor-Leste, we first need to conceptualise the term governance and understand its evolutionary process. Various scholars have used good governance as an outcome of governance, while others have referred to good governance as a 'synonym for government' (Hasan 2019, p.1). Thus, it is evident that the term governance has constantly changed and evolved over many decades 'like a balloon being filled with air' (Grindle 2017, p.18; UNESCAP 2008). Nonetheless, various scholars have reached the consensus that good governance is developing (evolving) governance (Gupta 2002), economic and social governance (Hirst 2013), human rights and democratic governance (Kaufmann 2006), secure and strong governance (Choi & Wong 2007).

In the context of a fragile post-conflict state, the primary focus of good governance in this thesis is concerned with the changing dynamics of the evolving relationships between government and non-government sectors. Good governance also addresses the necessity of having interaction and consultation between local, national, and transnational actors through the development of policy that demonstrates to relevant stakeholders the beginning of the reconstruction of the country after years of illegal occupation and chaos, in this case, Timor-Leste. However, during this period in Timor-Leste, it was complex and challenging as the Indonesian military left little resources for the people and government to plan and rebuild for the future after the referendum in 1999, and independence in 2002 (Job 2021). These challenges included gaps in the nation's ability to attain water security due to the destruction of water infrastructure such as irrigation and sanitation. The destruction caused by the Indonesian military also involved state records including demographic data and socio-economic details that is critical to planning for the future of the nation while creating stable governance frameworks for its people. Measures taken by the withdrawing Indonesian forces in 1999 weakened the governance processes and left state authorities and the population of Timor-Leste relying on the international community for assistance underpinned by global governance models such as good governance. Reliance on the international community remains the case today where the ADB, the International Monetary Fund (IMF), and the WB are prominent in

the past, the current, and the future of social development programmes across Timor-Leste (Ingram, Kent & McWilliam 2015; Krampe, Hegazi & VanDeveer 2021).

In post-conflict states, previous scholarly work suggested good governance was to be ‘seen as an alternative to government’ as governments lack the skills and resources to provide governance frameworks that support a stable and strong society for societies to move forward after war has ceased (Hirst 2000, p.14). Early research also tended to assume that ‘good enough governance may become a more realistic goal for many countries faced with the goal of reducing poverty’ (Grindle 2004, p.525). But as history would suggest, it became clear that it was never that simple as ‘local accountabilities stem from the unfortunate failure of a large number of development projects during the past 30 to 40 years’ that had long lasting impacts of those who live in poverty in post-conflict states like Timor-Leste (Laban 2007, 148). Unfortunately, in post-conflict Timor-Leste, this is still the case today, as governance thinking is currently considered an instrumental concept in the traditional sense, in that it reflects the enactment of centralised government legislation and decisions that impact on local populations made by the local authorities, the state and other bureaucracies that leaves little room for bottom-up consultations with the local community, for example, a centralised water governance system without skilled water resource personnel that has hardly improved since independence in 2002 (Bruch, Weinthal & Troell 2020; Farrington 2011; Ingram, Kent & McWilliam 2015; Krampe, Hegazi & VanDeveer 2021). [7]

In a post-conflict situation, and due to years of occupation, state bureaucracies are usually limited because of unskilled and under-resourced administrations which are neither sustainable, nor fit for purpose (Bruch, Weinthal & Troell 2020). These bureaucracies often remain ineffective in governance frameworks; for example, formal governance requires expertise and capability which is normally provided by competent and resourced government departments that allows the governing authorities to execute effective and efficient results (Ingram, Kent & McWilliam 2015). Hence, in fragile situations, Langlands (2004) suggests good governance should be underpinned by bureaucratic institutions that create employment opportunities and encourage the integration of society while attempting to reduce poverty. For such reasons, UNESCAP defined good governance as ‘the process of decision-making and the

[7] As suggested throughout this thesis, a bottom-up consultation is critical in the context of water governance in a fragile political environment that can easily revert back into conflict at any given time when pertinent actors are not consulted with when making decisions for the community (e.g., water resources management) at the local level which is evident throughout the empirical evidence chapters of this study.

process by which decisions are implemented' by state authorities (UNESCAP 2008, p. 1). And as previously mentioned, in Timor-Leste, government organisations generally operate from the top-down and are rarely consultive from the bottom-up, which impacts negatively on the general population. In particular, vulnerable actors like females are often left out of the consultation process, which weakens their position in water resource governance (Singh 2006). In Timor-Leste, this is especially true because 'involving women in East Timor's water sector failed due to time and resource constraints, as well as the failure of international actors to adapt sufficiently to the socio-cultural context' (Krampe, Hegazi & VanDeveer 2021, p.7).

In contrast, this thesis argues for a bottom-up solution that encompasses all stakeholders into the governance mix while enhancing the lives of stakeholders through effective water resource management. A bottom-up approach promotes and enhances peace-building and development where and when it is most needed. At this time, 21st century challenges, like the impacts from climate change, inequality, and the inability of those who live in poverty to afford access to water resources, loom large, and are exacerbated by vague governance practices across fragile states such as post-conflict states (UNWater 2021). Nonetheless, some argue that the 'idea of governance seems to be in a good position to meet the multiple and interrelated challenges of the twenty-first century' (Finger, Tamiotti & Allouche 2006, p.3).

However, as studies developed, and more research emerged, contemporary thinking suggested good governance should be considered the result of a participatory approach to governance including non-state actors as participation influences many components such as accountability and transparency that make up good governance both at the local level, and the state levels of leadership, as further examined throughout this study (Barten et al. 2002; Grindle 2017). It has also been argued that 'both formal and informal institutions matter in how things get done, and how states relate to societies', including international actors whose role is sometimes to act as an intermediatory body during the post-conflict period (Grindle 2017, p.18). In places like Timor-Leste, this encourages a bottom-up process of participation that is rewarding to the community and where tangible results can reinforce the local community's confidence in state authorities. Hence, transparency and accountability are seen as a way of moving forward and motivating the state in terms of socio-political development. A confident and forward-thinking population promotes peace-building and development that leads to a more prosperous and sustainable future; nonetheless, challenges remain, like achieving continuity, collective decision-making, and inclusivity framed around good governance, as the following sections of this chapter indicate (Blakeley & Evans 2008; OECD 2015).

2.3.1 Good Governance Characteristics

In recent decades, good governance has emerged as a popular dialogue between academics, international development agencies and relevant state authorities. In saying that, this reflects people's expectations and the obligations that support effective governance frameworks, including the obligation to provide economic outcomes that benefit communities in the context of development and improve living conditions in poverty-stricken post-conflict nation-states. In the 21st century, governments in fragile states understand the significance of inclusive participatory governance with a model that encompasses all stakeholders supported by the key characteristics as set out below in this literature review (Fischer 2012; Grindle 2017; Shah & Shah 2006).

For the purpose of effective governance in fragile states, and the evolution of good governance characteristics across time, the UNDP indicated three characteristics of good governance which were made up of, firstly, administrative governance that encompassed a skilled public service who are competent in the execution of their duties to the people they serve. Secondly, participatory governance, which included the participation of relevant stakeholders in the governance process while appeasing the general population. And thirdly, economic governance that demonstrated effective and sustainable frameworks that support the development of the country in question, and during its critical development process (UNDP 1997). The above governance characteristics were also designed to strengthen state-building frameworks which is imperative during the reconstruction phase after years, sometimes decades of neglect and decay as previously discussed in this chapter. As new experiences in international development emerged, and non-state actors demanded a voice and say in their future, the ADB suggested governance characteristics should expand to include accountability, participation, predictability, and transparent transactions should be at the core of good governance practices. These governance characteristics encouraged and strengthened political partnerships and bridged the socio-economic divide between state and non-state actors which is critical during the peace-building stage. Because in fragile states, authorities, and their local communities struggle to regain their lives and forge forward for a better future after conflict has ceased (the relationship between state and non-state actors is continuously tested due to years of conflict and the absence of the state) (ADB 2017; Barten et al. 2002, p. 133). As further post-conflict states appeared (after the collapse of the Union of Soviet Socialist Republics [USSR] in 1991), and states became more reliant on the international community for aid and resources, the WB added additional characteristics to the good governance framework. The additional governance

characteristics included political stability that encouraged peace and reconciliation, the absence of violence underscored by truth and justice, and regulatory qualities that incorporate sound policies for private investment to the governance mix, particularly in states where peace is fragile, and investment is critical for the reconstruction of the state's economic future (WB 1992). In Timor-Leste, the UN suggested that good governance characteristics should be 'broadened even further to include the establishment of a functioning government and society through comprehensive development, law and order, security, and governance objectives' (Lambourne 2000, p. 2). Recognising this, it became more obvious to UNESCAP that good governance in fragile states was critical to regional and global peace; hence UNESCAP prescribed the following eight characteristics as key to executing good governance practices across fragile states. They need to be: 'accountable, participatory, transparent, consensus-oriented, responsive, follow the rule of law, effective and efficient, and equitable and inclusive' (see below Figure 5) (UNESCAP 2008, n.p.).

The author considers accountability and participation (see 2.3.1.1 and 2.3.1.2) to be key to water governance in this study and will focus on those two characteristics, underpinned by the other six characteristics (all 8 key characteristics are further examined in relation to water governance throughout this literature review).

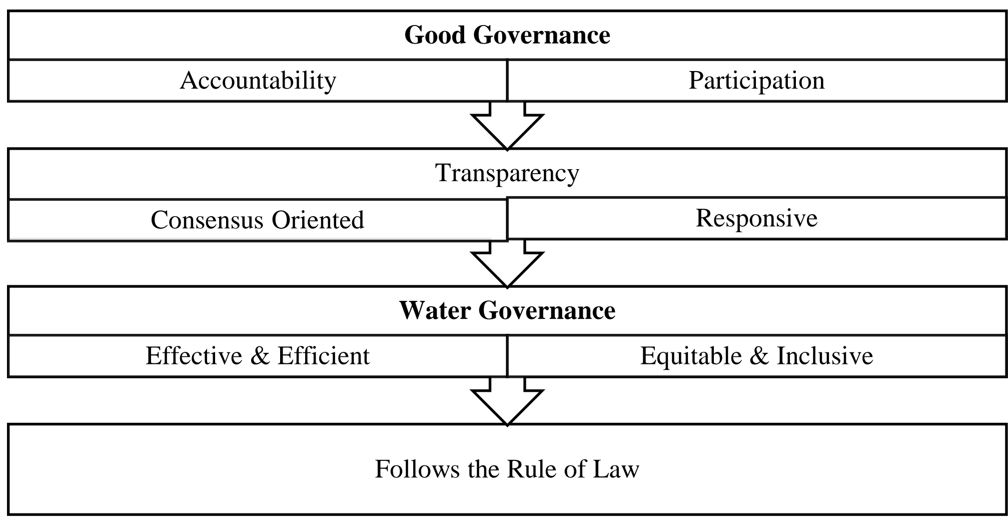

Figure 5: Good Governance Characteristics

Before I conceptualise accountability and participation in the following sections of this chapter, I explore the remaining six characteristics of good governance prescribed by UNESCAP throughout this study (UNESCAP 2008).

First, in a post-conflict state, transparency should be seen as the prevention of 'corruption as the abuse of entrusted power for private gain' (Transparency International 2018, n.p.), as nation-states who are emerging from decades of conflict and occupation often have institutions that are managed by unskilled staff while relying on foreign aid to support their administrative needs. Unchecked, this can foster corrupt practices out of need and instinct for survival. Evidence suggests 'prior conflict is likely to have fostered a culture of secrecy and impunity where self-dealing is easy to conceal' because powerful state actors can easily buy off criminal entities in order to serve their own agendas, and vice versa, which goes against the rule of law (Ackerman 2008, p.405).

Second, actions should be undertaken through the rule of law and supported by legal frameworks that include a strong judiciary system created directly after conflict and occupation have ceased. It is important to understand that the rule of law is purposely created to form clarity and confidence in law and justice between state and non-state actors while strengthening the economic, political, and social frameworks that support the state when moving forward after a period of chaos and disorder. Further, if the rule of law is missing, this can quickly incentivise corrupt practices, and authorities are less interested in being responsive to pertinent stakeholders that can weaken the relations between hard won negotiations which has detrimental consequences for the peace-building and development process (O'Donnell 2004).

Third, the government should be responsive to all relevant actors in the water governance space, including meeting their water-related needs, such as accessing freshwater and sanitation (like waste treatment plants), while motivating relationships between local and state actors (interrelationships). Also, water governance in a post-conflict state requires transparent and evidence-based decision-making on trade-offs needed across people, time, and places. Inclusive and responsive decision-making could include public debates and rural-urban co-operation through organisations and partnerships, both formally and informally, through a shared process of governance within a reasonable but realistic time frame (OECD 2015).

Fourth, scholars agree there are two unfolding processes that focus on key issues of good governance, hence water governance. The first is promoting greater social effectiveness, and secondly, producing an economically efficient management system that is both fair and balanced. Facilitating the use of the resources available for effective and efficient outcomes for relevant stakeholders is critical for better water governance (Huston 2014; Weinthal, Troell & Nakayama 2014). The trade-offs enable local stakeholders to see the benefits, for example, of

paying a water tax (money to fix technical issues). If the government and local actors see the benefits of technical efficiency (a running tap, a flushing toilet, clean water), they will make sure to monitor those benefits as they are critically tangible to all actors. Technical efficiency can also encourage policymakers to be responsive and 'assess equitable progress on other goals such as water security or good governance' (Biermann et al. 2014, p.3).

Fifth, equitability and inclusivity are important particularly in a post-conflict state where people have been disconnected from their governments for years during conflict and may feel a sense of abandonment by their leaders at the local and national level. Equity is distributional justice for non-state actors from the bottom-up, which strengthens the relationship between local and state actors, encouraging a process of participation while strengthening peace-building and development efforts (UNESCAP 2008). Equitability and inclusivity can also

> reduce uncertainty, stress narratives focused on opportunities for mutual gain and set an example of interaction, interdependence, and societal linkages (Krampe, Hegazi & VanDeveer 2021, p.3).

Finally, a consensus-oriented approach promotes a diverse range of actors with the consensus of various state stakeholders throughout the community, who may have had little say in the political process (or none) during the conflict and occupation phases. However, such contributions from the community are critical for forging ahead with rebuilding both locally and nationally through community and state infrastructure projects. Such projects include water resource infrastructure that enables access to freshwater, with the local population witnessing the reconstruction of tangible infrastructure for their benefit. In a post-conflict state, it appears that tangible infrastructure, like access to water resources, inspires confidence whilst strengthening the relationship between the state and general population through accountability and participation (and also, by extension, the international community) (Devkota & Neupane 2018; Krampe & Gignoux 2018; Weinthal 2006).

2.3.1.1 Conceptualising Accountability

In the context of good governance in a post-conflict situation, and in relation to this study, accountability is the justification of the political process and the delivery of effective resource management, as accountability supports governance performance within the day-to-day management of government services. As the literature suggests, accountability requires transparency through collaboration and cooperation between relevant agents like transnational actors, local actors, and the state. Equally, these stakeholders are held accountable and promote

democratic reforms while demanding transparency from authorities and relevant stakeholders within a good governance framework, including people who live in poverty at the grassroots levels (Barr, Packard & Serra 2014; Solomon 2020). According to Ahmad (2008), people who live in poverty at the grassroots level benefit the most from inclusive social accountability by promoting the protection of natural resources such as water. Social accountability encourages effective and efficient monitoring of the governance of natural resources such as water by state authorities. The monitoring of natural resources like water is critical to the ability of the people to sustain freshwater while creating food security banks for domestic consumption; and expanding export markets for economic growth that benefits the nation's ability to confidently plan, develop and implement national policy through financial returns from exporting their fresh produce (UNWater 2021; WB 2018).

Pertinent to the above, political accountability enables democratically elected governments to make decisions for, and on behalf of the wider population within a pathway of consultation that encompasses a 'diverse group of actors and through multiple strategies, constitutes an alternative mechanism for the exercise of accountability regarding governmental actions' (political decisions) (Peruzzotti & Smulovitz 2006, p.3). In contrast, a lack of consultation can promote corruption and have a profound impact on good governance in a post-conflict state, as 'norms are the modes of behaviour characterizing a political culture' and such governments have gone unchecked for some time and require monitoring for transparency purposes (see section 2.3.3) (Binder 2013, p.1398). Political accountability, for instance, in water governance, must exist for the process of decision-making to transfer from a principal actor to an agency of power (local actor) (Bruch, Weinthal & Troell 2020). Political accountability normally exists in a hierarchical relationship between actors but remains complex in post-conflict Timor-Leste due to the current disconnect between the state and the local population at the grassroots level (Ingram, Kent & McWilliam 2015).

Other actors, like water-related specialists (INGOs) replace the role of state authorities in the context of water governance and put systems in place that encourage functional accountability. Functional accountability encourages relevant actors to perform the right tasks for maximising the efficiency and effectiveness of water resource allocation while 'accounting for resources, resource use, and immediate impacts, and strategic accountability' (Ebrahim 2003, p.815). Such processes encourage equity through negotiation by all recipients, as accountability cannot be divided and shared. Responsibility is underscored by sharing in an environment where

INGOs operate and encompasses the views of all relevant stakeholders. Hence, transparency triumphs while enhancing democratic legitimacy and reducing corruption at a time when peace-building and development are critical to a fragile environment moving forward and getting the country back to a sense of normalcy (Conway, O'Keefe & Hrasky 2015; Schillemans 2008).[8]

In relation to the previous paragraphs and pertinent to this study, the operational definition of accountability facilitates the monitoring of the results of water governance by quantifying and scrutinising them through shared knowledge with relevant stakeholders. These include a mixture (horizontal) of state and non-state actors - who they account for and who they report to - including transnational actors such like INGOs as 'horizontal accountability thus refers to the operation of an intrastate system of controls, while the notion of vertical mechanisms implies the existence of external checks' (see section 2.4.1.1) (Peruzzotti & Smulovitz 2006, p.9; Takao 2016). In a pluralistic exchange of accountability, and the horizontal sharing of responsibility among non-state actors (or heterarchy where the actors do not control the other participants), and the responsibility of civil society groups (or the heterarchy of the group) emerges to ensure a desired policy outcome obtained through consensus (Goldberg 2012). In this transformation, individual accountability makes each actor responsible for their performance (associated with cross-sectoral/multi-stakeholders models) (Dillard & Brown 2014). Nonetheless, in a fragile environment, 'responsibilities must be clear, and the information supply, debate and sanctioning options must all be established' to ensure a sense of satisfaction in all stakeholders that their voices are heard, and their needs are met (Michels & Meijer 2008, p.166). The above accountability themes enable the researcher to link the relationships between the empirical findings and theory, as examined in Chapters 5, 6 and 7.

We can take lessons from McNeil and Malena (2010), who draw on their experiences from their fieldwork in Africa ('Lessons from Social Accountability Initiatives in Africa'), supported by a comparative analysis of various countries across the African continent. These studies were undertaken in the context of further understanding social accountability in fragile states while 'shedding new light on the complex relationships between social actors and politics' in the context of good governance practices (Peruzzotti & Smulovitz 2006, p.4). Pertinent to this research, the above studies found that good governance and accountability were strongly linked

[8] In the management of freshwater, in an exchange of accountability, the donor assesses and monitors the recipient's contribution to the outcomes while the recipient considers the performance and effects of their actions. If the pertinent stakeholders are not in agreement, the recipient may be required to justify their actions.

by an intermediary process by the international community. In Timor-Leste, the international community has a strong presence and influence through organisations like the UNDP, who monitor both elections and the SDGs that influence state policy. Intermediary processes between local actors and the state created a mediation body that promoted and facilitated the processes of negotiation and navigation and created strong water governance (McNeil & Malena 2010; UNDP 2018).

The creation of a mediation body meant the views of multiple actors were being heard, not just the voice of the powerful, which paved the way for other good governance characteristics such as transparency, consensus, and responsive local actor participation in the democratic decision-making process. These decision-making processes included promoting vulnerable actors like women in national parliaments, which meant they could have a voice both for females and their local communities. Having a voice meant women were now participating and contributing to public policy and the economic issues that impact females directly in an otherwise patriarchal society while building trust and a stronger power base from the bottom up, as advocated in this thesis (see section 6.3) (McNeil & Malena 2010).

2.3.1.2 Conceptualising Participation

In the previous section of this literature review, I note that participation encourages representation - not just from leaders and authorities - but also from individuals and minority groups. Representation increases accountability which empowers the community by having their view heard, actioned, and monitored (documented) while promoting good governance (Lawton & Macaulay 2014). Further, when citizens participate in their communities for the benefit of the community, this sits at the core of democratic values where many voices (such as vulnerable actors) are heard and incorporates a diverse group of people (consensus orientated). It is argued in this thesis that encouraging people to participate is essential to peace-building and development in post-conflict Timor-Leste, as ‘community participation in water governance in developing countries is considered important for increasing sustainable access to drinking water and improving broader local governance’ (Jones 2011, p.54; Masango 2010). In the following parts of this section, it is demonstrated that participation promotes a reduction in poverty that is beneficial to the broader community as those who do not normally have a political voice are given one.

The success of citizen participation is evident in a study by Blair (2000), who presents six case studies on accountability and participation from communities in Africa, Asia, Europe, and South America. The studies by Blair indicate that women and other vulnerable groups now represent their communities at a subnational level (democratically elected governance) because of the implementation of participation mechanisms at the local level. Such instruments give vulnerable actors a political voice while empowering the community they represent. These participation groups comprised INGOs, local council members, local community members and other local interest groups representing health and education. The above study concluded that participation through democratic processes empowers individuals and groups and provides improved social and economic outcomes while 'reducing poverty and enhancing equity among all groups' (Blair 2000, p. 23). Other studies suggest participation leads to higher voting turnouts in fragile communities while reducing poverty and enhancing the local populations' water and food security needs (Lappie & Marschall 2018).

Further studies, also utilising primary evidence (presented in Chapters 5, 6 and 7), indicate that communities would benefit significantly from local actors' participation in collaboration with the state. Participation gives communities a sense of responsibility and new skills that enhance the community while developing a water governance framework (Goetz & Jenkins 2016). By all accounts, participation should not be a system of authority employing forced processes by the state and top-down non-state actors. It should remain for disadvantaged actors in communities to enhance their lives socially and economically while incorporating decisions made by local people at the local level from the bottom up, with assistance from the international community (McNeil & Malena 2010).

As the literature suggests, participation can enhance the dynamics and reconstruction of water governance in a post-conflict community. It ensures the voices of the vulnerable are valued, and their needs are met while encouraging transparency from authorities and leaders (Menocal 2011; OECD 2015). In a post-conflict society, this is particularly critical in the 21st century as new risks, and threats such as affordability, climate change, lack of human rights, and inequality need to be addressed in the context of good governance (UNWater 2021).

2.3.2 Good Governance in the 21st Century

In the 21st century, current risks and threats to Timor-Leste's national security and sovereignty are more likely to occur from asymmetric challenges and not from traditional threats (external)

from countries such as Indonesia. Threats to the state are most likely to occur because of inequality, a lack of access to water resources including water affordability, and a lack of social and political will for the management of natural resources such as freshwater which creates other pressing issues, for example, food insecurity (see Chapter 3) (UNWater 2021).[9] Inequality in post-conflict states like Timor-Leste remains challenging for relevant stakeholders as economic and social disparities create conflict at the local level in both urban and rural areas (examined in Chapters 5, 6 and 7). As Burchardt and Hick (2018, p.1) note, 'inequality – the gap between the rich and poor – is receiving attention in academic and political debate as never before'. Inequality is measured as the distance between wealth and poverty and can be compared between individuals and groups/communities, urban and rural environments, and nation-states (Pikkety 2013). Also, Burchardt and Hick (2018, p.4) argue, inequality has emerged as a 'poverty-concept and rather on inequality itself' while the literature around inequality is abundant in the context of wealth and poverty (Sen 1997; Weinthal, Troell & Nakayama 2014). In Timor-Leste, this is especially true for urban and rural parts of the country where

> inequalities persist, and one visible response to endemic levels of rural poverty has been a sustained rural–urban drift, both from the hinterland to district townships and from the remote uplands to the buzz and bright lights of the city, especially to Dili, the national capital, and especially by young people disenchanted with the prospects of a lifetime of subsistence agriculture and the overly familiar confines of home communities (Ingram, Kent & McWilliam 2015, p.226).

Like all post-conflict states, in Timor-Leste other threats such as corruption and a stubbornly high unemployment rate (estimated at 67 per cent for young men between the ages of 15 and 25) could be a major tipping point for internal security threats in the future (WB 2017). Hence, creating jobs and sharing wealth by building water resource infrastructure will be vital components that add to political legitimacy and access to clean water. The processes of power-sharing and transparency by multiple actors in a diverse cultural environment are also critical in modern Timor-Leste while encouraging an even balance between relevant stakeholders that encompasses vulnerable actors with little social capital (see 2.4.1.5) (Krampe & Gignoux 2018; Rofi & Saragih 2019).

[9] Elections were held in both 2017 and 2018, with no violence recorded.

2.3.3 Good Governance Challenges - Corruption, Culture, and Power

One of the key purposes of promoting good governance in Timor-Leste is to prevent conflicts of interest and avoid their transformation into corruption. It is suggested that legitimate development practices like water governance in post-conflict states are understood by relevant stakeholders (state actors) as the 'concept of governance denotes the use of political authority and exercise of control in a society in relation to the management of its resources for social and economic development' (OECD 2015, n.p.). Such measures occur through legitimacy, or in a post-conflict state, sometimes through illegitimate and corrupt practices. In this context, governance remains critical in a post-conflict setting as urgent development is often required - people and governments have few resources and skills to rely on after years of conflict in the aftermath of war. Individuals, governments, organisations, and culture can impact this process of effective governance due to corruption and competition for power, particularly where resources are scarce. Finance impacts this process as well - as those with money can buy their way out of poverty and those without cannot (Anten 2009; Weinthal 2006).

Corruption can emerge due to accepted cultural practices that offer significant rewards through illegitimate means (Klitgaard 2017), or, as Belloni and Strazzari (2014, p.855) refer to it, 'a deal amongst friends' as examined further in this section, and in Chapters 5, 6 and 7. The reality is that allocated revenue and resources in post-conflict states are often used for the purchase of political power through corrupt processes and sometimes because of cultural practices; meanwhile, only a few reap the rewards and those who need it most miss out. In a developed state, allocated revenue and resources are normally directed at existing institutions through elected procedures and benefit much of the population. Allocating funds within the context of political and economic policy through multiple stakeholders in the post-conflict phase is critical to effective, equitable, and good governance. Funds should be funnelled to those in the community where resources and skills are limited that includes pertinent actors (Guhan 1998; Khan 2004; Klitgaard 2017).

Having a lack of strategic governance provisions in place (post-liberation governance) and/or a lack of planning has the potential to create local, national, and international political problems. Cross-border problems include broader regional issues such as the experiences described in post-conflict Mosul, Iraq. Brinkerhoff (2005) asserts that if there is no post-conflict governance provisions in place, removing non-state actors such as the Islamic State of Iraq and Syria (ISIS), which is motivated by economic and political (ideological) success but

not by the principles of democracy (further examined in the following section) that are critical to the process of peace-building and development by promote transparency. Further, this can create chaos both locally and internationally because unstable governments and non-state actors may cross borders and create unease with their neighbours, or even worse, fill in the gaps if official governments do not have adequate resources to provide for the general population. Such actions can harm the peace-building and development process.

Other scholars suggest economic and political stability in a post-conflict state is not viable 'without a credible and effective state' that creates strong social and economic policy provisions underpinned by sustainable governance because sustainable governance (as examined in the last part of this section) promotes and delivers improved development that is tangible to the local population (Cramer & Goodhand 2002, p. 886). Hence, the importance of creating solid relations between the state and non-state authorities. Likewise, Moxham (2008) underscores the important relationship between good governance, the economy and peace-building in his paper on 'State-making in Timor-Leste'. Moxham (2008, p.2) suggests 'economic growth channelled correctly can sustain peace, legitimacy, and the viability of the state', strengthening the country's ability to move forward with peace-building and development and reducing practices like corruption that impact negatively on the community as a whole.

Various scholarly works from Anten (2009) and Guhan (1998) remind us that when promoting good governance, international neoliberal actors with vested interests turn a blind eye to corrupt practices within the communities they support. They do this to pursue their own power and apply their own agendas, and loans and economic outcomes are all that matters. Corrupt practices are not as straightforward as they may appear. Corruption can also emerge due to cultural practices that antagonise peace-building and development, and in some cases, it may set the process back for future generations after long periods of war and occupation (Asad 2012). According to Klitgaard (2017), corrupt practices, cultural differences, and power are linked to the political elite, groomed from early on by their families who are well-connected at the subnational/state level, nationally, and internationally. Outcomes are often favourable to ruling families who have controlling interests in that community, either political or financial. A 'typology might include such dimensions as who initiates (extortion as a subset of bribery),

external or internal (the latter includes various kinds of fraud, embezzlement, nepotism)' (Klitgaard 2017, p.9). [10]

Unfortunately, Timor-Leste is not free of corrupt practices in the context of water governance. Corrupt practices have previously been documented in Timor-Leste, suggesting that bad water practices, including poor water governance, result from weak leaders and policymakers both in rural and urban Timor-Leste. These impact significantly on the community's ability to access sustainable water resources. Corruption also exacerbates the water resource and water governance crisis in Timor-Leste. In 2013, for example, when US$10 million in funds were provided by an international donor for water and sanitation purposes through government authorities, only 30 per cent of the funds ever reached their target: 70 per cent of the financial aid has never been recovered. One commentator noted, 'the water problem is a problem of leadership. There is no political will, no commitment, no strong will to improve people's lives' (La'o Hamutuk n.d., cited in Harson 2014, n.p.).

Power and authority can be used for good and bad purposes. But in a post-conflict environment, power can be sustained by what Belloni and Strazzari (2014) call unusual or extraordinary circumstances by relevant stakeholders. Power is complex and can be measured at the local, national, and international levels. Power focuses too much on stature and reputation, while a local perspective that involves all actors is better placed to understand where power can be best used to create a nexus between both state and non-state actors and thus to better articulate and apply effective governance practices. Power in post-conflict states is often built around informal practices and actors with self-interest. They compete with the formal frameworks created by state and international organisations that favour peace-building and development (Helmke & Levitsky 2004).

So far, the evidence in this literature review suggests post-conflict governments genuinely do not have the capacity to implement democratic policies such as national security (both state and regional) mechanisms in the context of good governance. Good governance remains about the processes and mechanisms (nominal justice) that include outcomes from governance

[10] Corrupt practices through the cultural lens may reduce as the state develops economically, individual opportunities are far greater, and better market outcomes are certain due to geopolitical negotiation and diplomacy. These processes can disrupt the bribery and nepotism in both the private and public sectors while power is better shared amongst more actors at the local and national levels, and not just ruling families and the political elite (Andre 2008; Klitgaard 2017).

frameworks (substantial justice). It supports informal and formal water governance processes that are beneficial to all stakeholders; hence, it underpins peace-building and development in the post-conflict state (Takao 2016). Good governance can diminish and discourage corruption, and as previously discussed, corruption can prolong the process, transnational crime, and in some cases, terrorism. Lack of good governance also weakens the security environment while promoting corruption and impeding the democratic process (Anten 2009; Klitgaard 2017).[11] But in a post-conflict state, the objectives that underscore good governance and democracy, like Tan (2006) suggests, are challenging to achieve in the context of peace-building.

2.3.4 Peace-building and Good Governance

In a democratic post-conflict state like Timor-Leste, peace-building is reinforced by good governance and is defined as a collective and measured task with peaceful outcomes that enhances the state's social, economic, and political development (Brinkerhoff 2005). Consequently, peace-building can be an 'action to identify and support structures which will tend to strengthen and solidify peace in order to avoid a relapse into conflict' (Boutros-Ghali 1992, p.104). Peace-building through democratic means can be achieved by ensuring society at all levels in the post-conflict phase remains peaceful while encouraging development that is specific to the needs of that state and its people and negotiating between those actors that have been, or remain, in conflict with opposing parties (Ramsbotham et al. 2011). Global bodies such as the United Nations Peace-building Fund (UNPF) note that peace-building through the process of democracy, sustained by good governance, 'should comprise a carefully prioritized, sequenced, and relatively narrow set of activities aimed at achieving the above objective' (UNPF 2007, n.p.). Nevertheless, establishing and transforming human services that promote peace-building among the broader society while meeting the development needs of the general population, such as clean water, is driven,

> partly by growing awareness of the complexity of post-conflict transitions and the multiple, simultaneous needs of post-conflict societies, and partly by bureaucratic imperatives as more and more international agency, parts of the UN 80 system, and nongovernmental organisations began to incorporate 'peace-building' into their roles and missions (Call & Cousens 2008, p.3).

From a global perspective, and in the context of peace-building, scholars suggest peace-building promotes equality and lays the foundations to reduce and even prevent corruption. It is critical to the role of a civilised social structure as 'democracy provides the long-term basis

[11] Much of the land border between Timor-Leste and Indonesia is not monitored (Handoyo 2011).

for managing competing ethnic, religious, and cultural interests in a way that minimises the risk of violent conflict' (Boutros-Ghali 1995, para.120). Peace-building should also be arranged in a manner that sets out to protect the weakest actors in society while addressing the inadequacies of the post-conflict state that prevent it from governing effectively whilst maintaining human rights (Call & Cook 2003). As suggested in Chapter 1, human rights (including the right to water) underpin peace by empowering vulnerable actors such as children in a fragile environment (Newman et al. 2009; Singh 2006). Similarly, Tanabe (2017, p.1) encourages scholars and policymakers to consider the philosophical undertones of peace-building instead of just the 'practical and technical challenges' as many lack an understanding of the philosophy underpinning the non-theoretical problems presented in peace-building ambitions and reforms.

Peace-building requires frameworks that develop and maintain peace between former enemies while understanding the root causes of the conflict and how it occurred in the first place. Such frameworks strengthen the peace-building process and enhance the recovery period of the state after years of conflict, or as Ottaway (2002, n.p.) describes it, a 'democratic reconstruction model' that encourages elections, democracy, and state-building with broad actor participation. Such models have better success as

> peace-building and democratisation specialists need to better learn from one another, but … improved outcomes are possible with greater resources, longer time horizons, and careful consideration of democratic governance models in each case (Call & Cook 2003, pp. 233-234).

Scholars and policymakers are encouraged to consider that institutions and authority in a post-conflict environment are often vague, or in some cases, non-existent, which makes peace-building challenging in the context of offering consistency of governance mechanisms to the broader general population. Good governance models in a post-conflict environment should recognise local institutions, such as elections, that strengthen the relationship between the state and non-state agents and are inclusive of the entire population. Inclusiveness of this nature appeases most of the population and reduces local issues of inequity. The above type of inclusiveness can be witnessed in Timor-Leste in recent years, where democratic elections have been peaceful but controversial at times. Many elections across the globe are being monitored by the international community who hope to cooperate and form strong international relations with their regional partners in pursuit of peace-building, underpinned by the rule of law and democratic mechanisms (for example, transparent elections). Australia and the UNDP have worked closely with actors at the local, state, and international level to ensure transparency

while committing to human rights, international law, and international relations in Timor-Leste (Kaufmann, Kraay & Mastruzzi 2010; Tortajada 2010; Tweedie 2019).

2.3.4.1 Peace-building and Human Security: A Constructivist Perspective

Peace-building is a central component not only to the issue of international law, human rights, but also within the broader discipline of international relations (Richmond & Visoka 2021). Peace-building is a core theme of this thesis and 'the international relations of the new millennium is impelling many analysts to broaden their conception of security to include issues of human security broadly defined' (Conteh-Morgan 2005, p.69). In the pursuit of 21st century peace-building, 'social structures are critical to the realization of human security' because they result in sharing knowledge that is transferred by the transnational actors through 'social construction', and ideas are distributed amongst pertinent actors, such as knowledge for water resource stakeholders (Conteh-Morgan 2005, p.74; Muedini 2018; Swain 2015). Exploring norms and beliefs that are intersubjective in nature through a constructivist lens in the context of peace-building may not explain all events, but constructivism enables us to understand events that imply deep knowledge and appreciation of complex phenomena like water governance - as 'constructivists operate on the ontological assumption that actors are shaped by the socio-cultural milieu in which they live' (social environment) (Conteh-Morgan 2005, p.74).

In its relationship to peace-building, underpinned by good governance, Adler (1997, p.322) defines constructivism as 'the manner in which the material world shapes and is shaped by human action and interaction [which] depends on dynamic normative and epistemic interpretations of the material world'. Thus, constructivism is considered reflexive, and hence responsive to peace-building through effective water governance and is inclusive of the non-state actor, a factor that is pertinent to this study (Wallis & Richmond 2017). In a war-torn state, some have suggested,

> constructivism can assist in a detailed examination of how ontological assumptions generate the epistemological and methodological frameworks that underpin disputes about the nature of peace-building. Constructivism is now firmly established as a mainstream theory of International Relations; however, there has been surprisingly little attempt to systematically apply it to an analysis of peace-building (Wallis & Richmond 2017, pp.1-2).

Scholars and policy makers should consider that 'water resources cannot be neglected and addressing them as part of peace-building is not merely a good idea but a security imperative'

strengthened by international development efforts by supporting post-conflict states through a process of shared ideas (Swain 2015, p.9).

2.3.5 Conceptualising International Development in Timor-Leste

The post-independence celebrations in Timor-Leste quickly faded as the realities of rebuilding the nation-state highlighted an emerging development crisis that threatened to weaken the hard-fought peace process. As a result, the importation of a large-scale international organisational presence would soon be, and remains today, a dominant development industry throughout Timor-Leste, representing foreign powers like Australia and organisations such as the WB (Ingram, Kent & McWilliam 2015). It also included smaller water-related specialists such as WaterAid. However, scholars such as Hunt (2008) argue there has been much scrutiny about the work and structure of international organisations, INGOs, and civil society groups in Timor-Leste, and how much their operational approach is based on the praxis of theoretical foundations. Hunt (2008) believes theory and practice run counter to one another; in other words, they state one thing but do another, as highlighted in the empirical evidence chapters of this study. Others claim that the reliance on development aid from foreign actors has delegitimised long-term provisioning by the state. In the process of development, INGOs traditionally position themselves in between a democratic culture that encourages a bottom-up approach to international development, and the national interests of the local actors and the state (democratic processes), in this case, Timor-Leste (Ernstorfer et al. 2007; Thomas 2001; Ward 2007). However, criticism aimed at the development outcomes in Timor-Leste appears to be a

> question of democracy and development remains a lively and contested arena, both within Timor-Leste itself and as a continuing dialogue among critics and interested observers as there is frustration at the criticism of approaches pursued in Timor-Leste that do not adhere to orthodox models of the structure of the liberal democratic state, or 'democracy à la Timor (Ingram, Kent & McWilliam 2015, p.6).

There has been both praise and criticism of the international community and its role in the post-conflict Timor-Leste peace-building and development process. For example, the ongoing developments implemented by the international community and neoliberal organisations such as the ADB, the UN, and the WB have underpinned both successes and failures in the post-independence phase of the nation-state. Some considered these global bodies (top-down) to be the interim Government of Timor-Leste between 1999 and 2002 and encouraged economic liberalism and globalisation - neoliberalism traditionally argues for 'institutions as agreements

or contracts between actors that reduce uncertainty, lower transaction costs, and solve collective-action problems' (Grieco & Ikenberry 2003, p.116). Nevertheless, neoliberal organisations like the IMF and the WB advocate for development frameworks in states across the globe through a process of structural adjustment which compels post-conflict states like Timor-Leste into loans (with high interest rates) which centre around institutional interests as opposed to the interests and needs of those disadvantaged people who live in poverty, and lack services, such as social development issues like water infrastructure (Veltmeyer, Petras & Vieu 2016). Thus, it appears that,

> from this perspective, it becomes feasible to reconfigure the terms of the 'neoliberal' framework of good governance in discourse centered on development 'tension' between the normative dimension of good governance and the functional idea of state that it also conveys (Schiavo 2016, p.39).

In Timor-Leste, in the context of international development, others describe the post-conflict period as a forceable occupation by the UN. Meanwhile, its participating partners were storming the borders of Timor-Leste to take their share of the glory and recognition in its future reconstruction (McGregor 2007). Dragovic notes that 'the United Nations, had treated its responsibility as a factory production line churning out widgets, rather than as community development' (Dragovic 2018, n.p.). He adds that money is never the problem. It is how it is allocated and utilised that determines outcomes at the local, national, and international levels in the context of good governance, and that is often detrimental to the process of water governance in post-conflict societies. Such beliefs are shared by many, including Brunnstrom (2003), who argues that the international community took advantage of opportunities in the newest nation-state on the planet and organisational agendas were prioritised over the local population. Patrick (2001, p. 48) also notes that

> international assistance efforts have represented a conundrum for East Timorese seeking to assert their new independence and autonomy. Whilst urgent needs have been met, local participation, involvement and capacity-building have not been given adequate attention.[12]

The term capacity building is often referred to as capacity-development, and is the ability of an organisation, such as an INGO, a group (structure) and/or individual (agency) to enhance their ability to objectively make provisions and achieve goals, attain skills with readiness to make good, and reconstruct the lives of that community. Essentially, this begins the process of

[12] The results of this inaction and weak capacity-development are still prevalent in the present day, as will be discussed in Chapters 5, 6 and 7.

the reconstruction of the state through multilevel governance that is inclusive of transnational actors like the UN (Hope 2009; Tropp 2007).

In Timor-Leste, while most believe that international neoliberal actors such as the UN and its international partners operated with good intentions, others (e.g., Strachan 2009), criticise the role of UNMIT, which highlights why a 'one glove fits all' approach (with good intentions) to a post-conflict community is not appropriate for the long-term strategic provisioning of a nation-state. The latter argues that the UN was the catalyst for the conflict that brought Timor-Leste to a socio-political standstill in 2006 and that this was the result of a lack of planning and quick-fix governance models that were executed without good outcomes. However, Strachan (2009) contends poverty and high unemployment also contributed to the conflict while suggesting unaccounted-for funds from the international community never reached their targets. This created further tensions within political and social circles because of the lack of transparency and misallocation of funds, as previously discussed.

