Chapter 1: Introduction

Water, as we know, dissolves more substances than any other liquid, known as the 'universal solvent', wherever it flows 'it carries substances along with it' (Altman 2002:10). This analogy is particularly poignant in the Baucau Viqueque region of Timor Leste, which like much of the rest of the island, is underlain by karst formations. In such environments the topography is formed chiefly by the dissolving of rock by water and complex and changing surface and subsurface water pathways are always in the process of ending or becoming. Earthly substances are always on the move.

In the course of carrying out research for this book, I slowly came to understand another reality: that in this particular karstic landscape the subsurface waterworld carries with it and is inspirited by aspects of a sacred and animate cosmos. In the material reality of this society, such water is the life nourishing milk and blood of the earth and a key medium of communication between the visible and invisible worlds, the worlds of light and dark. Emerging from springs into the light of the surface world, karst water carries with it, mediates and transforms the spiritual essences of both life and death.

Drawing on primary ethnographic research carried out between 2004 and 2014 in the eastern districts of Baucau and Viqueque (population 182,000 (NSD & UNFPA 2011); see Map 1.1), this book is an important contribution to the recent resumption of anthropological work in post-independence Timor Leste (McWilliam & Traube 2011). It examines the spiritual ecology and associated hydrosocial cycle of a water focused society, following the trails of water and water associated spirit beings travelling through the karstic landscape from the mountains to the sea. It argues that in this hydrosocial cycle the material reality of water is critical to the ways in which local agricultural communities create and maintain place, to their understandings of space and social relationships and to their particular cosmopolitical configurations of life and being. This supra-social landscape (where the social is not confined to the domain of human beings) was created by and still governed through complex interactions between spirits, humans, animals and other physical objects and forces. Laying out in a 'perspicuous' view (Wittgenstein 1979: 9e) my

own ethnographic data and interpretation, this book tries to answer questions about how water is perceived, managed and used in this region of Timor Leste and how local people's own understanding of their past and future trajectories are linked to their particular understandings of the significance of water. It then considers how these local realities engage with and are today co-constituted by modernist technologies of water governance.

The Baucau Viqueque zone is divided in its central region by rugged forested hills and mountains splitting on either side into tracts of savannah and coastal areas replete with limestone terraces, caves, outcrops, sinkholes, depressions, springs, sub-surface drainage and sub-surface rivers of which, until recently, little was scientifically understood (cf. Metzner 1977). In order to better locate and potentially access these groundwater resources, in the late 2000s hydro-geological research was systematically carried out in Baucau by scientific advisers to the Timorese government (Furness 2011, 2012; Wallace *et al* 2012a; see Map 1.2). The karst limestone formations of the Baucau Viqueque zone vary greatly in age between the ancient mountains of the central Mundo Perdido range to the much younger Pleistocene raised coral reefs of Baucau plateau and marine terrace zone (Audley-Charles 1968; Wallace *et al* 2012a)[1]. Impermeable clay formation separates these two zones.

Water flowing through the younger karst of the Baucau plateau region does so via a 'two phase flow system' (Furness 2012). After rain water enters the weathered rock and thin soils, water flow is activated initially through the porosity of the limestone. The second phase of flow is through the secondary karst features of sinkholes, dolines, caves and enlarged fractures. While the initial flow through the limestone is diffuse, connected to the secondary porosity features and flows are large springs which are potentially high yielding (Furness 2012: 3; see Map 1.2)[2]. While the region has a pronounced wet season, in some springs such as Wai Lia in Baucau, the annual flow cycle is stronger in the dry season (June-October). This is counter-intuitive and suggests a long time lag in the water's underground flow.

While these hydrogeological surveys (2010-2012) produced much important information on the local hydrology, there was no attempt to understand how the karst water flows and landscape was configured in local cosmological and socio-ecological terms. Yet my own research, intensively carried out during roughly the same period, makes it clear that from a local perspective this entire karstic landscape forms a culturally connected web of seepages and deep underground water pathways stretching from the central mountains, to the plateau, marine terrace zone and eventually to the sea.

Located in the heart of the ancient contact and collision zone between the migrating pacific peoples of Melanesia and Austronesian seafarers from southern China, most inhabitants of the Baucau Viqueque zone speak one or more of the Makasae, Kawamina and Tetum languages[3]. In contrast to the Eastern Tetum (Hicks 2004 [1976]), little ethnographic work has been carried out with Austronesian Waima'a (a 'dialect' of the Kawamina language group) and non-Austronesian Makasae speakers.[4] Taking seriously the import of their localized place making histories and social relations with water, as this book unfolds I carefully consider the ways in which this waterscape, associated topography, underground pathways and meteorological phenomena are interpreted and interacted with. I draw out distinctive regional narrative genres relating to house-based origins, settlement and spring water and argue that spring water has, and continues, to play a central role in contestations over power and place. I explore the way narratives told as village and 'house' histories, as well as religious practices carried out at and around springs, continually transform and reverberate across time and space as common myths and practices linked to particular places (which are linked in turn to other places and islands across the region). I argue that taken as a whole, they make clear the all-encompassing meaning and significance of water across the zone and the variables that continue to influence local religious practices and water governance outcomes. In the final chapters I investigate how these localized narratives and associated practices intersect with mainstream colonial and more modern histories of development and exchange across the region.

Understanding that spring water is a critical element through which people relate to one another and the landscape, the book also traces the import of water to the ancient production of wet rice

examining complex social, political, economic and environmental fluidities and continuities across time and space. With the independence era opening up a space for the resurgence and renegotiation of these relations, I argue that despite the neoliberal governance agendas of others, local people continue to foreground and engage with the foundational customary economy under whose auspices water's spiritual agency is activated and local water politics plays out. In these dynamic and opportunistic processes I argue we can locate a new 'politics of possibility' (Gibson-Graham 2006) for alternative modes of environmental governance and economic development.

Modernizing water governance and the place of custom

Coming to its present form in 2002, independent Timor Leste is recognised as one of the most significant contemporary international experiments in building the state from the ground up. With a population and landscape deeply scarred by a tumultuous and complicated colonial history, Timor-Leste is a post-conflict state struggling with enormous development challenges. Following centuries of Portuguese missionizing and colonial rule, the often bloody military and bureaucratic occupation of the country by Indonesia from 1975 (Gunn 1999) resulted in the disruption of Timorese land uses and lifestyles through ongoing military surveillance and conflict with Timorese resistance forces (CAVR 2006). During this period the Timorese suffered abuses of human rights, and the widespread loss of life[5] and property (CAVR 2006; Tanter *et al*. 2006, Nevins 2005). Hence independent Timor-Leste faces complex social and economic challenges as it attempts to rebuild itself as a modern nation state (Fox 2001; Fox & Babo Soares 2002; Hill & Saldanha 2001; Philpott 2006; Scheiner 2014). Since 1999, numerous United Nations peacekeeping and state building missions (between the periods of 1999–2002 and 2006–2012) and the independent government of Timor-Leste (2002—present) have continued to struggle with enormous development and reconstruction challenges. Timor-Leste is one of the five poorest countries in Asia (Pasquale 2011). Some 41 percent of the population lives below the national poverty line, and adult literacy is only percent (UNDP 2009). The tiny half island state is characterized by ecological and cultural diversity: a collision zone for an array of little studied (hydro)geological formations and languages[6] and a region of ever changing ecological

habitats on which depend multitudes of small scale livelihood practices and cultures. Most of the million or so Timorese live in rural areas, and they practice traditional near-subsistence agriculture, and depending on their geographical context, fishing, hunting, gathering and some cash cropping (UNDP 2009).

