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Flood of Memories: Narratives of Flood and Loss in Tamil South India

Abstract

Legendary deluges such as those said to have over-swept the Tamil lands or the flood waters that appear in popular religious and folk tales have long been a part of Tamil folk experience, and they serve as the backdrop against which contemporary flood is experienced. In this light, this dissertation explores the development and of disaster management policies in the Union Territory of Pondicherry from their origins in colonial-era policies to the significant re-orientation that followed the 2004 Asian tsunami. Conclusions are based on 14 months of ethnographic research in coastal fisher communities and government relief agencies in the Union Territory. Historical data collected from archives and interviews with territorial officials and NGO workers complement insights gleaned from extensive participant-observation and field collection among deep-sea fisher populations in the former French territories of the Coromandel Coast. Part one defines a Tamil “flood imaginary” by exploring myth-historic instances of flood in the Tamil-speaking region of India. The study then examines flood in the French colonies of India during the 18th and 19th centuries. Together these provide the background for better understanding the policies and beliefs about flood in place prior to the 2004 Asian tsunami and the effects these had on preparedness and resilience at both community and administrative levels. Part two focuses on the ways in which these affected how the territorial government and at-risk communities responded to the 2004 tsunami. Tensions that arose between government and community post-tsunami are examined through the interrogation of documents of agencies that undertook rehabilitation. “Official” narratives of relief and reconstruction are balanced against the perspectives of recipients of government and voluntary aid and the local *panchayat* leaders who are agents of first resort for lodging requests and grievances. Through a comparison of relief efforts taken within a single state, this research highlights the efficacy of an approach to disaster relief and mitigation planning that appropriately integrates outside expertise with community *metis* and demonstrates the value of policy informed by ethnography.

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FLOOD OF MEMORIES:
NARRATIVES OF FLOOD AND LOSS IN TAMIL SOUTH INDIA

Aaron Mulvany

A DISSERTATION

In

South Asia Regional Studies

Presented to the Faculty of the University of Pennsylvania

In

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FLOOD OF MEMORIES:
NARRATIVES OF FLOOD AND LOSS IN TAMIL SOUTH INDIA

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2011

Aaron Patrick Mulvany

To my daughter, who will never read this;

To my father, who will;

And to my wife, without whom neither ever could.

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ABSTRACT

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IN TAMIL SOUTH INDIA

Aaron Mulvany

Lisa Mitchell

Legendary deluges such as those said to have over-swept the Tamil lands or the flood waters that appear in popular religious and folk tales have long been a part of Tamil folk experience, and they serve as the backdrop against which contemporary flood is experienced. In this light, this dissertation explores the development and of disaster management policies in the Union Territory of Pondicherry from their origins in colonial-era policies to the significant re-orientation that followed the 2004 Asian tsunami. Conclusions are based on 14 months of ethnographic research in coastal fisher communities and government relief agencies in the Union Territory. Historical data collected from archives and interviews with territorial officials and NGO workers complement insights gleaned from extensive participant-observation and field collection among deep-sea fisher populations in the former French territories of the Coromandel Coast. Part one defines a Tamil “flood imaginary” by exploring myth-historic instances of flood in the Tamil-speaking region of India. The study then examines flood in the French colonies of India during the 18th and 19th centuries. Together these provide the background for better understanding the policies and beliefs about flood in place prior to the 2004 Asian tsunami and the effects these had on preparedness and resilience at both community and administrative levels. Part two focuses on the ways in which these affected how the territorial government and at-risk communities responded to the 2004 tsunami. Tensions that arose between government and community post-tsunami are examined through the interrogation of documents of agencies that undertook rehabilitation. “Official” narratives of relief and reconstruction are balanced against the perspectives of recipients of government and voluntary aid and the local *panchayat* leaders who are agents of first resort for lodging requests and grievances. Through a comparison of relief efforts taken within a single state, this research highlights the efficacy of an approach to disaster relief and mitigation planning that appropriately integrates outside expertise with community *metis* and demonstrates the value of policy informed by ethnography.

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Note on Orthography and Translation

In the following pages draw from sources in both Tamil and French. Within the text, Tamil words will appear following accepted orthographic practice in their first incidence and thereafter appear in simplified roman characters, e.g. *Tamiḷ* → Tamil, *Caṅkam* → Cankam. In a few cases, where there is an accepted English spelling it will be used throughout, e.g. catamaran.

French words will appear as in French throughout.

In all cases, inset quotes will appear following accepted orthographic practice.

All translations are my own unless otherwise noted.

Common Abbreviations

AP	Annual Plan
BAA	<i>Bulletin Actes Administratif</i>
B.O.	Bulletin Officiel
CEE	Centre for Environmental Education
CMFRI	Central Marine Fisheries Research Institute
CRZ	Coastal Regulation Zone
DFFM	Department of Fisheries and Fisherman Welfare
DRDM	Department of Revenue and Disaster Management
FY	Fiscal year
GoI	Government of India
GoPY	Government of Pondicherry
GoTN	Government of Tamil Nadu
J.O.	Journal Officiel
JPD	Joint Project Director
M.O.	Moniteur Officiel
NAIPRC	National Archive of India, Puducherry Record Center
P&R	Department of Planning and Research
PIA	Project Implementation Agency
PMSSS	Pondicherry Multipurpose Social Service Society
UTP	Union Territory of Pondicherry

Introduction

In July 2009, a staff writer at the Tamil daily *Dinakaran* breathlessly asked, “Will tsunami attack?”¹ The story was accompanied by four graphics detailing a solar eclipse due to occur on July 22. The dire headline had been prompted by the recent publication of *Will History Repeat Itself: the Triple Eclipse of 2009* by D.K. Hari and his wife, D.K. Hema Hari. The premise of the book was a simple one: the July 22, 2009 solar event would be bookended by two lunar eclipses – one on July 7 and the other on August 6 – resulting in a so-called “triple eclipse,” an event that the authors argued was historically a presage of dire events. As Hari explained in a press release:

The first recorded triple eclipse in 3097 BCE coincided with the Kurukshetra war. The destruction of the city of Dwaraka coincided with another set of triple eclipses in 3031 BCE. More recently, the first half of the 20th century saw the occurrence of a series of triple eclipses between 1910 and 1945, which coincided with World Wars I & II, the Holocaust and the nuclear bombings in Japan!²

The article in *Dinakaran* cited neither the authors nor the book, relying instead upon sensational graphics suggesting that the combined gravity of the moon and sun pulling on the on the earth simultaneously could cause the tectonic plates near Japan to shift, causing an earthquake that could in turn create a tsunami.³

While media outlets across Asia noted the solar eclipse, few outside of India commented on its lunar siblings or their astrological implications.⁴ Tamil and English

¹ “Cuṇāmi tākkumā,” *Tiṇakaran* (Pondicherry, India), July 14, 2009.

² D.K. Hari, “Triple Eclipse Series to Begin July ’09: What does it mean for the world?” (press release, June 22, 2009).

³ Japan sits on the edge of the Eurasian plate, abutting both the Pacific and Philippine plates. Earthquakes in this region are caused by subduction; the edge of one plate is pushed beneath mantle of the adjacent plate. The resulting pressure eventually causes the subducted plate to “snap back,” forcing everything above the plate – earth, water, etc. – to tremor with great force.

⁴ Newspapers in Australia, for some reason, seemed to enjoy noting superstitious reactions among

dailies in the Union Territory of Pondicherry all covered aspects of the triple eclipse.⁵ The above mentioned article from *Dinakaran*, for example, included an inset titled *Vatantikaḷai*, or “Rumors,” that described various beliefs about eclipse events: that radios, televisions, and telephones should not be used; that no food or drink should be taken; that work and travel outside of the home should be delayed. K. Sundaravadivelu, senior scientific officer in the Union Territory’s Department of Science and Technology, initiated a campaign over local radio and television to combat such superstitions. Similar efforts were made across India. For example, Jana Vignana Vedika, an organization that promotes science education and scientific thought, worked to dispel such beliefs in Andhra Pradesh⁶ while C.S. Shukre took advantage of his role as director of Bangalore’s Jawaharlal Nehru Planetarium to reach a more national stage.⁷ The reassurances issued by Sundaravadivelu, Shukre and JVV only served to underscored just how widespread such beliefs were, at least across southern India.

On the ground in Pondicherry, I read each newspaper report as it came out. As the eclipse drew nearer I grew eager at the prospect of collecting field data about beliefs linking astrology with more mundane concerns among the Paṭṭaṇavar fisher communities with whom I was working. Against expectations, fisher folk in the hamlets bordering Pondicherry town gave little credence to the rumors of impending disaster. “Nobody here believes that,” I was told. Changing tactics, I asked if they remembered any floods

Hindus. See, for example, “Total eclipse of the heart of Asia,” *Hobart Mercury*, July 23, 2009; “Darkness falls as a dragon-demon swallows the sun,” *The Australian*, July 23, 2009; “Blind superstition and devotion eclipse science,” *The Age*, July 23, 2009.