Other aid agencies and the UN are not the only groups to come under criticism for their roles in development in post-conflict Timor-Leste. Aid and development can also operate through state agencies such as the former Australian Aid organisation (AUSAID) and the United States Agency for International Development (USAID). These agencies are directly funded by the governments they represent. In turn, these funds should be allocated to the recipients for the sole purpose of aid and/or soft power. La'o Hamutuk (2010) argues that the government of Australia has used this process to push its weight around for positive outcomes in trade and other economic decisions, for example, oil and gas revenue. The Australian government may be generous in providing aid to the people of Timor-Leste, but its objectives far outweigh the humanitarian outcomes and other soft power approaches that it promotes in the sovereign state (Winter & Schofield 2007).[13] Despite this, it should be highlighted that through international legal understanding and geopolitical cooperation (Scott 2011), the international community, including nation-states like Australia, has been at the forefront of the reconstruction of Timor-Leste.

The UN has played an integral role in the redevelopment of Timor-Leste since 1999 while sharing responsibility for some of the less positive historical events that took place there, such

[13] The concept of soft power was coined by Joseph Nye (1990), who argued for a process of persuasive actions such as aid and other material outcomes in foreign policy, as opposed to winning the battle through traditional kinetic approaches like military means.

as political violence between warring factions. Witcher (2012) reminds us that the international community, including the UN, has assisted, and resettled an estimated 200,000 displaced people back to their homes during and after the crisis. The international community has supported democratically elected governments and has assisted in building strong justice communities such as the local police and army throughout the country.

In this post-conflict phase, development in Timor-Leste should encompass new trade opportunities through import and export relationships that drive consumption with an increase in the GDP. Peace-building and development should also mean improvements in health and education that reduce infant mortality and waterborne diseases and increase female education, including literacy rates. Development promotes the reconstruction of a new state through broader social and economic development, as 'development is a public good, to be created by policy, rather than a politically contested process of accumulation and distribution' (Hughes & Hutchinson 2012, p. 19). Such a process should be conducted transparently and cooperatively through foreign aid and the setting up of post-conflict governments (Hughes & Hutchinson 2012). To that end, the WB's (2011) World Water Development Report claims that leadership stability would have been difficult to achieve in Timor-Leste without the assistance of the international community and their contribution to peace-building and development. They describe these foreign aid organisations as apolitical (INGOs and civil society groups). The development aid and resources provided by donors come from local, national, and international actors like the UNDP, the Red Cross, and the Australian government. These groups offer local actors alternative resources when governments, such as those in post-conflict communities, cannot always provide (Hill 2013).

Meanwhile, many non-state actors, particularly the UN, continue to aid Timor-Leste in peace-building and development through water-related programmes such as Water and Sanitation Hygiene (WASH). The Catholic Church was the international voice for the people of Timor-Leste during the Indonesian occupation (Shah 2012). The structure of the Catholic Church forms what Shah (2012, p. 35) describes as Timor-Leste's 'national identity' and is part of the cultural and social milieu of Timor-Leste's past, present and future. The Catholic Church provides a large portion of the country's educational needs while remaining one of the largest providers (at the local level) of aid through various foundations such as the organisation known as Caritas. This aid work includes schools and educational tools such as books and vocational support. Likewise, Timor-Leste remains one of only two nation-states in Asia where most of

the population belongs to the Catholic faith: the Philippines remains number one. The Catholic Church continues to be an aid donor to both these nation-states in various forms that benefit water and sanitation. They can mediate the process of leadership in the complex social and political structures throughout Timor-Leste that other development organisations cannot achieve (Shah 2012). This mediation tool between stakeholders is examined further in the empirical evidence chapters of this dissertation.

In association with the people and Government of Timor-Leste, development and aid through foreign agents have placed the nation-state of Timor-Leste on the path towards long-term peace. Mistakes have been made both locally and internationally but remain the responsibility of all actors. The blame game does not assist in the peace-building and development process; rather, it hinders its progress. The international community must ensure they respect the sovereignty of Timor-Leste by the rule of international law, allowing the people of Timor-Leste to make their own decisions about its future in the pursuit of peace-building outcomes that are sustainable while improving development through local, national, and international collaboration.

2.3.6 Good Governance to Improved and Sustainable Governance

Good governance should evolve to become better governance while encouraging a path to sustainable development designed specifically around the needs of Timor-Leste, as governance frameworks differ from country-to-country due to varying local circumstances, such as socio-economic instability, that lead to inequality amongst local actors (Grindle 2017). Sustainability in the context of good governance is defined as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs' (Bruntland 1987, n.p.). The above definition resonates regarding the sustainability of fresh water as it is a critical resource without which flora and fauna, including humans, cannot survive.

Sustainability encompasses the 17 SDGs as set out by the UNDP in 2015 and signed by 193 countries from across the globe (see Appendix (b) for all 17 goals) (UNDP 2015). The goals form relevant frameworks that argue for better development through good governance while improving the lives of millions of people globally by

> encompassing a wide array of indicators. The Seventeen Development Goals seek to ensure that development is measured in an inclusive manner that captures the aspects of space (equity) and time (sustainability) (Bhowmick 2021, n.p.).

One of the goals is 'goal six', which is pertinent to this study because it features water and sanitation, focuses on the planets' natural environment and resources, and promotes the concept that all human beings should have access to water and sanitation through innovative measures while encompassing pertinent actors at various levels of governance in all countries across the world (SDGF 2017; Weber 2015). As mentioned in the introduction of Chapter 1, good governance does not simply create effective governance but should be an incremental and ongoing process towards sustainable development, like long term solutions to effective and equitable water resources, because,

> water touches every aspect of development, and it links with nearly every Sustainable Development Goal (SDG). It drives economic growth, supports healthy ecosystems, and is essential and fundamental for life itself (WB 2018).

These decisions and outcomes facilitate access to freshwater resources whilst reducing the frequency of waterborne diseases and addressing food insecurity to produce consistent annual crops. This is an immense problem in Timor-Leste (see sections 3.5 of this study) as it remains the 4th hungriest state in Southeast Asia (Bennett & Satterfield 2018; WB 2017).[14] In the context of water governance, the OECD (2015, p.3) reminds us that:

> evidence shows that there is not a one-size-fits-all solution to water challenges worldwide, but rather a large diversity of situations within and across countries. Governance responses should therefore be adapted to territorial specificities and recognising that governance is highly context-dependent, and it is important to fit water policies to places.

In the context of sustainable governance, including water governance, the WB argues that a peaceful transition from a post-conflict situation to a socio-politically stable situation can sometimes take up to 25 to 30 years or more to achieve (WB 2011). But relevant stakeholders such as policymakers should first consider every element of Timor-Leste's past because of its previous violent colonisers and occupiers – it has been marred by internal and civil violence, destruction and difficult and constantly emerging 21st century challenges. These challenges remain critical to contextualising Timor-Leste's sustainable development goals if they are going to succeed as 'little research has been conducted on the nexus between water management and sustainable development' in post-conflict societies where peace-building relies on good governance structures that underpin water governance (Swain 2016, p.1313).

[14] See Appendix (a) for the 12 principles of water governance.

2.4 Conceptualising Water Governance

Scholars suggest there is a gap in understanding the role of water governance in post-conflict peace-building and development in states such as Timor-Leste, as 'the global water crisis is not simply a matter of physical scarcity: it is also a crisis of governance' (OECD 2021a; UNWater 2021; Weinthal, Troell & Nakayama 2014, p. 2). However, there is increasing awareness of the role of water governance and water resource management since the end of the 20th century because 'societies are facing a number of social, economic and political challenges on how to govern water more effectively' (UN 2003, n.p.) in the 'domain of both formal and informal institutions' (Rogers & Hall 2003, p.7).[15]

Critical junctures for increased awareness of water governance were highlighted in 'The Second World Water Forum Hague' in 2000. The conference emphasised 21st century non-kinetic threats to freshwater, such as the increase in global population and its impact on water governance and water resource management (Cooley et al. 2013; OECD 2021a). The world's population is expected to reach 9.5 billion people by 2050, while life expectancy across the globe is rising, adding pressure to natural resources such as water (UN 2017). Other threats to water governance include the rise of the middle class throughout developing states (Asia is one example), and the pressures that arise because of the increased need for accessibility to water resources will be an immense challenge for global leaders to govern. Without proper water governance provisions in place, this may lead to water shortages globally that can cause water and food insecurity - a catalyst for conflict (UNWater 2013). See Appendix (a) for guiding principles (water).

Other global water-related conferences, such as 'The Fourth World Water Forum in Mexico' in 2006, were critical to recognising that water resources and water governance were required to ensure future generations understood and used water through related principles that included a broad participatory approach (Cooley et al. 2013). A broad participatory approach included females and non-state actors, with the central focus being on an inclusive and coherent water resource management system comprised of financial management mechanisms underpinned by pro-privatisation models. However, INGOs and other ecologically-focused organisations expressed concerns that this approach would promote a top-down neoliberal (economic) framework that dismisses the equity and distribution of resources such as 'knowledge and

[15] 'Institutions are interpreted here to include both the formal (codified and legally adopted) and the informal (traditionally, locally agreed and non-codified)' (Rogers & Hall 2003, p.7).

technology' (Cooley et al. 2013, p.24). Both knowledge and technology are limited in a post-conflict environment, especially after years of conflict and oppression, as is the case in Timor-Leste.

During the last century, weak water management practices (globally) have been the drivers of such conferences because of the anthropocentric behaviour of human beings (including the growing threat of climate change), which has been responsible for the depletion of natural resources, like fresh water (Bates et al. 2008; UN 2003).[16] Water-related -concerns have continued to rise around the world since the beginning of the 21st century due to the reoccurrence of the mismanagement of practices and laws governing natural resources in water management (UN 2003; Wagner 2019; Weinthal, Troell & Nakayama 2014).

Water resource management remains even more complex and critical in the post-conflict/fragile states such as Timor-Leste because of significant cross-scaling factors, which are critically examined throughout the following sections of this literature review (Brinkerhoff 2005; Cooley et al. 2013; Swain & Ojendal 2018). The acknowledgment, evolution, and advancement of water governance since the end of the 20th century have been incremental in developing and developed states which has resulted in advances in cross-discipline water governance research in the 21st century. Cross-disciplinary research is increasingly recognised as critical to water governance in post-conflict societies. While water governance (and governance of other natural resources) must include technical and scientific approaches in complex environments, water governance must also include human and social approaches that promote equitable outcomes for post-conflict societies. These approaches are considered long-term solutions instead of a means to an end (top-down) outcome that is usually short-lived, particularly in unstable communities like war-torn societies where patience is required (Pahl-Wostl et al. 2012; Swain & Ojendal 2018; UN 2003).

For the reasons outlined in the previous paragraph, it is important to clarify the difference between water governance and water resource management. Pahl-Wostl et al. (2012, p. 25) claim water governance is about 'setting the rules under which management operates'. In contrast, Castro (2007) describes water management as the monitoring, development and execution of water resources allocated equitably among all stakeholders, while Krampe and Gignoux (2018, p.187) argue 'water governance in fragile states, [has] focused on the quality

[16] Anthropocentric behaviour refers to humans placing themselves as the most important component in the earth's framework of living species (human-centred) (Stern 2006).

of cooperation, linking it to power asymmetries and hegemony'. Therefore, it is critical to understand what water governance provides and how this adjusts the mechanism of water resource management in post-conflict situations. Scholars agree the outcomes of both concepts are critical to peace-building and development, as examined throughout this dissertation. Due to its ambiguity (this concept is relatively new in post-conflict states), water governance can be confusing, even to relevant actors, which can impede the process of peace-building and development (Ivey et al. 2006).[17]

The term water governance is generally used apolitically as a set of institutional principles and rules for collective action to pursue shared clean water outcomes and benefits. The political feasibility of problem-solving is a key issue of water governance to meet societal demands from stakeholders with various opinions and divergent interests. The process of decision-making is likely to be undertaken in a more contentious way in an unpredictable environment such as in post-conflict circumstances. Accordingly, political motivation by various actors influences the process of rulemaking that takes place within the institutional boundaries of the polity and structure across boundaries. This requires political feasibility and transparency while shaping public consultation, information-sharing, and traditional water rights across competing spatial cross-scale communities, such as the Sucos which contains many smaller communities within its controls, for example, Aldeias (see chapters 5, 6 and 7) (Allouche 2014).[18]

2.4.1 Competing Spatial Cross-Scale Water Governance

Competing spatial cross-scale water governance has a bearing on water resource management from the viewpoint of inefficiencies, spatial externalities, and spill-over effects in post-conflict societies (Bruch, Weinthal & Troell 2020; Sears et al. 2021). Water governance cannot function well within a fixed scale due to inequality and competing agendas where corruption is rife, and finances are scarce. Also, water governance does not function effectively within a small-scale space, where only a few dominate the water resources (such as corrupt officials), or in a large-scale space where resources and skills are limited due to long periods of war and people are

[17] The hurdles to long-term sustainable water resource management are dictated by the realm of good or bad water governance, and this is especially true in post-conflict communities (Swain 2015).

[18] In post-conflict Timor-Leste, the success of subnational Sucos' participation depends on their authority and capacity to coordinate themselves as participants with convincing and distinct interests. To be successful, subnational participation requires the capacity to move across and connect the national-local hierarchy, the public-private gap, and the foreign-domestic divide in political mobilisation. It must demonstrate its capacity for governance functions: sustainable financing, scientific information monitoring and assessment, integration of local actions into national mandates and international cooperation, and support for the capacity-building that is particularly needed in post-conflict countries through policymaking and implementation.

thus operating within a fragile ecology of disorder and chaos (Enqvist & Ziervogel 2019; Rogers & Hall 2003). Water governance has a broader and more effective impact in a cross-scale space but faces a 'multiplicity of challenges related to spatial scales and multiple levels of governance', such as politics which is central to water governance and the broader management of freshwater resources (Moss & Newig 2010, p.1).

A cross-scale space can enable participating actors to know where to best place their negotiations (if feasible in a post-conflict environment) and other actions for an effective water governance outcome through coordinated provisions and responses that include 'physical or material flows (e.g., water and solute movement), information and knowledge, political and social control, financial flows [and] human flows' (Daniell & Barreteau 2014, p.1). However, in a post-conflict environment, this is sometimes challenging due to other factors such as the scale of geography which can create obstacles to effective water governance, particularly where transport infrastructure has been destroyed due to years of conflict and neglect which makes it difficult for authorities and INGOs to access remote populations as is the case in some rural parts of Timor-Leste (Krampe & Gignoux 2018).

Rescaling processes for water governance such as geography pose important questions about the efficiency and effectiveness of water governance as well as its legitimacy and underlying water access and distribution. With this analysis, this raises questions for those communities in remote locations. The scaling of geography cannot be ignored when considering water governance in post-conflict Timor-Leste, as it clearly impedes on its success, and/or determines its failure (Norman, Cook & Cohen 2014; Perramond 2012). Timor-Leste's geography consists of rugged hillsides and mountains that are difficult to access while lacking in transport infrastructure, which further impacts on accessibility to implement effective water resource management. A large part of the local population relies on seasonal rainfalls for their water as does other species such as the native flora and fauna, which is problematic, because the dry season brings no rains (Myers et al. 2011). The vast majority of the population have no infrastructure to capture the water to store it in for the dry season as demonstrated in Chapters 5, 6 and 7 of this study. In the context of geography, low-lying coastal areas remain vulnerable to the impacts of climate change owing to erosion and salt-water encroachment, which impedes on attaining potable water while creates food insecurity (Polidoro et al. 2010). Communities in remote rural regions may not have access to such decision-making processes or a choice to challenge authorities to provide water resources, as they often have no contact with the state due to a lack of

infrastructure (transport/technology), and in most cases, rely on transnational actors for cross-scale and multilevel arrangements like INGOs for resources such as funding and technology (Agrawal 2003; Neely & Walters 2016).

In the context of cross-scale and multilevel arrangements, there are various ways of matching the level of policy coordination to the scale of water resources, for example, social processes are presumed to increase the capacity of water governance to adapt to change and uncertainty. This occurs through the 'levels and interactions needed on the administrative scale for effective management of human-environment problems such as those of water and land management' (Daniell & Barreteau 2014, p.8). What is more, the cross-scale and multilevel arrangements can impose constraints on policy integration and be attended with complex institutional dynamics at the local, subnational, and transnational levels while changing the position of power and range of measures for relevant stakeholders, even more so in a post-conflict environment (Bruch, Weinthal & Troell 2020). This adjustment can significantly impact the peace-building and development process while creating further chaos and uncertainty (across both rural and urban Timor-Lest) (Kulkarni 2011; Moss & Newig 2010).

Taking all these points into consideration, the benefits of a cross-scale water governance approach is successful to peace-building and development efforts in a post-conflict environment, while in contrast, vague water governance practices 'raise(s) issues of legitimacy and equity' or ownership and management among stakeholders (Moss & Newig 2010, p.1). Thus, a new paradigm of water resource management away from a centralised process of government is encouraged (see section 2.5.2) (Fisk & Cherney 2015; Weinthal 2006). Legitimacy can only strengthen the peace-building and development process while enhancing the broader long-term recovery process in the post-conflict phase through shared knowledge while preventing confusion and chaos, including local ownership and control of the water resources (see below Figure 6) (Allouche 2014). Experiences from other post-conflict states suggest the process of legitimacy and local control is beneficial to the peace-building process.

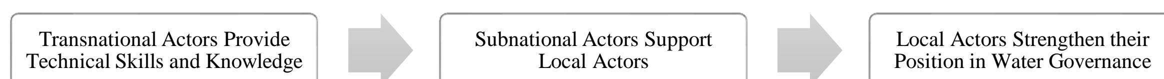

Figure 6: Post-Conflict Environment Actors in Water Governance

For example, Krampe (2017, p.147) claims water governance in post-conflict Kosovo

consolidated the physical separation of actors through allowing separate water governance structures. Second, it avoided conflictive issues instead of actively engaging in conflict resolution. Third, its incapacitated locals by placing ownership in the hands of external actors.

Collaborative measures taken by various stakeholders, who are not always associated with each participating party, and or in the same geographic area, are often voluntarily assumed by agreeing to participate and join together for mutual gain. But in a post-conflict state, mutual gains are not a given; they need to be uniquely mapped out to reduce the possibility of conflict and benefit all the actors involved in the relevant policy areas (Sears et al. 202).

2.4.1.1 Water Governance - Horizontal Sub-Scaling and Vertical Sub-Scaling

In a post-conflict situation, the management of natural resources like freshwater should be first considered by two decision-making subsystems that encourages consultation while promoting transparency among stakeholders (Bruch, Weinthal & Troell 2020; Laban 2007). These two subsystems (see Figure 7 below) are firstly described as complex horizontal interactions that comprise of land and water systems such as shared freshwater streams, and private and public agricultural spaces used for growing food; and supporting native flora and fauna.

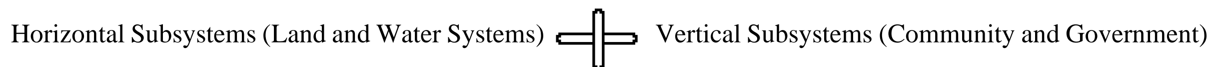

Figure 7: Interacting Decision-Making Subsystems

Secondly, the above subsystems also encompass a vertical nexus of stakeholders that include local households in rural and urban communities to government authorities at both the local and national levels of government; and reflects the 'complex interaction between water and its users within a given geographical space and timeframe' that considers upstream and downstream communities (e.g., human activity system processes) (Laban 2007, p.147).

In post-conflict circumstances, agents involved in the above process of decision-making in water governance exert their needs and influences, sometimes with conflicting agendas, which can prove successful and/or detrimental to water resource management in a fragile but emerging environments that involves new actors such as transnational stakeholders (Laban 2007). Many transnational actors like INGOs, for example, are tempted to focus on upward accountability to powerful stakeholders (donors or regulators, state agencies, international organisations) and to give less attention to downward or inward accountability to less powerful stakeholders which can become problematic for participating stakeholders and their local communities in the long-term peacebuilding time frame (McNeil & Malena 2010). In other

words, relevant water governance frameworks are required to be uniquely designed around the needs of that community and/or nation-state, as consistently suggested throughout this dissertation, because each post-conflict community endures their own unique challenges that can alter the water governance process and set the peace-building process back to local conflict. Also, this ensures actors 'claim their rights and assume accountability for the management of their water resource base' (Laban 2007, 148), where provisions are made based on long-lasting sequencing objectives (long-term commitment and planning) (Huston 2014).

The process of effective sequencing suggested by Huston (2014) minimises the risk of conflict occurring, as placing a timeframe on the recovery period may prevent a premature withdrawal by the donor, adding to the complexities of the peace-building and development process and creating further chaos. Correspondingly, this requires a financial commitment that underlines the need for adaptable and sustainable funding models with a long-term commitment by the donor to the recipient, and not just the short-term solutions to water resource problems that, in the end, can create more problems than solutions (Neely & Walter 2016; Sehring 2009).

Unpredictable circumstances such as the premature withdrawal of key actors (donors) can weaken the community while leaving those behind with financial burdens and unfinished projects (Huston 2014). In some cases, the state and/or the transnational actors do not always prioritise the execution of their objectives, and more dangerously, they do not always commit to the endgame of water governance, which creates broad social and political problems for the community. Huston (2014) documents this in his case study of 'South Sudan' where he worked for a 'Water for Recovery and Peace Program'.

In a post-conflict state, the success of water governance depends on strategic planning, which, according to Tortajada (2010, p. 298), requires 'involving more voices, responsibilities, transparency and accountability of formal and informal organizations associated in any process'. Both formal and informal (hybrid) organisations emerge to encourage ownership, a sense of empowerment, and an agreed policy framework from all stakeholders, including groups, individuals, and state actors with various interests; however, these do not always coordinate and match in a manner that is consolidated for a broad effective outcome (Bruch, Weinthal & Troell 2020).

2.4.1.2 Female Equality and Water Governance

Literature throughout this study suggests the agency of females including both women and girls are primarily responsible for the daily domestic management of water resources because of their traditional roles in water allocation responsibilities in post-conflict countries such as Timor-Leste (Niner 2011; Singh 2006; United Nations Women [UNWomen] 2017). Females also understand and manage the collection and allocation process of water in a domestic environment, therefore, in a post-conflict environment, they should enjoy

> the right to participate meaningfully in policy-making and resource allocation; the right to benefit equally from public and private resources and services; and the right to build a gender-equitable society for lasting peace and prosperity (Zuckerman & Greenberg 2004, n.p.).

Female participation in water governance can offer a path to reconciliation and leadership opportunities in the community and the political arena; this leads to greater social harmony and political stability through cultural, social, and historical transactions in the transitional period from conflict to peace. However, such responsibilities in a post-conflict environment remain challenging and dangerous in Timor-Leste due to security concerns and violence against females (Niner 2011; UNWomen 2017).

In Timor-Leste, UNWomen (2017, n.p.) report that

> domestic violence is the most reported case to the Vulnerable Persons Unit of the National Police, a unit set up with assistance from the UN specifically for vulnerable people including women, children, and the elderly. Timorese women have described domestic violence as normal and sometimes, a daily occurrence.

Multiple accounts of violent assaults have been documented in other post-conflict communities - assaults were recorded in Liberia following two civil wars between 1996 and 2003. The threat to women in post-conflict environments includes rape and other violent acts, sometimes resulting in death. The specific outcomes of water governance in relation to peace-building and development in post-conflict communities that can be attributed to females is better known due to studies like this one; however, further cross-disciplinary inquiries are needed (see section 6.3 of this study) (Manjoo & McRaith 2011; Singh 2006; UNWomen 2017).

2.4.1.3 Informal Water Governance at the Local Level - Temporarily Disruptive

In fragile situations like post-conflict Timor-Leste, informal governance structures that support water resources are usually provided by the local population and/or the international community. They replace what is normally the role of the government (formal) in terms of

skills, resources, and financial aid, particularly in some rural parts of the country where water-related INGOs assist various communities. Meanwhile, those in urban and peri-urban Dili often have to fend for themselves when it comes to accessing water resources as foreign aid from transnational actors appears limited, and/or non-existent ass demonstrated in the empirical evidence chapters of this study. Thus, it is important in this study to examine a hybrid (informal and informal governance) approach to water governance in a post-conflict state as it remains essential to peace-building and development. And previous critical analyses in this water resources management literature indicate complex decision-making processes are at play when local actors select an appropriate water-related INGO program for their community that encourages collective decision-making and ownership (Weinthal, Troell & Nakayama 2014). Informal governance can be considered as,

> those non-codified settings of day-to-day interaction concerning policy issues, in which the participation of actors, the formation of coalitions, the processes of agenda setting, (preliminary) decision-making and implementation are not structured by pre-given sets of rules or formal institutions (Van Tatenhove et al. 2006, p.14).

As a result, many voices are heard, strategically benefiting the relevant stakeholders in the community in both short- and long-term water governance which encourages a bottom-up approach to water resource management. A bottom-up approach includes the agency of local actors to manage their own communities which strengthens water governance in their post-conflict society because of broad multi-actor decision-making processes. However, as evidence presented in the empirical evidence chapters shows, the management of water resources in Timor-Leste is assisted by the international community through the application of aid, resources (shared knowledge) and governance structures formulated around the community (informal). Critical in the post-conflict environment, the literature thus far suggests that a hybrid approach is 'important for a governance regime [and] is the relative strength of informal and formal institutions, respectively' (Pahl-Wostl 2009, p. 356). Informal governance is a temporary innovative disruptive space, which, if successful, can 'set the stage' and be adopted and adapted into formal governance at a later stage in the peace-building phase.

Actors are motivated for various reasons, as Chapters 5, 6 and 7 of this study suggest (see Figure 8 below), to create informal water governance frameworks because governments may not be able to secure essential assets and resources for the general population when formal government water governance practices are limited due to years of occupation (due to a lack of knowledge & skills) (Ayres 2017, p.6). Scholars also suggest that a top-down approach to

water-related issues, executed by NGOs (who provide water resources), is not ideal as it takes the empowerment process away from the community level, which can be a setback for the development process (Neely 2015).

Strategies	Co-operative	Conflicting
Rule-directed (pre-given rules)	Enabling	Critical Voice
Rule-altering (no pre given rules)	Bottom-up - (Temporary Innovative Space) (Local, Subnational and Transnational Participation) – Post-Conflict – Environment	Disruptive Water Governance (informal)

Figure 8: Informal Governance Motivations
Source: adapted from (Ayres 2017, p.7; Van Tatenhove et al. 2006, p.15)

Scholars like Folke et al. (2005) and Pahl-Wostl (2009) agree that local participation increases the capacity of water governance to adapt to uncertainty; hence the importance of promoting local agents to respond to adverse conditions using informal processes learnt from engagement with local knowledge and donors. In saying that, this means that the communities (local actors) where formal governance is non-existent can adjust when required. Folke et al. (2005) and Pahl-Wostl (2009) make it clear that the local agent has more understanding of what is required in the local space, countering the lack of knowledge and resources of the subnational, state, and international actors while constructing solutions using a broad application of adaptive capacity and other complex adaptive systems.

Adaptability affirms that a broad governance process is required that includes the co-management of water resources between the international community, local and subnational/state actors. In this literature, evidence suggests that a common pool resource (CPR) approach promotes all actors to share in the decision-making process in the context of water governance. Governments who cannot provide the local community with the basics, such as access to water and sanitation, weaken people's perception of them and the relationship between the people and the government; however, formal governance is encouraged as the post-conflict state emerges into a regular functioning state (Agrawal 2003; Allouche 2014; Neely 2015).

Similarly, being adaptable and versatile considers unforeseen political instability and adverse weather impacts due to aspects of climate change that can create extreme weather patterns (Matthew & Hammill 2012). Post-conflict communities such as Timor-Leste do not have the infrastructure to contain the impacts of extreme weather patterns, such as floods, due to climate change events. Notably, the formation of a multi-scale process provides stakeholders access to the decision-making dynamics in the water governance space, particularly in post-conflict communities where local actors in underdeveloped peri-urban areas have little opportunity to participate in water governance or be a part of the decision-making process. [19] Further, peri-urban communities in fragile states generally have fewer social services; hence a higher rate of poverty occurs (as investigated in Chapter 5 in this thesis) (Kurian & McCarney 2010). These processes, like the decision-making dynamics in water governance as described above, give local actors a platform to have their political voices heard and make decisions about their communities in situations where they otherwise would normally not have a voice; and where donor actors are not always reliable or sustainably suitable for long-term commitments while strengthening the communities ability to be adaptable in adverse conditions (Allen, Dávila & Hofmann 2006).

Past water-related studies in the context of informal water governance from Timor-Leste include a sociological study by Neely (2015), which focuses on water-related management and research using complex adaptive systems (CAS). The above study by Neely (2015) was conducted in rural Timor-Leste with a mixed-methods approach (urban Dili was not included in this study). A complex adaptive systems approach was defined in her research as promoting the actor, organisation and/or community to adapt to their environment through a decision-making process. In other words, a process of governance is continuously evolving, especially in a volatile environment such as a post-conflict state where problems associated with governance are numerous and impact the management of resources such as water. Results demonstrated that local-level community decision-making processes encourage an adaptive approach to water-related issues. Neely (2015) noted that solutions at the local community level harvest problem-solving techniques in the realm of water-related management.

Problem-solving techniques assist the community in managing water resources better, including financial management, while using traditional skills that incorporate spiritual

[19] 'Peri-urban as a term qualifies as areas with mixed rural and urban features' or 'the deficit of urban attributes' (Kurian & McCarney 2010, p.35).

practices such as *Tara Bandu* through ecological management, which includes observation and preservation of natural resources like water (explored further in this literature review). Learning new technical skills which enable the local community to maintain water resources such as materials, water pipes, and sanitation facilities for good hygiene can reduce waterborne diseases (WaterAid 2017). Problem-solving techniques encourage participation, while 'community management is advocated as a means of improving efficiency, access and sustainability' in water governance (Norman, Bakker & Cook 2012, p. 53).

Being adaptable to water governance requires local management to monitor the level of water resources that are accessible and available through an informal process in the transnational community. For example, water specialist INGOs conduct WASH programmes. Monitoring these processes has also 'involved collecting information about the professional networks of NGO staff and government actors as well as relationships that exist in small villages' (Neely 2015, p. 213). These actors should be considered critical to good governance as they set the foundations for water governance by distributing tools, such as knowledge and other resources, through participation with a broad multi-actor approach to peace-building and development (Swain & Ojendal 2018).

2.4.1.4 Formal Water Governance - Polity, Politics, and Policy

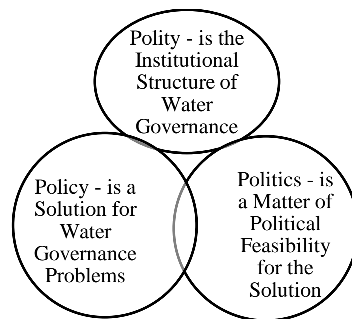

Figure 9: Effective and Equitable Governance

Good governance and its relationship to water governance remains complex in a post-conflict state; however, it can be achieved through three levels of analysis (see above Figure 9). The first level is polity, which reflects the institutional structure of water governance and is considered to be the state and its institutions organised and arranged through state administrations underscored by 'procedural legitimacy'. Scholars like Devkota and Neupane (2018, p. 7) suggest 'legitimacy and authority of water use are more important than the pricing, purchasing, or privatizing [of] the water' in a fragile community like a post-conflict society.

While it is hard to establish in a post-conflict state, polity is the institutional structure of water governance in the context of formal processes (Weinthal, Troell & Nakayama 2014), as previously noted throughout this study.

The second level is politics, which is considered a matter of political feasibility - a solution for actors that operate from within the polity and provide equitable governance through participation. Nonetheless, this is about the political feasibility of outcomes because good 'governance is the exercise of political, economic, and administrative authority necessary to manage a nation's affairs' (UNDP 2014, n.d.) which must continually improve in the interests of development (Grindle 2017). Managing a nation's affairs is more complex to achieve in a post-conflict state where coordinated responses to social development are difficult to attain due to a lack of financial aid, corruption, and a lack of resources such as water infrastructure (Andrews 2008; Klitgaard 2017). The process of rulemaking must be participatory, as empowering both non-state and state actors encourages equitable governance that is political at all levels, thereby making decisions determined and agreed upon by all parties in the context of water governance. All agreements should ensure effective governance for all stakeholders through legitimacy and reflect effective and coherent policy. These rules must be condoned by local actors and include a process of consultation with all stakeholders, not just international interests (Guhan 1998).

These initiatives lead to the third level of analysis which is policy; this formulates solutions for water governance problems through formal processes. Those solutions, underpinned by rules, are encouraged to be accepted by the public and include consultation with all stakeholders. Inclusive of such processes are legal mechanisms that incorporate good governance through polity. Meanwhile, policy can be seen as a set of rules that solves conflicts and problems. It is based on an act or agreement consistent with legal norms that should be transparent (Brinkerhoff 2005; Devkota & Neupane 2018). Takao (2016, p. 18) suggests 'the theory of governance cannot explain change without introducing the strategic level of analysis to understand the political feasibility and its policy process'. Understanding this level of good governance analysis in a post-conflict environment remains challenging due to the disruptive nature of the environmental governance frameworks, which are constantly challenged by political instability and public health challenges like vague water resources. Including the ambiguous role of the locally elected officials, such as the Chiefs (see chapters 5, 6 and 7).

In Timor-Leste, the role of the Chiefs appears to be a balancing act between the state and the local actors which requires effective political negotiations as policymaking at the local level of government demands willing and capable problem-solving solutions for various stakeholders, all with their own needs and agendas. In the lower levels of governments, being able to provide solutions also requires delegation and a decision-making prowess. However, in countries like Timor-Leste where funding is scarce, and skills are limited, projects that require funding are challenging to achieve as fiscal issues can impede on the local governments ability to deliver viable outcomes for their constituents, hence weaking their powers at the local level of authority (Sous 2019).

2.4.1.5 Social Capital in the Context of Water Governance - Trust

In this study, social capital adds value to achieving successful outcomes in the process of water governance in Timor-Leste. Social capital is also key to ensuring various stakeholders work together to achieve peace-building and development: 'the core intuition guiding social capital research is that the goodwill that others have toward us is a valuable resource' (Adler & Kwon 2002, p.18). Others argue social capital to be a 'metaphor about advantage'(Burt 2001, p.202), or people doing good things for good returns. Alternatively, social capital remains the process of making and improving social and business connections through transactions to enhance people's lives in the community they live in (Bowles & Gintis 2002). Social capital is essentially the amount of trust available among actors for cooperation that enhances the lives of individuals while strengthening the community they live in. A stable post-conflict society supported by the state and the international community ensures local non-state actors are able to adapt to unexpected events such as extreme weather events like floods caused by climate change, as recently witnessed in Timor-Leste in 2021, where the lives of many people in urban Aldeias were severely disrupted, and worse, lives were lost (see section 3.2) (Leach 2021; McKnight & Chervany 2000; Myers et al. 2011; Neely 2015).

In post-conflict societies, academics and policymakers examining water governance cannot ignore the importance of social capital and its relationship with adaptive capacity. A mixed methods study (qualitative and quantitative) conducted in Timor-Leste by Myers et al. (2011) suggests further scholarly investigations are required in the context of water governance and its relationship with social capital as little is known about how water resources contribute to effective social capital and adaptive capacity in both the urban and rural parts of the country (see the empirical evidence chapters of this thesis). The study by Myers et al. (2011) claim that

understanding adaptive capacity highlights the relationship between climate change and how individuals, communities, and the state, adapt to extreme weather events while measuring the actors' 'wealth, technology, education, information, skills, infrastructure, access to resources, and management capabilities' (Myers et al. 2011, p. 44). Adaptive capacity can also be enhanced by cultural practices that encourage 'adaptive and transformative' social capital platforms which are resilient while forging ahead with new partnerships, and new interests through local knowledge in emerging and evolving situations (Colombi & Smith 2012, p.13; Folke et al. 2010).

2.4.1.6 Understanding Culture and Traditional Governance

In Timor-Leste, governance frameworks including water governance frameworks can be supplemented with a hybrid approach of traditional values and customs (as set out below), including culture, and a mix of modern governance mechanisms that merge with the theory of good governance to create water governance practices that are both applicable and equitable (Meyer & de Sales Marques 2018; Palmer 2010). Non-Western governance models of traditions and culture challenge the very notion of modern governance as this type of model tends to emerge from local and regional practices across non-western states. Non-Western governance concepts that reflect culture, such as *'Tara Bandu',* should be further studied where possible to improve the role of water governance in post-conflict environments that underpins cultural, social, and political 'models' (Meyer & de Sales Marques 2018, n.p.).

Traditional governance models can integrate cultural, spiritual, and religious practices that influence water governance in both Western and non-Western societies. Hence, a consultation process is essential when implementing modern water governance techniques in Timor-Leste as demonstrated in Chapters 5, 6 and 7. However, Palmer (2010, p. 360) claims

> the customary economy is not without negative aspects. For example, particularly in urban landscapes brimming with aspirational modernity, the burden of customary obligations can be overwhelming, whether in relation to environmental governance or other aspects of the social world.

One previous study highlights evidence supporting both traditions and water governance in an ethnography spanning over 8 months spent in the post-conflict city of urban Baucau (Timor-Leste) by Palmer (2010, p. 357), who argues,

> a failure to address issues of resource ownership and control and to engage the strengths and import of local customary institutions will have serious ramifications for the successful implementation of national development objectives.

The research in this field excludes any analysis of urban Dili, leading to the need for further investigations, which are presented in Chapters 5, 6 and 7. *Tara Bandu's* social structure is a traditional governance system monitoring the natural ecology of Timor-Leste. This practice was suppressed during the Indonesian occupation due to large community gatherings for ceremonial purposes being considered a threat to the Indonesian authorities (Palmer 2007).[20] These traditions involve elders and the village Chiefs, along with village advisors, recognising environmental and social problems. The philosophy of *Tara Bandu* serves as an integral part of 'Lisan, a Timorese concept that defines social norms, morality, rituals and systems of community and customary water governance' (Wassel n.d., cited in the South-East Globe 2015, n.p.). It is also practised throughout the Indonesian Archipelago, where it is known as 'Adat' and spread to Timor-Leste in the pre-colonial period (Cummins 2010, p. 26). Today, modern-day, and ancient spiritual practices are observed in contemporary Timor-Leste and influence both society and politics.

Customs and traditions are 'generally perceived to prevent violent conflict and, as our report shows, when there is a *Tara Bandu*, people are calmer and more at ease' (Wassel n.d., cited in the South-East Globe 2015, n.p.). Likewise, customs and traditions are often referred to as a blend of politics with the management of other natural resources such as water and food sources (Palmer 2010). However, evidence throughout this dissertation suggests that no one consistent model or framework dictates customs and traditions in urban and rural Timor-Leste. In fact, there is a stark contrast between the belief systems in urban (Dili) and rural Timor-Leste, which may indicate how social capital in urban commercial centres such as Dili replaces traditions and customs (Myers et al. 2011). However, Palmer (2010) clarifies that the city of Baucau has contrasting water governance and water management problems and solutions to urban and rural Timor-Leste. Nonetheless, issues such as water governance 'require new kinds of communal understandings in global water governance' across the nation-state of Timor-Leste (Malzbender 2005; Sultana & Loftus 2013, p.99).

[20] *Tara Bandu* features three classifications: how human beings integrate with the ecology they live in, the relationship between human beings and other human beings, and the connection between humans and animals, and how this impacts on daily lives (Wassel n.d., cited in the South-East Globe 2015).

2.5 Conceptualising Polycentric Governance

To attain water governance through good governance practices in a post-conflict environment, Ostrom (2010) and Pacheco-Vega (2013) present a polycentric and/or co-management approach that encapsulates a framework with a focus on power-sharing and decision-making. Power-sharing processes lay the foundation for political platforms/status for actors who would not normally acquire such empowerment in an unstable and patriarchal post-conflict environment (see Chapters 6 and 7). Also, this enables vulnerable actors in post-conflict environments to insist on how and where they would like their water resources placed; for example, a water well should be built next to their homes, so they do not have to travel far from the home to access water, which in post-conflict circumstances is considered dangerous due to threats of both physical and sexual assaults as previous examined in the literature of this chapter (Kulkarni 2011).

Power-sharing means the inclusion of multiple stakeholders who share ideas and govern the water governance space in the interest of their communities, organisations, and the broader states' interests, but requires 'cooperative relationships and … recourse to conflict resolution mechanisms' to ensure peace continues while meeting the objectives for good water governance (Carlisle & Gruby 2017, n.p.). Local disputes can be resolved through a mix of informal and formal agreements on water resource management, which may appease actors and employs a polycentric governance approach in the context of water governance (Lubell 2017; Ostrom 2010). Clarifying the term and meaning of polycentric governance (i.e., having many) will enable us to observe how well various actors apply different theories while increasing efficiency and social equity, or at least compatibility, to produce good outcomes in practice.

2.5.1 Polycentric Governance in a Post-Conflict Environment - Informal Approach

In post-conflict states, informal polycentric water governance can make for 'potentially robust systems' and strengthen existing governance frameworks by incorporating the voices and views of relevant stakeholders where a 'system of unitary sovereignty' exists, for example, in Timor-Leste (Andersen 2007, p.11; Sawyer 2005, p.12). Similarly, the belief system that surrounds the notion of polycentric governance states that no authority influences or has more sway over the mutual objectives of other actors. A belief system like this 'involves not only multiple scales of activity, but also the spread of private alongside public mechanisms of

governance' with a bottom-up approach (informal) (Scholte 2004, p.38). The above system also creates many opportunities that can take on or dismiss a plethora of agents depending on whether they are relevant to their cause (i.e., or a flexible structure of heterarchy where no one actor controls other stakeholders) (Cole 2015; Goldberg 2012; Ostrom 2010). Such an approach is suitable for water governance in post-conflict states like Timor-Leste, as 'the boundary spanners are important in stimulating and creating informal spaces of interaction in which deliberation, learning and innovation take place' (Edelenbos & Van Meerkerk 2015, p.5).