As quickly as the 1999 violent withdrawal of the Indonesian occupiers destroyed the extant formal governance and infrastructure of the country, it also heralded a large scale, intensive development intervention by the United Nations, international donors and organisations. The lingering effects of this more than decade long intervention has exerted an unparalleled influence on the nascent nation's development priorities and agenda (Peake 2013). Nowhere is this more evident than in the realm of water governance (see Jackson & Palmer 2012). In the post-independence era, with water and sanitation services either non-existent or in critical disrepair across much of the country, the Timorese state and their international advisors began the long process of developing much needed national water laws and policies. From the outset, the new Timorese constitution claimed all water resources as the property of the State, and donor banks and countries supported resource assessments to better understand the characteristics and limits of water resources (Furness 2004; Asian Development Bank 2004; Costin & Powell 2006; Wallace *et al* 2012a). New laws and policy are based on the widely accepted global best practice of Integrated Water Resources Management (IWRM) defined as 'a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems' (UNEP-DHI Centre for Water and Environment 2009). Yet in this flurry of activity and knowledge building, much less was done to understand the critical importance of water within the vibrant and enchanted ecologies of Timorese lifeworlds. Likewise, even as donors despaired at the reality of local water and sanitation projects which seemed to fail almost as quickly as their success had been proclaimed (Schoffel 2006), little interest was shown in understanding why it was that localized water sources remained much as they had always been: wellsprings of community wellbeing and revered sites of emplaced identity and custodial responsibility, as well as key sites of resistance and empowerment in the face of 'outsider' transgressions. The contention of this book is that this

critical 'oversight' was and continues to be driven by the failure to engage politically with what I am calling localized spiritual ecologies.

The lessons of this book, drawn against the backdrop of indigenous worlds colliding and enmeshing with new regimes of governance in Timor Leste, resonate across many post-conflict societies, and indeed for modern water governance regimes more generally they are highly topical. The importance of the rights of local and indigenous peoples, and how exactly those rights are configured and formally recognised, remains one of the most vexing questions in state water governance regimes at all stages of modernity (Jackson & Palmer 2012). Across the globe, indigenous peoples, broadly defined, have systematically lower access to water services than non-indigenous peoples (Jiménez *et al* 2014). Moreover, if we take the question of 'what it means to be and become human today, in dynamic relationship with non-human worlds' (Sullivan 2009: 24) as one of our most pressing problems (Bakker 2010; Latour 2009; Smith 2007), then the task of making visible and legible alternative ways of being in and knowing the world is critical.

In some countries long standing practices and beliefs around water and its management have survived the colonial and modern period and continue to exert a significant influence over the contemporary management of these localised water systems (Jackson & Palmer 2012; Jackson forthcoming; Bakker 2007). Diverse customary institutions continue to govern the sharing, distribution and consumption of water in many countries (Jackson & Palmer 2012; cf. Madaleno 2007; Lansing 2007; Jackson & Altman 2009; Langton 2006; Boelens 2014; Gachenko 2012, Rodriguez 2006). Yet even when they are formally recognised in law, the majority of these laws treat superficially customary rights and interests, relegating them to 'a legal limbo' where they are dealt with by 'basically separating them out of the mainstream "modern" water rights regulated by statute, and by creating a separate legal space for them' (Burchi 2011:3, cited in Jackson & Palmer 2012). While in the twenty first century IWRM continues to be championed as international best practice in water governance, this regime has thus far struggled to incorporate less quantifiable values such as local and indigenous peoples' rights and knowledge, often with detrimental medium-to-long term consequences (Jackson & Palmer 2012; Jackson 2008). Meanwhile, the delineated hydro-ecological units and related

assumptions of integrated catchment management which underpin modern water governance are challenged in places like Timor Leste where people are bound and connected to water in more complex social, political and cosmological ways (cf. Barber & Jackson 2012).

Building on theories of post-humanism and vital materialism emergent in socio-nature studies, this ethnography challenges us to think through the ways in which alternative (non-capitalist) value fields require more than a recognition space in existing capitalist systems. Rather it focuses on what these values and practices can teach us about the significance and worth of sociality and communicative reciprocity across human and non-human realms (cf. Jackson & Palmer 2014). Drawing together an understanding and analysis of Timorese lifeworlds through their localized water histories, material imaginations, ritual practices and spirit ecologies it challenges us to reconceptualize water governance and what is meant by the concept of both the hydrological cycle and its neologism the hydrosocial cycle (Bakker 2003; Swyngedouw 2004; Linton 2010). In doing so, it provides unique place based insights into three critically under-addressed questions in water governance across the globe: The role of water in sustaining diverse forms of socio-cultural life; the varied socio-cultural ways of valuing, managing and using water; and the consequences of these relations for long term sustainability outcomes (Johnstone *et al* 2012: xi-xii). It argues that deepening our knowledge of the imaginative materialities (Anderson and Wylie 2009; see also Bachelard 1983, McCleod 2013) constituting water, and the consequences of this for our understanding of and engagement with localised hydrosocial cycles, is critical to reappraising approaches to sustainability (cf. Johnstone *et al* 2012: xvi).

The spiritual ecology of water and the eastern archipelago

The influence of religion on human ecology and adaptation has come to be called 'spiritual ecology' (Sponsel 2010: 131, 2012)[7]. Advocating for further inquiry into what he argues is an emerging field, Sponsel (2010: 138) observes that as '[h]uman ecology can involve the supernatural as well as the natural, and emotion as well as reason…more needs to be done in trying to test multiple working hypotheses about the ecological salience and efficacy of aspects of religion' (2010: 138). This book follows in a tradition of works which have interpreted the meaning and significance of localized ritual and spiritual ecologies, specifically building on

existing studies of water 'management' embedded in religious beliefs and practices (Conklin 1980; Lansing 2007; Gelles 2000; Boelens 2009, 2014; Rodriguez 2006; Strang 2004, 2013; Boelens & Dávila UNESCO 2006).

In his early consideration of the interface between religious practice and ecology, Rappaport's seminal work (1967) among the Tsembaga of Papua New Guinea argued that the local religious ritual practice of *kaiko* was an environmental regulator of pig populations. While his focus in this ethnography was a supposed self-regulating human-ecological system, more recent work on the religion-environmental interface has engaged with more complex dynamic, adaptive systems paying acute attention to the vicissitudes of historical interconnection and contingencies. Similarly in the case of religious practices associated with water management, historical contingencies linking ritual practices to a larger moral economy are always responding to changes both internal and external to its own logics. In her work on the history and present day practices of traditional hybrid Hispanic and indigenous *acequia* irrigation communities in New Mexico, Rogriguez remarks:

> The principal of water sharing belongs to a larger moral economy that promotes cooperative economic behavior through inculcating the core value of *respeto* [respect] and gendered norms of personal comportment. Religious beliefs and practices sanction these norms, promote *communitas*, and enact a devotional community's relationship to its traditional irrigated land base (2006: 116).

If we extend this analysis to include the dynamism of such moral economies, it is clear that water and water related practices both carry and allow for the adaptation and reinterpretation of these same norms and traditions. In these open and non-linear systems, water can be understood more as a 'topic' than a resource (cf. Latour 2009), a topic forever saturated with agency, relationality, and potentiality.

The ethno-historical description and analysis in the chapters that follow resonate in many respects with the metaphysical concepts and politics of hydrosocial cycles described elsewhere.

While in the Andean region Boelens (2014) is interested primarily in the technologies of power which permeate ancient and contemporary hydro-cosmological cycles and the colonization of ancient water truths, the religious practices and metaphysical beliefs he documents resonate with aspects of the hydrosocial cycle under discussion in this book. In his and other Andean ethnographic literature it is clear that communicating with and paying tribute or sacrifice to various natural features such as mountains or deities was once a commonplace act of requesting the Earth's water in times of water scarcity (Gelles 2000, Boelens 2009). Indeed in discussing the hydrological connections between divine, human and natural communities, Boelens argues that the role of water has traditionally been one of 'uniting them all' (2014: 241). He quotes Sherbondy (1998: 212) who writes that '[w]ater is the main element of the Andean cosmos: the principle that explains movement, circulation and forces of change, the essence of life itself' (cited in Boelens 2014: 241). As a vital liquid, it is said to 'order the cosmological body' (Boelens 2014: 241), to connect 'the scales of time' (life cycle) to space (particular places) (Boelens 2014: 242), and through the ancestral origin myths associated with water create water access and property rights (Boelens 2014: 243). A waterworld deep beneath the Earth is believed to be the upwardly permeating source of Earth's water (Boelens 2014: 241). While Boelens writes that in his particular ethnographic context, these beliefs are now treated as 'fragments' and 'incidental events' rather than 'complete' mythical systems, the residue of these beliefs is, he says, still a constituting factor in the localised hydrosocial cycle (2014: 241). Meanwhile, beliefs about the central role of snakes in the provisioning of irrigation waters (something we will also encounter in the Timor context) are still vibrant and Boelens notes that in Andean mythology the snake (*amaru*) represents water (2014: 241; cf. Strang 2013; Barber & Jackson 2012 on indigenous Australia). Water rituals and narrative traditions are likewise fundamental to the functioning of the agricultural cycle, and this includes a suite of ritual practices and offerings made by 'traditional' irrigation co-operatives (cf. Gelles 2000).