⁵ See, for example, “Jūlai-āgaṣṭil 3 kirakaṇaṅkaḷ,” *Tiṇṇanti* (Pondicherry, India), June 23, 2009; “Āpūrvacūriya kirakaṇam,” *Mālai malar* (Pondicherry, India), July 21, 2009.

⁶ “JVV derides eclipse fears,” *The Hindu*, July 21, 2009, <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/article235090.ece>.

⁷ “There is no need to fear a cosmic spectacle,” *The Hindu*, July 22, 2009, <http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/article235798.ece>.

coming into their villages. “Flood (*vellam*) doesn’t come here,” they told me, looking frankly baffled. Undeterred, I asked if they knew the story of how Kannagi had saved a sand image of her beloved Kovalan from flood by embracing it, or how Poompuhar had been swept away by the sea. “We know those stories, but we don’t remember them.” Pressing on I started talking about how a local goddess had saved a nearby village from the tsunami five year earlier, a story the fishermen in Veerampattinam had told barely six months after the 2004 tsunami. That story they knew, but it was not until I asked in another Union Territory fisher hamlet – Kilinjil medu, far to the south of Pondicherry town in Karaikal District – that eyes began to light up with the recollection. “That didn’t happen there [in Veerampattinam]; that happened here!” said an older fisherman. “The sea came all the way up to here,” he explained, motioning me to follow him towards the massive wooden doors blocking the entrance to the small temple dedicated to Ellaiyamman. “The sea-water (*kaṭalnīr*) went up to there, and then it just stopped and went back out again.”

Not everybody in Kilinjil medu agrees that the wave left the village after touching the threshold of Ellaiyamman’s temple, but the ascription is an interesting one. *Ellai* is the Tamil word for boundary, and Ellaiyamman is associated with protecting boundaries and limens. In the Union Territory it is not uncommon to find a small temple dedicated to the goddess in fisher hamlets, though they are rarely located at what might be recognized as the boundary of the settlement. This is not altogether surprising for, as Val Daniel has shown, the territorial limits of the Tamil village, the *ūr*, are less boundaries than they are “frontiers.” Unlike boundaries, which demarcate an external (and sometimes dangerous) no-man’s land, frontiers are a part of the things they set apart: they

belong to the *ur* just as much as they belong to whatever is outside of it.⁸

These were all curious turns. I knew that historically floods had occurred in the Union Territory and logically that Pattanavar fisher hamlets, located at the literal edges of the earth, would be most susceptible to coastal inundations. I knew from interviews



Illus. 1 Urban fisher village abutting Pondicherry's seawall

conducted in 2005 that the Pattanavar community in Veerampattinam claimed that their village had been saved from tsunami by divine intervention, a story that relief workers and government officials knew

of to be circulating, though

in their professional capacities none of them would admit the story to be anything but a curiosity. Why was this story later appropriated by a handful of fishermen, not even a full community, in a village 120 kilometers away from its source? What had happened to traditions that narrated mythic floods in the Tamil lands, traditions that were known to have survived and even thrived in the public discourse well into the twentieth century? And what could possibly have been meant by the statement “floods don't come here” given that, even barring the tsunami, such a claim was demonstrably false?

The stories above begin to illustrate some of the ways in which narratives about flood and disaster (Tamil, *pēriṭar*) are deployed in modern south India. Modern India is

⁸ See E. Valentine Daniel, *Fluid Signs: Being a Person the Tamil Way* (Berkeley, CA:University of California Press, 1984), 72-79.

still often portrayed as benighted by myth and superstition – as demonstrated by Australian reportage on the triple eclipse and unfortunately reinforced by India’s own scientific community – but such stories are also used by people to frame their own communities in ways that often confound expectations. My central argument in the pages that follow is that it is memories of disastrous events – personal, collective, and institutional – that shape our understanding of, and expectations for, future calamitous events. Such memories may or may not coincide with “the facts” of any given event, but it is never unambiguous, recoverable facts that matter to individuals and communities when shaping narratives of disaster.

The narratives discussed in the pages that follow store collective memories of calamitous events, and these memories in turn organize the recognition of risk and construct life worlds that define the natural environment in ways that minimize hazard for communities like those of the Pattanavar fisher caste. The reality of hazard is minimized by building villages in elevated soil locations that drain quickly, by using a style of fishing craft that is easier to control in rough waters, and by supplicating god for protection. Simultaneously, they shape their self-images with attributes of strength, independence, resilience, and devotion. As Veerarappan boasted, “I have two arms. They have always brought me back. I am a man, and there is god. This is all I need.”⁹

Susanna Hoffman and Anthony Oliver-Smith remind us that, “[d]isaster exposes the way in which people construct or ‘frame’ their peril (including the denial of it), the way they perceive their environment and their subsistence, and they ways they invent explanation, constitute their morality, and project their continuity and promise into the

⁹ Veerarappan (fisher, Kuricchikuppam) in discussion with the author, June 2010.

future.”¹⁰ Recognizing this is key to understanding how narratives of disaster and recovery are constructed *and mobilized* by vulnerable communities.

The kinds of events that will be discussed in the following pages are often simply called disasters, but what makes a “disaster”? Even if stakeholders can agree about what constitutes a disaster, it is all too common to discuss disasters by bookending them as events-qua-events. But even this assumes that we can agree on what constitutes an “event” as a conceptual category. Establishing “disaster” and “event” as functional categories is a matter of no small import. Naming an event “a disaster” has clear political, economic, and even social ramifications; describing it as “an event” suggests that it is discreet, terminal, something that has a beginning and an ending. To do this changes how we interpret both causes and consequences.

Framing Events

To begin with the term “event,” what precisely do we mean when we say (or write) that “an event” has occurred? We might mean one of several possibilities. Perhaps the fullest account of what constitutes an event can be found in the literature discussing “performance events.” In the context of folklore, musicology, and related cultural studies disciplines, for example, it has long been understood that such processes are best examined within their contextual surround.¹¹ Stuart Blackburn has examined not just the texts of such mimetic events but also the manner in which they are performed,

¹⁰ Susanna Hoffman and Anthony Oliver-Smith, *Catastrophe and Culture: The Anthropology of Disaster* (Santa Fe, NM: School of American Research Press, 2002), 6.

¹¹ See, for example Clifford Geertz, *The Interpretation of Cultures: Selected Essays* (New York: Basic Books, 1973); Susan Wadley, “The *Kātha* of Śakat: Two Tellings,” in *Another Harmony: New Essays on the Folklore of India*, ed. Stuart H. Blackburn and A.K. Ramanujan, (Berkeley: University of California Press, 1986), 195-232; Dell Hymes, “Breakthrough into Performance,” in *Folklore: Performance and Communication*, ed. Dan Ben-Amos and Kenneth S. Goldstein (The Hague: Mouton, 1975), 11-74; Richard Bauman, *Verbal Art as Performance* (Rowley, MA: Newbury House, 1977).

how performer and audience interact, and the performers' activities before and after each event.¹² Recognizing a broader context of performance and drawing from ancient Tamil poetics Sabarimuthi Carlos has suggested that the concept of *munnam* be integrated into the study of Indian folklore, texts and performances.¹³ Rooted in oral performance, Carlos defines *munnam* as the liminal space between utterer and listener, constructing performance as the relationships enacted between them. This space can be more or less permeable depending on the kind of performance taking place, and it has interesting parallels with the frontier quality of the Tamil *ur* – both part and apart – discussed above.

We often think of performances – concerts, plays, puppet shows, story-tellings – as events with defined beginnings and ending, but when we expand our frame of observation to include the *munnam* they become more than fixed objet d'art consisting of a discreet text, an identifiable audience or constituency for whom it is performed, and a particular set of mutable conditions prescribed by tradition. These kinds of events are marked as being separate from daily experience, but despite specific mechanisms of separation – the dimming of the house lights, the striking up of the orchestra – the division between performer and viewer is not some stark boundary but rather like the limen of the Tamil village: a slightly porous frontier that belongs in part to each side; while it does not explicitly invite border crossing, it intimates it.

Other events, such as religious festivals, are woven into the fabric of daily life.

¹² Stuart H. Blackburn, *Singing of Birth and Death: Texts in Performance*. (Philadelphia: University of Pennsylvania Press, 1988). Blackburn brings the same concerns to his study of Ramayana shadow-puppet theatre in the Western Ghats of South India. See *Inside the Drama-House: Rama Stories and Shadow Puppets in South India*. (Berkeley: University of California Press, 1996).