Informal spaces are critical in an unpredictable environment, such as a post-conflict society, where skills are in short supply and knowledge is passed on from the international community (actors like INGOs), while transnational actors provide the platform for effective water governance transactions to begin (Berardo 2009; Huston 2014). Further, informal water governance in Timor-Leste is initiated by both local actors and transnational actors who operationally create systems designed around the needs of a particular community because 'informal coordination mechanisms provide [the] flexibility needed for local and regional water users to devise rules that are appropriate for local social and ecological conditions' (Baldwin et al. 2018, p.17). Additionally, this applies whether they live in remote rural locations or closer to urban landscapes like Dili, the capital of Timor-Leste. In Timor-Leste, actors usually include the INGOs, the Chief of the Sucos, the local community, and, on rare occasions, the state government (see section 7.1.1), or local non-state actors, who, out of need, create their own informal water governance (using various methods) (see Chapters 5, 6 and 6). Comparably, in an interview featuring Sawyer (2007) (cited in Andersen 2007, p. 14), suggests

> polycentric governance in a post-conflict state requires a creative way of looking at how you organize governance arrangement. Instead of trying to fit everything into a standard Weberian model, it provides opportunities to build on what people themselves want to do. Instead of telling people that their way of doing things is wrong and does not fit into our theory of state, the concept of polycentric governance attempts to evolve a theory of state that is based on the realities on the ground.

From the view of achieving informal water governance in a post-conflict state, the concept of polycentric governance incorporates various clusters of individual agency arrangements that collaborate with other actors while creating 'institutional arrangements that vary over time and coordinate water use between upstream and downstream users and provide governance functions that are informal at the local level' (Baldwin et al. 2018, p.19). Individual arrangements include decentralisation, as 'mechanisms for coordination and cooperation between decision centres are crucial features of polycentric regimes' as examined in the following section of this chapter (McCord et al. 2016, p.3).

A process of coordination asks organisations not to simply overcome outstanding issues but rather to seek other ways to unite with other stakeholders that benefit all involved. Most outcomes that emerge from unilateral decision-making among various actors do not always work well in a hybrid system, as participating actors are not always willing to compromise on their agendas and needs because of their pursuit of power and corruption, as examined throughout this literature review (Pahl-Wostl et al. 2012; Scharpf (1994).

The above balances soften the trade-offs, as each stakeholder gains positive outcomes for their community. On that note, some scholars express concerns over polycentric water governance, particularly in fragile states where corruption and trade-offs can facilitate dominating agents to 'strengthen their networks, sustaining or even increasing inequity in water access' to suit their own needs (Komakech & Van der Zaag 2013, p. 232; Van Heffen, Kickert & Thomassen 2000). At the same time, a lack of coordination may disrupt this process which encourages an imbalanced distribution without real solutions and actions at the grassroots level (Brinkerhoff 2005). Notably, the evidence presented throughout this dissertation suggests this may cause local conflict.[21]

2.5.2 Polycentric Governance from a Multi-Layer Power-Sharing Approach

A multi-layer power-sharing approach, sometimes described by scholars as co-managed, must ensure clear lines exist in the decision-making process in order to be successful. All actors should attempt to agree with each other's needs, which underscores why water governance models are designed and measured around the specific needs of the community while the coordination mechanism or coordinator seeks to find ways to cooperate on solutions that can benefit all the organisations involved, and their clients (Weinthal, Troell & Nakayama 2014).

Previous studies (using mixed methods) found there was no single agent that appeared more powerful or important than the other, while the power-sharing was equally allocated to government agencies, international actors, and the local community members. These 'results provided evidence that polycentric governance regimes were characterised by a distribution of power, but effective coordination structures have higher performance' in the context of water governance that provide resources to do so, like understanding the importance of budgeting when building water resources in a remote village in Timor-Leste (Pahl-Wostl et al. 2012, pp. 24-25). The above study by Pahl-Wostl et al. 2012 underscored differences between developed

[21] In contrast, it is also demonstrated in the empirical chapters to have positive outcomes for water governance at the local level.

and developing states. These differences were due to services that are prevalent in a developing state. Developed states tend to be over-regulated, whereas developing states, particularly post-conflict states, are rife with corruption and chaos, which disrupts the process of good governance. Pahl-Wostl et al. (2012, p. 28) suggest that a multidimensional decision-making approach to a post-conflict state in terms of water governance from a

> normative point of view, it is of major interest that polycentric systems are assumed to have a higher ability to adapt to a changing environment and to be less affected in their integrity by sudden changes or failure in parts of the system.

However, ownership and empowerment, supported by decentralisation, encapsulated by the local community through consultation between the international, subnational, and state actors, are demonstrated to have the most successful outcomes in water governance in a post-conflict environment (Skelcher 2005). Water governance tended to be long-lasting when long-term strategic factors adopted by both the recipient and the donor were at play, as previously detailed in this literature review. As evidence in the empirical evidence chapters suggests, it remains beneficial to the peace-building and development process (Pahl-Wostl et al. 2012).

Hooghe, Marks and Marks (2001) identify two types of governance in the context of decentralisation: type one is a state-centric governance mechanism that is based on a model set within the scope of institutional lines for extending decision-making authority within the realm of the state with 'mutually exclusive jurisdictions' (Hooghe, Marks & Marks 2001, p.4). Type two is a cross-scale governance model with 'territorially overlapping jurisdictions' which has a multifaceted level of agents that includes both state and non-state actors. These act between the frontiers of the 'central/fringe, common/exclusive and local/transnational' spheres (Hooghe, Marks & Marks 2001, p.4). These spheres comprise of a flexible cross-scale process that promotes solving disputes and other issues between the state, local and/or other non-state actors. As Hooghe, Marks and Marks (2001) concede, these two types of multitiered governance co-occur and successfully align together for mutual interest in the context of water governance, particularly in a fragile environment where the interest of all stakeholders should be considered.

In a post-conflict environment, multi-tiered governance can facilitate decentralised water resource management, as the state does not have the resources and skills to deliver on good water governance, and this is especially true for the Government of Timor-Leste (Myers et al. 2011). In Timor-Leste, 'the politics of decentralisation have also become increasingly complicated, as many national political elites appear invested in a highly centralised governing

system' (Cummins 2010, p. 13).[22] The decentralisation of natural resources in Timor-Leste does not appear to be a priority for past and current regimes. Scholars inform us that governments in post-conflict communities who attempt to control water resources can sometimes impede delivering good water governance outcomes. The services they offer are often inconsistent and unpredictable due to a lack of communication and effective execution in an environment that has little infrastructure and human capital. Human capital encapsulates education, knowledge, and economic value for the good of the community (Baldacci et al. 2008). Good water governance is often delivered through non-state actors that add positively to the mix of peace-building and development while filling the void of state services. This usually continues until governments fully recover during post-conflict peace-building and development (Kulkarni 2011).

Experiences from state authorities who embraced decentralisation understand that it is integral to polycentric water governance, as noted by previous post-colonial governments such as the Kenyan government. The Kenyan authorities adopted a water governance co-management program that has promoted, facilitated, and succeeded in its approach to water governance at the local and national levels. According to McCord et al. (2016), their empirical studies in Kenya highlighted how complex polycentric water governance models co-exist with existing government and other institutional approaches to water governance when shifting to a full polycentric model (this transition requires patience and commitment).[23]

As the literature so far suggests, a process of knowledge and needs-based consolidation in the community by all stakeholders may be key to successful water governance. Encouraging further research in post-conflict states is critical to further understanding the role of water governance as a tool for peace-building and development with a flexible and adaptable approach. This is essential in an unpredictable post-conflict phase, which demands both a horizontal and vertical analysis (as previously examined) while promoting all actors to be

[22] 'Article five of the Timorese Constitution, which was negotiated and finalised by the elected Constituent Assembly in 2002, unequivocally states a commitment to the principle of political decentralisation' (Cummins 2010, p. 13).

[23] A polycentric approach as demonstrated in the empirical chapter 7 would be effective in the absence of a national water governance model.

accountable and participate in the decision-making processes, such as in polycentric water governance.

2.6 Evolving Issues

The critical analysis in this literature review indicates that gaps in the theory exist, which provide opportunities to develop underexplored research. Such opportunities include examining water governance (informal and formal), underpinned by good governance, through a polycentric approach in the context of peace-building and development in post-conflict Timor-Leste. The literature review highlights that the current state of research on Timor-Leste appears both limited and underdeveloped as 'research ideas are developed, not found'. For example, Hayton highlights the importance of 'taking existing research and developing it further, improving upon it, answering open questions, or taking it in new directions' when the current research is theoretically and empirically narrow (Hayton 2017, n.p.).

Also pertinent would be a further exploration of the sustainability of water governance throughout urban, peri-urban, and rural Timor-Leste using participatory opportunities that can contribute to a water governance framework. The current research on the nexus between 'water management and sustainable development in war-torn societies that are undergoing processes of peace-building is in its infancy', not excluding the 'affordability' of water resources by those who live in poverty (Swain 2015, p.3; UNWater 2021, n.p.).

In saying that, it is clear from the literature presented in this chapter that the focus on water governance in post-conflict societies has been too technical. Past studies have focused on functional processes, which suggests a lack of understanding of the impact of effective formal and/or informal water governance on peace-building and development in Timor-Leste. This includes a social, economic, environmental, and political methodology that involves actors with a bottom-approach to water governance, while further research is required to create a water governance framework in post-conflict states (Allouche 2014; Swain 2015; Weinthal, Troell & Nakayama 2014).

The discussion in the context of water governance in this study - understanding the processes at the local level in a post-conflict community and how they impact peace-building and development - remains vague (Krampe 2016; Pahl-Wostl et al. 2012). In fact, Krampe (2016) argues vagueness can promote a process of separation between actors, both state and non-state, that in traditional society would bridge the gaps between all actors involved in the governance

process. These issues require further study as scholars suggest that building bridges between actors is critical to peace milestones in the context of a post-conflict society (Allouche 2014; Brown, Langer & Stewart 2011). Krampe (2016) points out that resolving conflict is core to the peace-building process in the context of water governance but how this occurs remains ambiguous. I argue that a bottom-up approach would demonstrate a way forward.

Scholars undertaking water-related research, such as Tortajada (2010), argue that there is no clear universal approach to water governance and that each state and organisation requires their own consolidated approach that reflects the environment they are operating out of, for example, Timor-Leste (a post-conflict environment). Meanwhile, scholars like Weinthal, Troell and Nakayama (2014) suggest there is a gap in the context of a suitable water governance framework for post-conflict states, the filling of which is the ultimate objective of this study as presented in Chapter 1 of this thesis. Tortajada (2010, n.p.) also notes that there are no coherent or 'usable indicators for water governance that exist at present, [however] some general indicators for the governance of individual countries are available'. Batchelor (2007, p. 5) suggests 'there is a profoundly political element to water governance, and as such, systems of water governance usually reflect the political realities at international, national, provincial, and local levels' which requires an understanding of how politics impacts on peace-building and development. Batchelor (2007) further adds that water governance should be framed around a flexible model that fits the community and state in question, and this does not currently exist in Timor-Leste. For this country, a 'one size fits all' approach is not sufficient.

Hence, this dissertation aims to conduct a thorough investigative qualitative study that includes observation, interviews and photographic evidence collected over 3 years in the field in Timor-Leste and Australia. This will be undertaken by analysing various actors, including local, state, and international actors, using a bottom-up approach for the data collection process in Chapters 5, 6 and 7. These. The role of vulnerable actors such as females is less known about their impact, not only on water governance but also on the process of peace-building and development through their participation.

There is much in the literature on why such actors are critical to peace-building and development in the context of water governance in a post-conflict environment. However, there appears to be limited literature about the impacts of accountability and participation on the peace-building process through water governance in Timor-Leste. The literature informs us that non-state actors are empowered by accountability and participation in water governance.

But what impact does this empowerment have on the peace-building and development process? How does it occur, at what cost to the human needs of that society, and does it facilitate the process of rebuilding the nation through governance frameworks that include water governance? Also, this process includes social capital, which contributes to adaptive capacity, and thus enhances the population's ability to mitigate the impacts of climate change in a post-conflict environment. But do communities in Timor-Leste who have good social capital, but lack water resources, have the ability to mitigate climate change?

Scholars like Myers et al. (2011) argue that further investigation into water governance across urban and rural post-conflict communities and its impact on peace-building in a post-conflict environment is required. Such investigations include the relationship between social capital and customs/traditions (culture) in water governance. The relationship appears somewhat incoherent in the context of water governance across Timor-Leste, as some communities embrace customs and traditions when managing natural resources like water, while others inform this study that there is no place for customs and traditions such as *Tara Bandu* in their community (examined in the previous sections and empirical chapters).

There is much literature on individual core themes such as good governance, water governance and polycentric governance; however, the research is under-explored in its understanding of a collective governance mechanism that contributes to peace-building and development of water governance in post-conflict Timor-Leste. Hence, this dissertation's contribution to the literature looks at how this benefits in the reconstruction of the post-conflict state through the collaboration of both state and non-state actors who participate and are accountable. The ultimate aim is to enhance peace-building and development efforts through water governance, as proposed in this thesis.

While it is a priority to answer and explore the gaps in this research, it is impossible to address every detail. This does not place limitations on this research; it means further investigations are required if they cannot be addressed in this dissertation (Kaplan & Maxwell 2005).

2.7 Conclusion

An examination of the research presented in this chapter considers recurring themes that inform the audience why water governance is critical to the progress and development of a post-conflict state. The literature review included the following: an examination of post-conflict environments, good governance and associated themes, water governance and associated

themes, and polycentric governance and associated themes, which in this study, act as a collective mechanism for peace-building and development. A collective approach to water governance will attempt to bridge the theoretical gaps and encourage a bottom-up approach to water resource management (where possible) while appeasing relevant stakeholders to make water resources more equitable, effective, and sustainable process.

Throughout this literature review, I have examined the complexities and challenges faced by post-conflict societies after years, sometimes decades of violence and destruction. I have also contextualised and conceptualised the emergence of good governance, water governance, and polycentric governance, and the role such concepts play in worldwide peace-building and development in post-conflict and fragile states since the late 1980s, until now, the 21st century.

During this period, it is evident that using such terms without first contextualising them to suit the unique needs of a post-conflict state, in this case, Timor-Leste, is no longer viable for simply providing solutions to peace-building through water governance mechanisms. Also, top-down approaches from governments and neoliberal organisations do not normally include a process of consultation and negotiations with the non-state actors at the local level, which is critical in post-conflict situations, as demonstrated throughout this literature review.

This chapter has also demonstrated that across post-conflict states that include Timor-Leste, INGOs, civil society groups, and other transnational actors have worked and continue to work in challenging circumstances to establish governance models to provide good governance and water governance to improve people's lives after a long occupation by foreign agents. Among such models are the WASH programmes, the SDGs, and programmes initiated by the UNDP and the ADB, the WB, not excluding the IMF through shared ideas. With these goals and initiatives in mind, it is hoped a more accountable, participatory, and transparent approach to development issues, like establishing water resources through water governance underpinned by good governance with a polycentric governance framework can be effective for the peace-building and development process in post-conflict Timor-Leste.

It is clear from this chapter, various challenges exist and remain challenging for post-conflict governments as they usually do not possess adequate tools and infrastructure to address water governance and the water resources issues with their local, national, and international partners. Addressing such issues underscores the importance of accountability by the donor to the recipient and a reciprocal approach balanced through accountability measures, like

transparency. Also, in this chapter, an investigation into water governance in Timor-Leste in this study highlights the critical role of actors in the community and the importance of a cross-scale decision-making process. Without a cross-scale approach to water governance, many difficulties such as inequality, corruption (power struggles), and conflict can emerge while missing vital opportunities to enhance the nation's future interest. In contrast, capturing opportunities through governance frameworks can create jobs and reduce waterborne diseases while harvesting peace-building and development platforms in the water governance space.

The lack of formal water governance in Timor-Leste has translated into vague knowledge, and scarce resources around water management and a lack of accountability at all levels of society has prevailed. In the water governance space, this has created conflict both in rural and urban Timor-Leste owing to the inability of participating actors to take responsibility through subnational and transnational processes. It remains more complex than this description, but these themes stand out and impact the broader community, weakening the relationship between the state and non-state actors, which in the long-term, impedes on the peace-building and development processes, as presented in Chapters 5, 6 and 7.

The following Chapter 3 offers an analysis of modern Timor-Leste, formerly known as East-Timor: including, the geography, a brief time capsule since 1999, water resources challenges across the country, water resources in the 21st century, and food insecurity in Timor-Leste.

3.0 CHAPTER 3: TIMOR-LESTE

This day marks once and for all times the end of our long suffering, and today too, we affirm our sovereignty as a people (Gusmão 2002, n.p.).

3.1 Introduction

The Democratic Republic of Timor-Leste, formerly known as East-Timor is geographically situated in Southeast Asia. It is nestled among the Indonesian Archipelagos and considered to be approximately 15 000 kilometres of landmass including the enclave of Oecussi. The enclave of Oecussi is separated from the central part of Timor-Leste and sits on the western side of West-Timor (Indonesia), accessible by boat, plane, and car (Durand 2016; Government of Timor-Leste (GOTL) 2017a; WB 2019; World Data Atlas 2015).

Timor-Leste lies north of Australia, roughly 700 kilometres from Darwin in the Australian Northern Territory. Timor-Leste shares both land and maritime borders with Indonesia, and sea boundaries south of the country with Australia. Timor-Leste is rich in resources such as oil and gas, sea-life, and fertile lands which includes water, sandalwood, and lime deposits. These resources have been exported across the globe for centuries throughout its varied and diverse history of colonisation (Portugal) and illegal occupation (Indonesia); and now, as an independent sovereign state (Dixon 2021; Ingram, Kent & McWilliam 2015; Job 2021; Peake 2019).

Today, the island of Timor is divided into two parts, with one part that currently remains as the Republic of Indonesia, West-Timor. The other is the sovereign state of Timor-Leste. Kupang is the capital of West-Timor, and the capital of Timor-Leste is Dili, which was considered Portuguese territory since 1702, while West Timor was ruled by the Dutch until 1945 (Braithwaite, Charlesworth & Soares 2013; Congressional Research Service 2009).

A portion of the island of Timor comprises uneven terrain, which makes farming challenging, and includes difficulties accessing various parts of the island in order to deliver services such as water resources for rural and remote communities. The population of Timor-Leste is estimated at just under 1.5 million people, and almost 70 per cent of whom live in rural Timor-Leste where extreme poverty and high unemployment is prevalent as highlighted in Chapter 1 (DFAT 2017a).

3.2 Timor-Leste - Since 1999

In May 1999, Indonesia enabled an internationally administered ballot to take place in its breakaway province, Timor-Leste. Accordingly, a referendum was conducted in August 1999 that was facilitated by the UN and other international observers such as representatives from Australia and New Zealand. The outcome of the referendum indicated that the people of Timor-Leste desired to move on from their challenging past while embracing the future as their own sovereign state (Cotton 2000; Dixon 2021; Job 2021; Molnar 2009). Consequently, this meant moving forward in this new century without any foreign actors such as Indonesia or Portugal to govern the people. Because of the outcomes of the referendum in 1999, Timor-Leste formally achieved independence from Indonesia in 2002 (Ingram, Kent & McWilliam 2015; Kingsbury 2007).

As we have learnt in Chapters 1 and 2, during the last days of the Indonesian occupation, the course of rampage (led by the Indonesian military) included the destruction of government buildings, which housed the records of births, deaths and marriages used for making provisions for development across the country. Consequently, this has made government provisions difficult both in the short and long terms of development such as water resources, food security; and other related health challenges like treating waterborne diseases due to unreliable historical data (República Democrática de Timor-Leste 2014). Basic services such as water and sanitation, transport and other critical human services like health that exist in other cities are limited in Timor-Leste. Employment and wages that incorporate contemporary and reliable financial frameworks to create foundations for strong economic policy do not exist, and/or are restricted because of the state's lack of capacity and political will to provide such services (Dixon 2021; Hill 2013; Moxham & Carapic 2013). [24]

Timor-Leste's current political situation has recently worsened as 'elite rifts remain as prominent as ever' (Leach 2021, n.p.), and much needed finance from budgets that provide development projects such as water and sanitation are delayed (Leach 2019). Further, challenges emerging from COVID-19 and the catastrophic floods that took the lives of approximately 50 people in the capital Dili (April 2021) caused the displacement of just over 10, 000 people and further aggravated the situation. The state authorities have reached out to

[24] The average minimum wage in Timor-Leste is US$115 per month (WB 2018).

the international community including Australia to assist them to house and feed those who have been displaced due to the overwhelming flooding event (Leach 2021).

The country is still heavy reliant on its oil and gas reserves. But as the demand for oil becomes less across the world, and as prices per barrel continue to drop, the regime will have to reconsider their budgets and priorities as the global pandemic rages on throughout 2021 as well as ramping up and strengthening relations with its regional neighbours such as the Association of Southeast Asian Nations ASEAN (John, Papyrakis & Tasciotti 2020; Leach 2021; Simangan & Bose 2021).

It is clear from the influence of economic globalisation that is driven by information communication technology (ICT) for free movement of workforces, goods and investment, Timor-Leste will need regional actors such as ASEAN more than ever to ensure they are supported by transport infrastructure and water-related technology as it grows through the 21st century. Infrastructure offers the country the same opportunities as its Southeast Asian neighbours in order to compete and be an effective international economic actor through the International Political Economy (IPE). Such opportunities create strong economic and geostrategic foundations through the interrelatedness of the global economy and international relations (Gilpin 2016). Other 21st century challenges such as climate change, transnational crime, and a shift away from traditional energy sources such as oil and gas remain challenging for both the state and local actors. Timor-Leste will require steady leadership with a tolerant population as it steers its way through the coming decades (Intergovernmental Panel on Climate Change [IPCC] 2014; Jepson & Brannstrom 2015; Oatley 2015; Ortuoste 2011; Scholte 2000).

Significantly, it is critical that Timor-Leste embraces the Asia Pacific region, including China (Timor-Leste has been trading with China since the 16th and 17th centuries), not only for the success and future of its people, but also the geopolitical and geostrategic challenges that currently dominate its foreign policy such as disputes with Australia over oil and gas reserves (Dixon 2021). Timor-Leste can build from its past while taking advantage of the 'Asian century' that includes an opportunity to build on its economic and innovative future, such as establishing and building upon trading partners through ASEAN. Timor-Leste has made a formal application to join the nations of ASEAN, which has been pending since 2011; however, no decision has yet been made (Mangku 2017; Seixas, Mendes & Lobner 2019).

It is clear the Government of Timor-Leste have been blinded by the oil and gas opportunities without realising the importance of investing in other critical economic and social infrastructure like water resources, and other innovative industries such as agriculture since independence in 2002. It remains difficult to cite research form the last 15 years that suggests any major water infrastructure programmes across both urban and rural Timor-Leste have begun, or even exist (Dunn 2003; Durand 2016; Seixas, Mendes & Lobner 2019).

3.3 Who Manages Water in Timor-Leste?

Since independence from Indonesia in 2002, there has been little formal water governance and/or water resource management across the nation-state of Timor-Leste (Takeleb, Sujono & Jayadi 2020). Accessing water and other resources has never been consistent for people living in modern urban and rural Timor-Leste. Evidence suggests that in Dili, from the beginning of the Second World War, there were no formal water governance processes in place, and this included no government infrastructure that transported water from the rivers and springs to homes and businesses and/or public offices. What infrastructure existed, was destroyed from the invasion by Japan in 1942. As a result, this had devastating impacts across the entire country including agriculture, which at that time, was the lifeline for the people of Timor-Leste (Taylor 1999).

Private and public wells provided water (at no cost) to the population during those periods and in some instances (Taylor 1999), this continues today, particularly in peri-urban and rural areas where shared natural springs are the only source of water the population can access. However, ‘national and international initiatives and commitments to improve access to water and sanitation in the developing world tend to neglect the peri-urban context’, which can create complexities in a post-conflict environment (Allen, Davila & Hofmann 2006, p. 13). This appears to be the case in Dili.

The nexus of water management in Timor-Leste can appear vague at times, demonstrating no coherent ownership at the local and state levels, or perhaps when it is politically suitable, such as during the lead-up to local and state elections. Further, this is made more complex through a lack of funding and technical skills required to deliver strong and effective water resources in a post-conflict community such as Timor-Leste (WB 2018). The overall responsibility of water and water resources comes from DNSAS. In Timor-Leste, the DNSAS (2011) n.d. (cited in Myers et al. 2011, p. 32), stated that

> its role in water management in Timor-Leste is to provide potable water to its people, the government plans to legislate upon water usage, rehabilitate existing water treatment and sanitation facilities, perform maintenance on such facilities, and develop hydrologic studies aimed at the construction of multiple usage dams.

Considering the above, there is no broad or consolidated regulation of water management across Timor-Leste that includes the source, for example, local rivers and freshwater streams, to the consumer.[25] According to the WB (2018), if the Government of Timor-Leste plans to meet their water-resource provisions by 2020, it will require US$39.4 million on water-related projects per annum, while sanitation will require US$16.4 million per year across both urban and rural Timor-Leste. With the government spending reduced by approximately 25 per cent in 2017 in comparison with 2016, it is difficult to see how this can be achieved (Leach 2019). Also, a prominent bureaucrat who works for the Ministry of Public works, claims, 'Timor-Leste has sufficient water resources within the territory to respond to the needs of communities, but there are limitations in the State Budget to create adequate water supply networks for the community' (Gustavo da Cruz in 2018, cited in Quintão 2018, n.p.), which is further discussed in this Chapter 3, and Chapter 6.

However, since 2009, accessing water across Timor-Leste is estimated to have increased from just under 65 per cent of the population to approximately 80 per cent of the population in 2016. As a result, this includes nearly 50 per cent of the population that can access better sanitation, which includes 75 per cent of the urban population and just under 45 per cent of the rural population. Also, this can be attributed to improved access to infrastructure through broad international aid that contributes mainly to rural Timor-Leste. Improved water access also means access to bottled water that can be purchased locally. However, it is difficult to know if these figures are due to formal or informal water governance processes, as local communities continue to steal water from the government through the illegal connection of pipes from the source to the home. These latest figures/studies are the result of a broad questionnaire (quantitative in nature) that was distributed across both rural and urban Timor-Leste in association with the WB and the Government of Timor-Leste (WB 2017).

Local water is not metered except for small pockets of communities where the government is trialling water-meters. The source to the home comes from water wells, natural springs, government stored water and local rivers and streams. Rainfall is what provides most of the groundwater to the people of Timor-Leste, which occurs mostly in the mountains of Timor-

[25] Accessing information on water resources in Timor-Leste is challenging.

Leste during the wet season, running downstream via rivers and creeks. In the future, climate change could change the weather patterns that bring rain to Timor-Leste, hence the way in which the people of Timor-Leste can access potable water from groundwater. Further, seawater rises may also impact on groundwater around the island of Timor-Leste. It could mean whole communities will have to relocate to parts of the island that have sustainable water sources. Groundwater in Timor-Leste remains vulnerable from the impacts of climate change (DFAT 2017a; Furness 2012; Macauhub 2018).

Water in urban Dili is sourced from two river systems called the Comoro and Bemori systems that are processed downstream to Dili. The water is filtrated through sewage and other contaminants due to unkept water resources like piping, which makes the water unsafe for consumption (Myers et al. 2011). Those who can afford to purchase water in urban areas such as hotels and restaurants do so through other sources that include private consortiums, which they purchase for their businesses. Essentially, the general population of Dili cannot afford such a luxury, while relying on inconstant water flow from the state's water resources. Quintão (2018, n.p.) claims 'water issues have not been solved since the first government until now, as the government has not created a (clear) policy for water and sanitation management' in post-conflict Timor-Leste.[26]

Moreover, the Government of Timor-Leste has begun the process of experimenting with metering the water with communities who fall under the pilot programmes scheme in urban Dili only. However, this remains inconsistent and limited in scope across the city, where only small pockets of the community are selected for the initial program. At first, this will occur without charge, which makes the formal sector and its intentions in the context of water governance an ambiguous policy. The Government of Timor-Leste has made further commitments to water resource pilot programmes throughout Timor-Leste, beginning in 2016. The government refers to these programmes as water resource provisions for the urban and rural areas of Baucau, Lospalos, Viqueque and Manufahi. These programmes will run until 2030, which includes a very ambitious target: that states the people of Timor-Leste will have access to water and sanitation facilities. This will fly under the banner of the 2011-2030 SDP. A statement from the Government of Timor-Leste (2017b, n.p.), states

> the goals and development objectives were evaluated in the Joint Monitoring Programme of 2015, and it was noted that Timor-Leste had failed to achieve its commitment on water

[26] The cost for 2000 litres of water is US$15. The average monthly salary is US$115 (WaterAid 2017).

and sanitation. In the specific case of water supply, the national objective was to ensure access to safe drinking water to 75% of the population.[27]

In Timor-Leste, there are programmes such as the water and sanitation programmes. These programmes are allocated funds for training to promote new technical skills and knowledge to members of the community for the purpose of water resources management (DFAT 2017b). Further, these programmes allow members to fix a problem such as a tap and/or connect a pipe. But the above programmes are limited in their ability to reach all communities throughout Timor-Leste; where skills are required to rebuild Timor-Leste through strong capacity-development opportunities including in urban Dili.

As discussed in the literature review, finance resources and revenue generating initiatives that provide funds for development programmes such as access to water are limited in post-conflict states such as peri-urban and urban areas like Dili. Hence, there is no income to maintain and/or update water resources such as pipes to transport water. Improving water resources can ensure a long-term strategy that is effective through cost-saving measures because of consistent technical updates. Water resource materials are more accessible to purchase in urban areas in Dili but are not available in rural regions. Assistance from state departments in Dili to subnational office branches remain inconsistent, confusing what services are already vague because of poor communication and human services are available to the local people (DNSAS 2014). The process of providing clean and even constant water to the people of Timor-Leste has not been a priority of the Government of Timor-Leste. In fact, much of the attention of water resources has been by the international community. Finally, little attention has been paid to the urban Dili in the context of water governance and overall water resource management in general. The situation remains urgent (WB 2018).

According to the WB (2015, p.46), the key restrictions that currently impede progress in Timor-Leste's water and sanitation sector are:

- a lack of autonomy and incentives for urban water service providers to improve service delivery;
- a lack of funding for rural and urban water supply operations and maintenance;
- an absence of a strategy for technical support and maintenance services to sustain the functionality of rural water supply schemes;

[27] Further, the minister stated the importance of ensuring the people of Timor-Leste, including in rural and remote locations, can access clean water, as stated above (GOTL 2017b).

- a lack of promotion for households to take up sanitation in rural areas;
- difficulty in obtaining sanitation goods and services, water supply spare parts and repair services in rural areas;
- shortages of human resources, especially skilled technical staff;
- poor coordination, planning and communication between central and district levels and,
- inadequate sewage collection and treatment facilities in urban areas.

3.3.1 Urban Dili - an Overview of Water Resources

Many parts of Dili contain communities, some considered slums that are illegally built with a clear inequality gap between the wealthy, and the poor (Scambary 2013). The capital's services are incrementally improving, albeit water and sanitation and other essential services have not improved much since independence from Indonesia in 2002. And as we know, the city's population currently stands at just under 250, 000 people (Ingram, Kent & McWilliam 2015). The DNSAS (2014) says that Dili has no sewage or other water and sanitation infrastructure, and little in the way of new construction has been built since independence in 2002. Some communities use open defecation pits for the impoverished and closed portable septic tanks for businesses and waste disposable systems for those who can pay their way out of poverty (Myers et al. 2011).

It is estimated between 40 and 50 per cent of urban Timor-Leste has pipes that directly run to the Aldeias, in some cases, individual homes. The WB (2017) outlines the following as a priority for urban Timor-Leste. The WB plan to create a locally devised model that will promote relevant departments and sectors to improve water-resource management throughout urban Timor-Leste (WB 2017). These initiatives should include the introduction of tariffs that support infrastructure and repair that is both sustainable and cost-effective while ensuring all actors at the local and national level are involved in the provisions of water-resource management. These provisions include providing services such as quality and monitoring that encompasses the testing of water.

USAID (2014) claims various national and transnational institutions such as universities are examining the standards of water in Timor-Leste, as to ensure the quality is being monitored, which includes rural areas where water resources are critical for agricultural purposes. Monitoring facilitates the ability of the government and other stakeholders to make provisions for future water resource construction. Projects such as these in urban areas promote investment

confidence through business models that facilitate and encourage employment, new skills for the locals, which incorporate local, national, and transnational business opportunities. This should include rural Timor-Leste.

There are very good opportunities for the Government of Timor-Leste and private investment both nationally and internationally to build infrastructure in Dili. Such projects would benefit the people of Timor-Leste both economically and socially. These would include an arrangement of new and tangible public and private services that such as sanitation infrastructure. New construction of such projects collectively creates new economic frameworks, enabling the government to demonstrate to the people of Timor-Leste that they are moving forward with national strategic projects that enhance the lives of the people of Timor-Leste. It should be noted that literature on water governance in both urban and rural Timor-Leste is limited, particularly from water-related organisations (state) in Timor-Leste.

3.3.2 Rural Timor-Leste - an Overview of Water Resources

Water management in rural Timor-Leste relies more on international aid programmes from both state and non-state actors, such as DFAT (the Australian Government) (DFAT 2017b). Challenges for people in rural Timor-Leste is due to poor maintenance of what little water resources are available, not excluding the geographical challenges. Most rural communities' have no communication with authorities in Dili, which creates complex matters including the lack of technical ability and human services that would normally provide the skill and manpower to maintain and initiate services for water resources (Myers et al. 2011). Water governance in rural Timor-Leste is strengthened by the cooperation of international actors and the Government of Timor-Leste, for example, the program between DFAT and Bee, Saneamentu no Ijiene iha Komunidade (BESIK), whose primary goals states that water and sanitation are essential priorities - it is estimated that between 60 per cent to 70 per cent of the population of rural Timor-Leste cannot acquire water regularly (WaterAid 2017).

The BESIK programme began in 2007 in rural Timor-Leste. Its programmes promote and encourage local communities to progress through WASH programmes funded by the Australian government, in association with the Government of Timor-Leste. DFAT (2017b) claims it has been successful in championing the rights of women in water governance while mitigating climate change. DFAT (2017b) have halted their role as primary leaders in this initiative that will ultimately test this program in terms of the ability of the Government of

Timor-Leste, the local community; and subnational actors to carry on with this vital service to rural Timor-Leste.[28]

The WB (2017) recommends the following for rural Timor-Leste: they describe as critical to the provisions of water access in Timor-Leste. They recommend creating a sense of community supported by participation between both the local and state actors in the planning and execution of water-resource management for the broader community, promoting ownership. Such initiatives would include the introduction of financial support, which demonstrates water investment in rural Timor-Leste while continuing updates in the context of information and technology that support good water-resource management.

3.4 Water Resources in the 21st Century

In 2021, the latest figures from around the world indicate that 1 in 10 people have little access to water resources such as freshwater. It is estimated 300, 000 of those people live in Timor-Leste where extreme poverty is prevalent, and incomes are low or do not exist at all (OECD 2021a; WaterAid 2017; WB 2018). As a result of low incomes, and widespread poverty, a new threat is emerging in the context of accessing global water resources, as

> universal access to safe drinking water, sanitation and hygiene, a human right enshrined in the 2030 Global Goals, can only be reached if countries monitor and address affordability (UNWater 2021, n.p.).

The problem of affordability, as mentioned in Chapter 1, and Chapter 2, is that there is no global definition of water affordability from the global community and requires urgent attention from international leaders and policy makers to ensure access to water resources for those who most need them (UNWater 2021). As a result, it is estimated that 1 in 3 people are unable to afford or access water resources such as a basic flushing toilet -these figures include just under 700, 000 thousand people across Timor-Leste (ADB 2017; UNWater 2021). It is suggested that just under 3 billion people cannot access improved sanitation which is just over 30 per cent of the global community - and approximately 33 per cent of these people live-in Southeast Asia, where Timor-Leste is located. Recent studies indicate seven out of 10 people

[28] In 2015, BESIK began a project that used information and technology to gain data for tracking water accessibility throughout Timor-Leste. Better known as SIBS, which stands for Sistema Informasaun Bee no Saneamentu, means water and sanitation information system collects information for government departments relevant to water and sanitation for monitoring and planning across both urban and rural Timor-Leste. There is no available data collected and/or available for analysis in 2018/2019. It is difficult to find further information on this project. This interactive software would be helpful, if indeed it can be available to all communities across the geography of Timor-Leste (GOTL 2017b).

reside in rural locations without improved sanitation, away from urban facilities (UNEP 2017; WHO 2015). Latest studies by the WB suggests the

> sanitation crisis is most acute in rural areas, home to 91 percent of the people who defecate in the open and 72 percent of those without basic sanitation. Women and girls are disproportionally impacted by lack of access (WB 2021, n.p.).

As the world navigates global water scarcity and vague water governance practices in the coming decades, it is thought that by 2030, 50 per cent of the world's countries will be faced with potable water challenges, which impedes on their ability to grow food and consume uncontained drinking water aggravated by a lack of water resources management. It is estimated that just under 80 per cent of the global community will experience water scarcity by 2050, and the global population by 2050 is expected to be 9.5 billion people on planet earth. Likewise, close to 50 nation-states with populations that make up over 2 billion people, where political uncertainty hindered by climate change and other water-related issues have the capacity to create conflict at the local, national, and international levels. Additionally, freshwater sources around the world have 'lost as much as a fifth of their oxygen levels in four decades, with climate change blamed for a drop that threatens ecosystems and drinking water quality' (Hannam 2021, n.p.; Water Politics 2017; WHO 2013).[29]

Moreover, just under 100 fatalities occur annually of children under the age of 5 in Timor-Leste caused by waterborne diseases such as diarrhoea: placing pressure on what little health infrastructure that exists, including the pressures to supply medical facilities and other health fiscal demands as a result of access to water (UNICEF 2016). An example of this can be found in central Dili, where approximately 1500 students (male and female) share one toilet with little running water in the heart of the capital of Timor-Leste, as further examined in Chapters 5 and 6. As a result, this discourages teenage girls from attending school, which is due to the lack of water and sanitary facilities during menstruation. Further, young females are at home collecting water for their families, which prevents them from attending school owing to a lack of infrastructure in their homes. Consequently, this further reduces the ability to expand their skills for contributing to the local economy and future employment opportunities once they are

[29] Timor-Leste water supply is according to a study conducted by Myers et.al (2011, p.57) very much reliant on 'groundwater resources', which remain vulnerable to climate change and other associated challenges such as drought. The report also concludes that the susceptibility to water shortages, the emergence of ocean water with water and pollution from various sources such as sewage and chemical run-off will impact on the water availability to the people of Timor-Leste in the future.

eligible for the workforce in future years to come (Krampe & Gignoux 2018; OECD 2021a; Rofi & Saragih 2019; UNEP 2017; WHO 2015).

In 2020, and 2021, 'the COVI-19 pandemic has acted as a magnifying glass on pressing water and sanitation challenges' around the world, including Timor-Leste (OECD 2021b, n.p.). The effect of inadequate water governance in Timor-Leste including economic disadvantages such as low social capital has promoted and facilitated an increase of waterborne diseases across both urban and rural parts of the country, which advances malnutrition and associated health problems. Research indicates that just over 1 million people across the globe will have serious illness and/or die from diarrheal-related waterborne diseases annually due to difficulties in accessing clean water. Diseases that cause such deaths are polio, typhoid, and cholera (WHO 2019).

3.5 Food Security and Water Governance in Timor-Leste

Due to years of neglect by the Indonesian regime, along with an arduous recovery period, nearly 40 per cent of the Timorese population suffer from food insecurity. In the same way, this is compounded by what is known in Timor-Leste as the 'hunger season' that falls between the months of December and March each year (no sustainable crops are grown or produced during this period), which contributes Timor-Leste to being the 4th hungriest state in Southeast Asia. The hunger season impedes on the country to feed itself and secure long-term provisions for food and water security. Hence, Timor-Leste remains the 9th hungriest state in the world (see section 3.5) (UNICEF 2016; UNIICEF 2018; WHO 2014).

According to UNICEF (2018), when it comes to stunted growth (malnutrition related disease), Timor-Leste remains one of the highest in the world, falling third closely following the fragile states of Burundi and Niger of Africa. Stunted growth impacts on human development, while aggravating disease and infections; premature deaths and a lack of focus that affects children's performance at school. Also, females with stunted growth find it more difficult to give birth, due to their low weight and height, which is caused by malnutrition (WHO 2014).

Effective water governance across Timor-Leste would benefit the agricultural sector such as increasing the commercial and local farming industries while addressing food insecurity issues and creating opportunities like new farming techniques and water harvesting innovation technology (OECD 2021a; Seeds of Life [SOL] 2013). Harvesting new water innovation technology is critical to the future of agriculture practices in Timor-Leste because the

> agriculture and food sector faces increasing water risks while remaining the main user of water and a major source of water pollution around the world, with water risk hotspots that need to be identified for prioritised action (OECD 2021a, p.8).

At the same time, creating new industries, jobs and mitigating climate change and long-term ecological management challenges with favourable outcomes that satisfy the general population (Kusago 2005; Molyneux et al. 2012). Difficulties in reaching such outcomes are aggravated by Timor-Leste's 'low level of cash income and food insecurity suffered by the farmers is reflected in the poor level of the nation's health, education and living standards' while relying on aid and other resources from the countries global partners such as water resources (Lopes & Nesbitt 2012, p. 2; WB 2017).

International aid donors continue to support Timor-Leste through crop-growing alternatives that create new ideas and alternative target markets for the people of Timor-Leste such as grain and rice products that are more environmentally friendly to the soil. This innovation requires less water for consumption while being more attractive to the international marketplace. Innovation is critical in the coming years as the Government of Timor-Leste have significantly reduced the agricultural budget to rural parts of the country in 2019 (Leach 2019). Likewise, this will have serious ramifications throughout the country in the context of the ability of the people to feed themselves, but also in the ability of the country to sell its products internationally, while producing quality crops (SOL 2013).