As we will also see in Timor Leste, in the Andes '[h]istorically [in the pre-Inca period] whenever water left the underground network and surfaced, local humans and animals saw the Sun for the first time and communities were established' creating as well pathways of life and death (Boelens 2014: 243). In this hydro-cosmological cycle writes Boelens, '[e]verything "returns" periodically but with major qualitative leaps forward' (2014: 243). In times of crisis, these

metaphysical beliefs and traditions of pre-Inca mountain cults and their politically reconstructed Incan derivatives resurface in contemporary Andean communities (2014: 243). This includes the strategic repatterning of (previously localized) divine powers as now located in one (Incan) origin source (Lake Titicaca). According to Boelens, this repatterning made local ancestral origin sources the '*secondary* places of creation in the world's hierarchy' (2014: 243) and enabled the appropriation of the hydrosocial cycle for imperial Incan (and subsequently Spanish and nationalistic) purposes.

Elsewhere, in the south east Asian region, in places such as the Philippines (Conklin 1980) and more recently in Bali (Lansing 2007), broadly analogous socio-cultural ways of using and managing water in local agricultural lifeworlds have been listed as examples of outstanding world heritage by UNESCO. In contrast to Boelens (2014) work on appropriated hydro-cosmological cycles these examples point to a more hopeful, perhaps even purposefully naïve focus on the ways in which, rather than being a part of the problem, societies of the south 'may have many of the solutions' (Meganck 2012: viii). In Bali these relations are configured through the ideology and practices of '*Agama Tirtha*' ('religion of water'). Lansing argues that in the development of the Balinese Hindu inflected religion of *Agama Tirtha* the Sanskrit 'metaphor of water flowing from a sacred source was joined to the ancient Austronesian concept of descent from a sacred origin [and] the island itself became a metonym for a concept of the sacred that drew from both Indic and Austronesian sources' (2006: 52). The 2012 UNESCO recognition of the waterscapes and associated cultures of Bali as World Heritage Cultural Landscapes is a particularly interesting development. Drawing primarily on the decades of research carried out by Lansing and others, the nomination (The Ministry of Culture and Tourism of the Republic of Indonesia & The Government of Bali Province 2010) recognizes not just the material culture of the rice terrace networks but a *subak* (localized irrigation co-operatives) management system whose beliefs and practices are based upon the sacred landscape principles embedded in Balinese cosmology. The successful nomination has led to the formation of a new governance structure whereby each *subak* manages its own system locally but comes together with others to decide on religious-ecological matters which are intimately linked across the *subak* system(s). In the Balinese cosmology where mountains are sacred and water sources are linked to important temple complexes, a 'balance' is sought between middle, upper and lower worlds (plains,

mountains and the sea) (Watson & Lansing 2012). Meanwhile the environmental effect of *subak* irrigation co-ordination and management in the rice terraces is to protect and enhance nutrient run off through precipitation and downstream flows as well as regulate the impact of pests through simultaneous periods of flood and fallow (Lansing 2007). Even in the central mountainous communities of Bali, where there are no irrigated rice fields, Reuter (1996: 129-131) writes that ritual alliances between village communities united through a common ancestral domain (*banua*) led them to carry out similar collective rites at water temples during critical points in the dry land agricultural cycle.

Water in Timor and elsewhere in the eastern archipelago

Across island Timor and the eastern archipelago, indigenous ontologies or ways of being are largely based on an understanding of place as enlivened by an ancestral and nature spirit world (cf. Fox 1997, Hicks 2004; see Map 1.3). In Timor Leste, families of particular lineages are organised around origin groups linked to particular sacred houses (*uma lulik*) and local spirit ecologies which embed these families in intimate, intergenerational social, political and economic relationships with their extended consanguinal and affinal kin from other sacred houses. Links between these lineages and with the surrounding environment are embedded in a lifeworld of obligation and reciprocity built around socio-cosmic dualisms such as male/female, fertility-giver/fertility-taker, younger sibling/older sibling, indigene/newcomer, political authority/ritual authority, as well as a suite of botanical metaphors such as trunk/tips—the harmonious (or conflictual) relations between which ensure the 'flow of life' (Fox 1980). These sacred house and associated spiritual ecology complexes will often stretch through extended kin networks across ritual domains, including to other islands (cf. Vischer 1992; see also chapter 3). Frequently springs are the central agents in enabling the movement across and through such domains (Kehi & Palmer 2012; De Josselin de Jong 1937; see chapter 4) and assist in facilitating interaction and relations between both settlement founders and newcomers (from across both land and sea). As we will see in the chapters that follow there is a close relationship in this vitalist philosophy between the fundamentally generative exchanges between 'houses' linked through marriage and those linked through the life-giving capacities of shared ground and spring water.

In the case of house-based marriage relations, *lia na'in* ('custodians of the words') will negotiate the substance of the exchange of gifts and counter gifts (glossed in Tetum as *barlake*) between the families of the couple. These gifts will then be exchanged (and re-exchanged outwards) through a series of life cycle events (betrothal or 'path clearing', marriages and deaths) relating to both the couple and their closely associated kin. Such exchanges may extend over a period of many generations and the alliance formed includes the obligation of members of each 'house' to perform particular ritual duties at each other's life and death based ceremonies (*lia moris* and *lia mate*)[8]. At the societal level these exchanges function to reach out politically and jurally to engage with, demonstrate respect for, and create mutual support between an ever extending web of kin-based relations based on the principles of *fetosaa* and *umane* (Tetum Dili terms which I gloss in a broad sense as 'fertility-takers' and 'fertility-givers'[9]). These exchanges form the basis of local customary economies and the *barlake* process remains under negotiation and 'alive' until the exchange obligations created through particular unions are deemed to have been fully discharged. Similarly, as the ultimate giver of life, water stories and relations based on diverse origin and historical accounts continually infuse and create connections and exchange obligations between waters, 'houses' and communities. Just as *barlake* creates ongoing relations and demonstrates respect between *fetosaa* and *umane* groups, water stories and rituals are key mediums for thought, conversation, law making and exchange.

While in contrast to Bali, on island Timor the return to the source of spiritual or ancestral power is not linked to temples (but rather to springs and 'houses'), there are similarities to the account given by Lansing (2006: 195) of the role of holy water in Bali. Life in Timor revolves around the quest for positive life force or *matak malarin* (a life force of greening coolness), a state often attained through the blessing of holy water sourced at springs (Kehi & Palmer 2012). As noted above, these springs are a threshold for exchange and reciprocity between the visible and invisible worlds. They are fundamental to life, human and non-human health and fertility and integrated with ritual practices transacted through animal sacrifices underpinned by a rich material imagination. Sacred springs can also refer to a passage between life and death (cf. Hicks forthcoming, 1996; Traube 1986:185-186) and are often considered to be the ultimate origin source of life and death (Kehi & Palmer 2012). In the ancient kingdom of Koba Lima straddling the present day international border between Timor Leste and Indonesia, it is clear that the

broader regional 'system' of socio-cosmic dualisms or local diarchies (see Fox 1980) solidifies around the notion of mother water and father fire:

> Like many other eastern archipelagic societies, in the myth of creation of Koba Lima, it is said that in the beginning everything was water. Here, water is considered to be the mother, while fire the father. Given the original undifferentiated unity of the world, in other contexts the mother is also said to be the stars and moon (with the latter known to reflect the image of the sacred banyan and bamboo back to the earth), and the father is the sun, the eternal light and fire. It is believed, we argue, that it is through the intermingling of water and fire that the spirit of life is transformed into life itself and eventually into death (Kehi & Palmer 2012: 445).

By tracing water's agency and presence in these foundational dualisms such as water and fire, male and female, sky and earth, wet and dry, hot and cool, light and darkness, day and night, Kehi and Palmer (2012) argue that water is an all-pervasive or holistic element which is central to both the expression of cosmological ideas and the understanding of life itself. This fact is also reflected in the way that the names of many key pre-colonial kingdoms and present day post-colonial districts in island Timor have meanings associated with water.