¹³ S. Carlos, "Indigenous Concepts: The Study of Modern Ballads in Tamil," in *Folklore in Modern India*, ed. Jawaharlal Handoo (Mysore: Central Institute of Indian Languages, 1998). Carlos adds this concept to those of *akam* and *puram* texts, described by A.K. Ramanujan in *The Interior Landscape: Love Poems from a Classical Tamil Anthology* (Delhi: Oxford University Press, 1996).

The annual mother goddess festival in Veerampattinam, for example, is celebrated every July and is awaited with great anticipation. It begins on *nālām vellī*, or “fourth Friday,” of the Tamil month of *Āṭi* (July-August) and takes place over eleven days. It commences with the raising of a ceremonial flag pole in front of the temple, called *kāppu kattutal*, in the predawn of the Thursday before fourth Friday. This ceremony is performed to ward off all evil that occurred in the community over the previous year, but it is the detonation of two fire-crackers (Ta. *veti*) in quick succession immediately following the *kappu kattutal* ceremony that announces the start of the festival.¹⁴

For those in the town who await the annual festival, the event has begun only once the firecrackers explode at dawn on fourth Friday. Examined from outside the rituals, however, the *veti* do not strictly demarcate a beginning; several things must happen before the firecrackers can even be lit. I have already mentioned the *kappu kattutal* ritual, but even before this the priests conducting the ritual must first walk to the neighboring village of Kakayanthope to receive a ritual blessing. This, too, is a performance, but it is one that occurs without an audience, or rather the only audience members are the participants themselves. But for those who must take part, this ritual properly marks the beginning of festival. This is not to suggest that people actively contest the definition of the festival’s beginning. They do not. Rather it highlights the ways in which the definition of an event may well depend upon the perspective of the person defining it. If disasters are definable as events, and I maintain that they are, when do such disaster-events begin, and how do we mark their ending?

¹⁴ S.B. Bharathi, *Coromandel Fisherman: An Ethnography of Paṭṭaṇavar Subcaste* (Pondicherry: Pondicherry Institute of Linguistics and Culture, 1999), 211.

Framing Disasters

What, then, are disasters? The March 2011 Sendai earthquake and tsunami were disasters – or were these two events only a single, complex disaster? Hurricane Katrina in 2005 was also a disaster. So, too, was the 2004 tsunami that devastated the Indian Ocean basin from Phuket, Thailand to parts of Indonesia to Sri Lanka and India and beyond and serves as the foundation for the current work. Such natural disasters are often easy to frame, and as one examines the last century the list of calamities can seem almost unending. But what of smaller-scale events: a tornado that affects a narrow swathe of a single state, a chemical spill that evacuates a single neighborhood, a fire that sweeps through a single factory? Unlike risk – which will be discussed below – the definition of disaster remains stubbornly colloquial. Everybody just *knows* what a disaster is. But there must be some scale of diminishing return. At what point does a disaster become small enough that it no longer accrues notice beyond the local?

The Centre for Research on the Epidemiology of Disasters (CRED), a non-profit research center located within the Université catholique de Louvain and a collaborating center with the World Health Organization since 1980, gives what is perhaps most functional definition for disaster:

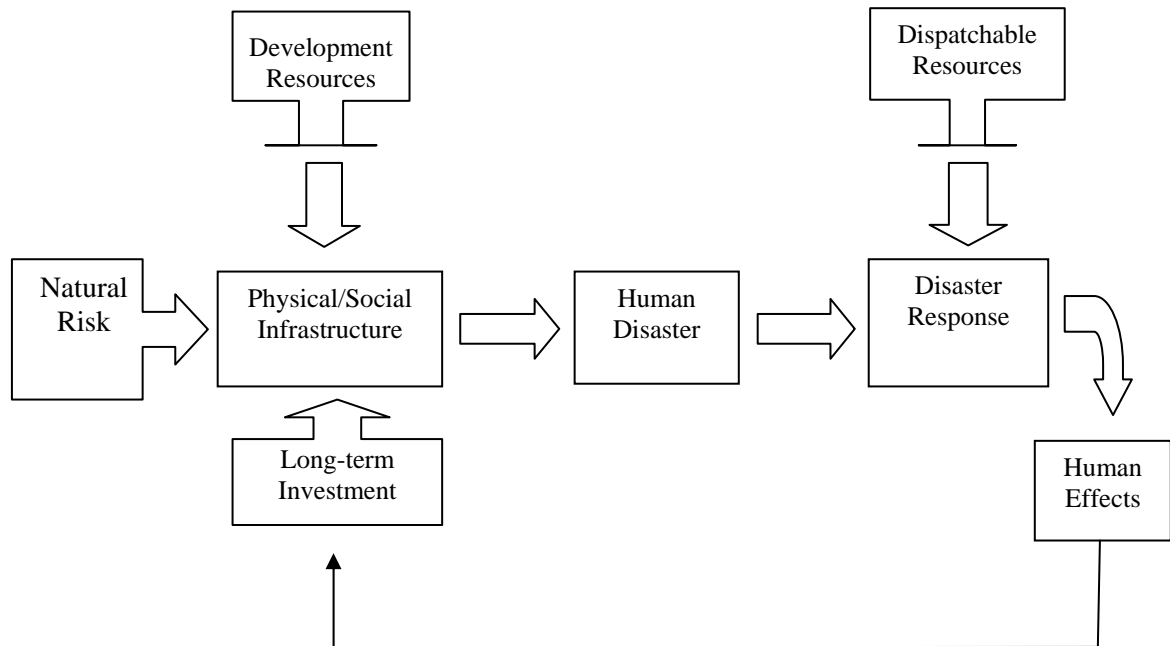
A situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction, and human suffering.¹⁵

¹⁵ Regina Below, Angelika Wirtz and Debarati Guga-Sapir, “Disaster Category Classification and Peril Terminology for Operational Purposes,” CRED, last modified October 2009, http://cred.be/sites/default/files/DisCatClass_264.pdf. CRED quantifies their definition using four criteria: ten or more people must be reported killed, one hundred or more people must be reported affected, there must be a declaration of emergency, or there must be a call for international assistance. Only one of these criterion need be met in order to be entered into the International Disaster Database (EM-DAT) maintained by CRED and WHO, but it is worth noting what seems to be an extremely low mortality threshold.

Several things make this an apt definition. The first is that in order to be a disaster local capacity must be overwhelmed. If a local administration is able to render all necessary relief and rehabilitation following an emergency then a disaster-event has not necessarily occurred. It has failed to garner need beyond local capacity. The second part of the CRED definition is closer to colloquial usage – something that, when it occurs, causes great damage, destruction, and human suffering – and this portion of the definition I can accept unreservedly. I am not so confident about the final clause, for though disasters are often sudden, they are not so often unforeseen. A secondary point worth consideration is this: by this definition a disaster “necessitate[s] a request...for external assistance.” Disaster becomes defined less by its immediate and material consequences than it is defined by the *sources* of relief assistance.

To return to the former point, that disasters are “unforeseen,” disasters must be recognized to be processes as much as they are events.¹⁶ Natural disasters are as much the consequence of decisions made as they are the result of uncontrollable meteorological or geomorphic forces. Seen this way, disasters become the anthropogenic consequence of natural hazards and their attending risks, where the hazard represents a threat – an earthquake, a storm, a tsunami, a wildfire – and “risk” represents possible consequences, like collapse, wind damage, flooding, and the like (Illus. 2).

¹⁶ Anthony Oliver-Smith, “Theorizing Disaster,” *Catastrophe and Culture: The Anthropology of Disaster* (Santa Fe, NM: School of American Research Press, 2002).



Illus. 2 Natural hazards, human disasters

A natural hazard operates against the physical and social structure put into place over time by communities using inputs from available resources. The resulting disaster occurs because of the interplay of natural forces with man-made decision processes: to settle, to build, to expand, and so on. Communities respond to crisis in the first place by dispatching available resources to relieve distress and rebuild damage. The community responds in the second place by reconsidering their position in relation to the natural risks inherent in the settled environment. Do they rebuild or resettle? If they rebuild, do they rebuild to their prior state or do they “build back better” by taking into account a better understanding of the risks and vulnerabilities gained through the experience and building to mitigate them? Thus begins the process of long-term investment to re-establish the physical and social infrastructures of the community. This is a simplified picture, but it is meant to highlight the human inputs that go into natural disasters. The same process can be used to clarify so-called man-made disasters as well, but it must be understood that

this kind of disaster is initiated not in the first box in figure 1 (the input of natural risk into the built environment), but in the second: the development of technological risks at the primary level of infrastructure development.