Organisations such as the Australian Centre for International Agricultural Research (ACIAR) and SOL (2013) have made significant impacts on the ability of local people and farmers to produce better crops for long-term strategies (ACIAR 2018).[30] Included in this process is crop selection that suits the geography of Timor-Leste, which involves seasonal planning and soil erosion planning; and a shift away from low yield crops that create more problems than they solve. Low yield crops are the result of inconsistent rainfalls throughout the year. While poor soil, difficult terrain such as mountainous geography, and impacts from climate change affect

30 'Seeds of Life is working towards integrating men and women's needs regarding improved varieties into research activities. Ensuring at least 30 per cent female participation among contract growers and labourers of seed processing centres. Ensuring at least 30 per cent women participation in community seed production groups and farmer associations. Women are also encouraged to take leadership positions among these groups' (SOL 2013, n.p.).

the ability of Timor-Leste to produce enough food to feed its people - current low yield crops found in Timor-Leste are rice, cassava, and sweet potato (Borges et al. 2009; SOL 2013).

The largest agricultural export is coffee, and these plantations in Timor-Leste are from the Portuguese colonial period; where coffee trees were planted on the rugged slopes and mountain terrain that makes up Timor-Leste. Analysts in this field claim that some of the coffee trees in Timor-Leste make up some of the oldest coffee trees on earth. The coffee is thought to be of exceptional quality. The Government of Timor-Leste also has some unique species that have a natural repellent to plant diseases that other coffee species around the world do not contain, hence making consistently good for growth and production. Coffee does not solve the food insecurity issues that continue to plague Timor-Leste in the 21st century; however, it will assist in developing its export markets (Khamis 2015).

The Government of Timor-Leste have lacked insight for not investing in commercial agriculture, not making it friendly for foreign investors that normally create new sectors, growth and economic frameworks that includes jobs. Critics of the government in the context of investment say that conducting business in Timor-Leste remains risky due to the lack of legal support, the lack of capacity-building; and general infrastructure that is required to set up new economic frameworks across the country (Molyneux et al. 2012; SOL 2013; WB 2007; World Food Programme [WFP] 2003).

The government has set the country an objective of achieving the goal of becoming a middle economy by 2030. Timor-Leste remains aid-dependent in many sectors that include agriculture. In 2017, the WB announced a partnership with the Government of Timor-Leste that aids more than 15 000 families in rural Timor-Leste. It is estimated to be worth approximately US$20 million for new agriculture projects in terms of technology, training, and investment that include new sectors of farming that are resilient and financially viable; and strengthen governance across a geographically challenging Timor-Leste as previously examined in Chapter 2, and explored further in Chapters 5, 6, and 7 (Biermann et al. 2014; WB 2017).

3.6 Conclusion

Since independence in 2002, Timor-Leste has had to begin the long and arduous process of transforming itself from centuries of occupation and colonisation from both Portugal and Indonesia to a modern 21st century geopolitical stable and democratic nation. Against all odds, Timor-Leste has had its issues, but now remains relatively calm, resilient and for now, peaceful,

and stable. Timor-Leste has attempted for the most to do its best to meet its challenges, but it has with the assistance of the international community continued to incrementally improve its position in the region of Southeast Asia.

Moreover, while Timor-Leste has made considerable advancements in its claim as an independent and stable democracy, it remains one of the hungriest states on planet earth, where children continue to die from waterborne diseases. Likewise, its social services continue to be slow in reaching the people of Timor-Leste who most need it, such as education and health. Further, unemployment remains one of the highest in the region, where international and development aid still dominates Timor-Leste's growth.

Despite this, Timor-Leste has made considerable regional inroads with its immediate neighbours such as Australia and Indonesia, not to mention a strong relationship with China, ASEAN, and the broader Asian community. Not all is perfect in Timor-Leste: challenges with all international actors continue to have issues previously discussed in this chapter will challenge Timor-Leste's geostrategic positioning through the 21st century and beyond, such as becoming a member of the community of ASEAN. These challenges come with balancing its relationship with Indonesia, while rightly demanding its place as a sovereign state in its region with its large and global 'middle-power' neighbour, Australia.

Since independence in 2002, Timor-Leste continues to demonstrate to its geopolitical partners that it is determined to remain a peaceful democratic nation-state in the interest of its people, its place in the world while mapping out its strategic future that can only enhance and meet the demands of the 21st century.

The following Chapter 4 will present the research methods for this dissertation.

4.0 CHAPTER 4: RESEARCH METHODS

> Timor-Leste remains two very different worlds: divided between the globalised capital Dili and the isolated and poorly serviced rural hinterland; and between relative wealth and extreme poverty. Troublingly, key indicators suggest that the gap is widening (Ingram, Kent & McWilliam 2015, p.7).

4.1 Introduction

The main objective of this chapter is to discuss and justify the research methods used in this study to answer the research questions presented in Chapter 1. To begin with, this will be done by exploring how efficient and equitable water resource availability and allocation are in a post-conflict environment. These questions are guided and underscored by the objectives set out in the introductory chapter. This chapter is divided into four sections; the first incorporates the purpose, nature, and rationale for this study and includes the research design and sampling approach. In the second section, a discussion presents the rationale for applying a qualitative approach to data collection while highlighting the ethical considerations. The third section outlines the processes used for data analysis (coding). The fourth and final section of this chapter points out the strengths and limitations of the methodology and its degree of trustworthiness.

4.2 Purpose of this Study

The purposes of this research are threefold in relation to the research questions established in the introductory chapter. First, this study seeks to investigate the value of water governance across urban and rural Timor-Leste. Second, it examines the strengths and weaknesses of water governance in rural and urban Timor-Leste and explores stakeholders and citizens' participatory opportunities to influence and monitor political processes and outcomes. Third, the study seeks to assess the sustainability of water resources across urban and rural Timor-Leste and how broad actor participation/local action can enhance the water governance space.

It is critical to understand the above processes while building on and developing effective governance models that promote efficiency and equity through implementation mechanisms such as good governance characteristics in a complex post-conflict environment. It is also important to consider contemporary considerations such as climate change and inequality as established in the literature review. The inquiries will seek to highlight strengths and weaknesses in the economic, environmental, and social context through concepts such as social capital while understanding their impacts and outcomes. These concepts will enable the

researcher to distinguish the gaps between the theory and practice of water governance from the bottom-up. These will better assist the formation of a water governance framework specifically designed around the needs of Timor-Leste.

The primary objectives of this study are to examine, explore, and investigate the role of water governance in peace-building and development in post-conflict Timor-Leste. It will also explore how good governance impacts water governance through a polycentric approach while discovering new ways to manage water resources through collective governance in Timor-Leste.

4.3 Nature of this Study

The development of the theoretical framework throughout the literature review in Chapter 2 concentrated on the challenges in achieving water governance characterised by good governance factors within a polycentric process in a post-conflict environment. These challenges include stakeholder participation (or lack of), which is inclusive of vulnerable actors such as females and local elders; and includes democratically elected representatives and the state and water-related development programmes supported by INGOs and foreign governments such as Australia.

Ineffective water governance is ambiguous and complex throughout Timor-Leste (urban and rural communities). Hence an exploratory approach will be applied in this research as water governance is under-studied in post-conflict states, including Timor-Leste. For the purpose of this study, an exploratory research design calls for a qualitative investigation which is used to gain insights, perspectives, and opinions. The approach adopted will feature human interaction and practice, in this case, water governance and water resources management (see Stebbins 2001; Zikmund 2003).

4.4 Research Design

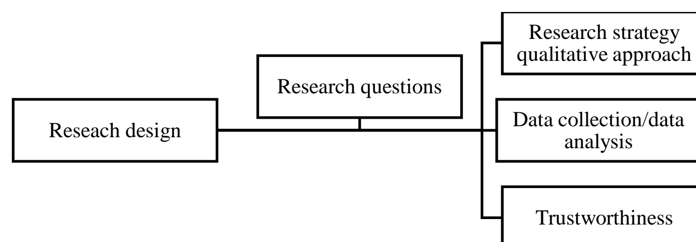

Figure 10: Research Design Flow Chart
Source: Adapted from (Bloomberg & Volpe 2012)

In this study, a 'triangulation of data' will be used to get the most out of using a case study strategy. The following research methods are explained in tandem with the research objectives outlining the adopted methods in order to achieve the objectives presented. This is illustrated in the research design flow (Figure 10 above).

For the purpose of this thesis, I note Kaplan and Maxwell's (2005, p. 30) argue 'qualitative data is gathered primarily from observations, interviews, and documents, and are analysed by a variety of systematic techniques'. The justification for applying a qualitative methodology of data triangulation is to verify or validate the research and increase the trustworthiness of the collected information. More importantly, a triangulation of data enhances and enriches the data collected and acts in a non-biased form that underpins the methods chosen for this dissertation. It usually means two or more methods of data collection and analysis are applied for corroboration (Patton 2005; Yin 2009). Travers (2002, p.2) outlines five methods adopted by researchers that are qualitative in nature, including: 'observation, interviewing, ethnographic fieldworks, discourse analysis and textual analysis' alongside a case study approach to ensure a comprehensive data collection process occurs. The case study 'investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used'; thus, a case study approach can accommodate most of the above five qualitative approaches (Yin 1984, p. 23).

A case study should not be misinterpreted as only a qualitative approach, as quantitative data often complement case studies. Critics suggest that one limitation of the case study approach to research is that it does not provide a comprehensive and thorough analysis. Or, as Yin (1984, p. 21) suggests, 'too many times, the case study investigator has been sloppy, and has allowed equivocal evidence or biased views to influence the direction of the findings and conclusions'. To that end, some scholars endorse a 'one case study' approach which they say provides an in-depth focus without the distraction of multiple case studies. There is also a broader scholarly approach that calls for more than one case study, enabling the researcher to collect a wide scope of data to facilitate analysis with varied outcomes that are broad and non-biased (Patton 2005).

Qualitative case study investigations enable the researcher to analyse the complex ontological positioning of individuals, organisations, and communities to know more about those agents and their culture. Geertz (2008) refers to this as a 'thick description'. From an observational perspective, a thick description describes a story to the outsider who observes the internal

behavioural workings of that community/culture. A 'thick' description approach promotes holistic interpretations of human cultures through the analysis and examination of the case study at hand using words, actions and/or 'things' (Geertz 2008, p. 311; Patton 2005). Geertz (1973, p. 83) reminds us that culture is a 'system of inherited conceptions expressed in symbolic forms by means of which men [sic] communicate, perpetuate, and develop their knowledge about and attitudes toward life'.

These cultural systems include observed symbols that assist in interpreting the culture being studied in the case study. Culture is the behaviour and patterns of a group of people who co-exist together through shared experiences (Kluckhohn 1962). In this case, in Timor-Leste, I reflect on 'shared poverty' (Alexander & Alexander 1982, p. 598). The concept of shared poverty is referred to by Geertz (1956, p. 141) as a 'set of values which commit those who hold them to a communalistic rather than an individualistic approach to economic problems'.

A case study approach is achieved through primary and secondary research, which 'requires two things: knowing what has already been discovered, having a background on the subject; and formulating a method to find out what you want to know' (Taflinger 1996, p. 1). Finding out what has already been discovered is examined in the literature review while discovering new data is investigated in Chapters 5, 6 and 7; and discussed in Chapter 8. Ideally, case studies capture a clear and current picture of the inquiry at hand, as 'history', as Yin (1984, p. 115) suggests, 'deals with the dead past'.

4.4.1 A Rationale for Using a Qualitative Methodology

This section describes each data collection method and how these align with the research questions. Three forms of qualitative methods (see Figure 11 below) informing the study include observations, interviews, and photographic evidence.

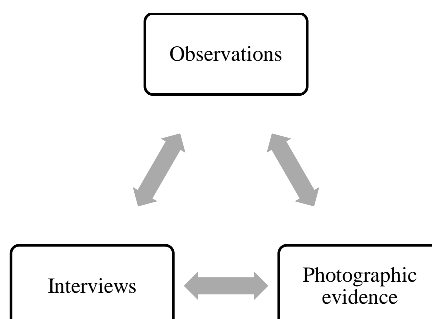

Figure 11: Triangulation of Data

Source: Adapted from (Yin 2009)

Questions

As examined in the literature review, scholars like Weinthal, Troell and Nakayama (2014) seek to understand further the role of water governance in peace-building and development in post-conflict states. According to the literature, both formal and informal water governance is critical in a post-conflict state such as Timor-Leste and can mean the difference between peace and conflict (Huston 2014). As mentioned in the introductory chapter, my inquiry concerns how to achieve this in an environment where resources are limited, and skills in water resource management have been generationally lost due to decades of occupation and conflict (Allouche 2014).

To build further on previous research, an understanding is required of how fragile communities rely primarily on informal water governance and depend on the international community for support, including co-managed systems that are overlapping and inclusive such as polycentric governance (Ostrom 2010). Such systems support vulnerable actors from a bottom-up perspective while being effective in the context of water governance throughout both urban and rural Timor-Leste (Huston 2014). Hence it is crucial to this study that an alternative framework is formed to address development issues in Timor-Leste through effective water governance. To fill the gaps identified in the literature review, this research will investigate access to adequate fresh water (clean), which can strengthen relations between stakeholders which is a matter of 'social equity'. Thus, the aim is to understand this process at the strategic policy level in water governance, which is considered 'political viability'. To achieve this, I posed questions to assess the level of water governance that is 'sustainable'. Seeking answers to questions in interviews and undertaking observations of communities, alongside photographic evidence, in both urban and rural Timor-Leste will take 'propositions and research questions to expected contributions' (Saz Carranzap 2007, p.71).

Although relatively new to international relations, qualitative approaches such as observation enable diversification of theoretical analyses of events that impact international relations. They offer contemporary research approaches for a broader inquiry within the field of international relations in the 21st century while reflecting on a post-positivist reflexive approach that encourage the study of non-state actors (Montsion 2018; Wendt 1998). Qualitative approaches are 'deployed in IR as a methodological counter-weight to mainstream quantitative methodological approaches in the field' (Montsion 2018, p.2) while promoting a bottom-up approach to research that attempts to capture the needs and voices of the vulnerable in a war-

torn nation like Timor-Leste. Yet scholars like Vrasti (2010, p.86) argues it is difficult for international relations scholars to translate field experiences into 'written form' as

> it is in writing that the fantasy of valid truth is produced, by taking ourselves out of our projects, treating the world around us as evidence and subsuming social reality to explanatory methods and theories.

However, as previously mentioned, the qualitative methodological approach in this dissertation is supported by three methods of data collection. They are observation, photographic evidence, and interviews either face-to-face or via email and telephone. Interview questions remain qualitative in nature. The three methods build on each other and 'enable the research to uncover relationships that cannot be explicitly spelled out in theoretical foundations' while also addressing the research questions (Wilson & Anmol 2010, p. 1). These authors further argue that without theory, an observational approach to data collection 'in the context of validation' (Wilson & Anmol 2010, p. 2) remains challenging, as unexpected results may not be able to be immediately explained without a theoretical base.

It is critical to the research that criticism of another's culture is suspended when conducting observations and questions in a foreign place. Without judging the culture that is being observed, having an open mind prevents biased misgivings about the findings from the research conducted. These data collection methods, traditionally 'anthropological' in nature, are now considered an important tool across the social sciences, including international relations, and are used extensively in qualitative methodologies (Montsion 2018; Vrasti 2008).

An observational approach allows the investigator an opportunity to glean knowledge, as it is one of the 'oldest and most fundamental research approaches. This approach involves collecting data using one's senses, especially looking and listening in a systematic and meaningful way' (McKechnie 2008, p. 573). Adler and Adler (1994, p.389) consider an observational approach to qualitative research the 'fundamental base of all research methods', and this underpins the questions and photographic evidence in the empirical evidence chapters of this thesis.

Evidence suggests that interviews are more applicable to conducting research in locations where literacy issues cause concern (Van der Reis 2000). Qualitative interviews allow the respondent to take their time in responding to questions whilst being guided by an interpreter. Significantly, avoiding bias and encouraging further dialogue is one reason for applying interviews face-to-face (see Appendix (d) for a list of questions). Interviews via email and

telephone remain an effective tool to gain research data and knowledge. Pertinently, in Timor-Leste, studies indicate that just under 60 per cent of the adult community is literate. Some 20 per cent of the population is considered to have an adult education across rural and urban Timor-Leste (World Data Atlas 2015). According to the WB (2019), just over 85 per cent of boys and girls in both urban and rural Timor-Leste have access to a primary school. Among secondary school children, it is estimated nearly 60 per cent of boys and approximately 70 per cent of girls attend high school. Schooling is available from primary through to secondary school, although there is a considerable drop in attendance in the latter.

Photographic evidence is critical to this dissertation when referring to primary research. This method is particularly effective when researching developing and rural regions of the world as it provides the opportunity to capture relevant objects (non-human) that have not yet been presented (Yow 1994). Images remain powerful but can have a mixed interpretation and meaning. However, 'ambiguity is not a disadvantage or limitation' (Schwartz 1989, p. 122), rather an opportunity that carries many interpretations which can only enhance a research project such as this by capturing new stories. As a result, a story of community life through a social construct is told by using technology such as the camera (Gotschi, Delve & Freyer 2009). Cassell et al. (2006, p. 161) remind us that a qualitative research methodology is the best to use 'because of its multidisciplinary and interdisciplinary nature'.

Thematic Reflexive Analysis

A 'thematic reflexive analysis' has been chosen for this study as it is considered a 'flexible and useful research tool that can potentially provide a rich and detailed, yet complex, account of data' while enabling the researcher to engage in making choices that are methodologically and theoretically relevant (Braun & Clarke 2006). A thematic analysis approach is a method for first linking, then analysing and finally presenting themes and patterns in the data. A thematic analysis approach arranges and describes a detailed set of data while interpreting the research topic (see section 4.10) (Braun & Clarke 2006).

Ontological and Epistemological Considerations

My topic, 'the role of water governance in post-conflict peace-building and development' would be enhanced by a 'ontological' and 'epistemological' analysis (Boucher 2014). Combining the above methodologies enriches the degree of detail and quality of research data collected, which is framed within a 'constructivist' philosophy. Such a philosophy assists in

understanding the behaviour of individuals through qualitative research while reflecting the 'socially constructed' ontological considerations of experience and dialogue (Pitard 2017, p.4). A post-positivist constructivist approach promotes 'ways in which events, realities, meanings, experiences and so on are the effects of a range of discourses operating within society' (Braun & Clarke 2006, p.81). Reaching an ontological position occurs through a 'subjective' epistemological process that influences the data collection and analysis. In other words, reaching an epistemological position 'is an element of philosophy concerned with the nature of knowing (how one comes to know)' (Pitard 2017, p.4; Walshaw 2008). Or as Boucher (2014, n.p.) suggests, having a philosophical stance in research is 'pragmatically justified perspectives or ways of seeing the world', particularly from a globalised perspective of the world that asks us to seek answers about equality and justice from both within and outside of our daily living experience (see below Figure 12).

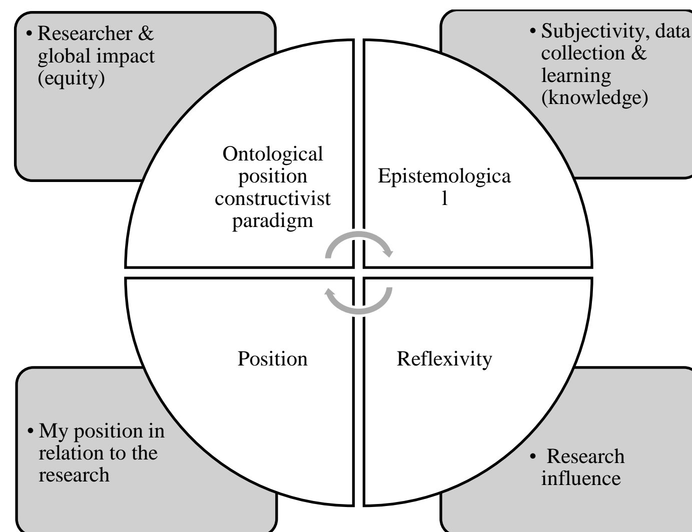

Figure 12: Ontological and Epistemological Considerations
Source: Adapted from (Pitard 2017)

4.5 Identifying and Selecting the Study Area - Timor-Leste

The primary focus of this research is an analysis of water governance in post-conflict Timor-Leste that requires an understanding of the various actors and communities (urban and rural) which reflect the unit of analysis in the context of the research questions. The unit of analysis (Timor-Leste) in this study refers to the system of structure and the people who live in those communities (geographical areas) (Milne & Adler 1999; Roller & Lavraka 2015). It is end-users and relevant stakeholders of water resources in both urban and rural Timor-Leste who are critical to this study and therefore make up the unit of analysis.

Other important players include decision-makers at the local level who represent state interests - such as the democratically elected subnational actors who negotiate between the state and non-state actors in water governance across the country in the community's interests. Also, the data collection focuses on international agents (INGOs) such as the Red Cross and smaller but still effective water specialists, including those from Australia who provide resources in urban and rural Timor-Leste.

4.6 Respondents and Communities – Urban and Rural Timor-Leste

This section presents the rationale for selecting the multitude of actors in the context of water governance in Timor-Leste. The process of freshwater accessibility, water resources development and poverty reduction in the process of good, effective, and equitable water governance.

Research Participants (Definitions) for this Study	
Local Actor	The 'local' actor who can be any person/group that is not considered a state actor or transnational actors such as a local elder, a female, or a community leader. They represent the needs of the local community and people, or another term can be used as a non-state actor at the grassroots level.
Subnational Actor	The 'subnational' actor is understood as a democratically elected leader that represents both the state and non-state actors at the local level of their community, like in the Timor-Leste the Chief of the Sucos (COS), and Chief of the Aldeias.
State Actor	In Timor-Leste, 'state' actors are democratically elected officials who represent the government and the people.
Transnational Actor	The 'transnational' actor is an individual or group that conduct 'interactions across state boundaries that are not controlled by the central foreign policy organs of the government'. Transnational actors include INGOs such as the Red Cross, International Financial Institutions (IFI) like the International Monterey Fund, and the international diaspora, for example, the large Timorese community living in Darwin, Australia.

Figure 13: Research Participant Groups

As previously mentioned, I refer to the respondents and their society as 'communities' (encompassing all the above actors in Figure 13), as the decision-making and participation

processes of water governance are constructed throughout the community. The community comprises various actors who are socially interdependent on one another with shared political, economic and development concerns. Community is historical in nature and incrementally evolves over a period of time (Bellah et al. 2007).[31]

It is critical to identify the key actors and associated themes which make up the primary research. The research design is constructed to incorporate all relevant actors that include the 1) local actor, 2) subnational actor, 3) state actor and 4) transnational actor. Such an approach investigates the role of each category in the context of water governance in a post-conflict Timor-Leste.

Notably, the people of Timor-Leste live in small communities/villages known as 'Aldeias' and 'Sucos' (there are 13 municipalities across Timor-Leste: see Figure 14 below).

Figure 14: Municipalities Across Timor-Leste

Source: by (Wikimedia Encyclopedia, Atlas of the world, n.p.)

Both the Aldeias and Sucos have Chiefs (democratically elected subnational actors) that manage the community's complex socioeconomic resources. These represent the people of the Sucos in government relations and represent the government at the local level, which includes traditional and customary water resource management (an analysis of the structure of the Sucos

[31] All respondents have signed a consent form (see Appendix (e) for a sample only), which is presented in both Tetum - the official language of Timor-Leste - and English in accordance with the ethical obligations of Australia.

and Aldeias is examined in the following sections of this chapter and the empirical chapters) (ADB 2013).[32]

Recruitment

Participants in this study were sought through the diaspora community in Darwin, Australia; at the local community level, through Charles Darwin University; and via the local academic and social community at Curtin University in Perth, Australia. Numerous civil societies and INGOs operate from both Perth and Darwin in Timor-Leste's interests. Once the key players were identified, a process of recommendations for a starting point was instituted in both Australia and on the ground in Timor-Leste. Finding respondents proved successful because I found that potential respondents were eager to be involved in the study and had an accompanying sense of urgency.

4.7 Rationale for Selecting Cases/Samples - Urban See -4.7.1 and Rural See -4.7.2

Identifying the appropriate cases for this study was critical to understanding water governance and water resource management across Timor-Leste, in urban and rural regions as extreme poverty is prevalent and where water resources impact people's lives daily (both negatively & positively) (WB 2017). And as already discussed, this means that relevant stakeholders (local, subnational, and international actors) and the communities are both the recipients and providers of freshwater resources in Timor-Leste.

The Government of Timor-Leste has drawn criticism from local and international observers due to the inequitable allocation of power and economic advantage to the broader community. Most of this wealth is concentrated in urban Dili and much less in rural Timor-Leste, where unemployment is extremely high, and infrastructure is lacking. The accumulation of wealth in Dili promotes and encourages urban migration from rural Timor-Leste to the capital Dili, creating a 'brain drain' of skilled people from the rural regions and weakening the peace-

[32] Understanding customary charters that relate to water management in both rural and urban districts in Timor-Leste will add to the understanding of water governance as presented in the literature review (Palmer 2010). Traditions and customs will assist the researcher to gain further knowledge of water governance in post-conflict Timor-Leste through a broad actor/local participation process.

building and development process. For this reason, it was important to study both rural and urban areas.

4.7.1 Urban Timor-Leste - Urban Dili

It remains challenging for researchers, INGOs and foreign civil society groups to invest and work in urban environments like Dili because conflict can be sporadic and unpredictable (Salahub, Gottsbacher & de Boer 2018). Barraqué and Vlachos (2006) describe the conflict in urban areas, linked with a lack of access to water, as an economic, environmental, political, and social problem with transnational implications because actors may be deterred from entering urban areas where conflict is present. This is as critically examined in Chapters 5, 6 and 7 of this study.

This lack of guaranteed safety may be why there has been a lack of research into water governance in urban Timor-Leste since independence in 2002 and illustrates the impact conflict has had on the ability of transnational actors to operate.

The Dili communities selected for this study are found in a Sucos consisting of thirteen Aldeias with a large marketplace, various private and public schools, and a transport hub for connecting microlets (shared taxis) to other parts of Dili and Timor-Leste. Fresh vegetables, fruit and live animals are traded at this market. It also has various stores of clothes that are donated from Australia (the clothes are sold for a profit at this marketplace). The Sucos and associated Aldeias (in Dili) in this sample have had no formal water governance with the exception of a trial conducted by the subnational and state authorities to install a water meter (in one Aldeias only). There are no water-related NGOs or INGOs operating from this urban Sucos. No future water resource management plans could be found from government agencies or local authorities that put water resources at the forefront of development in this Sucos; (or, for that matter, any other Sucos in Dili).

The population of this community is high-density, with approximately 15,000 people. There are only informal water governance mechanisms in place with inconsistent freshwater availability (these mechanisms are detailed in the empirical chapters), and there is a lack of sanitation facilities. Fresh water is often sourced through illegal means, while conflict (local) can occur due to ownership disputes at the source of the water. All Sucos in Timor-Leste selected for Case 1 have a democratically elected subnational actor (Chief of the Sucos - COS) who liaises between the local community and the state. Each Aldeias consists of a

democratically elected subnational actor (Chief of the Aldeias - COA) who liaises between the community and the Chief of the Sucos (as demonstrated below in Figure 15).

Community ⟹ Chief of Aldeias ⟹ Chief of Sucos ⟹ State

Figure 15: Water Governance Process - Urban

In urban Dili, years of occupation have interfered generations of knowledge and skills that would normally be attainable and practical in water resource management. In a post-conflict environment, the international community are obliged to assist. But urban water conflict has transnational repercussions, and because 'foreign policy and international development practice have evolved, the focus has shifted to talk of urban safety' (Salahub, Gottsbacher & de Boer 2018, p. 4). Other components that impact the vague water practices in urban Dili include increasingly depleted foreign aid budgets, politically and socially fragile regional neighbours (like Indonesia) that lack knowledge and skill in the context of water-related issues, and broad global resource depletion such as potable water (Salahub, Gottsbacher & de Boer 2018).

As previously raised, internal migration in Timor-Leste from rural districts has resulted in overcrowding in urban Dili while creating challenges for the local actors harvesting informal services such as water resources. Access to water resources through frameworks such as water governance and urbanisation has not been very well understood in post-conflict environments such as Timor-Leste (Devkota & Neupane 201; Scambary 2013). Overcrowding and informal housing in urban areas like Dili is neither sustainable nor safe.

Urban Dili community (1): residences in urban Dili, Timor-Leste. This community has no formal state assistance or informal INGO operating the water governance system, few water resources, and experiences regular conflict. These communities have their own systems of informal water collection: they capture the water in drums during the wet season, steal water from various sources when required and source freshwater how and where they can - Chapter 5.

Peri-urban community (2): Included in this study is a peri-urban community on the edge of the above Sucos (Dili), with a shared water spring operating from one privately owned property supplying water to downstream users – Chapter 5.

Urban community (3): residences in urban Dili, Timor-Leste. This community has no INGO operating the water governance system and few water resources. They currently operate under a formal government water resource pilot program with consistent, clean water access. This is a government initiative (temporary trial) metering the water – Chapter 6.

The following sub-section is the rationale for selecting rural Timor-Leste for this study.

4.7.2 Rural Timor-Leste - Rural Sucos and Aldeias - Communities

Water governance, hence, water resource management in rural Timor-Leste relies mostly on international aid programmes by both state and non-state actors, like DFAT (the Australian Government), INGOs, and civil society groups (DFAT 2017). There are challenges for people in rural Timor-Leste due to a lack of maintenance, outdated water infrastructure, lack of skills and limited water resources (Myers et al. 2011). This list does not include the geographical challenges such as limited transport infrastructure and challenging access to remote communities (Ingram, Kent & McWilliam 2015).

Most rural communities in Timor-Leste have little or no water governance or water resource management processes. A lack of water resources creates results in complex issues, including a lack of technical skills and human services ability and not having the workforce to maintain and initiate services to repair water resources such as water pipes, as many technicians migrate to urban centres like Dili (Myers et al. 2011). The Sucos selected for this study in rural Timor-Leste consist of the same governance structure as previously described: a democratically elected subnational actor (Chief of the Sucos) liaises between the local community and the state. Each Aldeias consists of a democratically elected subnational actor (Chief of the Aldeias) who liaises between the community and the Chief of the Sucos. There are no international actors present in this water governance space, as demonstrated in the following figure 16:

Community ⟹ Chief of Aldeias ⟹ Chief of Sucos ⟹ State ⟹ Water-related Actors

Figure 16: Water Governance Process - Rural

Two of the rural communities selected for this study have the support of INGOs (with water governance and water resource management in place), while one of the communities has no water resource or water governance support in any capacity. In addition, one community has help from a civil society group. The rural communities for this study lie west and central west of Dili towards the Indonesian land border. Two of the communities are land-locked while the

other sits on the coast; they have large populations spread out over mountainous ranges and non-mountainous areas. In rural Timor-Leste, water supply depends on 'groundwater resources' that remain vulnerable to climate change and other associated challenges such as drought (Myers et al. 2011, p.57). The report by Myers et al. (2011) also concludes that the susceptibility to water shortages and the merging of ocean water with water and pollution from various sources, such as sewage and chemical run-off from agriculture, will impact the water availability for the people of rural Timor-Leste in the coming decades.

According to the literature, water resource management in rural Timor-Leste is vague at best. And as discussed in Chapters 1 and 2, the local non-state actors make their own provisions about water governance with a serious lack of engagement by the government. In rural Timor-Leste, there is a need for water governance frameworks consisting of technical, human, and institutional components which enhance water governance in the post-conflict state. Creating frameworks builds on the skills of the local population through strong water governance programmes (Weinthal, Troell & Nakayama 2014).

Rural community (1) – a place of residence in rural Timor-Leste with no formal operating water governance system, few water resources, and experiences regular conflict - no government or INGO support – Chapter 5.

Rural community (2) – a place of residence in rural Timor-Leste which currently has an informal operating water governance system, excellent water resources, and no conflict. This community has the support of the international community from Australia: a co-governance approach to water governance – Chapter 7.

Rural community (3) – a place of residence in rural Timor-Leste which enjoys the support of an international civil society group with an informal water governance process but continues to have immense water governance challenges and problems due to the complexities of the actions of the subnational actor – Chapter 7.

Rural community (4) – a place of residence in rural Timor-Leste, currently has an operating informal water governance system, excellent water resources and no conflict but has the support of the European international community - based in Melbourne, Australia – Chapter 7.

4.8 Data Collection

The fieldwork included a process of engaging communities in Australia, and in both urban and rural Timor-Leste for a period of 3 years from 2015 to 2018.[33] While this process was both expensive and time-consuming, it gave me an opportunity to absorb the challenges of a post-conflict state and how it feels to meet the difficulties of daily life, especially in the context of attaining water resources. This methodology resulted in the development of 'stronger theories than multiple replications and permutations of the same method' (Klandermans et al. 2002, cited in Tom 2011, p. 19).[34]

An engagement approach meant I could take my time collecting data. It meant I appeared relaxed and confident for my respondents while building relationships that ensured further insight into the day-to-day life of a post-conflict community while preventing any bias that could influence the outcomes of the questions posed. I was able to encapsulate and better understand the lives of the respondents. In addition, the people in the communities and I came to know each other over this period, which created a sense of trust which is critical to this type of research. Trust provides truthful responses that are essential to research outcomes as critically examined in the literature review (Ezezika 2014). A multi-method approach enabled me to remain non-biased while finding many unexpected results that impact greatly on water governance in Timor-Leste. Reviewing results with my peers and reduces potential biases in the responses for this study (Shah 2019).

4.9 Primary Data Collection

Primary data collection, namely the interviews across both urban and rural Timor-Leste, was conducted by prearranged meetings through my advisor, who liaised with the Chiefs on my behalf before my arrival. In urban Dili, accessing communities was easy as Dili is geographically compact. The communities where I conducted the interviews were a taxi ride away from the convent where I usually stay. However, getting to rural Timor-Leste proved more challenging as I had to hire a car and/or catch a ride with a Mircolet (Dili taxi) which meant sharing a ride with many others. Interviews in Australia were conducted via email, face-to-face or telephone. Getting to Timor-Leste from Perth meant going via Darwin; in that situation, I conducted interviews on stopovers to and from Timor-Leste with the diaspora

[33] I did not stay for three years, but I did regularly visit over three years.
[34] I compared the data collection approach applied in this dissertation with other water-related studies in Timor-Leste, and no similar approach to my knowledge exists.

community. For this qualitative study, 50 respondents with 106 responses from eight communities (observations, interviews and 24 photos were used), and 15 organisations, were chosen including one medical clinic; two civil society groups; two schools; four INGOs; one NGO; two universities; Catholic church; convent and orphanage (see Figure 17 below for the interview schedule).

Date	Type	Location	Stakeholders
01/12/2015	Interview/Obs/Photo	Urban Dili	Manager Medical Clinic (volunteer)
01/12/2015	Interview/Obs/Photo	Urban Dili	Nurse (volunteer)
01/12/2015	Interview/Obs/Photo	Urban Dili	Head Dr (volunteer)
01/12/2015	Interview/Obs/Photo	Urban Dili	Dr – GP (volunteer)
03/12/2015	Interview/Obs/Photo	Urban Dili	Advisor
03/12/2015	Interview/Obs/Photo	Urban Dili Urban community (1)	Local elders x 2
03/12/2015	Interview/Obs/Photo	Urban Dili Urban community (1)	Local actors x 7
04/12/2015	Interview/Obs/Photo	Urban Dili Urban community (1)	Chief of Aldeias
06/12/2015	Interview/Obs/Photo	Urban Dili Peri-urban Urban community (2)	Expat
10/12/2015	Interview/Obs/Photo	Rural Timor-Leste rural community (1)	Chief of Aldeias
29/11/2015	Interview	Darwin Australia	Diaspora
30/11/2015	Interview	Darwin Australia	Diaspora
11/12/2015	Interview	Rural community (2)	Local actors x 7
12/12/2015	Interview/Obs/Photo	Rural Timor-Leste community (2)	Local Actor (maintenance man)
11/12/2015	Interview/Obs/Photo	Rural Timor-Leste (based in Rural Timor-Leste)	INGO
11/12/2015	Interview	Rural Timor-Leste	Academic
15/11/2016	Interview/Obs/Photo	Urban Dili urban community (3)	Chief of Aldeias
17/11/2016	Interview/Obs/Photo	Urban Dili urban community (3)	Chief of Sucos
17/11/2016	Interview/Obs/Photo	Urban Dili community (1)	Teacher
18/11/2016	Interview/Obs/Photo	Urban Dili community (2)	Teacher
20/11/2016	Interview/Obs/Photo	Urban Dili	Academic
19/11/2016	Interview/Obs/Photo	Urban Dili (based in Dili)	INGO
19/11/2016	Interview/Obs/Photo	Urban Dili (based in Dili)	NGO
02/03/2017	Interview	Perth/Dili	Civil Society Group
01/03/2017	Interview/Obs/Photo	Rural Timor-Leste Rural community (2)	INGO
03/04/2017	Interview/Obs/Photo	Rural Timor-Leste Rural community (4)	INGO
08/4/2017	Interview/Obs/Photo	Rural Timor-Leste rural community (3)	Local actor x 4
10/4/2017	Interview/Obs/Photo	Rural Timor-Leste rural community (3)	Civil Society Group
11/04/2017	Interview/Obs/Photo	Rural Timor-Leste rural community (4)	Local Elder x 3
08/04/2017	Interview/Obs/Photo	Rural Timor-Leste	Nun x 2
08/04/2017	Interview/Obs/Photo	Rural Timor-Leste	Priest

Figure 17: Actors, Communities and Organisations

The questions are recorded in chronological order; however, depending on the environment and situation, some questions were mixed and used with other questions, while probing questions and inquiries were used for broader responses (see Appendix (d)). The interviews

were conducted, and the responses were presented in order of the participant's role, the interview number, and the day and date of the interview, for example: (Advisor (1), interview (1), urban community (1), 3 December, 2015).

4.9.1 Observations

Observations undertaken in the rural and urban field districts I visited were conducted with the permission of all the actors involved. My 'Human Research Ethics Committee' (see ethical considerations section 4.14) was unequivocal about not interviewing females, there were, however, no restrictions on making observations in communities that included females. Such observations offered the researcher an opportunity to compare the other data collected in this study through interviews and photographic evidence.

4.9.2 Interviews

For this study, data collection occurred via face-to-face interviews, emails, and telephone calls with relevant stakeholders in Australia and Timor-Leste (urban & rural). Open-ended questions encouraged the respondents to respond without fear of retribution while allowing the questioner to gain a better understanding of the responses (Cohen & Crabtree 2006).

4.9.3 Photographic Evidence

Photographs were taken in both urban and rural Timor-Leste. Images were not taken of participants (maintaining ethical considerations) but of non-human evidence (villages, water resource infrastructure etc.), enabling the author to compare and contrast with other data collected. (Yow 1994). Further, Schwartz (1989, p.119) argues that 'photography as a research method has been fruitfully addressed by a number of scholars' in conducting qualitative research.

Every time I visited Timor-Leste, photographs were taken of the study field areas (planned), sometimes before other collection data tools were used and sometimes afterwards. I found photographs to be an important part of the qualitative process for this study and demonstrated the reality of water governance and water resource management in Timor-Leste (Snyder 2012).

4.10 Data of Analysis

In qualitative research, data analysis is a process that the researcher uses to interpret and explain the phenomena under examination. Therefore, 'it's almost impossible to find those problems without knowing the literature' as interpretation is also informed by trying to answer the research gaps (Eisenhardt, Graebner & Sonenshein 2016, p.4). [35]

Both the secondary and primary data (qualitative) were analysed in order to answer the research questions, although it is 'difficult to show the process of coding and analysis without revealing too much of the research findings' (Bringer et al. 2004, p.253). During my research, my approach to data analysis began in the field, in both Australia and Timor-Leste. The methodology of observation through qualitative processes reflects an 'iterative' approach. An iterative approach is responsive and remains flexible to the requirements of the methods and research design, reflecting on actual events in the field that can only be observed at that moment they occur (Malterud 2001; Mills, Durepos & Wiebe 2009). These approaches also enabled the researcher to analyse why the results mattered to the inquiry at hand. A researcher is always analysing, especially in the field (Coffey & Atkinson 1996; Srivastav & Hopwood 2009). Stuckey (2015, p.7) notes the following order to facilitate the process of coding: (1) reading through the data and creating a storyline, (2) categorising the data into codes, and (3) using memos for clarification and interpretation'. These processes of analysis should follow on from the initial stages of data collection as a story begins to evolve. Therefore, this story facilitated the process by coding the sub-themes that emerged from the data analysis using a 'line by line' examination which was done manually using pen and paper when in the field and transferred into an excel spreadsheet afterwards. The data analysis was conducted in the following coding sequence (see appendix (d) for how the process of recording and analysing the data collected for this study was conducted, for example, with a tablet device).

(1) Both primary and secondary data (qualitative) were analysed in order to answer the research questions.

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[35] The research question will guide the interpretation of the data. Interpretation involves giving a certain amount of meaning to the data. The emerging qualitative data allows the researcher to respond to the research question at hand through the discovery of patterns and themes, which leads to understanding water governance practices in post-conflict Timor-Leste (Mills, Durepos & Wiebe 2009).

(2) Data collected from the 'triangulation data approach' (as previously described) for this study included observations, interviews that were recorded (tablet device) and manually transcribed (see Appendix d) and photos that were analysed for comparative reasons.

(3) All responses were read and analysed.

(4) The data was first categorised into emerging themes using margin codes (open coding with colour codes).

(5) The margin codes (colour codes) were then categorised in relation to the research questions.

(6) A general theme emerged by way of comparing various elements of the texts (similar and different) while conceptualising ideas about the 'role of water governance in peace-building and development in Timor-Leste'. A broader understanding of the wider problems became obvious with a 'bigger picture' emerging.