While the anthropological literature of eastern Indonesia has largely focused on the ritual cycles worshiping 'rock and tree' (Traube 1986: 16), the worship of spring water, its associated vegetation (including the banyan tree, bamboo and pandanus), water spirits and ancestral ghosts is also widespread. Fox (1997: 7) notes the centrality of water in understandings of landscape in Austronesian societies and works by Forth (1998) and Allerton (2009) on Flores and Rodemeier (2009) on Alor, Pannell (2007) in the maritime waters of the Moluccas, Grimes (1993:174-175, 194-195, 196-197) on Buru and Boulan Smit (1998:110-111, 124) on Seram make it clear that the cosmological and socio-ecological understandings and roles of water are critical, if underexplored, in at least these parts of the eastern archipelago (see Map 1.3).[10] Focusing on the eastern archipelago, Hicks (forthcoming) notes the prevalence of a regional trope of water narratives which recount the ongoing exchange of life between the visible and invisible worlds, particularly deities (cf. Rodemeier 2009; Kehi & Palmer 2012). Like in other parts of the world

(Langton 2006; Strang 2002; Barber & Jackson 2012; Brady & Prufer 2005; Lansing 2006; Reuter 1996, Boelens 2014) complex systemic socio-ecological associations are made between springs, rivers, clouds, sky, mountains, earth, underground channels and the sea (Kehi & Palmer 2012, Vischer 1992: 63-133; Boulan Smit 1998: 89; Grimes 1993: 197; Rodemeier 2009; Forth 1998; Allerton 2009).

Seen in combination these notion of sacred or holy water connected to sacred springs also suggests that the idea of water flowing from a sacred source may be as Austronesian (and indeed Australian and Andean) as it is Indic (cf. Lansing 2006). In each locality they form a key part of a sacred landscape which links associated communities into a matrix of cosmopolitical ecology with both local and extra-local significance. In Timor, while the connections at the latter level are often more materially symbolic (rather than based on actual scientifically identified and measurable water flows), they are socially and culturally foundational and will often involve an asserted connection between lowland communities and 'origin' point water sources atop mountain peaks (cf. Lansing 2007; Rodemeier 2009). Across the region, water is the sacred oil of the earth, it is the blood and milk, a characteristic shared by the sap in the sacred banyan tree. The relationship of rain to male semen (Forth 1998: 226; Traube 1986: 173; Forman 1980), female milk (Kehi & Palmer 2012) and even to floods which are seen to arise out of earth (when the mountains and clouds merge) regulated by the mountain deity (Rodemeier 2009), suggests a powerful unity of sky, earth and below, a unity still accessible in part through springs and holy water. This bodily imagery of the land and water scape makes it clear that the watery cosmos is the flesh of the sensed world. The work of others (see Brady & Prufer 2005) suggests that ancient and contemporary indigenous use of water in karst environments is intimately connected to meteorological events controlled by the inner realms of a powerful, sacred and animate earth. As we will see, this is also arguably the case in the Baucau Viqueque region of Timor Leste where there are explicit linkages between indigenous cosmologies and the ritual use of caves for water increase and rain making rites (cf. Hicks 2004). In this way the ethnography is further evidence of an at times 'thematic congruence in perceptions of the sacred and animate earth across linguistic and cultural boundaries' (Prufer & Brady 2005: 406; cf. Altman 2002; Sponsel 2010; Kehi & Palmer 2012; Young 2006; Langton 2006; Boelens 2014).

The intersections described above cohere socio-ecologically as complex ritual ecologies connected to agricultural cycles wherein it is *relations* not necessarily water needs (as Lansing 2006: 170, 210 also points out) which are the subjective realization of ritual network structure. Such processes can be seen in the actual material engagement between people and their agricultural or irrigation waters. Allerton for example has written of Flores that agricultural water is considered 'life giving oil', and its flow is ensured through blood sacrifices (2009: 276) calling 'forth long buried ancestors' (2009: 285). This she terms a type of agricultural animism a remembering of 'all forms of ancestors' for fertility. While she notes that her case study of the modernist wet rice project in coastal southern Manggarai, Western Flores lacks the ritual connections of swidden, in a dynamic relationship with place and process the ancestors are asked in ritual to travel down from mountains to ensure the health and well-being of the crop and associated communities. This example corresponds with Lansing's argument that the Balinese *subak*, long upheld as a model of egalitarian resource management, is at its heart not an entity concerned with irrigation management but rather the health and wellbeing of the fields and community (2007: 170). Crop production is not their *raison d'etre* and indeed as Reuter (1996: 23, 20-94) writes in the upland mountain communities of Bali the ritual duty of paying agricultural prestations to the *Pura Banua* (ancestral domain temples) falls not to *subaks* (which do not exist in these dryland communities) but to the *desa* (village governing authority).

As we will see in chapter six, in the Baucau Viqueque zone of Timor Leste, socio-ecological processes associated with agricultural water bear a striking resemblance to the 'integrated system of ritualized ecological management' described by Lansing in relation to the *subaks* of Bali (2007: 14). For example in the town of Baucau intra regional connections between karst springs and cave water sources creates kin relations between particular communities. These relations are honored through interlaced ritualized practices of water management connected to spring-fed wet rice agriculture. Co-operative groupings of rice farmers and villages engage in an elaborate system of extra-local relationships which are based on historically contingent understandings of the interconnections between springs and underground flows between geographically distant communities. Yet as with the upland communities associated with apical water temple of Pura Batur in Bali and its volcanic lake and springs, the inland community in the Baucau district (where the cave containing the 'parent' water is located) is not an irrigation community. Rather it

receives annual gifts of rice from 'downstream' coastal farmers in exchange for the underground flow of fertile water. As well as tribute, there are a range of ritual ceremonies connected to water aimed at ensuring an abundant supply of water flowing between connected dryland and wetland communities. These ritual ecologies are a critical mode of communication with the spirit world which honours and renews the relationships on which all life depends.

The shared symbolism of holy water

As well as ancestral ghosts, sacred spring water can also be home to other manifestations of the water spirits: pythons, eels, shrimps, crocodiles, fish, and octopus. Animal manifestations of the water spirits are also known to change into people both above and underground. Yet water itself, as well as water spirits, is also believed to have agency: it is sacred, a purveyor of life and fertility, creator of unity, source of potency; a cleanser and communicator between the visible and (usually) invisible world. Hence across the eastern archipelago we also find a shared symbolism around holy water. Along with springs, coconut water is considered holy, and rituals involving cooking with, bathing in or sprinkling of holy water on people, include post-natal (Graham 1991:64; Grimes 1993: 227-234; Hicks 1976; Therik 2004: 196, Forman 1980, Kehi & Palmer 2012), post-marriage (Neonbasu 2005: 322; Duarte 1964), health restoration and community origin rituals (Kehi & Palmer 2012; Neonbasu 2005: 322-324). The sprinkling of holy water is also carried out over animals, crops, land and at sacred house re-constructions. This may also involve the infusion of water with drops of sacrificed animal blood (see Kehi & Palmer 2012). Likewise in the context of Bali, sprinkles of holy water delivered by priests are a main part of any visit to a water temple.[11]

Along with sprinkles of holy water, ubiquitous in regional holy water practices is bamboo itself (see Kehi & Palmer 2012; Rodemeier 2009; Almedia 1976). In both Timor and Bali it is bamboo which is used to carry holy water. In Bali the *sujung* (bamboo length) is sealed and 'dressed' with sacred offerings carried back to other parts of the temple network and ultimately to *subak* fields or important family rituals or events (see Lansing 2006: 51). In Timor it may be used to carry water to found new communities, establish connections between springs or even wreck devastation on an enemy (Kehi & Palmer 2012; see also chapter 5). In Koba Lima it is wrapped

in a woven cloth (*tais*) and carried like a baby to a new location where it is thrown on the ground to create a new spring. This process is also carried out to ameliorate the effects of the forced relocation of communities as was the case in Koba Lima in colonial times when the ritual community in Portuguese Timor was forced to flee to Dutch Timor. These transformative processes allow people to better cope with movement and displacement whilst at the same time retain a tangible connection to their source, connections that continue to be honored into the present (Kehi & Palmer 2012).