If we can accept, then, that disasters are caused by the actualization of risks within/against a community, how are we to understand “risk”? William Rowe’s classic definition of risk as “the potential for realization of unwanted, negative consequences of an event”¹⁷ offers a broad canvas upon which to paint risk. Sven Hansson, on the other hand, notes no fewer than five separate definitions of risk in varying technical registers ranging from the probability of unwanted events, to their cause, to the condition of making decisions under such threats.¹⁸ I will hew to a colloquial definition of risk closer to Rowe’s: risk embodies those hazards that have the potential to cause harmful consequences that may or may not occur. What is important to remember here is that risks represent the possible adverse consequences of actions taken, much more in line with agentive “to risk” than the subjective “a risk.” “[Risks] do not simply exist,” Hansson reminds us: “they are taken, run, or imposed.”¹⁹

This perspective on risk is the foundation of the work of Ulrich Beck. In *Risk Society* Beck differentiates between Old World dangers – what he considers “personal risks” – and modern day risks that he perceived to be global dangers. Beck’s inversion of the two words ‘danger’ and ‘risk’ can be confounding at first, but he labors to make the distinction clear:

Anyone who set out to discover new countries and continents – like Columbus – certainly accepted ‘risks’. But these were *personal* risks, not global dangers like those that

¹⁷ William Rowe, *An Anatomy of Risk* (New York; Wiley-Interscience, 1977).

¹⁸ Sven Hansson, “Seven Myths of Risk,” *Risk Management* 7(2):7-17.

¹⁹ *ibid.* 9.

arise for all of humanity from nuclear fission or the storage of radioactive waste. In the earlier period, the word ‘risk’ had a note of bravery and adventure, not the threat of self-destruction of all life on Earth....The risks and hazards of today thus differ in an essential way from the superficially similar ones in the Middle Ages through the global nature of their threat...and through their *modern* causes. They are risks of *modernization*.²⁰

Beck underscores this distinction in his later work writing that “humanity’s dramas – plagues, famines, and natural disasters, the looming power of gods and demons – may or may not quantitatively equal the destructive potential of modern mega-technologies. They differ essentially from ‘risks’ in my sense since they are *not the result of decisions*.”²¹ I would differ here from Beck: while the hazards (in my sense) associated with natural disasters are less under our control than those associated with technological disasters, their consequent risks are no less the result of human decisions. To relate this distinction back to Beck, the threat (hazard) of seismic tsunami in the Pacific Ocean is beyond our control. Nevertheless, the consequences of the Sendai earthquake were made *exponentially worse* because of human decisions to build a nuclear power plant in a location at risk from natural hazards. Secondary decisions to design the Fukushima plant to withstand earthquakes measuring only 7.0 on the Richter scale²² were based on risk calculations that determined larger quakes were too unlikely to justify the increased expense. The risks from natural disaster were thus increased as a result of

²⁰ Ulrich Beck, *Risk Society*, trans. Mark Ritter (London: Sage, 1992), 21. Italics original.

²¹ Ulrich Beck, *Ecological Enlightenment*, trans Mark Ritter (Atlantic Highlands, NJ: Humanities Press, 1995), 20. Italics original. Beck’s definition of risk continues to evolve. He later wrote that the “world risk society” is threatened by three categories of risk: those created through development (his original definition), those arising from the *lack* of development, and those that result as a consequence of conflict. See *World Risk Society* (Cambridge: Polity Press, 1999).

²² “Japanese government was ‘warned that nuclear plants could not withstand quake,” *The Daily Mail Online*, March 16, 2011, <http://www.dailymail.co.uk/news/article-1366721/Japan-tsunami-Government-warned-nuclear-plants-withstand-earthquake.html>.

human decisions.

In reality, risk is a cultural concept shaped by the communities who must face it. I would stress here that the construction of danger does indeed occur at the level of the community rather than at the level of the wider culture, though there may well be correspondences between the two. Risk does not reflect an objective reality but rather a set of values that must be interpreted within their cultural functions. Organizations, too, shape risk estimates around functional needs, what Raynor and Cantor described as a “cultural model of institutional risk behavior.”²³ The perception of risk, in turn, becomes the result of social institutions presenting risk to its constituents in particular ways.

Disasters as Social Motivators: The Bihar Earthquake

In her book, *Creating Histories: Oral Narratives and the Politics of History-Making*, Wendy Singer marked July 3, 1939 – a day on which agricultural laborers destroyed the immature *sawai* crop in protest of land laws – as a key moment in decision process of the Maharaja of Darbhanga to cede some land back to local control.²⁴ The *Tinkonma* protest was a dramatic event that forced the maharaja to take measures he had been avoiding. It is an event with a clear beginning, middle, and ending. But it is also the punctuation mark on a much longer narrative.

On January 15, 1934, an earthquake struck India on the shared border between Nepal and Bihar.²⁵ According to Singer, “the maharaja was inundated with petitions for

²³ See “How Fair is Safe Enough? The Cultural Approach to Societal Technology Choice,” *Risk Analysis* 7: 8.

²⁴ Wendy Singer, *Creating Histories: Oral Narratives and the Politics of History-Making* (Delhi: Oxford University Press, 1997).

²⁵ Original Universal newsreel footage of the aftermath can be viewed at <http://www.harappa.com/mom/dec98.html>, retrieved April 30, 2011.

rent remissions and support to rebuild devastated village houses, wells, and ponds.”²⁶ The maharaja responded to these petitions with positive relief aid, though often in amounts that were criticized for being insufficient to need, and aid amounts continued to be contested for the next two years. The press attributed the maharaja’s bungling to his failure to contribute adequately to an aid program established by the British colonial administration, as noted in the journal *Indian Nation*, 19 January 1935.²⁷ Government aid programs had been in existence in British India since 1878, when the colonial government began setting aside Rs. 1.5 crore annually for famine relief. Unused portions were spent on the development projects meant to mitigate future famines, such as improved railways to move food more quickly between regions or irrigation projects intended to increase yield and protect against famine-inducing drought.²⁸

Earlier reforms, in particular the 1919 Mont-Ford Reforms, had devolved sole responsibility for the collection of relief funds to provincial governments, such as the maharaja’s in Darbhanga, and coupled this responsibility with fixed contributions to the central Famine Insurance Fund administered in Delhi. In 1928-29 the Famine Insurance Fund was changed to the Famine Relief Fund with the intention that all monies collected would be spent only on famine relief. By 1937, with the introduction of provincial autonomy, relief was again left entirely in the hands of provincial governments, since the India Act of 1935 no longer had any provisions for a centrally administered relief fund. The 1934 Darbhanga earthquake presents us with an interesting perspective on the mobilization of relief aid because it straddles these two periods: central versus local

²⁶ Singer, *Creating Histories*, 134.

²⁷ *ibid.* 143, fn. 49

²⁸ J.C. Pant, “Disaster Relief in India,” in *Natural Disaster Reduction*, ed. Girish K. Misra and G.C. Mathur (New Delhi: Reliance Publishing House, 1993).

responsibility for relief. At the time of the earthquake there was an expectation of aid from the centrally administered government relief fund. Over the following five years, however, responsibility was placed in the hands of individual provinces and monies previously collected by the colonial administration were to have been returned to local control. If the maharaja had not made adequate provision for the relief of his people, as was reported by the *Indian Nation*, who then was to aid them in their distress? This failure on the part of the local administration to dispense sufficient post-disaster aid was later identified as one of the issues that contributed to the unrest that led to *Tinkonma*.²⁹

It is insupportable to argue in this example that earlier failures by the maharaja could in any way be used to extend the duration of the disaster-event “1934 Bihar Earthquake” to encompass the 1938 Tinkonma Movement. It does, however, point to the ways in which human decisions are deeply implicated in the outcomes of natural disasters often occurring years later. The maharaja could not have prevented the earthquake, but proper management of disaster relief funds could have resulted in an improved response, perhaps lessening the dissatisfaction of local agriculturalists, perhaps even delaying preventing the unrest that led to the Tinkonma Movement.

It is also possible to read the inadequate response to the 1934 earthquake as evidence of the maharaja’s perceived weakness, a weakness that was only confirmed by his failure to suppress peasant agitation and his later capitulation by signing the Pandal Agreement in 1940.³⁰ What it clearly suggests is that the way a given event is framed is as open to contestation at its conclusion as at its inception. But by explicitly raising the question of who is responsible for post-disaster relief it also hints at the tensions implicit

²⁹ Singer, *Creating Histories*, 143, fn. 49.