(7) All data previously and later analysed was done so using the 'constant comparison method' that is described as 'the data-analytic process whereby each interpretation and finding is compared with existing findings as it emerges from the data analysis' (Lewis-Beck, Bryman & Liao 2003, n.p.). Then the data from the interviews were compared with the observations and photos.

(8) Finally, the data collected for this study was contrasted with emerging theoretical concepts in a constant back and forth fashion of comparing and contrasting (Lewis-Beck, Bryman & Liao 2003).

Coding

Braun and Clarke (2006) suggest the first approach is a systematic coding or open coding approach to qualitative research. Open coding is essentially inductive, and afterwards, the researcher moves towards a more deductive approach as thinking and conceptualisation become clearer. The advantage of an 'initial' inductive approach for this dissertation is described by Dudovskiy (2016, n.p.), who suggests an 'inductive approach does not imply disregarding theories when formulating research questions and objectives'. Practitioners learn from theories while theories are based on field practice but must be trustworthy, as the

following sections of this chapter suggest. Then the research moves forward towards a deductive framework. Doron and Sened (2001, p.146) point out that,

> deductive reasoning has one clear advantage over inductive reasoning—it need not be verified in the empirical world. In fact, it need not even reflect real world phenomena. Its falsification comes about as a result of internal inconsistency.

Braun and Clarke (2006, p.87) suggest a 'thematic reflexive analysis' underscoring a mix of both bottom-up (inductive) and top-down (deductive) approaches to analysing the data (see below). They suggest six stages of thematic analysis: (1) Familiarising yourself with your data, (2) Generating initial codes, (3) Searching for themes, (4) Reviewing themes, (5) Defining and naming themes, (6) Producing the report (empirical evidence) (see below Figures 18 - 21).

Data extract	Coded for
We have no one who cares for our water needs. The government does not supply us with any assistance. We have to look after our own water needs. The water is dirty. Sometimes we have no water. Sometimes INGOs assist us.	1. The state of water resources in Timor-Leste? 2. Governance/management of water resources in Timor-Leste?

Figure 18: Data Extract
Source: Adapted from (Braun & Clarke 2006)

Contaminated water →	Poverty
International aid (informal governance) →	Development
A lack of trust →	Corruption (nepotism)
A lack of accountability →	Fend for ourselves
A lack of policy (formal governance) →	No infrastructure
No community participation →	No consultation

Figure 19: Initial Thematic Map Showing 6 Main Themes.

Source: Adapted from (Braun & Clarke 2006)

Formal (state government) →	No accountability
Informal (international/local community) →	Trust
Water resources consultancy (stakeholder) →	Participation

Figure 20: Developed Thematic Map

Source: Adapted from (Braun & Clarke 2006)

Formal water governance →	Anxious → Political Feasibility Vulnerable → Political Feasibility Distrust → Political Feasibility
Informal water governance →	Reliability → Sustainability Trust → Social equity

Figure 21: Final Thematic Map - Showing 2 Main Themes, Formal and Informal Water Governance

Source: Adapted from (Braun & Clarke 2006)

4.11 Strengths and Limitations of the Research Design

Most scholars like Yin (2009) would agree that all the academic research conducted has limitations; this dissertation is no different. These limitations will, of course, reflect on the outcomes of this dissertation, and however profound they are, they cannot be measured by this research alone. The most important limitation of case studies is that it is difficult to 'generalise' from one case to another, for example, external validity. Yin (2009) argues that an analyst should try to generalise their findings to theory, but not rely on or generalise about other cases studies. The research durability of this dissertation remains in the qualitative approach to collecting data. This proved successful with the broad analytical approaches requiring me to physically be there during my data collection.

Taking three different approaches to collecting data enabled me to participate in communities in both urban and rural Timor-Leste. The qualitative approach facilitated my relationships with the communities that I was so privileged to work with because I was always present during data collection. Being present meant building trust while gaining access to the intricacies of community life, as presented throughout Chapters 5, 6 and 7. Also, some of the adults are semi-literate, which proved problematic in obtaining accurate data; however, having an interpreter facilitated this process, allowing for more accurate data to emerge (methodological issues and challenges are further discussed in Chapter 8).

Other limitations included accessing state documents and interviewing state actors, such as ministers who presented development solutions in water governance. Officials were never available at the state level and/or changed regularly. I would make an appointment with one minister; it took six months to organise, the government would then change, as would the minister. The process had to begin again.

Another limitation is the complexities of meeting with officials in Timor-Leste to discuss corruption and how it impacts water governance at various levels. It is difficult to interpret how actors on all levels may be in relation to the development of water resources such as accessing water and sanitation. Corruption is an issue in Timor-Leste in water resource management; something explored throughout Chapter 2 and the empirical evidence chapters.

Not being able to directly interview females in Timor-Leste due to ethical considerations and a dominant 'patriarchal society' I consider to be a limitation in this research. While I observed females in their communities, interviewing them would have given this research a greater

awareness of their role in the governance of water in a post-conflict environment. This research would contribute not only to strengthening the role of women but seeing how this contributes to peace-building and development, as explored in Chapter 6.

To me, being culturally aware of the community the researcher visits remain critical to understanding that culture at the grassroots level and is essential to the process of qualitative data collection.[36]

While the abovementioned limitations have needed to be managed, they have not prevented me from conducting my research in Australia and Timor-Leste. I have found limitations to be an integral part of the research journey, as obstacles allow for a creative way to find another means to explore and resolve issues that are necessary to conduct both primary and secondary research. Awareness of the limitations also remains critical to conducting future research.[37]

4.12 Translator - Including Interpretation

A translator was used to enhance my knowledge of the local customs and traditions and to also provide an interpretation of cultural nuances communicated through language. The process of finding a local translator began in Darwin, Australia, using the advice of the Timor-Leste diaspora, who guided me to find a person who was appropriate for this study. The translator spoke Portuguese, Tetum (one of the two official languages), and two of the local dialects spoken in rural Timor-Leste, called Tokodede and Mambae, where part of the data collection was conducted. The translator was also fluent in English (a description of which language participants spoke during the interview can be found in Appendix (d) of this study).

The translator was not involved in the analysis process but provided the researcher with the information sought whilst preventing misinterpretation. Despite this, the researcher cannot intrude into another person's culture and country without first gaining trust and permission through an initial communication process, and this requires a translator for a foreign language such as Tetum. The local translator can also inform the research about crossing cultural

[36] After a long and arduous process, I gained permission to (physically) go to Timor-Leste, considered to be a place requiring a 'high degree of caution' by (DFAT 2017a, n.p.) post-conflict, which means 'pay close attention to your personal security at all times and monitor the media about possible new safety or security risks. The advice given by DFAT is how the university determines its approach through a strict process of risk management when sending researchers off to foreign lands like Timor-Leste. It is not a criticism, but it has been a significant factor in the journey of starting and completing this dissertation.
[37] Roads and landslides become dangerous to travel on during this period. The author required vaccinations against malaria and Japanese encephalitis and contracted a stomach virus twice during visits.

boundaries (Edwards 1998; Temple & Young 2004). The translator works for an international organisation and is familiar with Australian culture and other cultural components outside of their own society.

4.13 Trustworthiness

For the purpose of this study, and in the context of qualitative research remains about 'evaluating the trustworthiness of qualitative research' (Bloomberg & Volpe 2012, p.15). This involves demonstrating that the researcher can repeat the data collection procedures and arrive at the same results (Blunt & Volpe 2008). The accuracy of measurements is assessed by corroboration (verification) in case studies. Three criteria of trustworthiness can be used, according to Bloomberg and Volpe (2012, p.15), to judge the quality of the research designs: 'credibility', where the 'participants' perceptions match up with the researcher's portrayal of them' throughout the study (establishing correct measurements for the concepts being studied); 'dependability', explaining what you intended to explain and 'track[ing] the processes and procedures used to collect and interpret the data'; and transferability, which are 'lessons learned in one setting [that] might be useful to others'. As previously discussed in this chapter, qualitative research methods, in general, require a 'thick description' approach (Bloomberg & Volpe 2012).

From a trustworthy perspective, the author has applied a broad triangulation of data collection methods to enhance the outcomes of the research, thus avoiding being biased in my approach to the inquiry. The search for trustworthiness in 'qualitative research involves determining the degree to which researchers' claims about knowledge correspond to the reality (or research participants' constructions of reality) being studied' through reliable qualitative data collection processes (Cho & Trent 2006, p. 319). While it is important that we underscore the role of trustworthiness in academic research, trustworthiness on its own is not enough, but ensuring consistency is critical. Trustworthiness supports the outcomes of the research methods and indicates what is real, what is being measured, including the objectives. This occurs in the reality of the verification of the inquiry at hand through evaluation processes (Kumar 1996; Zikmund 2003).

This inquiry has taken place across numerous communities in both urban and rural Timor-Leste. This breadth of approach ensures consistency in the evaluation of trustworthiness, ensuring objectivity is applied to safeguard accuracy and consistency throughout a critical

analysis and interpretation while maintaining a chain of evidence, which is critical to the researcher as a tool of trustworthiness.

4.14 Ethical Considerations

Based on an examination of the literature, the researcher decided that applying a variety of data collection methods facilitates, promotes, and delivers a comprehensive examination of water governance in Timor-Leste. Permission to conduct primary research for this dissertation was sought, and the Human Research Ethics approval number (RDHU-244-15) was provided by the Office of Research and Development, Curtin University. Significantly, the Australian Government of National Health and Research Council (NHMRC) (2015, p.1) assert the following:

> Local cultural values should be acknowledged in the design and conduct of the research. It should be clearly established that such acknowledgement will result in participants being accorded no less respect and protection than this national statement requires.

Permission for the author to observe the abovementioned communities was also sought from the Chiefs of the communities, the individuals themselves and their families during the data collection period. Again, the author did not take photos of people as specified in the ethics approval. Photos were taken of infrastructure related to water and sanitation etc. These pictures were only taken after first seeking permission from the community I was visiting. Questions were posed to respondents using open-ended face-to-face questioning, telephone interviews and emails. All respondents signed a consent form prior to data collection; copies of these materials are provided in Appendix (e) (in English & Tetum). Last, the data collected was stored on a secure cloud-based university drive.

4.15 Conclusion

Chapter 4 has justified the research design used in this dissertation to answer the questions and objectives in Chapter 1. The use of case studies was supported by a qualitative approach, underpinned by the three forms of data collection. Also, this chapter further justified the use of a qualitative approach by highlighting its trustworthiness, strengths, and limitations along with data collection and ethical considerations. The rationale for using a translator was also explored.

The following Chapters 5, 6 and 7 will present the case study of Timor-Leste through three forms of primary data collection: observation, interviews, and photographic evidence. The next

Chapter 5 investigates the value of formal and informal water governance as perceived by pertinent stakeholders across Timor-Leste.

5.0 CHAPTER 5: INVESTIGATING WATER GOVERNANCE ACROSS TIMOR-LESTE

> In post-conflict situations, the destruction of water infrastructure and the contamination of water supplies present pressing challenges for meeting basic human needs and protecting public health (Weinthal, Troell & Nakayama 2014, p. 7).

5.1 Introduction

This chapter presents the analysis of the data and investigates the value of formal and informal water governance by stakeholders in a challenging post-conflict environment. In this chapter, the relevant individuals and communities were interviewed, observed, and photographed to investigate how they practice water governance by being accountable and participating in water governance while striving for a balance amongst community members (social equity). Extracts from interview questions, including a descriptive analysis using observations and photographs of communities, were then arranged into individual categories of concerned stakeholders: local leaders, local actors, elders, diasporas, expats, subnational actors that included two Chiefs of the Aldeias in both urban community (1), and rural community (1), and I/NGOs who are all relevant to water governance across Timor-Leste. The analysis of different respondents is triangulated with the observations and photographic evidence. This chapter also includes an analysis of data collected alongside relevant literature in Chapters 2 and 3, which includes an official report by the ADB (ADB 2013).

This chapter comprises of two sections - urban and rural Timor-Leste - and seeks the perspectives of various stakeholders (listed above). Also, these interviews were undertaken in order to further examine the respondents understanding of the value of water governance through accountability and participation in their communities and organisations and looks at the complexities of accessing water resources in a challenging post-conflict environment.

The first section of this chapter includes an observation of water governance and general development in urban community (1), and peri-urban community (2) Dili while examining key barriers to social equity, efficiency, and sustainable development and seeking better problem-solving techniques that can improve water resources.

The second section discusses the value of water governance in rural community (1) Timor-Leste while discussing and comparing the findings of others in water governance-related studies (interviews and observations).

The interviews presented in this chapter were conducted in 2015 and are presented in chronological (date) order. Some dates may vary as the author sometimes returned to communities for periods of observation and photographs outside of those times.

5.2 Perceptions of Water Governance in Urban Dili

It appears from my primary observations that the majority of the population in Dili are at the centre of daily negotiations to source and manage freshwater in potentially unstable and hostile environments, while authorities from the state do not appear to be accountable for the lack of water resource management in this part of the city. In urban community (1), Dili, the below figures (22 and 23), demonstrate how individuals and communities lack formal water resource infrastructure such as pipes, water tanks, and sanitation. Because of the difficulties in accessing water, conflict can ensue, and waterborne diseases become more prevalent as is evident throughout this chapter (WaterAid 2017). Those who participate and deliver water resources and water governance in Timor-Leste are also integral to this process of ensuring accountability to relevant stakeholders, including local actors who are the recipients of water resources.

Figure 22: Informal Unkept Water Infrastructure -Domestic Use

Figure 23: Water Collection Point for the Community

From my primary observation, Dili is surrounded by rugged hills that look over the city with views to the ocean and beyond to the rest of Asia. Dili is the official administrative capital for commercial, political, and cultural services. As discussed in Chapter 3, Dili has a population estimated at 250, 000 people.

Figure 24: Dili Water Infrastructure -Unkept- Running Through Local Homes Above

The capital has the only international airport for Timor-Leste and an international port for shipping that services the entire country. Dili's local transport consists of taxis, microlets (decorated minibuses) and private vehicles. And from my observations, urban Dili contains

slums with a clear disparity between the wealthy and the not-so-wealthy, which is examined throughout this chapter (see above Figure 24 - Dili -unkept- contaminated water infrastructure running between houses being consumed by the local population).

On arrival at Dili, it is evident that the vehicles on the road are typical Southeast Asian scooters with three or four passengers on a bike; CO_2 emissions blow out from the exhaust adding to the thick pollution in the air with no traffic rules in place (any new cars belong to organisations like the UNDP: see below Figure 25). Timor-Leste is a country reliant on international aid for development, reflecting the patterns and themes of aid agencies in Timor-Leste, for example, WaterAid.

The majority of cars and roads were in less-than-average condition with large potholes; what you should expect when travelling in a post-conflict state such as Timor-Leste due to years of neglected maintenance of transport infrastructure. It also implies that a lack of financial resources may be a primary cause of poorly developed infrastructure, and these observations reflect the patterns and themes of state fiscal problems in a post-conflict community, as discussed in the literature review.

Figure 25: A Convoy of Cars for the Development Agencies in Dili

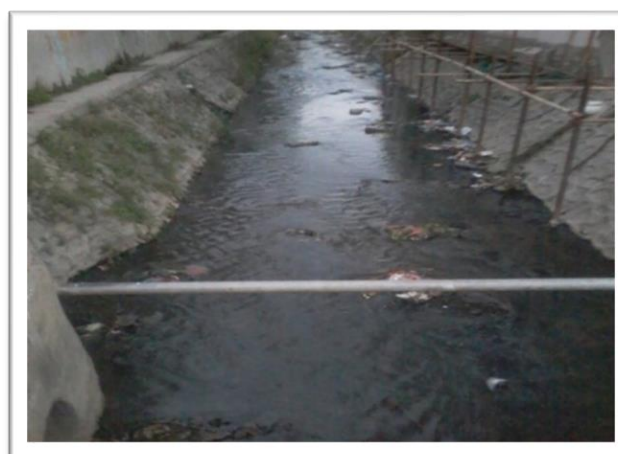
Dili has the potential for commercial opportunities because of the ocean and distant island views that face north to Asia (see below Figure 26). The coastal route to the INGO compound is through areas that house the international embassies and hotels and is the only road in Dili

that is in good condition, for example, there are no potholes on this road while I am informed it regularly being updated to ensure its kept to a decent standard for driving on.

Figure 26: The Coastal Road Past the Embassies in Dili

However, the reality of people's lives in this city tells another story; Dili is also home to poverty-stricken communities, many stray dogs, and young men selling their fly-ridden fish on the side of the road along open waterways and drains where raw sewage flows. The most striking sight on the authors' first time in Dili remains the polluted waterways that host both children and animals (mainly pigs), playing and defecating in shared water resources. Such practices promote and breed waterborne diseases in the post-conflict community(see below Figure 27).

Figure 27: Waterways - Children Share this Space with Animals in the Heart of Urban Dili



5.2.1 As Perceived by Non-State Local Actors

My advisor in Timor-Leste, like many respondents, is accountable to his community which in this study is known as urban community (1) (including photos in the previous section), and as a local elder, participates in daily negotiations to access water resources for his family (for the Sucos). He is also an INGO manager, a local leader, and a former resistance fighter. This study will refer to him as a translator and advisor. During my fieldwork in his Sucos, which is close to the INGO compound, he takes me directly past the scene of the Dili massacre, known internationally and locally as the 'Santa-Cruz massacre' (no one has ever been held accountable for the above atrocities). It remains a historical legacy where over 200 local people were ambushed and shot by the Indonesian military on 12 November 1991, during a peaceful demonstration.

Many people in Timor-Leste are still scarred by the alleged actions of the Indonesian military during the illegal occupation that lasted almost 25 years.

> I was there standing during massacre, and I escaped by running in that way. You know, I was lucky to escape. It difficult living in Dili when Indonesians were here. My parents and my sister died because they had no food, the Indonesians starved them in death in the forest without food and water (Advisor (1), interview (1), urban community (1), 3 December, 2015).

This Aldeias/Sucos/ of urban community (1) (my advisors community) contains roughly six houses scattered at the front of the community, but there many more beyond in the bush ahead where there appears to be shared access and open living. Before we went through to the houses, I was showed the area where women collect fresh water daily from the water collection point.

Without proper water resources such as taps and pipes to transfer the water, people in Dili are constantly exposed to contamination from dirty water containers and unkept water resources.

> The women come here collect water. These the containers we collect water with. Everyone in community get this containers. There are many for everyone to share. This water tap is running well today. But sometimes when no water, it's because government cuts water off. And sometimes during the no rain, there is no water [dry season] (Advisor (1), interview (2), urban community (1), 3 December, 2015).

The women of this community collect water all day, every day, to have fresh water for their families and the broader community using contaminated containers that were previously used for chemicals (see below figure 28). They are also accountable to those in the community who cannot collect water (for whatever reason, e.g., sick and/or elderly).

> Some of the older people do not carry water from tap. We take turns each day in helping them. If not, they cannot get water every day. The girls in our Aldeias go to school. When they come home, they help in collecting water for the family. All of us help in the community can get daily water (Advisor (1), interview (3), urban community (1), 3 December, 2015).

Figure 28: Water Collection Point and Containers

Domestic infrastructure much like water resources in this community are unkept and require maintenance. Each house has missing windows, some are without doors, and others without walls between rooms. There appears to be no government funding or donor aid to assist the local community to secure their homes from the outside elements.

> We look after houses as good we can. But very hard to for us to get windows and doors are very expensive. My Aldeias do not equipment to fix problems like this. As community, we have to look after food and water first. Food and water for children is important first (Local elder (1), interview (4), urban community (1), 3 December, 2015).

I was granted access to houses past the roosters in a cage (see below Figure 29), screaming pigs in a pen, and many dogs (people consume dogs in Timor-Leste). It appears every household in Dili had a rooster cage with a rooster in it. For a moment, the author pays homage to Geertz (2008, p.311) and ‘the interpretation of cultures’. His idea of ‘shared poverty’ (as discussed in Chapter 4) has that sense of being in a rural community where the local community shares everything available to them. But this is urban Dili, and cultural values and social norms play

a crucial role in promoting water governance that requires trust and transparency that are intersubjective in nature (Putnam 2004).[38]

Figure 29: Rooster in a Cage - Dili

The first items relating to water resources that I observed were old, unsealed, rusty drums that were not covered, as this was the only space for capturing water. There were no pipes leading to the drums, nor any taps that ran the water out of the drums themselves. At that moment, the women were collecting water in containers - as previously seen above in (Figure 28). From what I observed, participation in ensuring freshwater resources in this community encapsulates gender, accountability, and efficiency at the local level by vulnerable actors. These actors provide water to both the home and community through stakeholder participation and decision-making. It ensures equitable access to clean water. This participation by women promotes equality (Singh 2006) in the informal governance space while empowering the women in the community at the local level and demonstrates efficiency (informal water governance by women that contributes to peace-building and development). It appears to be a very social place to meet with people chatting and laughing (examined further in Chapter 6).

Other infrastructure included the kitchen, which was outside in another building and was shared with other members of the community. The conditions were extremely poor, with only wood to start the fire to cook the little food they had. On that day, it appeared to be rice (rice is

[38] I suspect the roosters were for cockfighting, but to this day, I have never asked him; the cages were simply emptied whenever I visited, except for that first visit.

government-funded) cooked with stagnant water stored in buckets, which was used for cooking and cleaning. Sanitation facilities appeared to be a hole in the ground (squat toilet) inside the house which led directly into a shared pit. There is nothing surprising about that; Southeast Asia is commonly known for its squat toilets.[39] Nevertheless, it attracts waterborne diseases that are rife in Dili and impact the development of children (UNICEF 2016).

Poor sanitation in this community enables waterborne diseases to flourish. Another community member informed me that

> we try and make hole for the toilet away from house. We do not have much area to do. We make the best with what can do. Big problem in wet season we have lots of rain as the hole is full. Nothing we can make change (Local elder) (2), interview (5), urban community (1), 3 December, 2015).

This particular Sucos is in a sub-district of Dili. The sheer number of different sectors can make governance complex, especially water governance, as there are many actors (multilevel governance - formal and informal) with many interests. The variation and disparity among Sucos across Dili, and indeed Timor-Leste, is broad and requires leadership and courage to reduce that gap for an equitable outcome in water governance practices and water resource management. As the literature review suggests, 'real leadership requires leaders to be politically motivated and connected' (Prentice 2004, n.p).

5.2.2 As Perceived by Elected Officials

I visited this smaller urban community (1) (as previously presented in this chapter - an Aldeias in the Sucos where my advisor lives) in urban Dili multiple times and learned so much every time by observing their rich culture and daily lives. The many individuals and families that make up this community also struggle in the context of accessing water resources (see the standard water tank owned by those who can afford it below in the below Figure 30).

> This Aldeias is 100 houses, and seven people sometimes live in this house, children, and family like cousins. My Aldeias has had to work with water problems, like water for my family (Chief of Aldeias, interview (6), urban community (1), 4 December, 2015).

Everywhere in Timor-Leste, the author of this study witnessed the freshwater supply being cut off between the water department DNSAS and the local community, and the response is always the same (see detailed interview transcripts with subnational actors in the following chapters),

[39] Keep in mind that various parts of urban Dili still have open defecation pits.

> Normal bro, we fighting for water every day, and our neighbours. Not have money to dig water wells or get water tanks for the community (Chief of Aldeias, interview (7), urban community (1), 4 December, 2015).

Figure 30: Water Tanks for Those Who Can Afford Them

Communities having their water cut off by the authorities is not normal (in Timor-Leste it is considered normal), and the paradigm shift needed in both discussion and action is ‘urgent’, as children die every day from the lack of water governance in Timor-Leste (UNICEF 2016). On many occasions, this study has been informed by academics and INGOs that in Timor-Leste, ‘it’s normal’ (to have the water cut off from the state). Such a view comes from actors and INGOs in both Australia and Timor-Leste which is beyond the availability of resources, finance and expertise, awareness, and education remain critical. This situation does not appear to be critically challenged but accepted.

However, all respondents interviewed from this particular community informed this author that conflict constantly occurs with the local authorities when they come to cut off the water (the technicians are chased while having rocks thrown at them). This lack of accountability to the local community has negative impacts on all actors. The authorities send technical staff from the department to remove water access. They do this by cutting the pipes from which the community ‘allegedly’ attain (steal) the water.

> The men angry when no water for family. But, ok, when no water comes because you know, government take water from pipes. No more getting the water. Government cut pipes. Makes us very upset (Chief of Aldeias, interview (8), urban community (1), 4 December, 2015).

5.2.3 As Perceived by Peri-Urban and Urban Dwellers

In Timor-Leste, technically, the government does own the water, but this does not include the water in peri-urban Dili, where water ownership rules are more complex and thus water governance even more complicated. For example, in this urban community (2), the land where the water/spring emerges in peri-urban Dili is governed by the actor who owns that water. The ownership of the spring gives power in the context of water accessibility to local actors who also rely on that water downstream. Consequently, this creates more problems for those downstream who rely on water from that spring, reflecting the often-complex interlinkage between water and stakeholders as pointed out in the literature review (Laban 2007). The water does not run naturally underground to other communities. It is piped through water resource infrastructure from the source.

An expat (from Australia) who lives in peri-urban Dili, and manages this process daily, informed the research

> that families and individuals who fall foul of the owner of the spring, have immense problems in receiving water consistently due to the control and the lack of management of water resources. There is nothing we can do. It creates tension in the community, and sometimes fights among the local men (Expat, interview (9), urban community (2), 6 December, 2015).

Adding to the complexities of this process, upstream water use has spill-over effects on downstream jurisdictions with a greater need for decentralisation, resulting in a larger number of political jurisdictions managing the same spring. This may exacerbate these spill-overs issues as 'national and international initiatives and commitments to improve access to water and sanitation in the developing world tend to neglect the peri-urban context' (Allen, Davila & Hofmann 2006, p. 13). As we know, this can create complexities in a post-conflict environment, such as conflict and lack of access to fresh water for daily use. This ultimately undermines the political feasibility of both the state and the subnational representatives while underscoring the need for decentralisation as an alternative to centralised water governance (Brinkerhoff & Johnson; Weinthal, Troell & Nakayama 2014).

The confusion, lack of accountability and even limited participation around water resource management in this community is clear, not to mention the complex outcomes due to unclear water governance by all stakeholders, including authorities. But either way,

> I have informed the police and local government about the private owners of the springs and how they prevent water from going from their springs to their neighbour's homes, and by law, can or cannot force the owner of the water/spring to enable access to the water by downstream

recipients. In some cases, the owners of the spring force downstream families to pay for the water (Expat, interview (10), urban community (2), 6 December, 2015). [40]

Having to negotiate for water everyday would be an exhausting task. Especially when stakeholders have children to attend to. And if there are no state authorities to assist in accessing water,

> it creates issues within the community, and the authorities such as the police to do not want to know about the issues that emerge from this process of bad water management. The water is the only source that this community can access. It sets a dangerous and corrupt precedent (Expat, interview (11), urban community (2), 6 December, 2015).

Again, when inquiring about the role of law enforcement officers and police in this local Sucos, it was fascinating to learn that the law enforcement agencies put the interests of their communities over the state's interest, and I suspect the subnational actors such as the Chiefs do that as well. The rule of law appears confusing in this community, as

> the police side with us, they don't like staff from water when they are say we hurt them, say bad things to them, and get stones to them. The police don't come. We use phones and take photos of the people who cut water from our community and show them to the police. But there is nothing we do to stop this happening except don't get the water (Local actor (1), interview (12), urban community (1), 3 December 2015).

This is because the police are often community members of the same Aldeias/Sucos. Therefore, they must maintain a strong relationship between the police and community relations to be peaceful and perhaps for their own safety. On that note, there is no department of water the public can access to voice their concerns. There is no sophisticated technology that allows the general population to interrogate the state about the lack of water-related infrastructure in their communities through a relevant website.

From my observations, the whole community share responsibility in the water collection process for the Aldeias. They take turns every second night to source local water to fill up their tanks. This process is conducted late at night because first, it means there are fewer problems with the authorities. Second, there are not as many other members from the broader Sucos attempting to access water, as they take turns at various times during the week (informal water governance at play). Third, the pressure from the water outlet is faster and takes less time to fill the water tanks up. And in the context of water collection, the male respondents inform this study that

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[40] I have tried to clarify the law on this, but no one could demonstrate to me whether this process is legal.

> the women and girls from Aldeias get water in day for family to washing clothes. When hot, this is us cool by putting water on floors of house (Local actor (2), 2015, interview (13), urban community (1), 8 December, 2015).

Making provisions is critical for informal water governance, just as it is critical for formal water governance.

> We [the men] go away to village of Timor-Leste to villages work we leave families in Dili without me. Filling tanks before we go is important (Local actor (3), interview (14), urban community (1) 8 December, 2015).

Females walk approximately one kilometre (back and forth) to collect the water using containers at least three to four times a day (3-4 kilometres), but more in the dry season (that's if water is available and running). Further,

> During some weeks when no rain [dry season], no water is gone. Yes, for me, I take family clothes work to clean [in a very humid environment, this is important]. We clean the children [only sometimes] at the when the no water (Local actor (4), interview (15), urban community (1), 8 December, 2015).

Sometimes accessing water in a post-conflict environment can resort the local population into seeking desperate measures.

> We have to take the water during the no rain [not always, but sometimes] there is no water at all. Dili very hot when no water [dry season] (Local actor (5), interview (16), urban community (1), 8 December, 2015).

These informal processes may not appear moral or illegal, but they remain efficient in a difficult environment for vulnerable actors who have children, not to mention the more elderly residents who require regular water through the summer to prevent dehydration. Also, it would appear in this community that this efficiency of water governance is attained through norms/beliefs that are cultural and historical in nature, as explored in the literature review of this study.

There is no formal water governance in the community, there is no INGO engagement in the water governance space that underscores the role of peace-building and development through the water governance process, and no formal pilot programmes from the government such as their neighbours possess. There is little accountability or efficiency by the state when it comes to water resources management. From what I am told and from what I have observed, few public consultation and/or collective decision-making processes are in place.

> The problem not water, make trouble with all community people, which terrible we see the clean water as to live. It is responsibility of our government. The government have to give

> water, or a find a new situation to help community (Advisor, interview (17), urban community (1), 8 December.

People in war-torn Timor-Leste have never had to pay for access to water. This below response demonstrates just that.

> Why we give money for water. The government should give water as Timor very poor. No good politicians. Have a water well built for us government is good [would be good] (Local actor (6), interview (18), urban community (1), 8 December, 2015).

This author asked the Chief about the concept of water governance, the role of the local community, the local government, and the international community, including women; he responded

> the community needs to come as one, everyone responsible for getting water are to community. This talking to each other would make people proud and strong and together [through strong water governance] (Chief of Aldeias, interview (19), urban community (1), 4 December, 2015).

Some houses in this Aldeias have kitchens, but most do not. Members of the community cook outside in a shared space, fuelled by scrap wood, with other family members. Water is stored in open tin drums, previously used for chemicals, oils and petrol (see below Figure 31).

> Important yes, keep water tanks and drums near to houses that sit here, and to family. Here you seem these tanks are filled when the men collect water, the nigh time, during dry season when rain is gone (Local actor, interview (20), urban community (1), 3 December, 2015).

Figure 31: Capturing and Storing Water in Urban Dili

The informal agreements between the community members regarding their water responsibilities are clear. The men agree among themselves and the COA to collect water in the evening while the females in the community collect water in the daytime only.

> Man and woman understand water work, and it is his turn to get water for his house and community in night-time (Chief of Aldeias, interview (21), urban community (1), 4 December, 2015).

On average, there are 7 people per house and 100 houses; thus, there are only 10 water tanks to share between the whole Aldeias. The community appears to operate with an informal water governance structure that works with limited water resources and no support. The above framework (local) has evolved in this community as it has done in other communities in Timor-Leste. The community must find a balance with the government that enhances their lives, strengthens, and builds on an already fragile relationship. Similarly, Allouche (2014, p. 32) argues that 'the governance of formal and informal water systems may either support or undermine state-building'. For example, the illegal connection of water pipes to transport water to the Aldeias and the broader Sucos can disrupt the peace-building process.

Other practices such as cultural practices can impede on effective water governance are according to one respondent who says that

> getting water from sky in Timor-Leste has is problem [superstitions], old people live spirits. Make problems for us [respect for the deceased] (Advisor, interview (22), urban community (1), 3 December, 2015).

Superstition is a complex issue and getting people to discuss it proves harder.[41] But it is a problem that must be addressed, as making provisions to capture and store safe water can solve many problems during the dry season, not only for this community but the entire population of Timor-Leste. Customs and traditions should not impede water governance but enhance it by embracing opportunities that present themselves.

> If need to ['push comes to shove'], my Aldeias get water from rain will never have water. We have water tanks. Tanks make secure, as people take night [others steal their tanks in the evening, so they have to secure them]. Replacing them is expensive in Dili at a cost of US$100 (Local actor (7), interview (23), urban community (1), 3 December, 2015).

According to the 'Least Developed Sucos' report by the ADB (2013), the Sucos with the most resources in Timor-Leste are in urban areas, and there was a correlation between living standards, water and sanitation, and other essential services. The report concludes that the

[41] It should be noted that I could not find any existing literature on this claim.

Sucos with access to essential services had better standards of living. The ADB report also concluded that those communities with access to other essential services and social capital such as education and health generally had better living conditions. The report went on to say that communities in remote rural areas were the most negatively impacted by a lack of services such as water and sanitation. A lack of services from the viewpoint of water governance is caused by limited financial resources, expertise/knowledge, policy innovations, leadership, cultural traditions, and politics. From the observations presented, it appears that while the communities in urban Dili observed in this study had access to social services and resources, neither the rural nor the urban communities had effective water and sanitation services.

The evidence in this dissertation shows that water and sanitation services in urban Dili are no better or worse than in rural Timor-Leste, although social capital is better in Dili. However, evidence obtained through observation and general discourse with various local actors suggests that the disparities in the water governance space are the same. In some instances, they could be considered worse in urban Dili than rural Timor-Leste, as suggested in this dissertation, which is in contrast to the ADB's report (ADB 2013). This is due to the constant conflict and struggle for access to and ownership of water resources, whether they are private springs or government sources, (peri-urban water resources). On reflection, this requires territorial and locally-specific water governance through cross-scale and multilevel participation, which offers better opportunities to those actors who may not have the resources to access water resources where governments, like that of Timor-Leste, cannot provide (Mowery, Yanco & McClanahan 2010).

Observations made in this study and throughout the literature indicates those in urban areas such as Dili have better access to effective networks (social capital) and employment opportunities, including schools and medical clinics. Some communities in rural areas are supported by INGOs in the context of water resources (ADB 2013). Also, the difference between living infrastructure versus industrial infrastructure is clear in urban areas, as existing colonial infrastructure from the colonisation of Timor-Leste by Portugal still exists today. This infrastructure is more modern than the rural parts of the country, where you can still find traditional houses and other buildings like schools (see the following section).

Dili has reasonable services such as shopping centres and restaurants (also a large expat community). Dili also has modern facilities that are provided to those who can afford it as

examined in both Chapters 1, 2 and 3 (in the context of affordability). I was informed by a local NGO,

> if you have a water well in urban Dili, it is because you can afford to build one. If you have a water well in rural Timor-Leste, it is because it has been funded and built by an INGO 100 (NGO (10 & 11), interview (24), Dili, 3 December, 2015).

From my observation of these communities, the politics involved in the establishment of water governance are a fundamental challenge. Cooperation towards a collectively envisioned goal often requires coordination to solve any difficulties such as cost-sharing, shared responsibility, collective accountability, and dominant participants. Since first visiting this community in 2015, nothing in the context of water governance has improved or changed in the years the author has been a guest of these communities in Dili, with the exception of a pilot program initiated by the government (see Chapter 6 for further analysis and photographic evidence). There is clearly a lack of resources and transnational and state support, with conflict between local actors and the water department, which is a result of water governance without state accountability and non-state actor participation.

5.2.4 As Perceived by Service Providers

In Timor-Leste, adequately caring for everyone is a joint task between local, state, and international actors. This is obvious from my primary observations presented in this study, where I witnessed vulnerable actors (mothers and their children) sleeping on a floor in a medical centre in central Dili. The medical centre is run by an INGO. This particular mother and child were suffering from malnutrition and dehydration due to a lack of water governance, hence water resources in the community where they live (this family were transferred from a remote location in rural Timor-Leste where health care is difficult to access due to the lack of government services such as medical clinics and transport infrastructure). [42] [43]

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[42] The above suffering underscores that Timor-Leste's social and developmental problems are immense while lacking accountability from pertinent stakeholders. It weakens the perception that the state is making inroads into development programmes like health and water-related issues (and they are not), as there is a lack of public responsiveness and policy representation. To make things worse, the above clinic receives no support from the government of Timor-Leste and relies solely on financial resources and expertise supplied by international donors. I was informed that the staff who operate this service are volunteer medical professionals from various training hospitals across the globe (Australia, England, New Zealand, and Portugal).

[43] From discussions with the staff at this centre, the clinic can only offer what medical equipment and products they have available to them, which are shipped from overseas each quarter over a 12-month period. If they do not have a particular medical item, there is nothing the medical team can do to treat the patient for the particular problem they have. I was also informed by the management of the clinic that it is not in managements' capacity to make specific orders to overseas donors (the centre gets what is donated). So, they are constantly re-evaluating

While visiting the above medical clinic looking at their water governance and water resource mechanisms, I enquired about the clinic's relationship with international donors. In this example of water-related aid, the clinic's management team had formed a relationship with an Australian donor (a civil society group with a medical doctor who was trialling water purifiers) who had provided a water mechanism that was designed to improve the quality of the water and purify it (see below Figure 32). The Australian donor claimed the water purifier reduces waterborne infections. However,

> the water purifier no longer works, and the donor has never returned to supply a new one, or at least provide us with any funds to fix it. Not only that, the maintenance staff were not given any instructions on how to correctly operate the mechanism if it stopped working (Manager of the medical clinic 2015, interview (25), Dili, 1 December, 2015).

In the context of water resource management, it is clear that the water resources provided by the state are limited or non-existent, which impacts not only on local individuals and communities throughout the country but impedes organisations that provide services such as health. The respondent informed this study that

> access to water is not always an option due to the lack of infrastructure that should provide fresh water to the clinic when required. It is slow, and sometimes, there is no water at all (Manager of the medical clinic), interview (26), Dili, 1 December, 2015).

It is critical in this study to understand how organisations like this medical clinic, which is also an INGO, manage their water resources in urban Dili. As the clinic receives no support from the government of Timor-Leste in the way of medical supplies and few resources from water-related INGOs, no one is accountable except those who work in the clinic (informal). They have no choice when dealing with hundreds of patients a day but to improvise and manage the service they provide in the best way they can. This includes water resources like seen below in Figure 33.

> We make sure that we fill up our tanks to ensure we meet our needs. But this is We make sure that we fill up our tanks to ensure we meet our needs. But this is not always possible during the dry season. Also, we rely on the water from the Dili water infrastructure, but again, this can be

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and reviewing (accountability) the services the organisation provides. The organisation is limited in its planning due to a lack of resources which includes water resources. However, in the context of internal governance frameworks, the clinic has a manager who oversees the general running of staff, and patient allocation, which includes communication with the INGO's international office where the supplies originate. The staff, including medical staff, meet weekly to discuss issues that may arise (there are many). One respondent told me that moving forward weekly is both challenging and frustrating as they are limited in how they deliver health care, and it is not always consistent. The organisation does at times, and in emergencies, coordinate with the local Dili state-run hospital. But that does not always work as the local hospital in Dili has its own supply issues as it relies on a mix of state and overseas funds.

very slow as the water is not often available, and we know the water is contaminated with waterborne diseases that only aggravate our patient’s health conditions (Nurse, medical clinic, interview (27) 1 December, Dili, 2015).

Figure 32: Water Mechanism Supplied by INGO

Figure 33: Water Tank for the Medical Facility

Health organisations rely heavily on water resources every day of the year and remain critical to delivering health services to the people of Timor-Leste. When I visited the clinic, it was shocking to see the queues of patients lined up to seek medical attention. The Head Doctor of the clinic, when interviewed, informed this study,

> the clinic treats over five thousand patients every month. Our patients come from both remote locations in rural Timor-Leste, and Dili. Our staff consist of doctors and nursing staff which are volunteers, most are from Australia [other parts of the world as well. (Head Medical Doctor, medical clinic, interview (28), Dili, 1 December, 2015).

For foreign actors who operate in post-conflict states can be fraught with challenges.

> This clinic, its patients, and its staff members rely on funds and resources from the international community (including water resources). It is solely supported by international aid. The clinic receives no state funds and resources at all (Doctor: GP, medical clinic, interview (29), Dili, 1 December, 2015).

The clinic relies on inconsistent water flow from government sources, including water tanks (see above Figure 33), to capture the rain during the wet season. This reflects the clinic's need to have substantial water resources to mitigate the impacts of extreme weather patterns in Timor-Leste and why it matters to water governance. This is particularly evident during droughts when there is no rain which greatly impacts the water governance process, as seen throughout the country in 2016 and 2017 (Assessment Capacities Project [ACAPS] 2017). Water tanks can capture and store water for unpredictable weather events like droughts and floods - as recently witnessed in Dili, where many people were feared dead (Dziedzic & Winter 2021).

The above is not the only example in the empirical evidence chapters documenting the lack of donor return and accountability and its impact on the community. Because of this, the author's reception from the staff was somewhat vague and less trusting than we were anticipating (but easily understood). Therefore, it has impacted the author's research approach for the better and reinforced the critical nature of our responsibilities as ethical researchers to be accountable.

These experiences, early in the data collection process, vindicated the discussion in the literature review about good governance characteristics such as accountability, and transnational donors, particularly in a post-conflict environment (good governance characteristics remain difficult to attain). This underscores the importance of trust and governance that is both consultative and prioritised through participatory accountability (downward accountability). However, this is challenging to earn in a post-conflict environment as it is closely related to trust-building through shared understandings and expectations between local and transnational actors.[44]

[44] I am informed this clinic will cease to operate due to a lack of support from the government of Timor-Leste.