Tracing these locally specific but regionally distinctive genres of water centred spiritual ecology throughout the chapters of this book allows deeper insights into the significance and uses of named water sources and the complicated socio-natural assemblages and processes which create interdependent networks of people, places and livelihoods. While this book makes it clear that the ongoing transformation of these localized spiritual ecologies has emerged in its 'modern' form via a messy historical trajectory of colonial and post-colonial politics (Shepherd 2013), more significantly it also shows how in historically contingent ways, local peoples have embraced this recognition space and have shown an extraordinary preparedness to risk engaging with outsiders through these processes. By gathering together these insights and linking them to a broader conceptual literature on post-humanism and vital materialism, the book is a timely contribution to the emerging critical ecologies literature. In such political engagements across plural ontologies, differently configured, if co-constitutive, socio-environmental domains have and are being continually brought into being. In contrast to much of the political ecology literature, this book will show that across these awkward zones of encounter (Tsing 2005) there is no necessary trajectory of dominance or subjugation, but spaces of opportunity variously mobilized and enacted.

Agency and the hydrosocial cycle

Within the field of political ecology a re-envisioning of a naturalistic (but equally social) hydrological cycle has seen increasing attention paid to the development of the concept of the hydrosocial cycle (Linton 2010). This concept 'envisions the circulation' of water as a combined physical and social process, as a hybridized socio-natural flow that fuses together nature and

society in inseparable manners' (Swyngedouw 2009: 56). A long standing interest in the political-economy of (usually) capitalist ecologies and the need for redistributive justice has focused this political ecology literature on the 'conflict-ridden nature of the process of socio-environmental change', and on the class, gender, ethnic or other social power relations and struggles which mobilize strategies and inform discourse and arguments (Swyngedouw 2009: 57). In tracing the 'socially produced character' of hydrosocial configurations, this work is often informed by the seminal work of Wittfogel (1957) who drew the link between 'autocratic power and hydrological systems' (Swyngedouw 2009: 59). Yet despite the popularity of this thesis, even within the regions from which Wittfogel's ideas were developed, there are others who offer alternative, less autocratic, understandings of past and present hydrosocial cycles (Lansing 1991, 2006; cf. Banister 2014). As Swyngedouw himself argues, there is an urgent need for theorists to begin '[i]magining different, more inclusive, sustainable and equitable forms of hydrosocial organization' which he concludes 'implies imagining different and more effective, assumingly democratic, forms of social organization' (2009: 59). This raises the question of why we do not pay as much attention to examining already existing alternative forms of hydrosocial organization (cf. Gibson-Graham and Roelvink 2010: 342)? Is it the case that such forms are consider too marginal, non-viable or inconsequential, or is it simply because these 'arcane' and largely 'peripheral' forms eschew easily recognizable forms of democracy? Are such already existing waterworlds simply too hard to think with? These questions will be taken up in the next section and in the later discussion of the ontological frictions.

Drawing on the second generation of political ecological work which seeks to define and flesh out the analytical utility of the concept of hydrosocial cycle (see Linton and Budds 2014), I add my own extension to this re-conceptualization. I advance an argument about the forms and agency of water in the hydrosocial cycle of eastern Timor and reflect on what others can learn from such alternative waterworlds. I do this by extending an understanding of the social to the concept of 'inclusive sociality'. Through this concept of 'inclusive sociality' I analyse both water's materiality (Bear & Bull 2011; Lavau 2013) and 'participation' in existence (Lévy Bruhl 1910, Sullivan 2010). I pay particular attention to the political effects of agency manifest in water and associated 'bodies' and 'things' across space and time.

Firstly, to theorise the dynamic interplay and co-constitution of water's materiality, I examine how more recent literature on the hydrosocial cycle engages with the concept of the social. Linton and Budds define the hydrosocial cycle as 'a socio-natural process by which water and society make and remake each other over space and time' and seek to mobilize it both as an 'analytical tool for investigating hydrosocial relations and as a broader framework for undertaking critical political ecologies of water' (2014: 170). Developing an understanding of 'how water is not external to social relations but rather embeds and expresses them' (Linton & Budds 2014: 174), they argue we must also turn our attention to the multiple ways in which water actively shapes socio-natural worlds. Drawing on key anthropological literature on water (Strang 2004; Mosse 2003; Orlove & Caton 2010), they note that beyond material relations, people are connected to water in 'experiential, cultural and metaphorical ways' (Linton & Budds 2014: 174). They furthermore argue that the 'point is not to determine where social constructions and materialities begin but to recognize their mutual constitution' (Linton & Budds 2014: 174). While on the matter of what constitutes the social they are largely silent, they do examine the potential for the 'deep intertwining of water's material and spiritual dimensions' (Linton & Budds 2014: 174). In particular, they highlight the South American work of Boelens and his innovative development of the 'hydro-cosmological cycle' to extend the concept of hydrosocial cycle. In developing this concept, Boelens argues we need to link 'diverse water cultures, rights frames and worldviews to the socio-natural construction of hydrological flows' and 'analyze how "metaphysics" links to [water] politics and power' (2014: 245). By making a link between ancient indigenous water cultural systems and the subsequent appropriation and manipulation of these systems by the imperial powers, Boelens 'offers a tool to examine ancient and modern myths and discourses that attempt to normalize and subjugate actors to control by dominant groups in water society' (2014: 245).

The twofold task developed by Boelens (2014) creates fascinating possibilities for analyzing how 'metaphysics' links to water politics and power in the Andes and elsewhere (see also Gelles 2000; Lansing 2007). However, in a region where published ethnohistorical material is minimal, rather than focusing on seeking out accounts of appropriation and the social-natural hybrids created by external 'imperial' and modernist waterscapes, I seek to examine the ontological and material dynamism of indigenous waterscapes themselves. My aim is to understand them

through their own open, emergent and ever transforming notions of space and time and to analyze their proactive rather than reactive interactions with external others. As Strang writes of indigenous Australian relations with water, in such a:

> small-scale, localized, and beautifully precise cosmology, it is not difficult to see how water, and metaphors of water, move freely across ecological, social, imaginative, and corporeal domains, bringing them together in a flow of human and environmental changes over time and space. It is equally clear that water and notions of flow are ways of conceptualizing time in cyclical terms, describing how collective human and non-human actions circulate into and out of the material world and, on an individual scale, portraying the nascence, progress, dissolution, and regeneration of individual lives (2013: 189-190).

Rather than the ways in which these indigenous water realms have or are being co-opted by external others, I am interested firstly in their capacities for dynamism, adaptation and invention. In this way I am also inspired by the work of Gibson-Graham who, concerned with what can be learnt from what is already there, encourage us all to pay close attention to 'the difficult process of cultivating subjects (ourselves and others) who can desire and inhabit non-capitalist economic spaces' (Gibson-Graham 2006: x). In this spirit they pose the following challenge:

> What if we were to accept that the goal of thinking is not to extend knowledge by confirming what we already know, that the world is a place of domination and oppression? What if instead we thought about openings and strategic possibilities in the cracks? (Gibson-Graham 2012: 37)

So while Budds and Linton (2014: 174) are interested in the practices which co-produce socio-natural hybrids and Boelens (2014: 246) is interested in how 'local water communities react, modify and also strategically use the ruling symbolic order', I seek to pay more attention to how local water communities react, modify and also strategically use their *own* symbolic and material orders. As Banister (2014: 205) reminds us, hydrosocial cycles do not 'translate into hierarchy or domination in any straightforward way'. In this sense, water is not, as is often presumed, merely an instrument of social control or a socio-natural hybrid but an activator of social relations within

and across multidimensional complex systems. Hence while much of the literature on hydrosocial cycles has focused on 'how water is socialized' by humans, the concern in this book is to interrogate and illuminate 'water's active, agential, affective roles' (Bull & Bear 2011: 2262), its own sociality embedded *with* not by the sociality of humans.

Ontological frictions

To flesh out how local people modify and strategically use their *own* symbolic and material orders connected to water and trace its 'ontological politics' (Mol 1999), I make recourse to the ontologies of flux and flow that recent work on vital materialism and post-humanism has sought to activate (for an overview see Anderson & Wiley 2009; Lorimer 2012). I also draw on the work of Tsing (2005) who argues that we need to acknowledge, understand and (constructively) critique the productive (not only destructive) 'frictions' at work in the conversations between such non-deterministic natures and globalising discourse and practices of environmental governance. The literature on non-human agency and vital materialism seeks amongst other things to remind us that all human and non-human encounters are shaped as much by the agency and friction of non-human beings and things as by that of humans (Braun & Whatmore 2010; Bennett 2010; Howitt & Suchet-Pearson 2006; Tuana 2008; Ingold 2011; Rose 2011, Tsing 2005). Such a conceptualisation of agency and materiality is clearly applicable to indigenous water ontologies and the understandings of the socio-cosmic forms at the heart of related conceptualizations the hydrosocial cycle.