³⁰ *ibid.*, 138.

in the externality required by CRED's definition of disaster discussed above. The British colonial administration, having ceded responsibility to provincial governments in 1935, effectively rejected assumptions later made by CRED that disaster necessarily requires definition in relation to externalities.

But is it possible, or even necessary, to define a breakpoint between "the event" and what might have been its eventual results? Taking our leave of Tinkonma and looking instead to the literature on trauma, we are reminded that the effects of generational calamities such as the Holocaust or a civil war can be very long-lived. It would be difficult to argue that Holocaust still *is*, that is to say that it has yet to end, but the psychological and cultural trauma it begat continues to have a powerful affect.³¹ To take another example, the civil war in Mozambique ended two decades ago and free elections held in 1994, but its effects re-echo into the 21st century.³² It is difficult enough to capture either of these generational events within a single frame, but that is no reason to assume that singular disaster events cannot also have equally long-lasting traumatic effects.³³ Even the most ordinary event can be observed and understood from multiple perspectives, thus narratives created from each subject position will be framed according to the needs of a particular constituency.

Shahid Amin followed this course in his exploration of the February 4, 1922, riots at Chauri Chaura, a moment in the nationalist history of India that he says later narrators

³¹ There is a great deal of literature on memory and the Holocaust. Several excellent examples include Eric Santner, *Stranded Objects* (Ithaca: Cornell University Press, 1990); Dominic LaCapra, *Representing the Holocaust: History, Theory, Trauma* (Ithaca: Cornell University Press, 1994); Cathy Caruth, *Trauma: Explorations in Memory* (Baltimore: Johns Hopkins University Press, 1995).

³² There has been considerably less written about the war in Mozambique, but Carolyn Nordstrom's study is superb: *A Different Kind of War Story* (Philadelphia: University of Pennsylvania Press, 1997).

³³ Kai Erikson, *Everything in its Path*, (New York: Simon and Schuster, 1976); Peter Read, *Returning to Nothing: The Meaning of Lost Places* (Cambridge: Cambridge University Press, 1996).

have tried to elide or efface in various ways.³⁴ Recognizing a lacuna in the ways in which historians have discussed nation and the nationalist struggle, Amin sought to “interrogate the narrative strategies by which a people get constructed into a nation.”³⁵ His work not only highlighted the different ways in which a single event was framed by various actors and audiences, but also the ways in which narrative framing changed over time. And though his book is about a single event that occurred on a specific day in the history of Indian Nationalism, his own narration of the event begins in chapter 2 with Gandhi’s all-India campaign against the Rowlatt Acts of 1919 before quickly moving through Gandhi’s 1920 train tours and the explosive expansion of nationalist fervor in 1921. This is not mere historical contextualization, however: the chapter is titled “A Narrative of the Event.” Amin’s use of the indefinite article highlights that his is just one of many possible narratives. Alternate narratives could simultaneously be used to make sense of the event in ways meaningful to members of different groups, and none of these must necessarily be intelligible to the others.

Framing the Extraordinary: The Bhopal Gas Leak Disaster

Kai Erikson once defined a disaster as “an ‘event’ with a distinct beginning and a distinct end, and it is by definition extraordinary – a freak of nature, a perversion of the natural processes of life.”³⁶ It is “a sharp and furious eruption” that leaves terrible destruction in its wake. Unlike my own view, Erikson’s definition effectively separates disaster from its effects, leaving both to be conceptualized as separate problem sets. This can be a useful distinction to make, but it can also obscure the processual nature of

³⁴ Shahid Amin, *Event, Metaphor, Memory: Chauri Chaura 1922-1992* (Berkeley, CA: University of California Press, 1995).

³⁵ *ibid.* 2.

³⁶ Erikson, *Everything in its Path*, 253.

disaster. The catastrophic failure of a gas line at the Union Carbide manufactory in Bhopal, Madhya Pradesh, in 1984 tests our understanding of disaster-as-process because the resulting disaster can be traced back to several causal factors which, had they been addressed, could have prevented the disaster.

The company's narrative of the Bhopal disaster is a classic portrayal of risk as merely a function of physical or technical systems. In this construction – the same used to explain the grounding of the Exxon *Valdez* in 1989 and the blow-out on British Petroleum's Deep Water Horizon in 2010 – accidents are seen to occur only because components fail to perform as they are supposed to. “Proximate conditions are emphasized,” writes Kathleen Tierney, “and...[e]xplanations are sought in the design details of system components, the immediate circumstances surrounding an accident, and individual decision making at the time an incident occurs,” resulting in one of two attributable causes: failures in the technical system or “human error.” She continues, “what are typically *not* discussed are the broader organizational, institutional, and societal factors that contribute to the incidents. There is, in other words, a failure to contextualize.”³⁷

Contextualization is precisely what the International Campaign for Justice in Bhopal (ICJB) sought by providing the following narrative of the disaster, posted on its website in August 2009:

Shortly after midnight poison gas leaked from a factory in Bhopal, India, owned by Union Carbide Corporation. There was no warning; none of the plant's safety systems were working. In the city people were sleeping. They woke in darkness to the sound of screams with the gases burning their eyes, noses and mouths. They began retching and coughing up froth streaked with blood. Whole

³⁷ Kathleen Tierney, “Toward a Critical Sociology of Risk,” *Sociological Forum* 14, no. 2 (1999), 227.

neighbourhoods fled in panic, some were trampled, others convulsed and fell dead. People lost control of their bowels and bladders as they ran. Within hours thousands of dead bodies lay in the streets.³⁸

It is not surprising that an activist group seeking accountability from Dow Chemical, the company that has controlled Union Carbide as a wholly owned subsidiary since 2001, would frame the incident in this way. Possibilities offering a more nuanced narrative suggest themselves, but a story that begins “After years of budgetary parsimony and a series of layoffs, Union Carbide found itself in late 1984 faced with serious quality control issues,” lacks the compelling framework that lends itself either to outrage or to memory.

The ICJB has continued to commemorate the Bhopal disaster annually during the Global Day of Action Against Corporate Crime, at least through 2010, and claims the support of activist groups in solidarity campaigns around the world. Though their work has long focused on pressuring Dow Chemical and the Government of India to meet Bhopali demands for justice, ICJB also harries Dow at every opportunity throughout the subcontinent. In January 2007, *Indian Express* reported that ICJB protesters blocked construction of a new Dow research and development center in Pune.³⁹ Later that same year, student protesters at the Delhi campus of the Indian Institute of Technology forced IIT-D to reject Dow's sponsorship of the upcoming GLS-8 conference.⁴⁰

ICJB frames its protests as commemorative acts, aggressive memorials that force

38 “Main Page,” International Campaign for Justice in Bhopal, accessed August 25, 2009, <http://www.bhopal.net/index1.html>.

39 Vinod Matthew and Nisha Nambiar, “Bhopal tragedy comes to haunt Dow R&D unit,” *Indian Express*, January 28, 2007, <http://www.indianexpress.com/story/266053.html>.

40 Pallavi Singh, “IIT-D returns sponsorship of Dow for GLS-8 Conference,” *ExpressIndia.com*, accessed February 8, 2008, <http://www.expressindia.com/latest-news/IITD-returns-sponsorship-of-Dow-for-GLS8-conference/251500/>.

auditors back to events that took place over two decades ago. The Union Carbide disaster lives on for the victims of Bhopal, though the event is long over. Their commemorations entail two propositional statements identified by Alfred Gell. First, memorial implies that a particular turn of events was “capable of being otherwise.”⁴¹ It *could have been different*. Had Union Carbide behaved differently before the disaster, the fatal release of MIC gas never would have happened. Barring that, had Union Carbide behaved differently in the wake of the disaster, victims might have received better care and many of the consequences of the disaster could have been mitigated. The second of Gell’s propositions illustrated by ICJB’s commemoration is that the shape of memorial entails an “opportunity cost,” insofar as the imagination of a particular past necessarily implies the intentional exclusion (or forgetting) of all other possible pasts. In other words, by disciplining our memories to recall a given event in a particular way we necessarily exclude all other possible conceptual models of the “real” world.

As one might imagine, the narrative of the disaster maintained to this day by Dow Chemical illustrates this second proposition well. The company still disavows any culpability. In the first place, the incident happened to Union Carbide, not Dow Chemical.⁴² At the time Union Carbide tried to insulate themselves from responsibility by conducting an internal investigation, which “discovered” that “the gas was formed when a disgruntled employee, apparently bent on spoiling a batch of MIC, added water to the storage tank.” This line was adopted by Dow after the two companies originally

⁴¹ Alfred Gell, *The Anthropology of Time: Cultural Constructions of Temporal Maps and Images* (Oxford: Berg, 1992), 217.