5.3 A Sense of Post-Conflict Rural Timor-Leste

The road from Dili to the border of Indonesia is a good road, perhaps the best road in Timor-Leste. It links Timor-Leste with Indonesia and the rest of Asia via land and road. The active and critical transfer of transnational trade is via this route. Such infrastructure is a good example of state-building through funding provided by the European Union and the Government of Timor-Leste. The open road that winds along the coast with views of Indonesia in the distance is strikingly beautiful, while it is easy to forget the poverty that surrounds the landscape ahead. People are selling their fish and fresh vegetables and pigs; cows and chickens roam the roads all the way along to the community I visit. Rural Timor-Leste still has a distinct sense of tradition, and this is obvious in the homes that nestle on the beach (see Figure 34) below.

Figure 34: Coastal House in Timor-Leste

The rural community (1) of this Aldeias in rural Timor-Leste was found on the recommendation of the Darwin diaspora and Dili advisor. The community has the same system of governmental organisation as the community in urban Dili. The author of this study never met the Chief of the Sucos, as this Sucos is large and covers a wide geographical space. This small community is located halfway between the border of Indonesia and the capital city Dili in the Northern area of Timor-Leste and is approximately five kilometres from the beach. This Aldeias could be described as a rural community, as opposed to a coastal community. It is part of a 'large' Sucos with broad area districts, with a population estimated at just under 80,000 people.

The first thing I noticed when coming into this community was an animal skull mounted to a tree (that is central to the life of the community). According to the Chief of Aldeias, who reluctantly talked about it,

> for old people gone [deceased]. We believe they [ancestors] look us during life. This is sacred for people from Timor (Chief of Aldeias, interview (30), rural community (1), 10 December, 2015).

On my first arrival, as in Dili, the women of the community did not engage with or greet me, and only ventured to so after a few visits when there were males of the community present. It must be said that this was followed by warm smiles, which incidentally show the women with their coloured teeth from chewing mama (an 'areca nut' with 'lime and betel vine'). The colour appears to be a warm orange/red and is a tradition for women in this region of Southeast Asia for cosmetic purposes. On my first visit to this community, there was a sense of hesitation from the Chief of the Aldeias, and he appeared to be very suspicious of my presence; his body language appeared closed. It took some time before he would smile and communicate openly when we greeted one another: this is in no way a judgement but an observation. The following description will perhaps inform the reader why he was so hesitant in his association with foreigners, especially when it came to water resources and governance. This district had endured colonisation by the Portuguese, the illegal invasion and occupation by the Indonesians and one of Southeast Asia's worst massacres at the end of the twentieth century in the District of Liquica.

5.3.1 A Critical Juncture of Water Governance in Rural Timor-Leste

As discussed in Chapter 3, water governance in rural Timor-Leste is strengthened by the cooperation between international actors and the Government of Timor-Leste, for example, the BESIK programme, whose primary goal is that water and sanitation are essential priorities (DFAT 2017b). Programmes as described above remain critical to post-conflict communities who struggle with attaining water resources. According to the Chief, there have been other programmes, like

> before [in 2011], the Dili government and Australian charity give us new water [reconstructed an existing water resource mechanism built by the Indonesians that provided the Aldeias and the broader community] for our community, and water that is up the Aldeias, and water down to community for easy-to-get water (Chief of Aldeias, interview (31), rural community (1), 10 December, 2015).

Long term commitments from pertinent stakeholders are critical to sustained water governance in post-conflict states. Not having a sustained presence can impact on people’s lives. To my surprise, the Chief of the Aldeias informed this study that the

> Charity and government Dili no come to make good and community person to talk between community and charity. No more help us [the charity and the government have never returned to assist the community with further needs regarding the water mechanism they provided] (Chief of Aldeias, interview (32), rural community (1), 10 December, 2015).

From my observations, this system was sophisticated (see below Figure 35) compared to what we had observed in urban Dili. This was an important initiative when it was first built and just what a rural community in Timor-Leste required in terms of receiving clean water. These systems treated and transported the water to communities that relied on its technology. However, so sophisticated was this system that no one in the community was qualified to or had the skills or funds to fix it when it broke down. This incident underscores why capacity-building in the context of operating water-related technology to ensure efficient use of equipment for better access to water resources.

Figure 35: Untreated Water Systems in Rural Timor-Leste

Because of the lack of action and breakdown of accountability by the INGO and the state, the lack of upkeep of the water mechanism has, in fact, created more issues for the community, as opposed to achieving access to clean water in the long term. Consequently,

> the Aldeias we fight, for water and take turns in water each day to the other Aldeias in our area (Chief of Aldeias, interview (33), rural community (1), 10 December, 2015).

A lack of coordination among stakeholders in the management of water resources can disrupt communities life.

> On weekends during parties [celebrations such as weddings], people need many water and communities no have. Make problem for our communities (Local actor (1), interview, (34), rural community (1), 11 December, 2015).

Detrimental impacts from the lack of good water governance include a lack of fresh water, which creates conflict and a prevalence of waterborne diseases. The latter are mainly caused by unmaintained technology that no one in the community understands how to repair or has the financial means to do so due to a lack of skills, knowledge, and resources.[45]

Similarly, structure and human services remain critically important and are maintained through a process of negotiation that is vital to successful water governance. For example, the water system previously mentioned sits on top of a hill and is difficult to access for locals who do not have a 4WD, a result of poor transport infrastructure and the scaling challenges of geography. Water governance, therefore, is not only comprised of social issues, science, technology, and politics, policy and regulations but is also a matter of geography as critically examined the literature review. Political or administrative levels of cross-scale decision-making often do not match the geographical scales of water problems or ecosystems which are considered local, national, and international. Timor-Leste's geography consists of rugged hillsides and mountains that are difficult to access due to a lack of transport infrastructure, which further impacts accessibility to water. The issues of water stretch not only across multiple levels of authorities, but also across scales of geographic space as will be further evident throughout the following chapters.

Notably, the mountain ranges that provide natural water springs have no infrastructure for the access and transport of groundwater to the villages (see below Figure 36). As the literature suggests, parts of the coastal areas of Timor-Leste remain at risk as sea levels rise and overwhelm freshwater sources (Myers et al. 2011; Polidoro et al. 2010).

[45] As technology rapidly advances, the scaling of technology such as water resource mechanisms will enhance the communities' ability to provide water to the local population. This includes the internet, technically advanced water filters, and other water mechanisms that encompass the digital age. The digital age is the 'fourth industrial revolution', and the economy of both developed and developing states will depend on it for their future needs, including accessing water (Schwab 2016, n.p.).

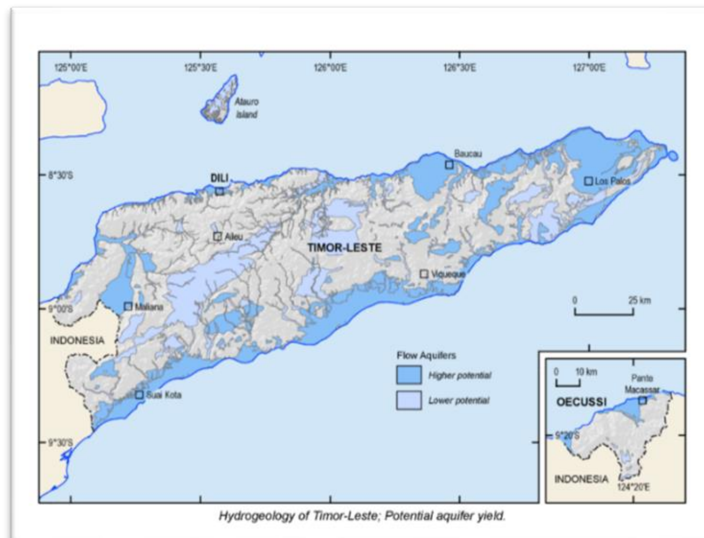


Figure 36: A Map of Groundwater in Timor-Leste

Source: (Australian Government 2014, n.p.)

The Chief also informed this study that neither the state government nor the INGO responsible for the installation has ever responded to messages asking for assistance: this informs the research that INGOs and the state need to be accountable in order to monitor the outcomes resulting from their actions, or inaction (efficiency and equity). Such initiatives require a hands-on approach that provides a process of follow-up support, and creating self-reliance; in other words, maintaining a through long-tern commitments. These grassroots initiatives (supported by the international community) do exist in Timor-Leste and are investigated in Chapter 6 of this study.

Notably, his father, and other older members informed the young Chief that

> water better with Indonesia. Indonesians had to make water for army in Timor they share the same water with the people (Chief of Aldeias, interview (35), rural community (1), 10 December, 2015).

The efficiency of access to water facilitated by the Indonesian military maintained peaceful relations between the soldiers and the community members during the occupation. Two diasporas from Darwin informed this research,

> during both the Portuguese and Indonesian occupations, access to water was never considered an issue. Those in urban Dili and rural areas of Timor-Leste had private wells and/or central wells where the locals could freely access clean and consistent water flows (Diaspora (1, interview (36), Darwin, 1 December, 2015).

Informal water governance has always been a part of water resources management including sharing in Timor-Leste, including before the illegal invasion by Indonesia.

> My father had a water well on the land where our house was in Dili, and water well on our land outside of Dili which leased out. We would share our water with our neighbours at certain times of the day. We did not as I recall have any issues with fresh water until the Indonesians invaded and we had to flee to Darwin (Diaspora (2), interview (37), Darwin, 1 December, 2015).

The previous efficiency of the water governance system makes it difficult to account for the inaction of the INGOs and state governments in the context of water governance in post-conflict Timor-Leste. Such inaction is dangerous for the community and creates conflict between local actors due to the competition for water. The lack of efficiency due to the ineffective mechanisms of accountability at the state, subnational, community and international levels has broad social and political consequences that are always negative for the local people. Living day-to-day with inconsistent water access impedes peace-building and development.

Water is indeed a shared resource that is not evenly distributed in this community which comes down to politics and competition. This study is informed that this creates conflict, which often occurs during times of celebration when there are many people, and the demand for water is high. But the problem is cost-sharing for providing equitable access, which is a matter of politics. There is no committed consensus between any of the local actors on governing the water for the good of the community.

> Water not always here to the community. The of water is bad from Dili politics [corrupt politicians from central Dili]. We need better share the local population (Local actor (2), interview (38), rural community (1), 11 December 2015.

As discussed in the literature of this study, capacity-development is vital to the people of post-conflict communities so they may enhance their lives while rebuilding their communities.

> I try keep good the water pump, I never helped by government to make good. My job clean and look this area safe (Local maintenance man, interview (39), rural community (1), 12 December, 2015).

A lack of skills and participation impedes water governance (creates distrust) in the peace-building and development process, as people have no say in the way they receive their water resources. In contrast, representation through participation increases accountability which empowers the community by having their view heard and actioned, as well as monitored and documented. This can reduce the risk of conflict at the local level while appeasing the local

population (Tatar, Appazan, & Ahmadvand 2019). The Chief affirmed what the previous respondent had told this author,

> We fight with other members of Aldeias, we throw stones, we speak bad to each other. This make big problem for our community for yes long, long time (Chief of Aldeias, interview (40), rural community (1), 10 December, 2015).

What can individuals and communities do when there are no water resources to collect water. Local men and the Chief of the Aldeias of the community added,

> When we go to other places for Timor [find work in other locations], yes, we leave women here in the Aldeias by themselves. We worry. It is very difficult, and women collect water [with the same odious containers that are used in Dili by the females to collect water] (Chief of Aldeias, interview (41), rural community (1), 10 December, 2015).

Actors such as females and children continue to be vulnerable in post-conflict states during the process of collecting water for their communities and families.

> Children and women are alone, yes because they collect water through the daytime (Local actor (3), interview (42), rural community (1), 11 December, 2015).

5.3.2 The Missing Link in Water Governance in Rural Timor-Leste

The previous sections demonstrate issues that form the barriers to effective water governance and water resource management in Timor-Leste. They include a lack of financial support from both the local rural subnational actors and the state authorities in Dili. And as discussed throughout the literature review and the empirical chapters, due to decades of occupation and conflict, a lack of expertise reflects the populations' inability to effectively manage their water resources and other resources such as agriculture (Ingram, Kent & McWilliam 2015). Limited education, as well as vague public awareness also aggravates the situation as formal water governance is difficult to participate in. State authorities provide limited resources, and there is a lack of leadership (corruption and no transparency) that would normally facilitate the negotiations the people of Timor-Leste have to face daily. And as the following chapters suggest, customs and traditions can enhance or impede the process of water governance throughout the nation-state. This is because not all communities practice traditional water governance, such as *Tara Bandu* (see Chapter 6).

The informal water governance observed in urban Dili and documented in this chapter does not appear to be consolidated in this Aldeias. In Dili, there seems to be a robust movement of informal water governance networks where people are always busy sourcing water. In rural communities throughout Timor-Leste, there is a lack of options in sourcing and collecting

water. In Dili, residents steal freshwater from private consortiums, private water wells and state sources, which is some form of water access at least. This rural community (1) in rural Timor-Leste must wait their turn and accept the harsh realities of water collection in rural Timor-Leste, a post-conflict society. There is no accountability from any actor to other local community members, which includes the Chief of the Aldeias. And there is no consultation because there are no government or INGO-sponsored projects occurring in this community. Not only has the breakdown of the water mechanism reduced the ability of the community to rely on good water resources, it has also seen an end to any sort of water governance practice at the basic levels.

What was surprising about the water resources in this community is the distance of the kitchen from the community members' houses, for example, anywhere from 20-50 metres away from their homes. The kitchen space adjoins the pen that contains local animals such as chickens and one pig and the communal toilet/pit. There is no electricity to the kitchen, and the so-called stove is at ground level and fuelled by wood. There are no iceboxes or battery-operated fridges to maintain produce at standard temperatures for safe consumption. A lack of technological mechanisms such as appropriate storage clearly impedes the delivery of water (also, this occurs through a lack of piping and other water resource infrastructure) (see below Figure 37). The kitchen floor is a dirt floor with no storage space or facilities such as shelves for what few pots and pans they have. It was surprising how green and healthy the local landscape is.

Figure 37: Rural Kitchen in Timor-Leste

The author questioned the Chief about his communities' ability to grow their own fruit and vegetables, and his response and tone were somewhat frustrated:

> what about water? No water we make food. And how we make garden without first the vegies to take from [no seeds to plant] (Chief of Aldeias, (43), rural community (1), 10 December, 2015).

The Chief meant consistently being able to water the crop, which goes to show how easily we take water for granted. Therefore, water irrigation development is critical to post-conflict environments where infrastructure has been destroyed in order to confront food insecurity.

> Never much water for our community, no make food grow. We need somewhere to put food [to store food and the water, like a fridge]. My community need water for carry here [like pipes to carry the water from the source to village] (Local actor (4), interview (44), rural community (1), 11 December, 2015).

Further, this community receives water on average twice a week, where the same process of collection, fill and save are carried out, as documented in urban Dili. Meanwhile, this will test cultural approaches to water governance like the application of *Tara Bandu,* which the literature suggests remains a powerful tool in the management of natural resources in rural Timor-Leste (Palmer 2010). Customs and traditions are important to the people of rural Timor-Leste, highlighted by the skulls of dead animals pinned to the tree that sits in the middle of the community, as previously mentioned in this chapter. The Chief believes,

> Tara Bandu is ok for community. All community agree for Tara Bandu to make good [all the community to be in agreement for effective spiritual governance] (Chief of Aldeias, interview (45), rural community (1), 10 December, 2015).

Other recipients of the community agree with that analysis: one respondent added that this must come from all Aldeias in the Sucos led by the Chief of the Sucos and not just the desire of one individual and/or community.

> Tara Bandu sacred and need to be special [requires knowledge from those who understand it]. But difficult to make happen in Aldeias (Local actor (5), interview (46), rural community (1), 11 December, 2015).

Others from outside of Timor-Leste but who work in country reflect on the cultural practices, and suggest,

> water resource problems in Timor are also 'very much' cultural as they are behavioural that people in the rural areas use one pit or enclosed area to use as toilets, and then the pigs are fed this, along with other added natural grasses and plants. Assessing the water was a major problem because of past unsustainable farming methods (INGO (1), interview (47), Timor-Leste, 11 December, 2015).

He believes the traditional (indigenous) ways of managing water were a vital link to taking control of current situation. There are no concerted efforts in place to make this happen. Again, the tool of education was key. He pointed out to me very plainly, that children and adults alike were getting sick and/or dying daily because of these very simple issues.

However, in reality, in post-conflict states like Timor-Leste,

> investment in water and sanitation must be part of the broader focus for Timor-Leste which requires effective water resources management from both the government and the international community. Currently, this is critical in Timor-Leste (Academic (1) interview (48), Timor-Leste, 11 December, 2015).

The children in this community do not look healthy; they have sores all over their bodies, some appear malnourished, and there are limited medical facilities in the region for them to consult with medical specialists. The local people blame the lack of 'clean' water for the medical conditions just outlined. There is no medicine at hand to treat basic infections of the skin or nutritional food such as fruit and vegetables. One of the respondents informed this study they sometimes receive food provided to them by the local Chiefs through the state government in Dili.

> Um, sometime we have rice when give to us from Chief, because come from Dili, and we make rice if can. [It varies from month to month how much rice is provided to this community] (Local actor (6), interview (49), Timor-Leste, 11 December, 2015).

Figure 38: Water Collection Tools

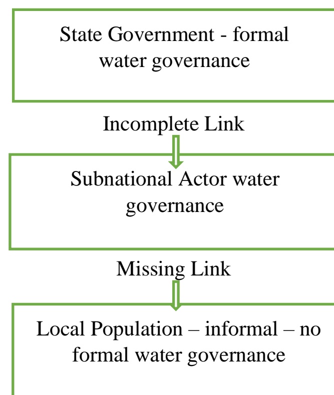
Modern technology can assist communities in nation-states where resources are limited (see limited and outdate resources above Figure 38), and food insecurity is remains an issue.

> No water make us sick. No food not always, no place to make food or get from food [lack of fresh food and water]. Our animals are make money (Local actor (7), interview (50), rural community (1), 11 December, 2015).

The Chief knows that achieving consistent water resources for his community is not a task he can achieve alone or without government assistance at the subnational level, which is the incomplete and missing link (see below Figure 39) described by Waheduzzaman and Mphande (2014). The incomplete and missing links refer to both urban and rural Timor-Leste in the context of water governance between the state, the local authority, and local actors.

Figure 39: Water Governance Gaps Between Authorities and the Local Community

Source: Adapted from (Waheduzzaman 2010)



The Chief is a subnational actor who appears to be more symbolic and has little access to water resources to make a significant difference to people's lives. The author had a discussion with the Chief about the financial aid from an international donor that has never been recovered due to the misappropriation of funds, as documented in Chapter 2. He tells this study,

> corruption is large practice and has been bad [unwanted] water governance practices, includes my community and all Timor-Leste. Some communities in my Sucos have good water their ability to give money to corrupt politicians in Dili (Chief of Aldeias, interview (51), rural community (1), 10 December, 2015).

5.4 Conclusion

From a state perspective (formal), the data collected for this chapter clearly indicates that formal water governance is not understood, accessible, or valued (in the sense of political accountability), when attempting to achieve successful water resources management in both urban (Dili) and rural Timor-Leste. In this chapter, the local community participate and fend for themselves and appear to be accountable (social accountability) to their fellow community members and their families through informal water governance while trying to maintain a balance in the pursuit of water resource management and attaining social equity. The

community members seem to participate where they can and know their roles in achieving informal water governance in the best way they know. There is an inherent danger that a lack of water resource allocation can create an opportunity for inequitable water distribution and promote disharmony, particularly in a post-conflict/fragile state, as critically examined in the literature review. Inequity in water resources can cause further social discord if not managed effectively.

These communities have many challenges that grind away at their daily lives. While the local population value the water resources, it is evident that, in general, there appears to be little interest in the worth or even understanding of water resources in the context of formal water governance to enhance the lives of the people of Timor-Leste. From an observer's point of view, the process of informal and formal water governance presented in this chapter is about accessing fresh water, but challenges remain in all aspects of the community's life.

The following empirical evidence chapter 6 examines the strengths and weaknesses of the stakeholders in water governance in urban Dili, Timor-Leste.

6.0 CHAPTER 6: EXAMINES THE STAKEHOLDERS IN WATER GOVERNANCE IN URBAN DILI, TIMOR-LESTE

Right now, some of the world's poorest and most marginalised people don't have clean water to drink, decent toilets or hygiene. Without these basics, overcoming poverty is just a dream (WaterAid 2017, n.p.).

6.1 Introduction

The objective of this chapter is to further examine the data on the strengths and weaknesses of water governance and water resources in urban Dili (stakeholders) with attention given to both the Chief of the Aldeias, and more so, the Chief of the Sucos, who for the first time, is interviewed in this chapter in urban community (3). Other stakeholders such as non-state actors are also interviewed in this chapter such as INGOs, teachers, and local actors. The qualitative approach (observation, questions, and photographs) has enabled a critical understanding and insight into water governance (formal and informal) in urban Dili.

In this situation, there are no defined formal governance frameworks in place that relate to policies that are consistent across Timor-Leste for water-related matters. Because of this, it was critical that this author meet the publicly-elected Chief of the Sucos (recall the meeting and interview with the Chief of the Aldeias [lower in the hierarchy] in the previous chapter). It felt like this part of the study had reached a milestone by meeting this official, as he is what I refer to as the subnational actor (democratically elected) who is accountable to the people and the state authorities.

The first section of this chapter examines the role of the subnational actor in urban Dili (Chiefs). This includes an analysis of the complexities of water governance in community life that impact various stakeholders throughout Dili. The second section explores the complexities of water resource management (formal and informal) in Dili. The last part of Chapter 6 attempts to further understand the role of women in water governance in urban Dili from the viewpoint of an Australian civil society organisation. The analysis of different respondents is triangulated with both observations and photographic evidence. This chapter is an analysis of data collected alongside relevant literature; therefore, this study outlines a findings and discussion approach.

6.2 Stakeholder Leadership in Water Governance in Dili

As previously mentioned, the Chief of the Aldeias reports to the Chief of the Sucos. He/she represents the local people, and both Chiefs are elected through a democratic process officially

observed by the international community, such as the UNDP, Australian volunteers and volunteers from Portugal and Brazil (WB 2017). The Chief of the Sucos represents the community to the state, liaises with INGOs, and resolves local conflicts and disputes. Just as importantly, the Chiefs work with the local police to prevent crime and build on community relations. The Chief of the Sucos is the heart of Timor-Leste, and their role is a political one at the local level.

The meeting with the Chief of the Aldeias of this urban community (3) was about building trust that was both respectful and consistent. Building social trust is the precondition for a peaceful community where residents tend to cooperate for public purposes, such as water governance. Local individuals need to collectively develop the norms of reciprocity, but it takes a long time and requires historical experience. It appears that character and personality have more sway than the establishment in the context of the power structure. The Chief understands very well why this water governance study is being conducted and is always eager to inform me about new water issues. In Dili, in 2016, he noted

> My worry how get water to my people, today and all days, make plan for our Aldeias. But, very difficult [make provisions for his community to ensure effective water governance] (Chief of Aldeias, interview (1), urban community (3), 15 November, 2016).

The Chief has a sense of frustration about not being able to deliver effective water resources (formal) to his community. The Chief of the Aldeias adds that,

> I like to make water for my Aldeias [I am responsible water resources in my community], but it is very hard to get money from government or charity for water (Chief of Aldeias, interview (2), urban community (3), 15 November, 2016).

Making provisions about developing improved water resources but implementing them in a fragile state where resources are limited can be frustrating for the community and their leaders.

> We make no plans or no government plans for this to bring water to us with no problem. My Aldeias only have what it can work with. We need money and plan from government (Chief of Aldeias, interview (3), urban community (3), 15 November, 2016).

As the literature has clearly stated, a lack of water resources, including fresh water, creates significant problems in the community which can impede on the development process.

> My children sick with problem skin and stomach problems. I blame the water for these problems. To my I don't know, no one tests water in my Aldeias, so good or bad water is difficult. We need the understand machine [technology] to make this (Chief of Aldeias, interview (4), urban community (3), 15 November, 2016).

This highlights the authority's lack of knowledge and resources in post-conflict water resource management. Information and expertise are a necessary condition for water governance. This lack of efficiency by the state impacts greatly on the community. Testing and monitoring would create the preconditions necessary for efficient water governance, as described in the literature review.

> We don't know how manage water from government [never known formal water governance]. We never pay for water, not here in Timor (Chief of Aldeias, interview (5), urban community (3), 15 November, 2016).

Assisting the people of this community to understand the benefits of formal water governance will be challenging for the state to achieve in the coming years. The Chief and other male community members source the water late at night each week,

> All men from Aldeias know he job, sometimes all night to get water and bring water to tanks. Sometimes this is dangerous and bad for men from the Aldeias. Sometimes we fight when get caught. Make us tired (Chief of Aldeias, interview (6), urban community (3), 15 November, 2016).

In contrast, the women of this community collect water during the day, which was something I witnessed regularly. Women were observed sitting around the water collection point washing clothes, laughing, and talking, and unfortunately carrying the water to their homes in plastic (contaminated) containers (see below Figure 40) previously used for petrol and other dangerous chemicals.

Figure 40: Water Collection Point for Women at the Aldeias/Sucos in Urban Dili

Building trust between actors has been a long but rewarding process that began in Australia and continues to this day. It is pertinent to any researcher that an open and ethical process is followed based on mutual respect and trust. This study has been informed many times how local people have unfortunately experienced foreign actors, either individuals or organisations, that do not return or do not commit to the long process of reshaping and building this post-conflict society (promise much and give little). They come with promises and short-term resources that are not sustainable. This can disrupt post-conflict communities and underscores the critical importance of long-term commitments and relationship-building in the context of water governance (see the previous chapter where the donor to the medical centre did not return and the rural community continues to wait for the water pump to be fixed). Significantly, this compromises the work of many well-intended actors in Timor-Leste assisting in peace-building and development. Not to mention the negative impact it has on the people of Timor-Leste. Trust (e.g., Putnam 2004, as defined in Chapter 2) must begin at the grassroots level where there is the most learning to be had and which is a starting point for successful outcomes in the process of good water resource management (socially inclusive bonds).

6.2.1 Balancing Water Governance Leadership Between the Old and the New in Dili

I arrived for my very first meeting with the Chief of the Sucos, who is the Chief of urban community (3), and I am armed with an understanding of political feasibility and governance structures at the local level and the complexities and social structures of Sucos life, although I find it very complex. I had met the Chief of the Aldeias on multiple occasions (previous Chapter 5), out of respect and to build trust, and clearly for research purposes, but not previously with the more senior Chief of the Sucos.

It is important to keep in mind that the people of this community were not experienced in the formal concept of accessing clean water. Generation after generation has not been afforded the ability to do so. There are non-codified rules and customs that they can operate from within the realm of water governance (informal), as pointed out in the literature review. Scholars can discuss policy, polity, and politics, but formal water governance in Timor-Leste is virtually non-existent, except for one small trial which the locals do not trust. For them, it is about survival, it is about accessing water - whether it be clean or dirty - through participation with their community members, and they are accountable to their community members in the formal sense. Each actor, including the Chief, struggles to provide a sense of consistent and stable water governance for their community. In this urban community, there are no INGOs to provide

water governance mechanisms or guide the Chiefs in improved resource development underpinned by good governance (Grindle 2017).

The Chief's shed was located close to the local marketplace. Hence, it remained a place of vibrant activity. The office of the Chief of the Sucos was a well-built corrugated iron shed with a large cement area that contained two office spaces. He recalls the only engagement with an INGO in his community.

> The charity make machine to give the market to give water point, but water is not for community in, but for the people who make and sell food for money. Sometimes when no rain, people for the Aldeias get water here (Chief of Sucos, interview (7), urban community (3), 17 November, 2016).

The mechanism set up by the INGO was only meant for the store-holders. It runs via a pipe from government sources.

> Sometimes before, water tested from Darwin. Yes, come from University Darwin to test. But I don't see long time (Chief of Sucos, interview (8), urban community (3), 17 November, 2016).

The water system had never broken down since its installation. But this researcher was informed that nobody from the INGO had returned to consult with the COS about the system since its installation. Further, the system did not reach all store holders, and the water system in the marketplace was like the Sucos in general; people made their own connections and stole the water from the government. There are consequences resulting from this, such as local conflict, mistrust, a lack of transparency, and theft weakens the already-fragile water governance process. Foreign actors should be made aware of the complexities of setting up a mechanism that they think is in the interests of the local community. Hence the need for a transparent and consultative process from the bottom up remains critical. Two-way accountability between the service provider, for example WASH programmes, and the beneficiaries is critical to providing water governance (Allouche 2014). Neely (2015, p.24) notes

> Timor-Leste presents a good case study for development as there is a well-developed set of collaborations around WASH between the government and local and international NGOs.

This is despite finding only one case in a study where the INGO integrates the Government of Timor-Leste into their governance structure when assisting a community in rural Timor-Leste in the context of water governance (see Chapter 7). A water management specialist from a leading European-based INGO operating in Timor-Leste argued in 2017 informed this research that WASH programmes saturate rural villages with little apparent collaboration with the state:

> Timor-Leste has too many WASH programmes that 'saturate' rural villages across the state. Their policies and collaboration appear vague with the Government of Timor-Leste which makes it complex to consolidate the best outcomes in the context of water governance and the impacts on people across both urban and rural Timor-Leste (INGO (2), interview (9), urban community (3), 1 March, 2017).

This area surrounding the office of the Chief of the Sucos appeared to be the centre of the commercial and political life of the Sucos and had a queue of people outside the Chief's office (people were coming and going). The central administration area included a place for people to discuss their grievances about the lack of services provided by the government, settle local disputes and any other issues at any time of the day. The Chief appeared to act alone (although he had a secretary). To some degree, the Chief's office and his role promoted accountability, transparency, and efficiency as this is where people came to discuss issues such as accessing water, local disputes with their neighbours, and law and order matters. It was the link (or incomplete link as we saw in Chapter 5) between the state and the local community. I note this because the Chiefs were responsible for delegating rice to the community provided by the state (my observation). They were there to communicate people's problems that involve the state.

During the first meeting with the Chief of the Sucos the first thing I noticed was a large photo of His Excellency Kay Rala Xanana Gusmão, now the Minister of Culture. The second was a colourful flag which is the symbol of the Fretilin political party of Timor-Leste.[46] We (the author and the Chief) exchanged pleasantries and shared photos and discussions about Gusmão, who the Chief holds in high regard as a fellow Timorese and friend. Further, the Chief told this study about his brother who lives in Australia and referred to him as

> My brother is victim from 'Santa-Cruz massacre'. After my brother go to Perth Australia, yes you know Perth. I want to visit him one day, to see where he live. He tell me, no problem water in Perth. Getting passport and visa to visit Australia difficult for me (Chief of Sucos, interview (10), urban community (3), 17 November, 2016).

It appears the past is everywhere, and there is no escaping it.[47] Both the Chief and I were at first formal, he signed the form for consent to interview him, as ethical considerations and responsibilities dictated in Chapter 3. We began a discussion on the water governance issues in his Sucos. It was important to demonstrate to him, if only to make him feel comfortable, my cultural awareness of Timor-Leste. We first discussed the role of customs and traditions such

[46] These two symbols represent politics in Timor-Leste, one a man, who is where it all begins (modern Timor-Leste), and some say ends; the other, a flag of the leading political party in Timor-Leste.

[47] There is the resilience from a determined population to move forward from past 'foreign' injustices in Timor-Leste .Such resolution can only enhance water governance at the local and state levels through shared knowledge provided by foreign agents such as Australia.

as *Tara Bandu* in the water governance space.[48] To my surprise, the Chief's response was contradictory to everything in the literature about *Tara Bandu*, its relationship with the people of Timor-Leste, water governance, and what was at the core of daily Timorese life. The Chief was not the first person to remain silent, appear uncomfortable when discussing *Tara Bandu*. The other was a leading Timor-Leste academic from Australia based in Dili. In fact, another report on water in Timor-Leste by Myers et al. (2011), previously examined in Chapter 2, also found little evidence of traditional governance structures in play where water resources are inconsistent.

Other research suggests that in regions such as Baucau, where the water supply is consistent, customs and traditions have a role to play in water governance (Palmer 2010). But *Tara Bandu* did not stand out in the process of water resource management across Timor-Leste.

> Tara Bandu does not have is no good in Sucos. Tara Bandu is like, you know, 'black magic' which is not good for Sucos and for people who live here. Bring problems for my Sucos (Chief of Sucos, interview (11), urban community (3), 17 November, 2016).

He did not offer an opinion on the use of *Tara Bandu* in rural areas of Timor-Leste, where it could be argued that it has a broader and more accepted place in the traditional governance of water. Surprisingly, my advisor holds similar views to the Chief of the Sucos about *Tara Bandu* and had a 'nervous laugh' when I raised the topic of its role in the water governance space. It was challenging to get the local people to discuss the impacts of *Tara Bandu* on water governance in both urban and rural Timor-Leste. In other post-conflict states, 'relying on a traditional institution, such as the Chiefdom, puts the legitimacy of the new governance system at risk since Chiefs carry some significant negative baggage in the view of important segments of the populations' (Brinkerhoff 2005, p. 10). It has not shifted my belief about the place of customs and traditions concerning water governance, but it has added a new and surprising dimension that is critical to note and is further touched upon in Chapter 8.

From my observations, there do not appear to be any consultation processes or further plans to enhance water governance that include the state's role in local water matters. This is apparent in local schools with one toilet per 1500 students (and no running water) (see below Figure 41). The school is centrally located in the community and contains basic resources such as chairs, tables, and a blackboard.

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[48] Palmer (2010) argues that *Tara Bandu* has an integral role in water governance and can join with capitalist economic models and water management systems for successful water governance outcomes in Timor-Leste.

Figure 41: Toilet in an Urban School - Dili

There is a large grass area in front of the school where the children play, and which appears generous in size. The water for the bathroom must be carried from the neighbouring community to the school (which does not regularly occur). There are no pipes to transfer water from its' sources to the school, which would solve many issues that both the teaching staff and students have in accessing water. So, water accessibility is complex and challenging both at home and school for the children and staff of this community.[49]

> The teachers and staff, we do best in getting water for children and the staff where possible. We have man who help us [maintenance], but cannot do much (Teacher (1), interview (12), urban community (1), 17 November, 2016).

A lack of water governance can mean an impediment to other urgent development issues, such as education.

> It is difficult to make water for children and staff. It brings problems so we can teach, not worry about the water. The government need to make water for us (Teacher (1), interview (13), urban community (1), 18 November, 2016).

The lack of water resources impedes educating children in a post-conflict state like Timor-Leste, as 'factors related to water, sanitation and hygiene affect children's right to education in

[49] The school has no relationship with the international community in any respect. It was difficult to know if the government has plans to fix the water problems at the school. This is due to a lack of funds and resources at the local and national levels.

many ways. In an atmosphere of poor health, children are unable to fulfil their educational potential' (UNICEF 2003, n.p.). Good hygiene practices like handwashing offer life skills for hygiene practices that the child can transfer to the home environment - thus, they can lead by example. This can reduce waterborne diseases in a city like Dili. Young teenage girls also require good sanitation during their menstruation period. They may stay home if sanitation facilities are not available to them, impeding on their education opportunities (UNICEF 2003).[50]

In comparison, the second school I visited in central Dili has an Australian university civil society group that provides small educational tools that promote why it is important to wash your hands after going to the toilet. The programme provides pictures of children washing their hands, songs about water and music, and games related to water resource management (the WASH program). The school had running water from pipes connected to government sources that only worked on odd occasions.

> We keep water in drums near toilet the water stops running make problems for us. But important no, children have water. But we need to teach also (Teacher (2), interview (14), urban community (3), 18 November, 2016).

Despite these disadvantages, both schools appeared reasonably well-resourced, with furniture and windows. There were no fans or air-conditioners in these government-run schools. Significantly, in an attempt to counter the malnutrition issues throughout Timor-Leste, the government has an initiative that provides 'free' lunches to school-aged children that include milk, with a rice and a vegetable dish. [51]

The Chief informed me that this year (2016), for the first time since independence,

> the government gives us meters for one of our Aldeias. We see. This because a visit by the [former] Prime Minister, Gusmão to the Sucos. It Dili politics (Chief of Sucos, interview (15), urban community (3), 17 November, 2016).

This would indicate a pattern of personalised subnational administration as opposed to institutionalised administration. The water meter trial program has connected ten houses for trial but nowhere else in the community, even the marketplace or the Chief's office. The water mechanisms ensure constant water to the small community, which is a new experience for

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[50] These are the everyday basic needs of children around the world (UNICEF 2003).

[51] The policy priority of providing food over clean water is due to the large proportion of children with stunted growth and other malnutritional issues throughout Timor-Leste. These issues have been extensively discussed throughout this dissertation.

them. For this reason, this formal process has been successful so far, but people from other Aldeias' attempt to steal the water at night, which can be a problem that has resulted in minor skirmishes.

> I speak weekly with Chief of the Aldeias to talks about water programme from government. I to department from the Government for water, only when they come to see me. Sometimes they do not come (Chief of Sucos, interview (16), urban community (3), 17 November, 2016).

The Chief and the people of the Sucos do not understand the technical issues surrounding the pilot program and do not trust the long-term agenda for the water meter (public responsiveness). However, it appears that the local people inform the Chief of the Aldeias, through the monitoring process, what its pilot program objectives are, for example, checking for leaks, usage of water, and potential cost. The interactive process between the local residents and the authorities appears to be: the Chief of the Aldeias reports to the Chief of the Sucos if there are any issues with the pilot programmes based on feedback from the community members, while the Chief of the Sucos reports to the water and sanitation department for further consultation. There does not appear to be any control of this programme at the subnational level, apart from monitoring and reporting. In other words, the Chief's only role appears to be feedback to the local department in the context of the pilot programme. The local women have been asked to report any breakages or leaks to the Chief of the Aldeias for further consultation, which is a matter of management efficiency as well as 'gender-specific' participation.

However, an NGO spokesperson informed this study,

> clean water does exist in Dili; it is about making sure it is clean from the river sources, through the pipes, and on for drinking by the local people. Dogs and pigs defecate in the canal, where the water makes its way to the home. The output pipes from the homes used for toilets run directly into the canal. It is a uncontrolled circular occurrence which creates immense problems in the community, for example, waterborne diseases(17), Dili, 19 November, 2016).

Reaching out to the community through education programmes is critical in a fragile state environment where modes of communication and education programmes are lacking, or simply do not exist.

> In Timor-Leste, I believe that villages have only half of what Dili has in terms of water resource like pipes for water transport, and toilets for domestic circumstances. In the wet season when any attempt to maintain any 'real' water infrastructure management makes life very difficult as what little infrastructure exist, is washed away with the heavy rains that come. And accessing these villages can be difficult in normal circumstances and near impossible in the wet season. I believe that education is important as it will assist in changing people's attitudes and behaviour. Educate the people starting with the home, and with the school. I believe this will create jobs, education, and health. A full circle effect will change many lives. And it begins with the young

at school (The Timor government provides free education for the children) (INGO (3), interview (18), Dili, 19 November, 2016).

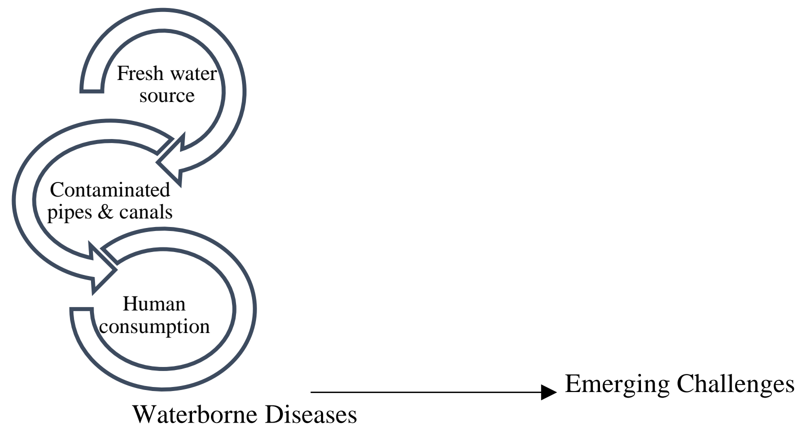

Figure 42: Vicious Cycle - Dili Water Supply

The idea of water meters is to get the local population accustomed to water resource management while understanding the benefits of clean and constant water. The time will come when the government will 'officially' meter the programme, and water use charges will begin, presenting real challenges for the Chief and his people.

> My people like water from them, not paying for water from government. Many of them [the people] do no money pay for water (Chief of Sucos, interview (19), 17 November, urban community (3), 2016).

There are some trade-offs between the mutual benefits of safe/clean water governance and cost-sharing politics, as we learnt in the literature review (political feasibility) (Laban 2007). Specific incentive mechanisms are key to the problem-solving process, such as always having clean water and a flushing toilet.

> Very difficult for Timorese people to make understand why pay for water is good. We do not understand this to make water (Chief of Sucos, interview (20), 17 November, urban community (3), 2016).

But this is problem in a country where corruption is rife, and money appears to matter more than access water resources.

> Unfortunately, there is a sense in the community that water is frequently available to those who can afford it, as opposed who cannot afford it. Here at the local university, water is a problem like anywhere else across the country. Where I live, water is frequently unavailable to the community I live in. And my community is located in the same part of Dili as the United Nations compound (Academic (2), interview (21), urban community (3), 20 November, 2016).

From my observations, the Chief was proud of the water metre programme and felt accountable for its installation whilst the community saw tangible water resources being constructed (see

below Figure 43 and formal water governance as opposed to the following Figure 44, informal water governance). It gave him and his community ownership and a perception of progress in the context of state and nation-building.