Meanwhile these relational understandings are seemingly far removed from the apolitical and ahistorical governance concepts which seek 'certainty' in comprehensively measuring, commodifying and appropriating resources such as water through encroaching processes of neoliberalism (cf. Ernstson & Sorlin 2013). However, as this book will argue, there are clear points of co-articulation, even co-production between what are in fact creatively adaptable neoliberal processes (Peck 2010) and vitalist ways of being in the world (Braun 2013). While the default position of the political ecology literature is to characterize neoliberalism as a dominant force, cajoling and appropriating the vulnerable or naïve others in its path, we can also understand non-deterministic natures as equally creative, excessive and surplus producing. In

places like Timor, where the contingent assemblages of the customary realm are continually re-created through dynamic and inclusive social relations, local peoples are always attentive to opportunities which will draw capitalist resources into their worlds (whilst judicially excluding those aspects of these worlds which must remain hidden). In these vitalist ways of being in and knowing the world, one which is forever spiraling through time, refolding and unfolding in potentially novel and inventive ways, we need to ask how this process of 'lively transcendence…can crystallize into narratives of lived practice and engagement?' (Anderson & Wiley 2009: 325). Uncovering such practices and ontological assemblages might also reveal how the frictions and co-becomings of multiple materialities are 'drawn together and held apart…made to intermingle while sustaining ontological difference' (Lavau 2013: 416). It is through attention to such processes that we can understand social change and power.

Inclusive sociality and ecologies of spirit

Below, by fleshing out an understanding of water (and people's relations with it) as a substance, place and space of both fluid and 'congealed agency' (Barad 2003: 828), I examine how in Timor Leste water is a carrier of forms, meanings and social agency across and through space and time. Throughout the book, by tracing the relations which comprise this watery domain of ecology, sociality and religious practice, I explore the complex processes of change, interdependence, and exchange relevant to creating and transforming local livelihoods and socio-ecological modes of water governance. Firstly, however, I need to draw out the interplay of relations between key physical objects, namely water, people, animals and plants and advance an argument about the 'inclusive sociality' of localised land-and water-scapes (i.e. the complex and defined sets of social relations existing between humans and non-humans). As we have seen above, in this ontology where 'the space between nature and society is itself social' (Viveiros de Castro 1998: 473), water is, like other things and bodies, animated by spiritual essences. Potentially always liquid, solid or gas, water is a substance that is uniquely able to circulate life energy through time, between generations and between the visible realm of bodies and things and the invisible spiritual or 'interior' realm. As McCleod writes:

All matter is ultimately shared across generations. However, as the medium that carries away the dead and nurtures the unborn, water is uniquely capable of symbolizing multi-generational time. In some sense, it actually *is* multi-generational time. …Water is the ultimate medium for the conversations that continually create the world. It introduces sperm to eggs, carries nutrients to tree roots, rushes chemical messages between different parts of the body…Smell travels in moisture….this substance acts forever as a meeting place and medium (2013: 49).

Exploring these unique capacities of water in this particular regional environment, and the ways that people connect with and adapt to it, expands our understanding of the productive frictions and efficacy of these spiritual ecologies and the ways in which such an inclusive human-nature sociality actually works. In order to theorise these relations I draw again from the literature on materiality and critical ecology, as well from other anthropological literature on sociality, personhood and property.

Following Ingold (1986) I define sociality as including conscious co-operation and inter-subjectivity (not just interaction). From this I define 'inclusive-sociality'[12] as consciousness manifesting in different 'bodies' and 'things' across and through space and time (cf. Pederson 2002). In expanding this definition of sociality, I open out too the definition of politics to include the notion of cosmopolitics and a more-than-human ecological or multinatural politics which is concerned about the ways in which ecologies might be 'sensed, valued and contested' (Lorimer 2012: 594; cf. Latour & Weibel 2005; Sullivan 2010; Castree 2012). In short I am interested in how entities and energies sense one another through time and space and how this is manifest in particular through water or an 'aqueous ecopolitics' (Chen *et al* 2013).

In Timor Leste, such cosmopolitical ecological constituencies find form and even voice through a storied land and waterscape of more-than-human assemblages and associated religious practices. In these multi-temporal and multi-dimensional ecologies, bodily forms are ever spilling over, transforming and becoming. With water as the base of all forms and the conduit for all relations, in tracing the assemblages of bodies and watery myths it is clearly the 'thoroughly materialist' (Anderson & Wiley 2009: 325) reality of the hydrosocial cycle which simultaneously

forms through and breathes life into storied land and water scapes (cf. Ingold 2011). Yet alongside the agency of water we must also trace how localised notions of being and property congeal through complex forms of relational personhood (Strathern 1988, 1999; Ingold 2000; Strang 2009). It is these fluid agential forms which illuminate the diverse qualities of co-constituting relationships at the heart of local religious practices and property relations. Elsewhere Pederson notes that there is now a broad literature which shares a concern for 'the ontologies of complex, capricious, and emergent social forms' (2012: 35-36). He writes:

> In Melanesia, the Amazon, and northern Asia, forms are thus not mental or ideological schemata through which some fixed structure of order or symbolic meaning is imposed on an inherently disorderly world of social and material practices…but features of the world in their own right, which must be continually recreated, recalibrated, and reapportioned for the cosmos to assume its correct proportions, and for human and nonhuman lives to unfold at a pace that is suitable to the particular dynamic configuration or continual assembling of their bodies and minds….forms are considered to be alive, to *be* rather than to *have* force (2011: 36-37).

Similarly Myers wrote of the need to understand how the Pintupi people in central Australia view 'an individual's internal states as extensively connected with a web of significant others or with "objects" that Western observers would describes as external to the self' (1986: 108–9; cf Langton 2002; Stanner 1966; Tamisari 2001; Williams 1986, 1998). More recently, Sullivan, drawing on Lévy Bruhl (1910) and Merleau Ponty (2002), argues that within animist ecologies these complex configurations are brought about through the 'active participation of sensual perception in a collaborative bringing forth of a world of inter-subjective comprehensibility' (2010: 125). She writes that such ecologies simply affirm 'that a creative energy – and irresistible evanescence - permeates all existence'. While they share 'no interest in discerning animate or inanimate, natural or supernatural, living or dead', they are concerned with 'an immanent force conferring the possibility for a mysterious kinship and participation in phenomena, beyond the division of animate and inanimate' (Sullivan 2010: 125).

Needless to say such complex notions of personhood and relationality continue to pose a profound policy challenge to a Western liberal appreciation of individual human need, rights and desires and the interconnection between it and ecological health. This is all the more so because, as we will in the chapters that follow, specific narrative expressions of these complex relations will 'keep pace with changing relations' (Gow 2001: 288) by simply replacing terms of old with those which have more 'popular' currency (like replacing indigenous terms for Moon-Sun deities with terms like Christ or collapsing time so as to render a founding ancestral figure synonymous with an authoritative colonial era figure or event).[13] Yet rather than a recalibration of relations, to those unfamiliar with these traditions such semantic shifts are commonly interpreted as paths or assimilative transitions to 'modernity'. In contrast, by drawing together understandings of complex personhood and emergent social forms with the transformative semantics of narrative traditions and the sensual world of perception manifest in non-deterministic ecologies, what emerges are not pathways to the certainty of 'modernist' hegemony, but a renewal of ethical structures for engaging in social relations and a world perpetually 'coming-into-being' (Ingold 2006: 10; Bourdieu 1979).