⁴² Whose record is by no means clean. In 1984, the same year as the Bhopal disaster, Dow settled an Agent Orange related class action law suit involving Vietnam veterans and their families. Along with the other defendants they agreed to pay \$180 million in “full and final settlement of all current and future claims relating to Agent Orange.” See June Hoo, ed., *Around Dow: Special Commemorative Issue* (Midland, MI: Dow Chemical Company), 41.

merged in 1999 and was published in a special commemorative issue of the in-house newsletter “Around Dow” in the same year.⁴³ Dow continues to defend itself in two exceedingly inept ways by saying that Union Carbide was not part of Dow in 1984, and even if it was the leak had been the result of sabotage anyway.⁴⁴

Evidence, however, does not support Dow's framing of the event. Their assertion that the gas leak was caused by sabotage was refuted by testimony given by the chairman of Union Carbide, Warren Anderson, before a Congressional subcommittee on March 26, 1985.⁴⁵ In his own testimony before the Congressional subcommittee, Jackson Browning, Carbide's Vice President for Health, Safety and Environmental Affairs, reassured the public against claims of sabotage by saying that "the MIC tank line fittings are colored-coded and that the water line couplings are incompatible with the gas line couplings that go into the tank," making the kind of sabotage posited by Carbide almost impossible.⁴⁶

Not surprisingly, these different narratives are dependent upon perceptions of the dynamic of power between Union Carbide (now Dow Chemical) and the largely poor residents of Bhopal. The residents of Bhopal blame the entire disaster on the company: from the placement of the factory – which Bhopalis protested from the very beginning because of its proximity to the resident population – to the claim that training manuals

43 June Hoo, ed., “Around Dow: Special Commemorative Issue” (Midland, MI: Dow Chemical Company, 1999).

⁴⁴ In June 2010, eight former executives at Union Carbide were found guilty of negligence in an Indian court and sentenced to two years in jail and fined approximately \$2,100. The following December, the Indian Attorney General asked India’s supreme court to order Dow to pay \$1.1 billion in victim compensation and cleanup costs. See Lydia Polgreen and Hari Kumar, “8 Former Executives Guilty in ‘84 Bhopal Chemical Leak,” *New York Times*, June 8, 2010; Geeta Anand, “Dow Chemical is hit with demand for Bhopal Payment,” *Wall Street Journal*, December 4, 2010.

45 Stuart Diamond, “Discrepancies are seen in Bhopal court papers,” *New York Times*, January 3, 1986.

46 Quoted from *Chemical and Engineering News* (April 8th, 1985), Students for Bhopal, accessed February 9, 2008, <http://www.studentsforbhopal.org/DowIsLiable.htm#Sabotage>.

were in English even though few workers were English-literate, to repeated accusations of poor maintenance and out-dated technology.

Michel-Rolph Trouillot has remarked that “history does not belong only to its narrators, professional or amateur. While some of us debate what history is or was, others take it in their own hands,”⁴⁷ This is an especially apropos comment in light of the conflicting narratives about Bhopal. A kind of history has already been written about the Bhopal disaster, and its merits have been debated by journalists, historians, even the officers of Dow Chemical.⁴⁸ But history also belongs to those who merely carry it within themselves, silent witnesses to events both remembered and forgotten. Shahid Amin reminds us of this when he writes of Chauri Chaura that it is an event that “all Indians...are obliged to remember – only in order to forget – as an ‘error’.”⁴⁹ In the construction of nation certain moments belong to all. But so it is with disaster, perhaps even more so. For of what daily consequence is a disaster to an historian when compared to the effects they have on those who survive in anticipation of the next?

Framing Pasts and Futures

The subduction earthquake that began the disaster called the 2004 Asian tsunami occurred just before 8 a.m. local time in Sumatra (1 a.m. GMT), but is this where we should begin the story of the calamity that followed? None of the local catastrophes that resulted – Phuket, Indonesia, Sri Lanka, India – began at this same moment, except in the

⁴⁷ Michel-Rolph Trouillot, *Silencing the Past: Power and the Production of History* (Boston: Beacon Press, 1995), 153.

⁴⁸ See, for example, Larry Everest, *Behind the Poison Cloud: Union Carbide's Bhopal Massacre* (Chicago: Banner Press, 1986); Dan Kurzman, *A Killing Wind: Inside Union Carbide and the Bhopal Catastrophe* (New York: McGraw-Hill, 1987); Dominique Lapierre, *Five Past Midnight in Bhopal* (New York: Warner Books, 2002).

⁴⁹ Amin, *Event, Metaphor, Memory*, 1.

most existential of senses. The tsunami struck the nearest coast of Simueleu, Indonesia, within ten minutes, but it took more than two hours to reach the coast of India, and much longer still to affect the Maldives and the coast of Africa. If the wave did not strike the eastern coast of India, for example, until two hours after the Sumatran earthquake shook the ocean floor, when in time do we locate the event horizon of the tsunami?⁵⁰

Keeping our gaze firmly on the Coromandel Coast, we know that the wave did not strike Chennai until two and a half hours after the initiation of the tidal wave, again at about 8 a.m. local time. Does this mark the beginning of the event for *this* place? This seems a reasonable conclusion at first, but as we dig more deeply into the particulars of individual cases along the coast we find that it cannot be so simple. Residents in Veerampattinam, the fishing village discussed above and located approximately one hundred kilometers south of Chennai, reported a mysterious spring appearing in the temple tank (*kuḷam*) shortly after 7 a.m. The sudden appearance of the spring filling the empty tank drew most of the village inland to the temple to watch the strange occurrence. By all accounts this occurred around 7:15 a.m. local time,⁵¹ approximately one and three-quarters hours *after* the precipitating geological event in Sumatra but still an hour *before* the wave struck the Coromandel Coast. In the aftermath of the tsunami villagers were quick to attribute the spring to divine intercession, crediting their remarkable salvation to the grace and protection of god.⁵² For this community in this place it is perfectly reasonable to begin their tsunami narrative well *before* any waves ever struck their

50 In physics, the “event horizon” is the boundary in space-time beyond which the events within a black hole can no longer affect observers outside. Here I use the term similarly, but am interested more in the other side of the event horizon, or rather the side of the boundary that defines the moment observable effects begin.

51 Fisher group, in discussion with the author, June 2005, See also “A phone call saved an entire village,” *The Hindu*, January 1, 2005, <http://www.hindu.com/2005/01/01/stories/2005010107320100.htm>.

52 Fisher group, in discussion with the author, June 2005.

village. Doing so underscores the need to be able to define ‘event,’ understand how narrations of an event can change in respect to munnam – or the interaction between its narrators and its auditors – and finally be able to connect (discreet) events from the an over-arching ‘disaster’.

Recalling figure 1, a natural event actuated emplaced infrastructures in the village, both physical (the temple tank) and social (religious belief). This in turn caused the human event, *as it occurred in Veerampattinam*. In other villages the first structures to be affected were the physical structures of the villages themselves, but in Veerampattinam our understanding of the event must be structured differently. This still excludes any consideration of aftermath, just as Erikson’s definition of disaster would have us do. But if our working definition of disaster includes destruction and human suffering on a scale great enough to overwhelm local capacity, should not the event be bounded in such a way as to include, or at least consider, its aftermath? Can we risk so modest an appraisal of calamity when each such instance sets the stage for the next? Consider it in the following terms: As the tsunami wave crossed the Indian Ocean there were fishermen abroad at sea, but atop the deep ocean it would have passed beneath them largely unnoticed, perhaps appearing as nothing more than an irregular swell. For these arguably fortunate few, those who did not have to struggle for their lives against the crush of water and debris as millions of cubic meters of ocean piled up upon itself as it rushed into the shallow coastal shelf approaching the shoreline, there was no disaster *until they came home*. For them, the catastrophic event called “tsunami” was *all* aftermath.

An Overview

The following study focuses on the Tamil-speaking Cinna Pattanavar fishing communities of the Union Territory of Pondicherry, the administration that regulates them, and the NGOs (*aracu cārā amaippukaḷ*) that responded with relief and rehabilitation aid in the months and years following December 26, 2004. It explores not only the narratives each of these communities maintain about themselves and their relationship to post-tsunami recovery efforts but also how these narratives shape the ways in which each community constructs its own history and expectations for their possible futures. These considerations are important for they will demonstrate the value of ethnographic knowledge to development planning and post-disaster relief and rehabilitation strategies.

By defining development in terms of western-styled modernity and disaster as necessarily requiring external aid, organizations like the World Bank, the United Nations Development Program, and CRED short-circuit both local mechanisms of coping and recovery and ways of ethnographically coming to terms with these strategies by on-the-ground personnel. Relief and development mechanisms that “work,” that is those strategies that have been effectively put into practice in parallel scenarios, are mobilized without taking the time to consider how they will interact with local social or political realities.