Figure 43: Formal Water Governance

Figure 44: Informal Water Governance

Further, the Chief informed this study there has never been an approach by a local NGO or INGO, the government, or any other organisation to assist his community in water governance, with the exception of a water mechanism set up at the marketplace for store holders (many years prior). I have noted through observation, regular visits, and research on Dili, that the

services provided by INGOs, and the research conducted by academics appear to be concentrated in rural Timor-Leste, as opposed to Dili (see previous chapter). The reasons for this remain unclear, although it appears to me that researchers only go where the good stories are. And in the context of water governance, the only good stories in Timor-Leste are in some rural communities who are supported by the international community (see Chapter 7).

As briefly mentioned in the previous chapter, the water authorities conduct regular checks on who has built illegal piping from the government-owned water supply to their communities. Once they mark these activities as illegal, they send technical staff to cut off the pipe - this creates immense trust issues between the state and local populations. The local men witness this process and proceed to take matters into their own hands, including threats and assaults that are both physical and verbal. The broader long-term problem with these attacks is that they result in water officials tending not to return to that community. It has the potential to delay the provisions (future) for providing future water resources to the local population. Small-scale structures of local self-government can be seen as a foundation for social trust. Then the local population may have a foundation for making the national mandates work in their favour.

As previously examined in Chapter 5, police often take the side of local community members out of loyalty. The police (trained by international police forces) are from the same community as the local community members that have their water cut off. It is difficult to grasp the institutionalised jurisdictional boundaries and responsibilities of the national water department, the subnational authorities, and the police. Understanding the nature and problems of intergovernmental relations in water-related services remains complex, and to some extent, non-transparent.[52] The Chief hopes that the pilot program will inspire his community to understand the importance of accessing clean water. And to move from an attitude

> Getting water is responsibility from government but responsibility of all people in the Aldeias (Chief of Sucos, interview (22), urban community (3), 17 November, 2016).[53]

A leading local NGO informed this study that

> State provisions that incorporate strategies and policies for water and sanitation do exist in Timor-Leste. However, the government have never executed such policies into practice that has any real impact on the local people. It is a real problem. (NGO, interview (23), Dili, 19 November, 2016).

[52] The author of this study visited the water office in Dili. It was challenging to get an interview.
[53] The reader should keep in mind that the people of these communities have never known constant, clean water.

As previously mentioned, I found the role of the Chief of the Sucos somewhat ambiguous. By that, I mean there appears to be no clear formal or informal job description as to whom the local subnational actors represent. Issues include, for example, jurisdiction and financial discretion, assigned functions, delegated responsibilities and political roles. Their role appears to be very fluid.

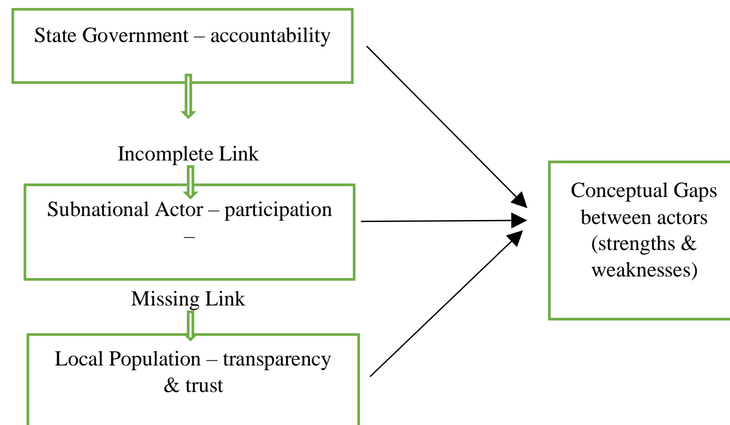

Figure 45: Conceptual Gaps Between Accountability, Participation, Transparency and Trust Adapted from (Waheduzzaman & Mphande 2014)

The above figure (45) demonstrates a conceptual gap between the state, subnational and local actors in the context of good governance and water governance. A lack of understanding of accountability and participation in the formal or informal processes of good governance, consequently, creates ineffective and inequitable water governance across urban Dili, Timor-Leste. We can consider formal water governance in these communities as limited, and hence, ineffective.

There was no evidence of a formal communication framework that included daily checks which record whether or not a system is functioning. The exception was what the Chief describes as, at best, a monitoring mechanism that required him to pass on information to the department for analysis but is not on set dates, weeks, or scheduled meetings.[54] An attempt by the state authorities to become efficient by building infrastructure is a critical variable for the water governance process in a post-conflict environment. It also requires a coordinated effort among different levels of government.

From an outsiders' point of view, informal governance may appear vague and random and continue to impede the peace-building and development process; however, this local community is applying whatever it takes to deliver fresh water daily to their community and

[54] Weinthal, Troell and Nakayama (2014) suggest the monitoring of water resources is critical for successful water governance in post-conflict environments.

its' families and thus the informal water governance process at play here is relatively strong. Meanwhile, an attempt at formal water governance (small measures) by the state not only disrupts the community, it creates conflict at the local level. A lack of transnational support is evident in the post-conflict communities presented in this chapter which this study has suggested is critical to effective water governance in post-conflict Timor-Leste.

6.3 Understanding Female Participation in Water Governance in Dili

The Chief of the Sucos claims females participate in managing water resources by informing their husbands when there is a mechanical issue such as broken tap, cut pipes and/or no water at all. From a feminist viewpoint, these women play a predetermined gender role in water governance while men perform a male gender role in mechanical matters. These women do not appear to be participating in a liberated way, especially in the decision-making process. These informal processes are intermeshed with community water governance, which is clearly a daily, if not hourly, struggle. Without the intervention of gender, accountability and efficiency would be less effective in this community as there would be less participation, hence a lack of empowerment (Singh 2006).

Observations of this community show that water is always at the centre of their lives. Women hold the primary role in domestic and daily water collection and distribution in this community, but without any state or international assistance to encourage a formal water governance process. In the same way, end-users must be participants, not simply benefit recipients, which is a key principle of participatory governance (Barten et al. 2002). Participatory governance emphasises the importance of participation in decision-making. Without directly interviewing women in this chapter, this can be hard to measure.

In Dili, a civil society group from Australia provides feminine hygiene packs for local women through their university group, which include educational tools such as books and colouring pencils for the children with images of water resources and introduces the concept of washing hands. These donations occur annually over a two-week period.[55] The representative of the group informed this study that

[55] The author interviewed this respondent in Australia in 2017, but I observed these women in 2015, 2016 and 2017.

> educating women about their rights and roles in the water governance process can be complex and challenging in fragile communities such as post-conflict societies (Civil Society group (1), interview (24), Perth/Dili, 2 March, 2017).

Post-conflict communities often have traditional 'patriarchal norms' which tend to downplay the role of women and create a

> 'second-class citizen status'. Such a status renders them to the domestic realm of duties without any real say in the process of long-term water management in both their communities and homes (Civil Society group (1) interview (25), Perth/Dili, 2 March, 2017.

Moreover, when gender equality and sustainable development are understood in post-conflict communities such as urban Dili, they reflect the necessity of including women in the decision-making process of water governance. Women have a strong connection with gathering, growing, and interacting with the community and environment; and this is especially true in Timor-Leste. It gives women a political voice in the context of peace-building and development (Singh 2008). This is supported by goal five (gender equality) of the SDGs (see appendix (b)).

> Gender equality and the environment are linked as activities traditionally pursued by women and are dependent on the environment, this includes water use and allocation in the community in which she has participated. Women in the developing world are generally tied to the ecosystem, particularly when looking at it through the necessity of clean water (Civil Society group (1), interview (26), Perth/Dili, 2 March, 2017).

As discussed in the literature, women in domestic settings in post-conflict states are best placed to understand how and where water resources operate effectively for both their homes, and for their communities.

> It follows that women are ideally placed as the most well-versed in understanding the need for effective policies relating to water governance, which we promote, and if anything, we are best placed as the carriers and executors of knowledge of water throughout the community we work in (Civil Society group (1), interview (27), 2 March, Perth/Dili, 2017).

If women in the developing world were given the platform to engage in policymaking and implementation, this would have a considerable impact on the implementation of genuine water governance in post-conflict societies such as Timor-Leste. In terms of equity and efficiency, this would benefit the recipients who have hands-on knowledge and experience on the ground level and would be expected to be part of the decision-making process through participatory accountability as critically examined in the literature review.

Moreover, this transnational group expresses concern about the actions of international groups who apply a

> ‘Western superiority complex’, or a liberalist top-down approach. In other words, in order to get the job done, transnational actors in the water governance space will dictate the terms and conditions in post-conflict states such as Timor-Leste, without consideration for the role of females in water governance. As an international actor, it would be fundamental to the success of any water governance and sanitisation programme for there to be a grassroots consultation process in order for the recipient women to be adequately supported through downward accountability and transparency (Civil Society group (1), interview (28), Perth/Dili, 2 April, 2017).

It is refreshing hearing this concern from an international organisation that operates as a donor as well.

Females in fragile states tend to maintain traditional knowledge of natural resource management and the process of preserving those resources such as water; however, this local management is often not taken into consideration by outside actors (Singh 2006). Local knowledge is one of the most important aspects of decentralised water governance.

> International aid agencies must interpret and re-evaluate expert advice that aligns with local knowledge and local actors in the communities (Sucos) through various dimensions that consider all actors, including females. (Civil Society group (1) female civil society member, (Civil Society group (1), interview (29), Perth/Dili, 2 April, 2017).

A significant opportunity would be missed if it were not understood that a strong partnership between a female-led international actor and female recipients in post-conflict societies can lead to improvements in the entire country’s access to water and sanitation.

International actors have a role to play in the water governance space that is both powerful and effective. The civil society organisation concludes by informing this research that.

> the connection between women, children and the entire family (institution) means that any assistance as an international actor from the gendered perspective will have the power to reach more broad and vulnerable members of society, and requires the involvement of state as well (Civil Society group (1), interview (30), Perth/Dili, 2 March, 2017).

Returning to the literature, Tripp (2017, n.p.) makes some pertinent observations about women’s greater representation in post-conflict governance, which has lasting impacts on the political landscape of identified countries, for example Rwanda.

> … post-conflict countries have considerably higher rates of female political representation when compared with non-conflict countries. Rwanda, e.g., today has the highest rates of female legislative representation in the world (63.8%). It is no accident either that post-conflict Liberia was the first country in Africa to elect a woman president. Similarly, from 1994 onwards post-conflict Uganda had a woman vice president for ten years.

Last, it would be easy for the foreign observer to be critical of the role of women in such communities. It is not our responsibility to change culture and societies; however, it is our responsibility to enhance and improve the role of women in water governance through

observation and interpretation in peace-building and development. It is in the best interests of the community and the state for women to have a strong and equal political and social voice in their communities because women are often marginalised during and after conflict. Empowering women allows them to better their lives by controlling their own environment, which promotes gender equality in complex post-conflict environments (Bayeh 2016). [56]

6.4 Conclusion

The examination of water governance across urban Timor-Leste is both challenging and vague. Repeatedly cutting off water from local communities is central to state water management practices across Timor-Leste. This dangerous exercise is combatted by local communities who, out of necessity, steal the water back, thus creating an abundance of mistrust and a lack of transparency while weakening 'political feasibility' at both the local and state level (this remains the case in urban Dili and is documented in this chapter).

The process of establishing and maintaining a system of water governance appears to be personalised, rather than institutionalised, across the city. Personal attributes such as the Chief of the Sucos leadership style, and more importantly, their discretionary powers have a key impact on social harmony among stakeholders. These important factors in the community's power structure, and that of local and national authorities, may impose specific constraints on and weaken water governance, particularly when a lack of accountability and participation prevails. This can also mean some actors are favoured over others. There may also be gender bias within a top-down approach to both informal and formal water governance practices.

Local actors are limited to doing things where they can, and this is due to a lack of resources and funds. The daily negotiations required by the Chiefs are somewhat commendable (because of what limited resources they have to work with) from what I have observed, demonstrating their strengths in a fragile environment. They are always playing the diplomat, representing the local community while ensuring the state's interests are being met, but without clear guidelines

[56] I am content that through interviews of international actors, local leaders, and my own observations of the women of Timor-Leste, that the relationship between water governance and women in post-conflict societies is similar, globally. Despite this, face-to-face interviews with women would have given another perspective to this dissertation, as ensuring a water governance framework that is specifically designed around the needs of Timor-Leste must include women in its scope. With or without direct interviews of women in both urban and rural Timor-Leste, the role of women in water governance at the local, national, and international level must be considered when creating a water governance framework in any state, whether it be a post-conflict state or not.

to follow. This must be difficult and something that is important to acknowledge, as the blame game can easily fall their way when it comes to a lack of provision for water governance in urban Dili.

Relevant actors, such as females, are integral to the success of water governance in post-conflict states and empower local and subnational actors both socially and politically. But issues impeding these successes include extreme poverty, access to specialised agencies, violence, and isolation.

The following Chapter 7 assesses the sustainability of informal water governance across rural Timor-Leste and the relationship between the transnational community and local community in water governance.

7.0 CHAPTER 7: ASSESSING THE SUSTAINABILITY OF WATER GOVERNANCE IN RURAL TIMOR-LESTE

> Water touches every aspect of development, and it links with nearly every Sustainable Development Goal (SDG). It drives economic growth, supports healthy ecosystems, and is essential and fundamental for life itself (WB 2018, n.p.).

7.1 Introduction

This chapter assesses the sustainability of water resources analysis of data related to rural Timor-Leste. First, it focuses on the role of the transnational actor and the impacts on relevant stakeholders who engage and initiate water governance programmes that are underpinned by good governance and the decisions made between the transnational actor and various local and state stakeholders. The second section of this chapter assesses two different cases, both engaged with a transnational actor in the context of informal water governance with different outcomes.

The views presented in this chapter are of various stakeholders including local actors and transnational actors (civil society group & INGO). This analysis of different respondents is triangulated with both observations and photographic evidence. This chapter is an analysis of data collected alongside relevant literature; therefore, this study outlines a findings and discussion approach.

The three concepts that make up collective governance as discussed in Chapter 2, and the previous two chapters are examined in relation to the findings of this chapter. Thereby assessing the position of the sustainability of water resources through water governance underpinned by good governance using a polycentric framework aligned in a post-conflict situation.

7.1.1 Co-management of Water Resources in Rural Timor-Leste - Sharing Knowledge

Transnational actors such as INGOs who operate in foreign places like Timor-Leste often have representatives placed in central locations (capital cities like Dili) that enable a hands-on approach to the recipients (communities) who require their services. The following INGO who works side by side with rural community (2) which operates out of Australia but has a representative in Timor-Leste, informed this research in 2017 that

> our water-related projects are guided by their constitutional values, which include cultural awareness and ensuring all activities are respectful, relevant, and developed in consultation

with local communities. This consultation process includes a sustainable strategy that ensures support for the community continues even once the project is completed (INGO (1), interview (1), rural community (2), 3 April, 2017).

Likewise, their organisation needs to conduct procedures within the context of ethical best practice, underscoring social accountability through open and transparent communication with all stakeholders within the water governance space. The employee insisted this ensures

> the community is left with the skills to maintain unexpected events that impact on their ability to execute good water governance. Strengthening the water governance process occurs through adaptability and consultation (INGO (1), interview (2), rural community (2), 3 April, 2017).

Learning and making use (capacity-building) of local resources such as bamboo has many benefits when managing water resources in remote locations where it is difficult to access modern infrastructure that is not always easy to replace. Benefits include cost cutting savings, abundant natural products, and a sustainable use of natural resources such as bamboo (see below Figure 46).

> We also demonstrate to the community how take advantage of their natural environment. This includes taking advantage of local resources such as bamboo to utilise as tools to carry the water to where it's needed (INGO (1), interview (3), rural community (2), 3 April, 2017).

Figure 46: Sustainable Use of Water Resources - Management

Having vison and following through with the objectives that are important to successful water governance ensures good outcomes that are beneficial to the community as a whole.

> The philosophy of the organisation is in the development process through a co-ownership programme that empowers the whole community with new skills (INGO (1), interview (4), rural community (2), 3 April, 2017).

Accordingly, this is underscored by a good governance (polycentric) approach and a participation process, as emphasised in Chapter 2, which promotes transparency and empowers minorities such as women through participation. It also encourages accountability in the water governance space. The service provider, in this study, describes their organisation's process through stages such as development and implementation. These stages described above,

> enhance the efficiency process through monitoring outcomes while supporting the community through empowerment and responsibility (INGO (1), interview (5), rural community (2), 3 April, 2017).

The representative of the INGO provided a case study of a rural collaboration where the community scoped the project (i.e., a bottom-up approach). This was followed by the construction phase that included training and maintenance (critical grassroots consultation). This policy learning was reciprocal as the recipient demonstrated accountability and support to the INGO, which manifested through a commitment to provide food and accommodation to staff from Australia and Dili who worked on the projects. And this is transformed through 'horizontal accountability' where agencies account for their actions to their stakeholders and vice versa while building trust through actions or participation (Peruzzotti & Smulovitz 2006). These shared responsibilities continued until the project was completed. This is known as the paradox of shared responsibility. The conceptualisation of shared responsibility among stakeholders allows us to assess the fitness of purpose and how this co-management of water governance will ensure the desired outcomes (Curtis 2013). In this case, all the actors planned, made decisions, and executed their strategy for the good of the project at hand. They coordinated between Australia, Dili, and the village. It appears to have worked well due to good planning that included a consultative process between the local community, the state, and the service provider.

> This strategy facilitated and continues to facilitate the process in the context of effective water governance (INGO (1), interview (6), rural community (2), 3 April, 2017).

Effective wate resource management requires consistent funds to ensure resources such as taps are maintained in order to deliver water. In this community, strengthening the outcomes of this water governance project was the foundation of a 'maintenance fund' set up by the INGO and the community.

> The maintenance fund is managed by the community, for the community. It ensures that broken equipment can be maintained, including maintenance manuals in both Tetum and English. These manuals provide 'images' for those who are illiterate. This demonstrates ownership of the project by the community and not the INGO. It aligns with a bottom-up grassroots approach that empowers the community. Continued successes are underpinned by a manager that operates from Timor-Leste, who corresponds with project partners between the community in Timor-Leste and Australia, and clearly, with great success, this includes operational success (INGO (1), interview (7), rural community (2), 3 April, 2017).

The manager visits the community regularly for meetings to discuss issues that may arise, budgeting constraints, and other items like objectives and grievances. These meetings give support to the community through communication and consultation.[57] The service provider also has a website where donors can donate money. This is how the various actors arrange themselves to deliver strong water governance (Huston 2014). This type of informal governance provided by transnational actors is a form of disruption, that creates a bottom-up approach. This disruptive water governance is temporary and can be adopted and adapted in the formal sense later during the peace-building and development phase when the state strengthens its resources (Ayres 2017; Van Tatenhove et al 2006).

It is evident that building on existing and new partnerships in the water governance space is critical to its success. Further, this service provider informed me that a process of engaging with the local actor through a government representative and the religious leader of the community is where we first begin this process. Priests wield considerable power in Timor-Leste due to the presence of the Catholic Church as a political broker, as discussed in this thesis. The organisation consults with the department responsible for water and sanitation in Dili before beginning a new project, which ensures that the organisation's work is not conflicting with government pilot programmes.

There is no conflict documented in this community. The organisation has a committed funding arrangement in Australia to ensure funds are a part of the sequencing framework that is critical to ensuring effective, equitable and good water governance in their projects in Timor-Leste. This is a polycentric water governance approach that includes consultations with the state as a means of political accountability that is bottom-up in nature and ensures successful water governance outcomes.

[57] Funds are raised in Australia through community dinners, film nights and other fundraising events.

Water governance models require flexibility to suit the needs of the community it is serving. The transnational actor accepts that

> this model does not always work in the order it is supposed to work in. However, once the 'bumps' are ironed out, the model used across rural Timor-Leste by our organisation always ensured good water governance outcomes (INGO (1), interview (8), rural community (2), 3 April, 2017).

Such efforts promote 'evaluation' as a means of ensuring accountability. INGO activities can be observed in a cyclic way: agenda/idea, decision-making, implementation, evaluation, and revised idea. The demand for evaluation encourages INGOs to remodel their outcomes (Takao 2003). The combination of informal and formal consultative water governance processes described in this section also vindicates the literature review presented in Chapter 2. This type of water governance proceeds through shared knowledge (intersubjective), which includes the roles of the local, subnational, and international actors, and underscores empowerment and ownership (see below Figure 47). A move away from a centralised process during the post-conflict phase can appease stakeholders while underpinning a bottom-up approach to water governance with overlapping tendencies of water resource management (Ostrom 2010).

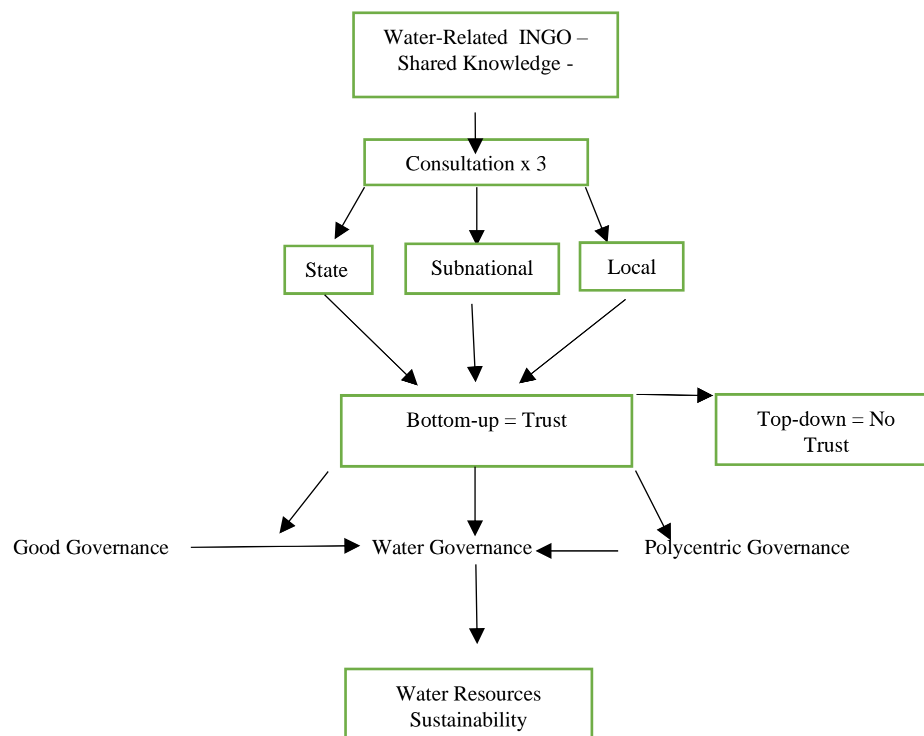

Figure 47: Sustainable Water Governance - Shared Knowledge -Bottom-Up

7.1.2 Water Governance - Incongruency

The following two rural communities (3) and (4) that I visited and observed in 2017 are in rural Timor-Leste. I also visited rural community (4) throughout 2016 with my advisor to make observations. I returned in 2017 to take photos and ask questions to enhance my understanding of and assess the data presented in this chapter. This included evaluating the problems and the positive outcomes of water governance in these communities. Both communities, geographically speaking, sit outside of urban Dili and are accessible by car or bus. They consist of widespread and isolated populations that speak a mix of Tokodede and Mambae languages. They are poor, with little water infrastructure or other development services such as health. Both communities suffer from waterborne diseases like bacterial diarrhea, and their economies rely on agriculture for income and resources. The communities are supported by international actors in relation to their water resources with little support from the government agencies: both communities have the usual hierarchical governance system including democratically elected Chiefs (WB 2017). Rural community (3) is supported by a civil society group from Australia, whilst rural community (4) is supported by a water-related INGO from Europe. On that note, rural community (3) has been provided with a water well (see below Figure 48 of a water well) by a civil society group. The other rural community (4) has been provided by an INGO with modern water resources that include a water governance model with a bottom-up approach that incorporates the participation of local women. Rural community (4) also consults with the state, the local subnational Chief, and the INGO.

Figure 48: The Water Well Being Built Before the Fence was Erected in Rural Timor-Leste

Rural community (3) has a subnational actor (the Chief of the Sucos) who has taken sole control of the water well provided by the civil society group (1) without any further consultation process with the community or the civil society group. I am informed that others in the community have little control over the water resources. However, when the recipient's representative, who in this case is also the subnational actor who represents both the rural community (3) and the government, does not follow the guidelines and verbal agreements between the service provider and the recipient in the context of water governance, it ends in disaster for the community. Hence, it is not a sustainable model for a post-conflict community. As a result, this creates grievances between all stakeholders. Just as crucial in the context of water governance, there is no monitoring or measurement of the outcomes, or 'operational accountability', which normally provide an effective and efficient means of achieving good governance as set out in the literature review (Jepson 2005).

When social and political accountability are present, the opposite can occur (equality), and water governance is executed with an agreement between the donor and the recipient. I observed such a project by an established leader in international development near Gleno in rural Timor-Leste, where I observe rural community (4).

Figure 49: Water Resources Provided by the INGO - Co-Governed by the Local Community in Gleno

Figure 50: Nothing to Capture it in the Context of Piping

This community has thrived because of good efficient water governance in the context of co-management, similar to the case presented in the previous section of this chapter. This

community is supported by resources such as finance, knowledge and commitment by the donor and the recipient. Women feel safe and secure and do not have to venture more than 20 metres in sight of their homes to collect water (see above Figure 49). In contrast to this is rural community (3), where the civil society group from Australia installed a water well for the local community. Typical homes in these communities do not have piping to catch the rain for water harvesting (see above Figure 50).

The civil society group representative informed this study that,

> this project was/is intended for the benefit of the community, which is supposed to provide the community with clean and constant water in which they have 'never' known (civil society group (2), interview (9), rural community (3), 10 April, 2017).

In rural community (4), good water governance has ensured sustained harmony and clean water with a sense of ownership. This is because everyone in the community participates through co-management and multilevel jurisdictional water governance processes enabling decision-making; for example,

> women had a say where the location of the water point for access would be, each family decided on when they contribute financially to the maintenance of water resources, while other individuals are responsible for reporting breakages at monthly meetings (INGO (2) 2017 interview (10), rural community (4) April, 2017).

Throughout the literature review, it is frequently argued that a process of consultation with local actors who manage water resources for domestic use and for their community is vital to successful water governance in a post-conflict state.

> We get water to our houses [taps are placed near their houses]. We can see taps from houses. This changed lives. Water is good clean. Good for us to get water [in terms of safety of the collection of water] (Local elder (1), interview (11), rural community (4), 13 April, 2017).

Complex social issues play a part in the process of governing water. For example, the donor to rural community (3) notes the site of the water well is also a social meeting place where women discuss their daily lives; this empowers women through participation in the ownership of water resources which is so vital in a post-conflict state, as we discovered in Chapters 5 and 6.

> It was agreed upon through the donor representative in Dili that communication regarding updates and maintenance would be between the Chief of the Sucos and myself by visiting the site; and by telephone, where possible, which proved difficult for the community. I first found it odd when the Chief of the Aldeias told me to only communicate with me, and he would allocate duties where who did what (civil society group (2), interview (12), rural community (3), 8 April, 2017).

The literature review emphasises the importance of functional accountability (consultative) and responsibility, where the right actors efficiently and effectively perform the relevant tasks in the interests of the broader community - a process that must be fair and equitable (Ebrahim 2003). This process of negotiation must demonstrate fairness (Conway, O'Keefe & Hrasky 2015).

The donor went to visit rural community (3) to ensure the project was being executed successfully after not being able to contact the Chief for some time. To his surprise, he found a fence had been erected around the water well with a gate that had a padlock and chain on it. He thought there might have been some structural damage that prevented community members from accessing the space and that this was to ensure their safety, although no one had informed him about it. He finally contacted the Chief of the Sucos to inquire about the fence. To his amazement, the Chief had taken charge of the water well without any consultation process with the community or the donor. It is important to remember the Chief of the Sucos is democratically elected to make decisions for the community on behalf of the community and the state (public responsiveness and policy representation). This incident is a timely reminder that water governance and bottom-up approaches to social and political life in Timor-Leste (especially in rural Timor-Leste) remain new concepts. Also, this is a small community; there is no Chief of the Aldeias and only one Chief of the Sucos. The Chief is the only actor who now controls the water well in this community, which is undemocratic and lacks transparency. I was informed that members of rural community (4), on the other hand, are accountable for managing the water (thus, there is a plurality of stakeholders). I was also informed that members of rural community (4) are committed to paying one dollar per month from each household to ensure the maintenance of the project is updated, and they continue to have access to clean water underpinned by incentive mechanisms.

Having access to resources in a fragile environment can assist in getting things done, such as effective water resources. According to the elder I spoke with for this study,

> Our Chief work with INGO that give us water machine [taps and piping]. We get good water every day. This is good for Aldeias we make life better. No more fights (Local elder (2), interview (13), rural community (4), 11 April, 2017).

Having water resources is one less thing to worry about in a fragile state. Accessing water through modern resources has enabled this community to better plan for their daily lives with purpose.

> Before water, we fighting over water because of no water, but conflict no more. Has since stopped because we have good water resources like the tap and new pipes (Local elder (3), interview (14), rural community (4), 11 April, 2017).

However, practices from various stakeholders are not always transparent, and can impede on equitable water resource management and the ability of other stakeholders to access. For example, in rural community (3),

> To get water we speak with Chief. He not always get water for us. Sometimes Chief, he is not in the Aldeias, no water for us. Make big problems for us (Local actor (1), interview (15), rural community (3), 8 April, 2017).

It is critical to make provisions when implementing a water governance programme into a new community. The transnational actor assisting rural community (3) is frustrated, as this project was installed for development purposes and not to create ownership problems at the local level.

> The local men built the water well and developed new skills for the community and could maintain the water well if need be. Also, they acquired new skills for securing a job with future development programmes in the country (civil society group (2), interview (16), rural community (3), 8 April, 2017).

There are potentially multiple benefits for effective and equitable water governance in water scarce communities.

> The project initially benefited the community for many reasons: first, it brought the community together through participation, which encouraged accountability, transparency, and ownership. It gave the women a sense of community and safety while reducing the distance they initially had to walk to access water; and the women had a say in where the water well was going to be built (civil society group (2), interview (17), rural community (3), 8 April, 2017).

It has been clearly argued throughout this thesis that successful water governance succeeds in post-conflict states through a process of shared management that encompasses pertinent stakeholders from the bottom-up.

> The installation of the fence has reversed this process and reignited community issues within the water resource and water governance space. I have not engaged or consulted with other community members about the water resource project and the existing problems. I do not want to make them 'vulnerable to isolation or even conflict from within their own community (civil society group (2), interview (18), rural community (3), 8 April, 2017).

The Chief appears to have adopted a position of control at the subnational level. For example, a lack of consultation could weaken the relationship between the state and rural community (3) - the Chief of the Aldeias is democratically elected - impeding peace-building and development in this community.

> It is difficult to get the chief to speak to us about this problem. He knew Chief but does not understand problem with this (Local actor (2), interview (19), rural community (3), 8 April, 2017).

As critically examined in the literature review, decentralisation in water governance promotes peace-building and development through a consultative process.

> We have no contact with Dili Chiefs [national politics]. We don't get help [water resources]. We have help each other (Local actor (3), interview (20), rural community (3), 8 April, 2017).

By enhancing the role of the non-state actor in this process, 'decentralization could also be expected to contribute to key elements of good governance, such as increasing people's opportunities for participation in economic, social, and political decisions' such as participating in the decision-making processes that concern their community (UNDP 1997, p.4).

> We learn water, you know, to build a well. Good, good for community, but now, I don't know. We now have to talk to big Chief, to fix problem. Better, I think (Local actor (4), interview (21), rural community (3), 8 April, 2017).

Unexpected stakeholders may hold the key to resolving disputes where culture and religion play an important part in people's daily lives. Perhaps in this community,

> the path to resolving this dispute is through the local religious leader (priest), who can perhaps persuade the Chief of the importance of giving access to the well for the whole of the community, which is an ongoing process of consultation (civil society group (2), interview (22), rural community (3), 8 April, 2017).

As discovered throughout this thesis, the Catholic Church, and its representatives, such as priest and nuns, wield considerable power in the community. They are often called upon to resolve disputes between various actors and sometimes prove more resilient and successful in their resolve to sort problems out in the community in which they work.

> We try make peace where possible, and when possible. We cannot get involved in violence, but we try and stop problems coming. It becomes more difficult after violence has come (Nun (1), interview (23), convent, rural Timor-Leste, 8 April, 2017).

The everyday struggles of effective water management in Timor-Leste are as evident as ever.

> Water is an issue in this country. We understand its value and try and stop waste where possible. In the Philippines where I have come from, we have problems water as well, but they are worse here in Timor-Leste. The government could do harder to improve water in this country. This is important for the life. In our own community [the convent], we have a water-well and other as water tanks. We not rely on government for water. Also, we have many children [orphans] that we house with a school, so getting water is very important for us (Nun (2), interview (24), orphanage, rural Timor-Leste, 8 April, 2017).

Community leaders and other prominent figures have a role to play in water governance in Timor-Leste.

> The church can only do so much. We have to be careful to make sure a balance. I have worked across poor countries like Timor-Leste for many years. One thing is understand, when it comes to water, people and place are unpredictable and can change very quickly. This is why I believe water should be number one when it comes to getting water for every person (Priest (1), interview (25), Catholic Church, rural Timor-Leste, 8 April, 2017).

The various dynamics between rural communities (3) and (4) are clear, which proves there is no consistent water governance process, either formal or informal, across Timor-Leste. It is also evident that good water governance in rural community (4) provided peace-building tools that underscore the effectiveness of a water governance approach that employs consultation and participation. The complexities involved (including power struggles) in the management of the different roles cannot be underestimated - the Chief in community rural (3) had an opportunity to provide leadership in his community with strong water governance. In contrast, the Chief of rural community (4) took advantage of the opportunity to engage his local community with an INGO. He encouraged the participation of all actors in the water governance space, including the local women of the community.

The research critically examined throughout Chapter 2 emphasises the process of decentralisation. This occurs through a polycentric water governance approach that insists on a bottom-up, grassroots-level process through participation that promotes accountability and is essential to successful water governance. Further, this vindicates peace-building and development in post-conflict Timor-Leste and requires the role of all actors, including foreign agents. However, the role of water governance and water resource management differ significantly, as explored throughout this dissertation. Simply providing a community with water resources without governance support can impede the peace-building and development process resulting in the types of consequences seen above.

7.2 Conclusion

The contrast between good water governance and bad water governance and how that reflects on people's daily lives in the post-conflict state of Timor-Leste is explored in Chapters 5, 6 and 7. It is clear from the evidence that water governance has no consistency in Timor-Leste at the local and/or state level, through the donor, recipient, subnational and/or transnational construct. It appears in some cases that water governance is considered a means to an end, or too technical

without a human social perspective, and creates many complex and multidimensional issues across the water governance space. There does not appear to be any formal water governance approach that reflects Timor-Leste's national agenda which is inspired by the government at any level. Although, there are experiences that reflect both effective and ineffective water governance presented in this chapter that can promote a framework of good water governance in post-conflict Timor-Leste through norms and beliefs underpinned by the international community through shared knowledge that appears sustainable.

It appears those who do not have access to clean water and sanitation, struggle in everyday life. From observation, this extra burden of accessing and providing water resources as something that places great strain on the community. Such pressures occupy the daily lives of both males and females. Water governance is a shared responsibility and has no gender agendas attached to it. Discernible from observation and interviews in this study, water governance can be vulnerable to corruption and non-transparent practices that are ineffective, inequitable and have significant impacts on the community, in the immediate and potentially in the long term. Vague water governance practices are destructive to the community for all actors in the post-conflict environment and include women who manage the daily provisions of water in an informal context. It is made even more complex in Timor-Leste with the hierarchy structure that evidence appoints to conflicts of interest. This is especially true when the recipient is also the government representative to the people and vice versa. However, some potential conflicts of interest may paradoxically benefit the community, depending on how experienced the subnational actor with prioritising agendas.

From an outsider's point of view, it always appears that the blame game for bad water governance is placed on the local government. In saying that, from inside Timor-Leste, the blame is placed squarely on the INGO and the international community (if applicable). From inside the community at the local level, the local community directs its frustration at both the state government and the INGO. However, it is the subnational actors who appears the most powerful actors in Timor-Leste when it comes to water resources management.

The evidence strongly suggests in this study that the role of pertinent actors when accountable, transparent, and participate in water governance with a shared responsibility gets results that are favourable to the standards of living and life in general, not to exclude access to freshwater (clean), hence the sustainability of water resources. This is underscored by the transnational donor in the previous section of this dissertation which through their water governance model

demonstrated that ownership in the water governance space must come from the people of Timor-Leste at the local level with a bottom-up approach through the assistance of the international actor like WASH programmes. The consultation process is critical between the state and other local actors. Programmes such as WASH remain today an important part of the informal water governance process in Timor-Leste. While these programmes rarely exist in urban Dili – apart from one example, evidence suggests that WASH programmes are proving effective to certain communities throughout rural Timor-Leste, as demonstrated in the empirical evidence chapters. WASH programmes are a small but important part of the water governance process in Timor-Leste. They require a consolidated approach that ensures the best outcomes for peace-building and development for all stakeholders.

The following Chapter 8 will present the discussions and conclusions.

8.0 CHAPTER 8: DISCUSSION AND CONCLUSIONS

> The lesson from East Timor is that nothing is impossible. If you dream, if you believe, if you have faith, you fight on, you persevere (José Ramos-Horta n.d., cited in UNDP 2018, n.p.)

8.1 Introduction

Since independence in 2002, Timor-Leste has endured a difficult and arduous social, political, economic, and environmental path that continues to plague the nation-state and impede peace-building and development. Some of these challenges have been met with assistance from the international community and continues today. Local and state actors from across Timor-Leste remain resilient to the harsh reality of having little access to water, food insecurity; and other development issues such as health and education in post-conflict Timor-Leste. The current decision-making process of Timor-Leste in the field of water governance is ambiguous at best, and inconsistent at worst. Evidence suggests that a top-down process in the new nation from the Government of Timor-Leste has been unsuccessful due to its limited capacity to execute water-related services to the community of Timor-Leste. The nature and types of water governance functions rest with the state elite that has a consensus trickling down to local communities that is top-down and inequitable; however, the recipient does not always receive the desired outcomes. The policy formation in the context of water governance in Timor-Leste relies heavily on the local, subnational, and international actors. Consequently, recent generations of Timorese have never known good water governance. Limited access to water is considered normal; however, confusion remains about the role of water governance. Placing the blame on particular actors will not assist in implementing effective water governance in post-conflict Timor-Leste.

There is a lack of coordination and responsibility by the state and subnational actor while the international and local actors must also consider their roles in the process of water governance acting as a catalyst for peace-building and development in post-conflict Timor-Leste. Governance, in general, is considered vague throughout Timor-Leste which crosses all sectors, including the water sector. The lack of good governance has held back the development of the social, political, and economic reconstruction of Timor-Leste since 1999, as critically examined throughout this dissertation. The good intentions of the international community have been critical to post-conflict development, as well as aid, that has partly assisted in the reconstruction phase of Timor-Leste. There is however a stark contrast between development

in rural and urban Timor-Leste where currently rural parts of the country endures extreme poverty. The inquiry made in this dissertation has determined that good water governance acts as a catalyst for peace-building and development in post-conflict Timor-Leste.

The decentralisation of the water sector while reflecting on the characteristics of global governance, requires a multi-actor approach to water governance as post-conflict governments do not have the resources to consistently manage the water sector in the broad interest of the population in both urban and rural Timor-Leste. Unstable governments do not have the capacity to ensure water resources are made available to the general population which requires the assistance of the international agent who works closely with all relevant actors across water governance in Timor-Leste. These include both state and non-state actors that are essential in the consideration of successful water governance with a bottom-up approach.

Timor-Leste, through recent peaceful elections, has demonstrated it is moving forward with a focus on stability. As a result, stability is what is required to ensure Timor-Leste can assist in meeting its development objectives. These objectives are also supported by international aid, from actors such as Australia and the UN. Timor-Leste is being guided by the UNDP in the context of the Sustainable Development Goals. It adopted the post-2015 17 Sustainable Development Goals, making them the country's priority in the hope the goals will support the redevelopment of post-conflict Timor-Leste. Applying such goals requires the efforts of all participating actors for implementation and success. Timor-Leste is being guided by the UNDP in the context of the Sustainable Development Goals.

The reconstruction of Timor-Leste will very much depend on the support from the international community. Timor-Leste is currently waiting for ASEAN to decide on accepting it as a member of the trillion-dollar economy that sits geographically on Timor-Leste's economic and geopolitical frontier. As a sovereign state, the future of Timor-Leste will be decided by both the people and good governance. Ultimately, it is the responsibility of both the state and non-state actors to ensure Timor-Leste emerges from the dark years of conflict and occupation through good, effective, and equitable governance. This includes the role of water governance in post-conflict peace-building and development.

8.2 The Key Outcomes and Unexpected Results

Chapters 5, 6 and 7 examined themes such as broad actor participation/local action at the local subnational and international level impact on water governance, forces change for good or bad

water governance in post-conflict Timor-Leste. Understanding these complex processes has revealed some unexpected results in Chapters 5, 6 and 7 (examined in the following paragraphs of this dissertation).

Evidence from the empirical evidence chapters suggests that the agency of individuals and the structure of communities in both Dili and rural Timor-Leste tell a story that is both strong and weak, and informal and formal in the context of water governance. Strong water governance emerges because of a relevant stakeholder decision-making process that is polycentric in nature. In contrast, vague water governance practices were due to a lack of coordination among actors such as participation, accountability and coordinated decision-making processes: these are described in Chapter 2. Predictability which some scholars consider a characteristic of good governance is difficult to characterise in a post-conflict environment owing to the volatile nature of the local and state political complexities when peace is often interrupted by various conflict. As mentioned in the previous chapters of this dissertation, strong and weak water governance supports and impedes on the process of peace-building and development through a range of intersecting factors presented throughout this study. These processes combined with empirical facts reveal unexpected research outcomes, which contribute to the water governance framework outline in this chapter.