'Coming-into-being': Customary renewal and transition

During the 500 years of Portuguese (and Dutch) colonialism, Timor experienced only an indirect and often tenuous foreign rule and indigenous cosmologies remained both strong and the paradigm around which daily political and economic life continued to revolve (Gunn 1999). The violence and control of the Indonesian era saw a widespread suppression of locally autonomous rule (Thu 2008, 2012). However, in the independence era there is currently a revitalisation and recalibration of indigenous custom and tradition. For example, there are an increasing number of villages and sub-districts where the communal management of natural resources (fields, forests, fisheries, waters) is being enhanced by the (re)instatement of communal ritual prohibition and/or harvest ceremonies glossed as *tara bandu* (Meitzner Yoder 2005; McWilliam 2002; Palmer 2007; Palmer & Carvalho 2008; McWilliam *et al* 2014). This and other ritual practices such as sacred house re-constructions have been variously referred to as an outcome of a resurgent diverse (Palmer 2010) or community economy (McWilliam 2011).

As Timor Leste rebuilds from its post conflict ashes, the customary economy is frequently disruptive of attempts to put in place neoliberal logics and capitalist certainty. In recognising the existence of a customary economy in the Baucau Viqueque zone, one is struck by the pervasive insistence of local autonomy embedded in these narratives and practices. Similarly Yang (2000) in her examinations of the resurgence of what she terms 'a ritual economy' in rapidly modernising, post socialist, rural south east China, has noted an 'economic logic which is subversive of capitalist, state socialist, and developmental-state principles' (2000: 477). Calling such an economy a 'ritual-market economic hybrid' she argues that there 'the market economy and the ritual economy of expenditure emerged hand in hand' (2000: 487). A significant segment of the surplus from business enterprises and wage labour is reinvested through expenditure which is reinvigorating the ritual economy and redistributing surplus wealth. It is a case Yang (2000: 477) argues of an indigenous economy experiencing renewal and 'posing a challenge to capitalist principles', rather than the other way around. Similarly in his work in Mongolia on the resurgence of magic and occult practices, Pederson interrogates the unwieldy proliferation of 'fractal self-differentiation' or 'post-plural self-extension' (2012: 36). This dangerous but captivatingly powerful flourishing of liminal forms is, he argues, an outcome of the chaotic void which emerged from the post-socialist 'disintegration of stable religious, political and economic forms' (2012: 36).

In Timor the pulsing heart of the customary economy is *lulik*. Often glossed as sacred, forbidden or taboo, the term *lulik* in Tetum and its equivalents in local languages 'refer to to a whole range of objects, places, topographic features, categories of food, types of people, forms of knowledge, behavioural practices, architectural structures and periods of time' (McWilliam *et al* 2014: 1). In Timor I would argue that the independence era resurgence of customary relations and *lulik*, with all its attendant uncertainty and excesses, is in many ways a re-normalisation of long suppressed potencies and practices. Yet the powerful potential of the always becoming (never quite settled) '*lulik* complex' (McWilliam *et al* 2014) is undoubtedly given new form by the uncertainties, opportunities and contingencies of political and economic transition to largely neoliberal governance regimes. Meanwhile as Peck (2010) has argued in the global context, such processes of neoliberalism proliferate through increasingly honed capacities for self re-invention, processes he characterizes as 'failing forward'. In 'failing forward', concepts such as sustainability become

infinitely malleable as 'rounds of neoliberal invention involve not just new models of governance, but new narratives and visions to support them' (Shaw 2013: 2160). Given the power and potential surpluses or excesses inherent then in **both** *lulik* and neoliberal governance, it is perhaps no surprise that their coming together creates an even heightened potential for spillage, danger and serendipity (Braun 2013; cf. Bovenseipen 2014a, 2014 b on a post independence flourishing of death rituals and 'house' ritual reinterpretation and calibration). Such thoroughly materialist and vitalist assemblages as the *lulik* complex continually rub up against and produce interpretations of equally flourishing state and international agency based forms and constructs. While these latter processes are usually determined by atomistic Western beliefs about nature, the individual and well-being, in the encounter between them we need to pay careful attention to what exactly these vibrant materialities in their 'multiplicities are and will become' (Lorimer 2012: 606; cf. Gibson-Graham 2006).

While it is resurgent in the independence era, it is also clear that customary governance processes centred on the 'regulation' of nature and (other) social relations is often fraught. Amongst the younger generations there is a sense that the burden of *lulik* places excessive demands on their lives. Particularly in urban and semi urban landscapes brimming with aspirational modernity, some feel the burden of customary obligations overwhelming. People will often state that *lulik* is too greedy (cf. Ospina & Hohe 2001: 175). For city dwellers and wage labourers in particular, lifecycle and intergenerational customary exchanges between sacred houses and the associated *fetosaa* and *umane* groups ('fertility-takers' and 'fertility-givers') in marital exchanges (of things such as buffaloes, horses, goats, gold disks and swords on the one hand, and pigs, rice, necklaces and woven cloth on the other) are made not by drawing on family livestock and heirloom resources but via monetary payments (which are either pooled and used in the exchange directly or used to purchase the livestock and goods to be exchanged).[14] Yet while these concerns about the excessive demands of *lulik* or *lia* (customary negotiations) may lead to particular transformations in exchange practices, even in urban areas like Baucau these house-based inter-relations and rituals are on the whole reinvigorating rather than declining[15]. It is the case however, as we will see in the conclusion, that colonial era disruptions have often made ritual governance and exchange practices at the broader community level difficult to reinvigorate. The challenges of reinvigorating these broader community governance processes have led some

elders to fear that the potency and wildness of *lulik*, which should be ordinarily tamed by *lisan* ('customary norms and practices'), may now re-emerge in increasingly destructive ways (cf. Pederson 2012).

What is clear is that, as a result as well of its inherent excesses, the customary economy is embedded in a lively and dynamic politics of reciprocal and deeply inclusive sociality. These beliefs and practices are not, as some might argue, invented traditions (cf. Hobsbawn & Ranger 1983) nor are they residual. Rather they are always messy, contingent convergences. This book attempts a close reading of them, in order to provoke the possibility of new environmental governance frameworks which place conceptions of multi-temporal and multi-dimensional human and non-human sociality at the centre of the new nation's governance concern. Drawing out the workings of this diverse economy, it is clear that in the customary realm's openness to and capacity for transformation (Ellen 2007), we also find the potential for creative and innovative modes of governance. Modes of governance which may assist in the task of 're-embedding social and political institutions at the local level' (Johnstone *et al* 2012: xx). In order to do this I pay close attention to indigenous theories of this particular place and waterscape and to the fact that 'theory, particularly critical theory, is immanent in life itself' (Comaroff & Comaroff 2012: 49).

The ethnography

The fieldwork for this research was carried out using the ethnographic method, drawing on data collected from formal and informal interviews, as well as opportunistic observations and conversations with community members, bureaucrats and development workers and frequent participation in a range of household, community and ceremonial events. The research process was also facilitated by my own close and extended kinship ties with many families in the Baucau region (see preface) enabling participation in a diverse range of social, economic and cultural activities.

To understand more about water in Baucau, a place whose history has not yet been written, it soon became apparent during the fieldwork process that I would need to immerse myself in the collection of oral histories. I began to seek out and build relationships with the locally renowned custodians of these narratives, expressing my interest in learning from them and awaiting their decisions about whether or not, or how much, they were prepared to disclose to me. What transpired has been a long, confusing, frustrating but ever fascinating journey of revelation and non-disclosure. One which has produced a tantalising, but always imperfectly understood, story that no historiography from eastern Timor has so far been able to tell.

This account of footprints and watery trails is not a story of a village or a sub-district of Timor Leste. My research may have started out in Baucau town, but it became clear that as the stories traversed the landscape so too must my research. In my retelling here of the local watery histories, I investigate the width and depths of a ritual domain which spreads from the central mountains to the female (north) sea, across the sea and back again, as well as from the male (south) sea across the mountains to the female sea. In this task I needed to carry out interviews and participant observation in six local languages.

While my more formal interviews were on the whole carried out with groups of senior men, in most cases younger men, women and children would be present during these occasions[16]. Frequently women would contribute insights, a clarification or a story during these interviews and discussions but on the whole speaking publically on water related and highly sensitive *lulik* issues is the domain of senior men (this does not preclude senior women from being centrally involved in these deliberations in private and through alternative ritual political practices). In ritual events women will often play a key role as guardians of sacred houses, dancers, musicians, singers, mourners, dispensers of betel nut and as the organizers and preparers of highly prescribed food and hospitality exchanges involving fertility-giving and fertility-taking houses. Along with child birth and care, daily cooking and household tasks, the care of guests, the infirm, the elderly and the deceased is the primary domain of women[17]. All of these roles carried out by women are considered critical to the pursuit of inter-generational well being and all, including my own sustained participation in these roles, inform my understanding of the vibrant lifeworlds

under discussion in this book (cf. Kehi & Palmer 2012). Women's particular relationships to water must, however, be the subject of another study.