What I am absolutely not arguing for in an invasive anthropology that reproduces the discursive formations of ethnographic science pursued in the first half of the twentieth century, a period when anthropologists sought to rationalize the colonies in order to make

them more legible to administrators and more open to reforms. “If we accept that there are evolved peoples and backward races,” wrote Algerian Governor-General Jules Carde in 1930, “and that the general interest lies in raising the latter to the level of the former, then the principle of colonialism is implicitly justified.”⁵³ Twenty years later, André Leroi-Gourhan and Jean Poirier wrote that:

Ethnology alone can serve as the valid basis for a policy. Knowledge of its races, material culture, ways of life, languages, family and political structures, religious beliefs, the systematic study of psychology, are the very conditions for action.⁵⁴

But Leroi-Gourhan and Poirier continued in a most interesting way, adding that “this knowledge is now a response to *obligations of an international kind*...France has committed itself to taking all necessary measures for respecting the originality of overseas societies.”⁵⁵ These obligations are hauntingly similar to those expressed by many contemporary western NGOs, and no less implicated in the critiques that style development as a power discourse between developed and developing nations.

But a critique of contemporary, western-led development as a “power discourse”⁵⁶ that merely replicates old colonialist imperatives about progress and modernity does not diminish the need for relief and post-disaster development initiatives to proceed with fuller cognizance of areas targeted for aid. Too often, external aid projects rupture in the name of modernity local mechanisms that could and should be preserved and integrated into more cooperative strategies of rehabilitation or

⁵³ Benoît de L’estoile, “Rationalizing Colonial Domination? Anthropology and Native Policy in French-Ruled Africa,” in *Empires, Nations, and Natives: Anthropology and State-Making*, ed. by Benoît de l’Estoile, Frederico Neiburg and Lygia Sigaud, 30-57 (Durham, NC: Duke University Press, 2005), 41.

⁵⁴ *Ethnologie de l’Union Française*(1953), qtd. in L’Estoile (2005), 50.

⁵⁵ *ibid.*

⁵⁶ See Mark Hobart, ed. *An Anthropological Critique of Development* (London: Routledge, 1993).

development. Stakeholder input is key, but even where this is sought what is still too often overlooked is any genuine attempt to understand how recipient communities actually understand their environment and their relation to the political and economic structures in which they are enmeshed.

In short, what has been lacking so far from international development aid policy is the sense *mutual* intelligibility that allows each side – donor and recipient – to fairly comprehend the other. If the interpellation of state-level relief and disaster response agencies into international development bodies continues as it has started in the Union Territory of Pondicherry (see chapter 5), future recipients of relief aid will lose all chance of ever being full partners in the creation of cooperative rehabilitative strategies, being reduced instead to little more than subjects of a global development-relief regime.

Chapter 1 explores examples of mythic and legendary flood in the Tamil-speaking region south India. Borrowing from Charles Taylor's concept of the social imaginary I will show how narratives of flood and loss constructed a "flood imaginary" through which medieval Tamil poets valorized and legitimized their royal patrons. Using a process Sumathi Ramaswamy calls "labors of loss" these poets imagined for the members of the Pandyan courts an ancient Tamil continent lost to the sea in a series of great deluges. This history was later appropriated by Tamil nationalists at the beginning of the twentieth century in an effort to more favorably measure Tamil history and literature against the perceived hegemony of classical Sanskrit. Catastrophic flood became a medium through which a great and noble Tamil past came to be conceptualized.

Chapter 2 shifts into the modern era, examining historical instances of flood along the Coromandel Coast, especially in the former French territories of India. During the

period of French colonialism in India, *l'Établissement français de l'Inde*, adapted local strategies and created new mechanisms for coping with seasonal storms and flooding. Excepting their hydrological infrastructure, the foundation of which was in place by the middle of the eighteenth century, these strategies developed over the course of the nineteenth century, each new occurrence of crisis response building on previous mobilizations of relief aid. When the French finally left India, merging their territories with the newly independent Republic of India in 1954, they left in place mechanisms of flood mitigation and response that remained largely unchallenged for half a century.

I open chapter 3 with an examination of flood response in the last years of French colonialism in the subcontinent. I then move to interrogate mechanisms of institutional and collective memory before theorizing a subset of memory responsible for the maintenance of specific narratives that equip communities with strategies that increase local resiliency in the face of hazards. I will argue that memory of catastrophic events has helped shaped the ways in which people have come to understand the government that serves them as well as their expectations for future interventions in the wake of an emergency. The chapter closes with a brief survey of the development strategies pursued by the independent administration in order to examine how policies left in place by the French combined with initiatives conceived as part of the Five Year Plans to create an extraordinary response to a November 1977 cyclone. Key to this chapter will be coming to terms with what I call “parcenary memory,” those memory forms maintained within groups specifically for utilitarian, functional mobilization.

Chapters 4 and 5 focus on understanding the contemporary narratives surrounding flood, disaster and relief in the Union Territory. In chapter 4 I will examine how

Pattanavar fishers on the Coromandel Coast conceptualize flood (*vellam*), natural disaster (*iyarkai cīrram*), and their relationship to the sea (*kaṭal*). I will contrast the institutions of Pattanavar memory with those of the government of Pondicherry in order to draw together the several threads responsible for shaping certain beliefs about the French administration that came to permeate the contemporary administration of Pondicherry. These beliefs have come to have a tremendous impact on the ways that adequate and efficient response to the 2004 tsunami came to be imagined. I will argue that by relying on an outdated and demonstrably false understanding of the historical incidence of flood in the territories the administration hindered its own efforts at long-term responses following the tsunami.

Chapter 5 will explore these obstacles further by focusing primarily on housing rehabilitation projects in the post-tsunami Union Territory. I will illustrate how the ways in which flood hazard is imagined has had real world impacts on the success of rehabilitation projects in the now six and a half years since the tsunami. In doing so I will chart the development of an agency constituted for the sole purpose of coordinating and managing post-tsunami rehabilitation in the Union Territory. This agency, called PIA, was created under guidelines regulating voluntary aid societies, granting it unprecedented freedom in managing its affairs. In subsequent years, the utility of existing outside the traditional hierarchies of governance have proved to be too tempting to officials to dissolve the agency at the conclusion of its original three-year mandate. Its proposed continuation points towards a new, collaborative model of disaster response in which the state becomes permanently enmeshed in global networks of relief and development politics. It is precisely in such circumstances that it becomes imperative to

put into place strategies and mechanisms for recognizing and *understanding* local coping mechanisms in order to better integrate the life worlds of affected populations into the development schemes created to help them.

Several points must be stressed before moving forward. First, different groups and polities maintain different narratives in which they maintain memories of particular events. Second, these narratives differ based upon the communal and affective needs of a given polity. These needs are not the sole reason that narratives differ from one another, but this process does account for those differences that cannot be attributed to the ways in which material experiences necessarily alter how an event is remembered. Finally, events so framed are always open to re-framing through dynamic processes of remembering and forgetting, contestation, and discovery. As groups or communities change over time, memories often need to be revised in order to better fit a narrative used to support their altered position.