This includes the following:

- Respondents claim that access to water was better under Indonesian rule. This was because the Indonesian authorities had to maintain law and order, and soldier loyalty by ensuring regular access to freshwater. Therefore, water governance in post-conflict Timor-Leste is complex and requires a **cross-sectorial** approach to successful water governance;
- There are no INGOs at the time of this study that currently focus on water governance operating out of Dili. This study has established that local actors in the capital of Timor-Leste are left to innovate through informal processes that facilitate in attaining water resources. It also tells us that there is a lack of **participation** between the local/state and international actors that impedes on the process of peace-building and development;
- The state authority regularly cut the water off from the local people in urban Dili establishing that there is no process of **decentralisation** in the water resource space in Dili;

- The local people steal the water from the government in both urban and rural Timor-Leste in order to access water. This finding confirms that there is a lack of **multilevel** and **cross-sectorial** approach in Dili;
- Conflict occurs in both urban and rural Timor-Leste due to poor water governance, where police often side with the local actors in the context of water management, as opposed to the authorities. This informs this dissertation that **decentralisation** of water governance in post-conflict Timor-Leste is essential;
- INGOs in association with the subnational actors do not always commit to long-term water projects, hence this creates conflict in rural Timor-Leste that impedes on the peace-building and development process in a post-conflict society. This informs this dissertation that **improved development and capacity-building** is critical to water governance in post-conflict Timor-Leste;
- There are no consistent and coordinated formal water governance processes across Timor-Leste except for a select few communities in Dili that now have water meters: these are pilot programmes examined in chapter 6. Only selected rural communities have water programmes provided by INGOs, civil society, and the Australian government. This informs this dissertation that there is a lack of **multilevel** water governance throughout Timor-Leste;
- There is little evidence to suggest that customs and traditions are used in urban (Dili) Timor-Leste (consistently and reliably) and the broader rural Timor-Leste to govern water at the local level, as previously examined in chapter 2. This informs this dissertation that there is a lack of **grassroots bottom-up** approach (traditional) in both urban and rural Timor-Leste.

As previously mentioned, confusion about the practice and theory of water governance throughout Timor-Leste appears to have an impact on research, policy, and WASH programmes across the broad water sector spectrum. Most studies previously conducted in Timor-Leste and reviewed throughout this dissertation have mainly been in rural parts of the country, with the exception of one study outlined in the literature review by Myers et al. (2011), conducted in Dili.

The evidence presented by Myers et al. (2011) argues that attaining safe water was a result of an individual's accessibility to social capital which creates a nexus for jobs, education, and other social advantages like health which they highlight are more available in urban Timor-

Leste, as opposed to rural Timor-Leste. The accumulation for social capital should promote civil society groups through trust and partnerships which are social, political, and economic, as examined in Chapter 2. Conflict occurs in both urban and rural Timor-Leste owing to deficient water governance, regardless of the social capital shared among residents in the community. Keep in mind, water governance according to evidence presented in the literature review demands creating policy from a specific environment, from which water governance operates. Water management is about being able to attain and/or distribute water to the local population through a process that functions within a water governance environment arranged by various actors described throughout this dissertation. Moreover, this underscores the critical role of a multi-actor decision-making process through consultation with a bottom-up approach to water governance, outlined in Chapter 7 with communities that attain good water governance. Consequently, those who do not experience good water governance do not follow the same prescribed model, namely, polycentric in nature involving state and non-state actors. These reasons could be social, political, economic, environmental, and geographic. Previous studies conducted in Timor-Leste on water-related management emphasise the role of informal governance through INGOs and local communities with outcomes that have consistently included effective, efficient, and good water governance. This means good outcomes for all actors in the water governance space.

Previous discussions in Chapter 2 have been critical to understanding various methods of water management through cross-discipline studies, including the role of customs and traditions play in the process of water resources in rural Timor-Leste. However, this dissertation found little support for *Tara Bandu* (as previous studies suggest) in both urban and rural Timor-Leste. Hence, the findings of the research presented in this study are vastly different from previous related studies of post-conflict Timor-Leste. Those in urban Dili informed me that they consider *Tara Bandu* as 'black magic' and do not think it is suitable for their community. They further added that the practice of *Tara Bandu* did not promote access to water in an urban environment. This contrasts with the case documented by Palmer (2010) in Baucau city, Timor-Leste.

The lack of academic literature and scholarly debate on water governance in Dili, unfortunately promotes a casual attitude to the importance of water governance in the process of peace-building and development in post-conflict Timor-Leste. I suspect global attitudes in the context of post-conflict communities are similar, meaning that local, subnational, and state actors do

not see the importance of water governance on peace-building and development in a post-conflict environment. This comes without any real scrutiny by the subnational and international communities, which includes a void in the constitution of Timor-Leste in the context of water governance. There appears to be no accountability or transparency from the top-down institutions because there is no focus on water governance. Evidence would suggest this is because of a lack of knowledge and a lack of resources; and other development issues taking priority over water resource development. Water governance remains critical to future of Timor-Leste. Ownership and allocation appear ambiguous and inconsistent. These ambiguities and inconsistencies include peri-urban Dili, where constant disruptions are caused due to lack of law, policy, and ownership, as described in section 5.2.3 of Chapter 5. Land ownership remains a contentious issue in post-conflict Timor-Leste. This includes where the water springs emerge from. The owners of these natural water springs can control who accesses the water or does not, which can cause immense disruptions to the community.

While rural Timor-Leste has many WASH programmes, not every community benefit from its outcomes. Despite this, studies presented in Chapters 5, 6, and 7 informed the research that there are both success and failures owing to good and bad water governance. Allouche (2014) rightly suggests that governments have an opportunity in the post-conflict state to strengthen their political position through state-building by accessing rural communities, offering water resources that he says, strengthens the relationship between the local non-state and state actors in the process of nation-building. But that has not been the case presented in this dissertation. In fact, it has been the opposite because of issues related to accessing parts of rural and remote Timor-Leste.

Consequently, success stories are supported by the themes and topics presented in Chapter 2 in the literature review. This informs the research that factors such as interaction among the local, subnational, and international agents through the process of accountability, transparency, and participation underscore successful water governance. A polycentric and multi-actor decision-making process from the grassroots level bottom-up, supported by decentralisation enhances water governance.

As critically examined, polycentric water governance has positive outcomes but must include a consultation process of all actors with no dominant actor or top-down process requiring a shift from the control of the central government to a broad multi-actor approach. The research

finds that this promotes peace and encourages leadership, emphasising the role of consultation from the grassroots level.

8.3 Water Governance Framework in the Context of Timor-Leste

The ultimate objective of this dissertation is to tentatively propose a water governance framework based on secondary and primary empirical evidence relevant to this case study. As the author has observed, while there is some consensus on governance strategies such as accountability and transparency from numerous policymakers, including 'improved development' (Grindle 2017) by academics, and other actors in the post-conflict community. However, Rogers and Hall (2003, p. 27) claim 'there is no single model of effective water governance; indeed, to be effective, governance systems must fit the social, economic and cultural particularities of each country'. Similarly, Weinthal, Troell and Nakayama (2014) argue that for a water governance model in a post-conflict state to be successful, the following should be considered based on first, universal water governance models (objectives), and second, this should remain country context-specific (operational designs and implementation), while expanding on the following:

- the need for a safe and secure environment that is free from conflict;
- accountability, development, participation, and transparency that promotes ethical decision making;
- encouraging decentralisation that advocates a governance structure, which is all-encompassing of the community that includes the state and non-state actors;
- and concluding with effective, equitable and good water governance.

While the above characteristics of water governance are considered essential to universal thinking, including the post-conflict state, this dissertation considers more specific actors and other essential components that are required to meet the short-term and long-term needs of Timor-Leste. It is crucial to remember that policymakers and scholars agree that each state requires a water governance model that is framed around the specific needs of the case study being examined, in this case, Timor-Leste. Likewise, it is important to consider water governance in the role of peace-building and development in post-conflict societies is a

relatively new phenomenon. Also, this can be considered even more critical in an often volatile and unpredictable environment such as in a post-conflict society like Timor-Leste.

The proposed water governance framework for Timor-Leste is based on the qualitative and empirical evidence presented in this dissertation (below in Figure 51). Polycentric water governance is a unit of knowledge for enhancing the efficiency and equity of access to clean water. My findings suggest six key strategies (polycentric in nature): decentralisation (function), grassroots bottom-up approach (initiation), participatory approach (initiation), capacity-development (function), cross-sectoral (interaction), and a multilevel approach (interaction).

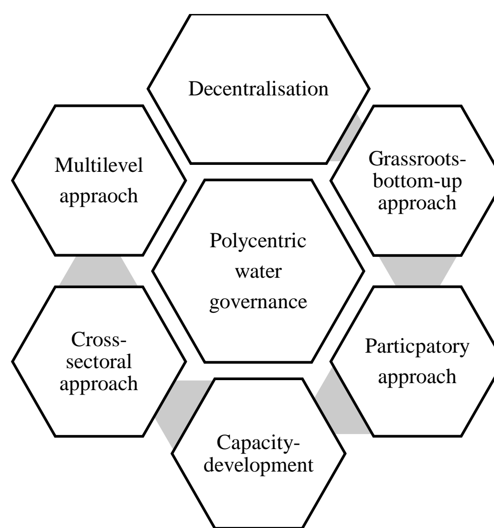

Figure 51: Water Governance Framework for Timor-Leste

As previously outlined, the term governance describes and explains the different ways in which state and non-state agents organise their environment in order to find solutions to shared issues. The contemporary application of theory (political and government) maintains formal institutional services (state) that provides public good and state security (Takao 2016). Government is regularly seen as an explanation for governance, both referring to the direction of state issues. From the late 20th century, an incremental shift in the scholarly approach to literature underscores the phrase governance as opposed to the government. The shift to governance from the understanding of governments (traditional) highlights the point that making decisions and solving problems in a post-conflict environment is a shared challenge for both state and non-state actors.

This recent paradigmatic shift encourages a non-traditional bottom-up and/or shared process that is usually absent in a top-down state approach, where governments make decisions without

a consulting process with non-state actors. The notion of effective water governance needs to be a shared process that incorporates the local, subnational/state, and transnational actors. However, in most cases, governance includes state institutions in solving problems through a hybrid process that merges non-state actors and non-state bureaucracies in the traditional public arena. The findings in this dissertation suggest a collective task of actors, which include organisations, individuals and groups that integrate through the social, economic, environmental, and political nexus of post-conflict Timor-Leste. Consequently, these components impact on the management of water and its resources across a broad spectrum that is both complex and multidimensional.

In a post-conflict state, **decentralisation** is critical for water governance and good governance, which facilitates the sharing of knowledge, such as transferring of technology and water resources. Sharing knowledge occurs between both non-state and state actors through a **cross-sectorial approach**. These actors include local communities led by their democratically elected local subnational actors. It places these actors at the core of water governance, contributing a set of key objectives: institutional strengthening, democracy, and peace-building.

The case study conducted in this project offers many examples that suggest the urgent necessity of effective decentralisation because state authorities in Timor-Leste do not have the resources to offer effective water resources to the people. The decentralised coordination and cooperation among stakeholders are thus legitimised by the potential benefits, for example, democracy-building and social equity, as well as the development impact on their communities, as critically examined in Chapter 2.

Local actors who are impacted by poor water governance are demanding solutions to problem-solving through local shared knowledge with a **grassroots bottom-up** approach. Local knowledge can often assist in attaining water at the local level. This case study highlights the critical nature of local participation in water governance as this promotes a stronger community in the context of attaining water resources.

These findings were highlighted in Chapter 7, where the local community managed their water project, which included financial and logistical mechanisms, and was immensely powerful in the context of peace-building and development. It had very efficient outcomes that are both equitable and efficient.

The ideal grassroots bottom-up approach in applying water governance requires the skill, capacity, and participation of local actors with local knowledge. Also, co-management encourages local actors to participate in the process of consistent access to clean water. A paradigmatic shift in water governance involving a bottom-up approach, promotes a human security framework to work from, giving ownership to the local actor by the local actor. This shift ensures the process of scaling moves to a broad space that allows for adaptability that considers both a vertical and horizontal cross-level approach to water governance.

It is critical to successful water governance that participating actors are identified and engaged in the process of water resources, ensuring each representative of their interest groups are included in water governance. In this dissertation, they are identified as subnational and state actors who (where possible) should provide equitable water governance.

Following this, the transnational/international actor that must (when possible) provide effective water governance through sustainable provisions, impacting on the third group identified. As a result, this enables the local actor to provide good water governance at the local level because of the processes previously described involving INGOs in rural Timor-Leste. They provided both good governance and equally strong water resources that included capacity-building and ownership.

It is important to note that promoting greater participation and producing efficient governance is often considered as a trade-off against each other. Subnational authorities and local communities are effective at hosting participatory decision-making models rather than adopting efficient enterprises. Ironically, the lack of revenue capacity at the subnational level is expected to increase local task for refining the financial productivity of their implementation. Ideally, the approach taken by subnational actors will move towards the conciliation of broad actor participation frameworks with gainful effectiveness.

The participation of the community is more likely to encourage local actors so they can have a politically effective impact on the water governance process. In post-conflict states, water governance faces the challenge of meeting the immediate need for multi-sectoral action. The communication processes between public authorities and residents are expected to enhance the transparency and social equity of cost-sharing for water services and thus increase personal feelings about the prospect for successful citizen participation. There is an opportunity for

participatory methods to develop shared accountability of cost-sharing over water supply among private and public actors. In this respect, water governance is a matter of politics.

Critically, the capacities of actors are integral for the success of strategies with fellow agents both internal and external. These structures promote the access of strong water resources, which can be obtained at the local level, particularly encouraging capacity-development, and staff expansion of knowledge. In the context **decentralisation** of governance, subnational and community actors tend to create and facilitate strong decision-making processes due to their relationships with local actors and state organisations. Consequently, this motivates responses to people's water governance needs through accountability and participation.

Any governance is created through structures and processes that promote an observation, whilst maintaining accountability at all levels, including all participating actors. Participation underscores the importance of building upon the organisation of the community people's contribution. Local actors become the receivers of good water resource management through water governance that highlights **participatory** action at all levels. In a post-conflict environment, this encourages a process of decentralisation.

It is also important that the national government facilitates subnational governments to be proactive in promoting good water governance. This is especially true in ensuring the state supports subnational actors in their limited task in providing good resource management to the local community through strong water governance. In a post-conflict environment, good resource management requires the cooperation of all actors that includes the international community.

After years of conflict, **capacity-development** or capacity-building is critical to the process of reconstructing the state, and this includes water governance. As demonstrated in the case study, educational programmes about budgeting, technical maintenance for water resources were all new skills provided to the community by the INGO. This created efficient services to the community, ultimately by the community. Capacity-development enables local actors to attain new skills, build on and reconstruct new sectors, innovate, and create economic frameworks that alleviate poverty. Capacity-building also addresses infrastructure issues such as water and sanitation, rebuilding the nation and creating economic frameworks that strengthen the community.

Polycentricity is observed as a non-hierarchical framework that allows different actors to make decisions with different objectives and values not independent of each other, but in constant interaction among all actors. A key feature of polycentric governance is the expected emergence of a spontaneous problem solutions as the outcome of evolutionary interaction and negotiation between different ideas, instruments, and ways of life.

Evidence strongly suggests that good water governance practices (both in developed and developing states) are successful because of a consultative approach, which involves a decision-making process. These processes ensure participation, accountability, empowerment and finally, transparency through a **multilevel** approach to the decision-making process. This is supported by experiences presented in Chapter 7.

Critical analysis throughout this dissertation strongly suggests throughout this dissertation, creating a unique water governance framework that fits the needs of Timor-Leste in the context of water governance magnifies the immense challenges that confront the people, especially in the process of rebuilding their nation in a post-conflict environment. There are complex ontologies such as culture and history that require consideration, as presented in Chapters 3, 5, 6 and 7.

These conclusions are based on both the secondary and primary research chapters of this dissertation, in underscoring why water governance creates foundations for peace-building and development in post-conflict Timor-Leste.

8.4 Six Strategies and Findings in this Research

The six strategies drawn from the water governance framework are proposed as solutions to water-related problems as a result of good water governance. These aspects will assist the people of Timor-Leste in peace-building and development. Guided by these six strategies, good governance can:

- provide a community with clean water, which prevents waterborne diseases;
- promote the reconstruction of water and sanitation infrastructure, which can create employment and new sectors while supporting new economic frameworks so that the general population can afford access to water resources;
- mitigate climate change, creating new and innovative sectors and new skills;

- encourage schools to provide good sanitation, where females tend to attend school during their menstruation process, which is good for female education, social awareness; and the whole nation-state of Timor-Leste;
- strengthen the relationship between the state and the non-state actor, strengthening the country socially, economically, politically, and environmentally;
- draw the global community together with the local, subnational, and state actors that is intersubjective in nature, which lays the foundations for new international partnerships through good water governance.

Practical problem-solving solutions are a clear indicator of good water governance through efficiency and equity in a post-conflict Timor-Leste. Water resource solutions offer tangible results to local communities. Such solutions offer economic frameworks, new skills, and access to water resources.

8.5 Methodological Issues

The research method applied throughout this study has been found to be valuable in post-conflict Timor-Leste in both urban and rural environments while conducting this research. Conducting face-to-face interviews, observations and taking photos has been effective in collecting the necessary information in examining and analysing the context of bottom-up water governance at the grassroots level in post-conflict Timor-Leste. Conducting quantitative research surveys would have not been reliable owing to the literacy problems faced throughout both urban and rural Timor-Leste: supervising such a survey for authentic results would have been challenging (Van der Reis 2000). Data would have been considered unreliable. Understanding the role of local actors in the water governance space could only be enhanced by participant observation that is underscored by the qualitative approach to research methods in the social sciences with a view to human security. Such an approach requires the researcher to physically be a part of the community in which they are researching (Elmendorf & Luloff 2001).

At times during this research, it was observed that individual actors sometimes appeared awkward being interviewed alone for political pressures. Hence, the author of this dissertation believes group interviews that include women may have been beneficial to the research conducted. I do not believe the outcomes of the research would vary too much; however, a more ‘vocal’ criticism of the state authorities and the role of the agency of females in the

context of collective water governance would have presented a more coherent picture in post-conflict Timor-Leste, not only about the politics of females, but also about its impact on water governance. This may enable a clearer picture of how females contribute to peace-building in a post-conflict situation. A reminder to the reader that patriarchy dominate community life in both urban and rural Timor-Leste.

A broad study and comparative analysis with other post-conflict states and Timor-Leste may benefit and further validate the research presented in this dissertation, as would be understanding further the scaling of geography, previous conflict; and the position of the government, hence the influence of both local and international politics of that case study could be compared with Timor-Leste.

Finally, due to the lack of research that exists on urban Timor-Leste in the context of water governance, it may have been beneficial to this research that a broader comparative analysis be conducted in urban Dili and urban Baucau, as to assess if the same challenges exist in the realm of water-related matters in a post-conflict environment from a view of collective governance. Highlighted by the fact that social capital in my case study did not prove to be a determining factor in water governance in either urban or rural Timor-Leste. People in researched communities in urban Dili had jobs, networks and their children attended school; however, these communities still experienced local conflict due to vague water governance practices that are both formal and informal in nature. Accessing water is a daily struggle in both urban and rural Timor-Leste.

Further studies can only enhance the peace-building and development process in post-conflict environments such as Timor-Leste in the context of water governance. While understanding may be unique to the case study at hand, findings. provide possible solutions and policy directions, which could benefit the post-conflict state of Timor-Leste; and contributes to the broader academic literature.

8.6 Recommendations and Further Research

This dissertation lays the foundation for further studies on water governance in both urban and rural Timor-Leste. Included is a broad study on water governance that focuses on communities in urban Dili and urban Baucau; Timor-Leste's largest two urban areas. The rationale for further study would be to create a clearer and coherent picture of water governance in Timor-Leste's two largest urban dwellings. An engagement with state officials on the critical nature

of a broad multi-actor polycentric approach to water governance would be beneficial to further research. It would contribute to the research in assessing the role of the state in the process of polycentric governance in the context of water governance. Further studies of the role of women in both urban and rural Timor-Leste in the context of water governance in this post-conflict communities are essential. The significance of further studies would promote better conditions for women in the context of water governance, which would enable researchers and policymakers to create a policy that improves the lives of women in post-conflict states.

8.7 Conclusion

In this dissertation, I set out to investigate the role of water governance in post-conflict peace-building and development: a case of Timor-Leste. Highlighted by the evidence presented in this dissertation, it is clear that water governance based on the framework presented in this chapter promotes peace-building and development in post-conflict Timor-Leste. It is clear from both the secondary and primary research presented throughout this dissertation that Timor-Leste has immense challenges in the context of achieving good water governance.

These challenges are aggravated by other broad development issues, such as a lack of health services (water-related), skills (water-related), transport infrastructure, the scale of geography, and inconsistent political decision-making, all previously set out in this study. This underscores a void in good governance structures throughout Timor-Leste in many sectors. Understanding the complexities of water governance in a post-conflict environment from an international perspective have highlighted the obstacles as well as the pathways that can ensure that water governance promotes the role of peace-building and development in Timor-Leste. This examination also ensured a vigorous water governance framework designed specifically for Timor-Leste in a post-conflict environment, encouraging further research where weaknesses exist.

The research presented in this dissertation investigated both urban and rural Timor-Leste in the context of global water governance supported by a methodology that is qualitative in nature with an analysis and collection of data through observation, interviews, and photographic evidence. This included an investigation of the role of multiple actors required for water governance in post-conflict Timor-Leste.

The evidence in this dissertation suggests that the global characteristics that define water governance through participation intermeshed with local, subnational, and international actors

with a bottom-up approach are essential to human security and future development in Timor-Leste. This dissertation concludes that good water governance should include a polycentric multi-decision-making process, which are successful components of water governance in post-conflict Timor-Leste while all actors remain accountable during this process. Water governance in post-conflict Timor-Leste demands a paradigmatic shift from a state-centric top-down to a human security approach that promotes a bottom-up approach to water governance and the process of peace-building and development in post-conflict Timor-Leste. Above all, this informs and assists in the construction of a water governance framework presented in this concluding chapter is inclusive of key elements such as a bottom-up approach. Therefore, a water governance framework is required specifically for peace-building and development in post-conflict Timor-Leste.

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Appendices

Appendix A: OECD Twelve Principles (Water) and Guiding Principles (Water)

1. Clearly allocate and distinguish roles and responsibilities for water policymaking, policy implementation, operational management and regulation, and foster coordination across these responsible authorities.

2. Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster coordination between the different scales.

3. Encourage policy coherence through effective cross-sectoral coordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning, and land use.

4. Adapt the level of capacity of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties.

5. Produce, update, and share timely, consistent, comparable, and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy.

6. Ensure that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent, and timely manner.

7. Ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest.

8. Promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders.

9. Mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making.

10. Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.

11. Encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations.

12. Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed.

Concerted action is needed to reverse the present trends of overconsumption, pollution, and rising threats from drought and floods. The Conference Report sets out recommendations for action at local, national, and international levels, based on four guiding principles.

Principle No. 1:

Water is a finite and vulnerable resource, essential to sustain life, development, and the environment.

Since water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or groundwater aquifer.

Principle No. 2:

Water development and management should be based on a participatory approach, involving users, planners, and policymakers at all levels.

The participatory approach involves raising awareness of the importance of water among policymakers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.

Principle No. 3:

Women play a central part in the provision, management and safeguarding of water.

This pivotal role of women as providers and users of water and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women's specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.

Principle No. 4:

Water has an economic value in all its competing uses and should be recognised as an economic good.

Within this principle, it is vital to recognise first the basic right of all human beings to have access to clean water and sanitation at an affordable price. Past failure to recognise the economic value of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources.

Principle No. 5:

Water is vital for the life and health of people and ecosystems and a basic requirement for the development of countries, but around the world women, men and children lack access to adequate and safe water to meet their most basic needs. Water resources, and the related ecosystems that provide and sustain them are under threat from pollution, unsustainable use, land-use changes, climate change and many other forces. The link between these threats and poverty is clear, for it is the poor who are hit first and hardest. This leads to one simple conclusion: business, as usual, is not an option. There is, of course, a huge diversity of needs and situations around the globe, but together we have one common goal: to provide water

security in the twenty-first century. This means ensuring that water, coastal and related ecosystems are protected and improved; that sustainable development and political stability are promoted, that every person has access to enough safe water at an affordable cost to lead a healthy and productive life and that the vulnerable are protected from the risks of water-related hazards.

Appendix B: The Post 2015 (17) Sustainable Development Goals

(1) No Poverty; (2) Zero Hunger; (3) Good Health and Well-being; (4) Quality Education; (5) Gender Equality; (6) Clean Water and Sanitation; (7) Affordable and Clean Energy; (8) Decent Work and Economic Growth; (9) Industry, Innovation, and Infrastructure; (10) Reducing Inequality; (11) Sustainable Cities and Communities; (12) Responsible Consumption and Production; (13) Climate Action; (14) Life Below the Water; (15) Life on the Land; (16) Peace, Justice, and Strong Institutions; (17) Partnerships for the Goals.

Figure 52: The 2015 (17) SDGS

Source: (UNDP 2019)

Appendix C: Timor-Leste Governance and Electoral Structure (Political)

Timor-Leste Political Structure

The Head of State is the President of the Republic, who is elected by popular vote for a five-year term. The President guarantees the respect for the Constitution and for State Institutions, and when necessary, can act as a mediator for conflict resolution. He/she can also exercise the right to veto legislation put forth by the government and approved by the National Parliament.

Following legislative elections, the president appoints as prime minister the leader of the majority party or majority coalition. As Head of State the President also presides over the Council of State and the Superior Council of Defence and Security.

The unicameral Timorese parliament is the National Parliament or (Parlamento Nacional), whose members are also elected by popular vote to a five-year term. The number of seats can vary from a minimum of 52 to a maximum of 65. All legal political parties can run to the legislative elections, organizing to that effect their list of candidates to the National Parliament. The Government is the Executive body of the State and is responsible for the development and implementation of the Government Program for the 5-year term. The Head of the Government is the Prime-Minister.

As far as administrative division is concerned, Timor-Leste is split into 13 districts: Bobonaro, Liquiçá, Díli, Baucau, Manatuto and Lautém on the north coast; Cova-Lima, Ainaro, Manufahi and Viqueque, on the south coast; Ermera and Aileu, the two landlocked districts; and Oecussi-Ambeno, the enclave in Indonesian territory. The borders determining the 13 districts have been more or less the same since the last years of Portuguese administration. Each district comprises one capital city and various subdistricts whose number can vary between three and seven, with an average of five subdistricts per district. Demographically, Dili is the district where the majority of the population is concentrated, while Aileu registers the lowest population rate, although its area is superior to Dili's.

The 13 districts are subdivided into 67 sub-districts, with one designated as the capital, and administrative subdivisions – the so-called *sukus* (villages) – which vary between 2 and 18 per subdistrict. The largest subdistrict is Lospalos, in Lautem, with an area of 635 km², while Nain Feto in Dili is considered to be the smallest, with 6 km². Fatululik, one of the smallest subdistricts, is the less populated with approximately two thousand inhabitants. The

subdistricts which present higher demographic rates are the ones belonging to the district of Dili, specifically those surrounding the national capital.

The smallest administrative division in Timor-Leste is the *Sucos (*village), which can comprise one or many Aldeias (hamlets). The territory is divided into 498 villages, an average of seven per subdistrict. Baucau has more villages (63) than any other district, while Ainaro is the district with the least divisions (21 villages). Based on the average number of villages per subdistrict, the most central districts are the ones with more administrative segments. Aileu and Ermera have the highest average number, 11 villages per district, and Ainaro and Oecussi-Ambeno the lowest, with five villages per subdistrict. The most central and mountainous subdistricts with the highest number of villages are: Aileu, in the Aileu district, and Bobonaro, in the Bobonaro district, with 18 divisions each; however, the subdistricts of Hato Udo, in Ainaro, and Tutuala, in Lautem, which lie near the coast, have only two villages each.

In regards to area, the largest villages lie on the easternmost part of Timor-Leste, specifically Laline in the subdistrict of Lacluta, Viqueque, with 212 km². Dili comprises the smallest villages (15 altogether), similar to neighbourhoods (the so called *bairos*), with areas between 2 km² and 0.06 km^2. The population distribution is highly uneven. Among the four villages that constitute the subdistrict of Fatululik, in Cova-Lima, two have a population of less than 500 inhabitants. One of these villages has only 135 people, being the least populated village in Timor-Leste. As expected, the villages with high demographic rates (over 5,000 inhabitants per square kilometer) belong to the Dili district, namely to the Dom Aleixo subdistrict. The most populated village is Fuiloro in Lospalos, in the Lautem district, with a population of 10,000 inhabitants.

Electoral Management Model:

- Timor-Leste has a mixed model (government & independent) of Electoral Management;
- The Secretariat Technical for Electoral Administration (STAE) – responsible for planning and implement electoral process, referendum, and voter registration;
- According to the Law 5/2006. The National Electoral Commission (CNE) – responsible for monitoring and supervisory the electoral process. According to the number 5, Article 65 of RDTL Constitution;
- Court of Appeals – to validate electoral process results.

Appendix D: Interviews (Including Method of Recording) Followed by Further Probes Categorised into Three chapters as Per the Empirical Evidence Chapters Five, Six and Seven:

Chapters	Dates/years	Community/organisation/induvial & Languages spoken for this study.	Interviewees	Question
Four Five & Six	2015 2016 2017	Urban & Rural Timor-Leste (Dili, Liquica & Gleno). Australia (Darwin & Perth). **Languages spoken for this study** Tetum & Portuguese was used in urban Dili for this study. Tetum, Tokodede and Mambae were used in Rural Timor-Leste for this study. English was used in Australia for this study.	Non-state actors Subnational-actors Transnational actors.	Included 32 questions, & 8 probes, when required (see below).

Figure 53: Interview Schedule of Dates, Locations, Actors, Languages, and Questions

During note taking I utilised the following methods: (1). I carried a tablet (electronic device) with me to the field so I could take notes and record interviews. (2) I had a word document (on tablet and laptop) for memos (3). A pen and paper were utilised as Timor-Leste is humid and the screen (tablet device) was often moist which impeded notetaking and photos opportunities. (4). An excel spreadsheet-manual for coding – (laptop) on location, and in the allocated offices and research labs. While 'coding is itself is easy to do, it is difficult to do well. This perhaps why some researchers prefer to stick to paper & markers while coding' (Linneberg & Korsgaard 2019, p.6), including excel spreadsheets. Also, when I was visiting rural communities, accessing electricity consistently to charge the battery was something I had to consider during the process of fieldwork.

The Below questions are set out in chronological order as Per Chapters Five, Six And Seven:

All questions (below) are in numerical order; however, at times, the author would mix the questions and/or adjust the questions to suit the environment. But the below questions are generally set out in the way of chronological order and may be mixed with the probes and other inquires that follow the below questions and inquires.

Please note: Further probes (as a follow-up) were considered and put to participants during the data collection process for INGO recipients in Chapter Six as follows (but mixed up with the open-ended questions and probes following the questions below).

1. I wanted to know what the purpose of water resources and how it assists their particular community (medical clinic, school, community, city etc.). My inquiry is primarily

about the water-related matters, and how do/would they impact on the local community in the context of water governance? And what about water from the government (for e.g., pipes & infrastructure)? How decisions in the context of water governance are made by the Timor-Leste state authorities, which includes the subnational and state actors since independence from Indonesia until the present, impact on the development of Timor-Leste?

2. The recipient/s were asked how their community accesses freshwater on a regular basis? What does this community, for example, clinic, school etc., service provider?
3. How would you describe you funding (if relevant) in the context of water resources?
4. I want to know how and who decides about water resources and how they are allocated. I begin to probe about the water governance structure in this community/organisation.
5. Where do you source your water from? How many options do you have? Are they legal, formal, or informal? Where do you access sanitation services from?
6. Understanding complex politics in the context of water governance in Dili and per-urban Dili. How does this impact the local population (this same question is asked in rural communities but relevant to their areas where they live)?
7. What does it mean when there are no clear policies in place in the context of water resources? What does it mean when there is no accountability in the context of urban and peri-urban water governance (this same question is asked in rural communities but relevant to their areas where they live)?
8. How can the local population confront these issues without government support? What are the outcomes of this processes in your community in the context of water resources, for example, freshwater and sanitation?
9. How do the police decide who is right in the context of water resource management when there is no coherent state policy when there is conflict at play? (police are members of the community and tend to look after the needs of their community before the states interest).
10. How are females in your community involved in the water governance space? (the role of females in water governance). What role do the local actors including females play in the decision-making process in the context of water governance and water resource management in post-conflict Timor-Leste? What are the outcomes? Are they equitable?
11. You appear to be organised in an informal manner to access water in a variety of ways? Is that difficult to maintain? What are the challenges? How do you make change happen? (why informal water governance is important).

12. Is there assistance from the government in terms of water resource management? Is it allocated by finances (direct), or by resources (Understanding the state's role in local water transactions)?
13. Why it is important the whole community comes together in a collection group for effective water governance? What are benefits for the community?
14. How does this assist in maintaining community relations?
15. How does spiritual governance like Tara Bandu play a role in your community (in water governance)? Is it relevant to your community? Do all members of your community practice Tara Bandu? Does Tara Bandu facilitate access to freshwater?
16. How do you go about getting the local people to participate and be accountable (in the context of water resource management)? Does each member have a role to play? Are those roles made clear to each member?
17. What lessons do you think can assist your community in water governance from the past (maintaining stability is critical, even to the occupiers passed on knowledge)
18. How do you think formal water governance would assist your community? A community that has never known issues with water. These communities have survived on informal water governance processes (non-normative).
19. Understanding how water can be used as a tool for both peace and conflict.
20. How does water play a role in politics in your community (water and politics are inseparable)?
21. How would new skills assist in shaping the future of the community? (capacity-development can solve many issues)
22. Does the community understand how vague water governance can impede on the peace-building and development process?
23. What can you do to protect vulnerable actors like females and children in the water governance process during the post-conflict state?
24. How would water play a role in your community in the context of food security water is critical to food security)?
25. How does not having any food impact the community? Food security is not guaranteed. Would access to freshwater assist in maintaining a source of fresh food?
26. Do you think your community would be willing to pay for a water management system? (trade-offs are critical in the water governance space). How would you best manage this process? How complex is it to explain this process to your community members?

27. Does corruption impact on the community's ability to maintain water resources (corruption in the management of water impedes on the peace-building and development process)? Are corrupt practices accepted in Timor-Leste (I was hesitant in asking this question. But the literature presented in Chapter 2 warranted it)?
28. How do you make long term provisions for the community in the context of water governance in a post-conflict environment?
29. Do you think working together with other stakeholders (international community) can assist in good water governance (partnership in the water governance space is critical in a post-conflict state).
30. How would freshwater impact on the health of the community (freshwater & health go hand in hand)?
31. Why is monitoring of water resources vital to water governance in your community?
32. For now, do you think informal water governance vs formal water governance matters to your community? (see below probes).

Probes for Further Responses

- In the context of women in the process of good water governance, do you think it is important that vulnerable groups and individuals such as women have a social, political, and environmental say and/or participate in the decision-making process in the management of water governance in a post-conflict society? And how do international civil society groups through education play a role in this process?
- Also, ensuring participating stakeholders are a part of the consultation process about decision making regarding water-resources in their community, for example, vulnerable actors, such as those who live in extreme poverty?
- Create opportunities for new skills to the community to ensure their water resources are maintained, while potentially creating new industries?
- Do you consult with government services on the needs of the community before engaging with the local recipients (INGOs & civil society)?
- How do you ensure your water resources (informal & formal) are being used correctly by the recipient/community for the best outcomes?
- Do local actors, customs and traditions play a role in water governance in Timor-Leste?
- How strong is the relationship between the local community, the state and non-state actors in the context of water governance, peace-building , and development?

- In the context of civil society groups in the process of good water governance, do you think it is important that the international community participate in the decision-making process in the management of water governance in a post-conflict society with shared knowledge? If so, do international actor's society play a role in this process?

Appendix E: Consent Form in English and in Tetum

'The role of water governance in peace-building and development in a post-conflict/fragile state: Timor-Leste, a case study'

Principal Investigator, Yasuo Takao

Department of and International Studies, Curtin University

Co-Investigator, Christopher Ryan

Department of Social Sciences and International Studies, Curtin University

1. I .... consent to take part in the research project of *"A case study that will critically analyse Timor-Leste, drawn from secondary and primary research, which explores the critical role of the water governance processes in the post-conflict state in peace-building and development. This investigation highlights that water governance "acts" as a catalyst in peace-building and development in the post-conflict state but should be underpinned by capacity-development and community stakeholder engagement."* I have read the information sheet for this project and understand its contents. I have had the opportunity to ask questions about this research and I have received answers that are satisfactory to me. My consent is freely given.

2. I understand that while information received during the interview may be published in academic journals or books, my name and position title will not be identified in relation to any of the information I have provided, unless I explicitly agree that I am willing to be identified when quoted.

3. I understand that if I agree to be recorded on digital media, it will be made available upon request.

4. I understand that any personal information will be kept confidential so far as the law allows. The information collected throughout the duration of the interview will be stored in a locked office at Curtin University. The information entered onto a computer will be kept in a computer accessible only by password by Christopher Ryan.

5. I understand that I may withdraw from the research project at any stage, without providing any reason and that this will not have any adverse consequences for me. If I withdraw, the information I provide will not be used by the project.

7. In any publications produced as a result of this research I consent to be identified by (check one):

□ My full name

□ My position and organisation (if you tick this box, it is possible that you could be identified)

□ None of the above (complete confidentiality)

Signed ………………………………… Date ……………………

8. I consent to be recorded on digital media by the interviewer. I understand that the media will be stored securely at Curtin University.

Signed……………………………………Date……………………

Name of Participant:

Signed:

Dated:

I certify that I have explained the study to the participant and consider that he/she/they understands what is involved.

Name of Interviewer:

Signed:

Dated:

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Formulario konkorda ba Intervista "Papel gestaun be'e ba harii dame no dezemvolvementu iha postu komflitu/frajila iha Nasaun Timor –Leste, "estudu kauzua ida" Prinsipal Investigador, Yasuo Takao Departamentu Estudu Internacional da Universidade Curtin Co-Investigador, Christopher Ryan Departamentu de Ciências Sociais e Estudu Internacional da Universidade Curtin ha'u............................konkorda hodi partisipa iha projetu peskiza kona-ba "estudu kazu ne ' ebé sei analiza kritikalmente iha Timor-Leste , ne ' ebé mai husi primáriu

no sekundáriu peskiza, ne ' ebé esplora papél importante iha prosesu gestaun bee nian, iha póstu-konflitu no harii paz no dezenvolvimentu . Investigasaun ida-ne'e subliña katak gestaun bee "atua" hanesan katalizadór iha harii paz no dezenvolvimentu iha Nasaun póstu-konflitu, Maibé tenke apoiu husi kapasidade envolvimentu husi engajementu komunidade no parte intersadu sira. Ha'u le'e ona iha folha informasaun ba projetu ida ne'e no komprende ona ninia konteúdu. Ha'u iha oportunidade atu husu pergunta kona-ba peskiza ida ne'e, no ha'u simu ona resposta ne'ebe satisfas mai hau. Ha'u livre atu fó konsentimentu 2. ha'u komprende katak wainhira informasaun ne' ebé simu durante intrevista bele publika iha journals akadémiku ka livru, ha'u-nia naran no pozisaun títulu sei la identifika relasaun ho informasaun neebe ha'u fó ona, excetu ha'u konkorda katak ha'u prontu atu identifika bainhira persija. 3. Ha'u komprende katak se ha'u deside atu publika iha media dijital , ida-ne'e sei halo disponivel pedidu ida. 4. Ha'u komprende katak informasaun pesoál ruma sei rai konfidensiál tan ne'e lei mós permite. Informasaun ne ' ebé halibur durante entrevista sei rai iha eskritóriu ida-ne ' ebé xave metin h iha Universidade Curtin. Informasaun ne ' ebé rai iha computer nee sei rai iha computer ida neebe bele asesivel de'it usa password husi Christopher Ryan. 5. Ha'u komprende katak ha'u bele foti husi projetu peskiza ida ne'e iha tempu ruma, sein fó razaun ruma, no katak ida ne'e sei la hetan konsekuénsia aat ruma ba ha'u. Se ha'u foti, informasaun ne ' ebé fó ha'u sei la uza hosi projetu ne'e. 6. Iha publikasaun ida ne ' ebé produs nu'udar rezultadu hosi peskiza ida ne'e, hau konkorda tenke identifika liu husi (kontrolu ida) ♣ Hau nia Naran kompletu ♣ Hau nia posisaun no Organisasaun (se karik ita bot marka iha kaixa ida nee posivel katak imi bele identifika ona) ♣ La iha leten (kompletu konfidensialidade) Asinatura ....Data 7. Ha'u konkorda atu publika iha dijital liu husi entrevistadór . Ha'u komprende katak media sei rai siguru iha Universidade Curtin. Asinatura...........................Data Naran participante : Asinatura : Data : Ha'u verifika katak ha'u esplika ona estudu ba partisipante sira, no konsidera katak feto /Mane komprende katak saida mak saida mak involve Naran Entrevistadór: Asina : Data : Informasaun ba kontaktu Christopher Ryan, PhD Candidate School of Media, Culture and Creative Arts Curtin University GPO Box 1987 Perth, WA 6845 cryan2@postrad.curtin.edu.au

Appendix F: Live Conversation from Urban Dili – No Editing (broken English)

Respondent - hi brother you know what i am doing now? i am fill the water.

Me - What is that picture?

Me - Where is the water coming from?

Respondent – Neighbouring water pipe

Me - Amazing!!! How long will that take?

Respondent - i will stay until 5 am -4-5 hours- will not sleep for tonight hahaha any tomorow is sunday holiday so i can sleep all day

Me - So u take the water to your house???

Respondent - using water pump.pump from pipes tap to my tanks

Me - Yes but the picture is dark.

Respondent - yes because night bro ha ha ha

Me- Ha ha ha!!!

Me- Sleep good tomorrow

Respondent - thank brother.

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