Customary ethical processes of sharing and exchange similarly directed the research process. In many, but not all, of my more formal interviews and/or ritual participation with senior house leaders, when specific genealogical details of regional spring narratives were recounted, an animal was required to be sacrificed to *loke odamatan* and *taka odamatan* (literally to open and close the door to the ancestral realm).[18] This is the way to properly open and close a discussion of highly sensitive *lulik* matters and failure to do so could lead to sickness, death or other misfortune (see also Kehi & Palmer 2012; McWilliam *et al* 2014; Forman 1976).

Throughout this research process, the stories I have traced and the customary activities I have engaged in have relied on the enthusiastic participation, knowledge and sustained engagement of senior ritual specialists from, in particular, the villages of Bahu, Wani Uma, Wailili, Darasula, Berecoli, Tirilolo and Ossu (see Figure 1.1). Their participation was, without exception, underpinned by a desire to have their stories told and acknowledged as important in the nation building process. It is also pertinent to note that despite the nominally animist nature of these discussions and practices, in many instances it was Catholic religious leaders who facilitated my introduction to particular house-based leaders and communities (usually ones that they themselves were associated with). One particular ritual specialist deserves special mention. Major Ko'o Raku (Antonio da Costa Gusmao) is a respected *lia na'in* ('custodian of the words')[19] from the house of Samalari in the village of Bahu and traditional healer who has also led the renaissance in sacred house building across the Baucau sub-district (and beyond) (see da Costa *et al* 2006). He, by his own admission, is a 'brave' (*baarani*) man (see Figure 1.2) and was able to tell me many of the *lulik* stories that figure in this book because he had already told them to his children who have written them down and in doing have now taken them from the world of darkness into the light (see chapter 2)[20]. Richly coded and evocative, Major Ko'o Raku's stories, and those of his contemporaries in this book, are also notable because they are framed in the context of the twentieth century social creation and transformation of Baucau town and surrounds. From them we gain critical insight into how the people of Baucau have encountered

and embraced historical events and how they have recorded and framed them in the contingent realities of their own local worlds. Meanwhile it is also clear that such stories remain both immanent and becoming. Throughout the years of this research, life at many springs across the zone was punctuated by the rebuilding of sacred houses as house groups reinvigorated their spiritual ecologies and associated practices.

To begin this ethnography, the next chapter introduces the waterworld that lies deep beneath the mountains of the central dividing range. It also examines the ways in which these mountains are understood as the 'navel' or storage tank for all of the region's freshwater. By documenting what is a profoundly holistic, poetic and many layered understanding of being linked to water, this chapter and those that follow serve to critically explore both the complex interrelations and future challenges for this particular socio-cosmic way of being in and understanding the world.

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[1] These limestone reefs are 100-500m thick (Wallace *et al* 2012).

[2] Discharge in major springs is in a range or 1-200 litres per second (Furness 2012: 3).

[3] Kawamina is a notionally Austronesian language bloc comprising the Kairui, Waima'a, Midiki and Naueti languages (Hull 1998:4) spoken by approximately 50,000 people (15,000 of which speak Naueti) (NSD & UNFPA 2011: 204). Makasae is a notionally 'Papuan' or non-Austronesian language (Hull 2004) spoken by approximately 100,000 people (NSD & UNFPA 2011: 204). While the Makasae and the Kawamina languages are primarily spoken across the zone, Eastern Tetun is also spoken in the Viqueque district (Hicks 2004). Meanwhile Tetun Dili, the national lingua franca, is also a vernacular language in Baucau town, an area comprised largely of Makasae and Waima'a speakers.The local cultural terms in this book are derived from all of these languages. When these concepts are being used in a general sense, unless otherwise noted, these terms are given in the national lingua franca of Tetun Dili. In places where terms from others local languages are used they are identified by the placement of an M:(Makasae), W:(Waima'a) K: (Kairui) or ET: (Eastern Tetun) prior to the English translation. An I is used in the case of Indonesian language words.

[4] The focus of existing studies has mostly been on Makasae marriage and mortuary exchange and dualisms (Forman 1980, 1981; Lazarowitz 1980; Guterres 1977). The exception to this is Forman (1978) who gives an insightful but brief account of political alliances and exchange in the mountainous region of Quelicai. In the 1930s, the colonial administrator of Baucau produced an account of local customs (Correia 1935). In 2006 a group of Makasae speakers (da Costa et al 2006) in association with the Catholic Teacher's College in Baucau produced a short monograph on the world of the Makasae. Thu (2008, 2012) has studied post-conflict migration and rural livelihoods in the Makasae coastal villages of eastern Baucau. Hicks (1973) produced a short preliminary account of the Uaima'a [Waima'a]. Pannell and O'Connor (2005) offer some preliminary research into Waima'a cave uses. While Forman and Lazarowitz discuss wet-rice agriculture neither discusses its history or associated water cosmologies and rituals.

[5] c200,000 individuals (CAVR 2006).

[6] The country is home to an array of under documented Austronesian and non-Austronesian influenced languages and cultures. In relation to the country's sixteen languages see Hull (1998, 2004).

[7] See also Berkes (2008) on sacred ecology.

[8] This may extend to assistance with agricultural tasks and also labour and gift giving at each other's sacred house building ceremonies.

[9] While the *fetosaa* and *umane* alliances systems vary in their detail and terminology across the country, partilineal systems are usually glossed by anthropologists in English as wife-taker and wife-giver alliances (see for example Hicks 1990). In these systems the local language terms refer, in general, to the relationship formed between the marriage house of a man's sister (and her children) and the house of the man's patriline (and his children). Once the *barlake* process is completed, children belong to the house of their father (who are in effect fertility-takers from the wife's natal house). In Makasae the term for these alliance groups is *tufumata* (literally 'sister's child') *omarahe* (literally 'the perpetual house'). In Waima'a the term is *w'aa-sae lila*. While both of these systems are nominally patrilineal, men may marry into their wife's natal house in certain circumstances, in which case the children of the union belong to the mother's house (cf. Hicks 1990). For a description of a matrilineal system see Francillon (1967). In Tetum Terik the terms are *feto sawa* and *uma mane* or *feto sau mane*.

[10] On Seram, Boulan Smit for example notes that the ritual centre of the region is linked to springs (1998:110-111) and one spring is known as the 'water of origin' (1998: 124).

[11] The sprinkling of holy water also resonates with practices in the Catholic tradition where it is carried out to cool and render blessing.

[12] I am indebted to Balthasar Kehi for suggesting this term.

[13] Put another way the semantic repertoire of fictional possible worlds is continually refreshed by alluding to new kinds of relevance to local individual socio-cultural circumstance and materialist transformation (Boucher 2013).

[14] However, in various local critiques of the excesses of the ritual economy, it is not only the replacement or phasing out of customary processes with capitalocentric approaches that are being suggested. There are also a range of precedents within the customary repertoire which draw on the power of communal ritual processes to impose a reduction on the sizes of customary payments (see Palmer 2007; Fox 1979: 32; Meitzner Yoder 2007: 47). Such cases further demonstrate the need to engage with the full range of practices embedded in the customary economy.

[15] As noted above, among some educated Timorese, particularly in the capital, there is some emerging resistance to the practice of *barlake*. In addition to economic inefficiencies, concern is also expressed on the grounds of gender inequality. The latter relates to the idea that *barlake*, at least in its modern form, involves the objectification of women (Niner 2012).

[16] In some water rituals carried out at particular springs the ritual power of the process is such that women are forbidden from participation. My status as an ethnographer waived this restriction in most cases.

[17] As noted in chapter four, both women and men share the burden of agricultural work.

[18] As discussed in chapter six, in some cases if the sacred house (complex) of the interviewees was not yet re-constructed then these ritual sacrifices were not requested as they were unable to be carried out.

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[19] In Makasae these people are referred to as *sobu dada* and in Waima'a as *kii-lia*.

[20] His eldest son, who is nominated to succeed him as the custodian of the words, is a school teacher in Dili.