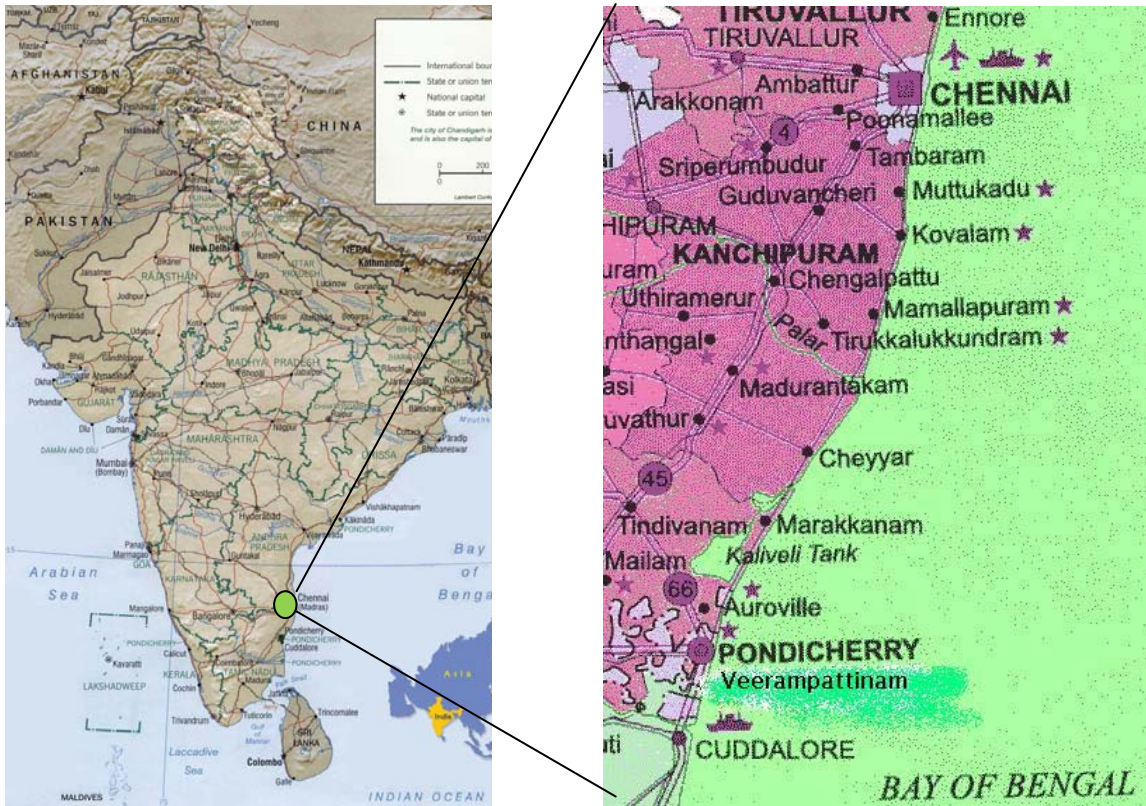
Gyanendra Pandey has said that events live on in memory as part of an “undifferentiated eternal present, that is to say, the individual or community in, or to, which this event occurs lives on in the present, almost unchanged.”⁵⁷ History, Pandey maintains to the contrary, sees events as unambiguously remaindered to past, like a foreign country “from which we have now moved away.” In the case of disasters the former process creates the imaginary from within which a community can move into the future; the latter often erects obstacles that hinder the conceptualization of effective, new strategies for post-disaster rehabilitation. Both need to be understood in order to develop response strategies that will serve vulnerable communities into an ever-changing future.

⁵⁷ Gyanendra Pandey, *Memory, History, and the Question of Violence* (Calcutta: K.P. Bagchi & Co., 1999), 24.

A Flood Imaginary of the Tamil Lands

A legend inscribed on the walls of a small temple in the Pondicherry region of the Coromandal Coast of southeastern India tells of a devout man named Viraragava. This man was a fisher by trade, and he had settled on a dune between two rivers. One day he returned from sea with nothing but an old log, but since he had caught nothing else he decided to carry it home anyway, where he tossed it behind his house and forgot about it. Time passed. One day, Viraragava's wife went outside to fetch more firewood. Behind the house she found the old log and having nothing else at hand she took an ax and prepared to cut it into pieces. But when she struck the log blood gushed forth. Terrified, she fled. That night, the goddess Ceṅgaḷunīr Ammāṅ appeared to Viraragava in a dream and told him to place the log on the site intended for her temple. "How am I to find this place?" he asked. "A cobra will appear to you, and you will place the log where the snake goes to ground." Viraragava awoke and waited anxiously for the cobra to appear. When it did he followed and placed the log where the snake disappeared into the earth. It was not long before the story of Viraragava's dream was known for miles around and the log quickly began to attract the curious and the devout alike. As time passed a temple was built for Cengalunir Amman on the site, and the town which grew around her temple came to be known by the devout fisherman's name: Veerampattinam.

I begin with the story of Viraragava and Cengalunir Amman because the story of my own research also begins here. The fisher village of Veerampattinam sits between Cuddalore and Pondicherry, two small but important colonial ports, a bit less than five hours south of Chennai via the East Coast Road. It is a broad, narrow, town flanked by



Illus. 1.1 India and detail of Coromandel Coast

the Chunnambar River to the north and the Ariankuppam to the south. In the center of town, about 500 meters from the sea, stands a moderately sized temple dedicated to Cengalunir Amman, whom S.B. Bharathi tells us is the local form of the mother goddess, Māriyamman.¹

¹ See S.B. Bharathi, *Coromandel Fisherman* (Pondicherry: PILC, 1999), 205-6. Much has already been written about the aspect and nomenclature of Māriyamman in southern India – see, for example, Whitehead (1921), Moffatt (1979), Good (1985), Sudhakar Rao (1991) – and much can be derived from the various origin myths ascribed to her. Bharathi (1999) records the following in the Coromandel fishing region under discussion: Siva once came down to earth in the form of the *rishi* Jamadagni, and he was joined by his wife, Parvati, in the form of Rēṇukā, who bore him four sons. Jamadagni spent long hours in prayer, for which he required a supply of water. Renuka brought him water from the river in pots she shaped on its banks out of sand, a feat made possible by virtue of her great chastity. One morning, as she bent over the waters to fill a pot, she saw the shadow of Gandarva, the messenger of the gods, cross over her. Looking up at him she admired his handsomeness and felt a twinge of desire. Her impure thought caused the pot she was making to crumble and she lost her chastity. When Jamadagni learned what happened, he flew into a rage and cursed Renuka. He called his four sons together and demanded that their mother be beheaded. The first three sons loved their mother greatly and refused to do this deed,

Senkeni Amman, as she is locally called, is a fiercely protective goddess whose protection can only be guaranteed through the regular and proper performance of *puja*, or devotional rituals dedicated to the goddess. Among the Paṭṭaṇavar fisher subcaste in the Union Territory of Pondicherry, Senkeni is unusual in that her puja requires periodic sacrifices of blood, traditionally goat or chicken. Her fidelity to the protection of Veerampattinam was proven to the community in December 2004. On the morning of the 26th, after the men had returned with their daily catch; after the fish had been sorted sold and carted to markets across Pondicherry; as men mended their nets and their boats and their engines and their wives went about the various duties of the household; in other words, as daily life went on as it had for all the days, weeks, months and years that had preceded it, a uncanny spring appeared in the cement tank, or *kuḷam*, located behind the temple. Shortly after 7 a.m. water began to flow into the tank. As word spread through the town of the inexplicable phenomenon crowds of men, women and children came to the temple to witness the inexplicable occurrence. When a massive wave unexpectedly struck the eastern coast of India around 8 a.m. many of the town's residents had already

for which their father cursed them all and they lost their virility. Parasurama, the youngest brother, finally acceded to his father's command. Renuka fled and Parasurama chased her with a long knife. Seeking to escape, Renuka embraced an untouchable Chakkilian woman. Enraged, Parasurama severed both heads, fulfilling his father's command. Pleading his filial devotion, Parasurama demanded two boons from Jamadagni: that both brothers' virility and his mother's life be restored. Both requests were immediately granted, but in his confusion, Parasurama placed the respective heads on the wrong bodies. Seeing what had been done, that Renuka's head now rested on the Chakkilian woman's body, Jamadagni refused to take back his wife, but he allowed her to earn food from the offerings of the people. Since she has both a Brahmin head and a Chakkilian body she is allowed to receive both vegetarian and meat offerings.

gathered around the tank behind the temple, which was fortuitously located near to the old bus stand on the main road heading inland.²

In the days that followed the national press identified one man who had remained on the beach instead of going to the temple to witness the “miracle.” Mani, a fisherman, had been too busy completing repairs on his boat engine to take the two minute walk to the temple. When he noticed the coming tidal wave he raised what alarm he could. He called six women into a nearby boat, which was speedily washed towards the town. According to a report published in *The Hindu* he then rushed to the locked shed that housed the town’s public address system. Breaking the lock, he was able to raise a town-wide alarm.³ In a town of 6,200 people, most living less than 500 meters from the Bay of Bengal, only one person in Veerampattinam was reported lost to the sea that day. Whether through Mani’s quick thinking or Senkeni Amman’s fierce love, this fact is remarkable along a stretch of coast that was devastated by the 2004 Indian Ocean tsunami.

What is the relationship between these two very different narratives in this single town, one of many affected by the 2004 Asian tsunami? Most of Veerampattinam’s Pattanavars do not credit their salvation to mundane causes, preferring instead the miraculous narrative of Senkeni’s intercession. “Whatever the scientific reason,” said a former panchayat member in 2010, “people always say that was Senkeni Amman.”⁴ Fishermen in villages across the Union Territory of Pondicherry have heard and continue

² L. Ramamoorthy (linguist, Pondicherry Institute of Linguistics and Culture) in discussion with author, June 2005.

³ Shonali Muthalaly, “A phone call saved an entire village,” *The Hindu*, January 1, 2005.

⁴ Viswanathan (Pattanavar fisher) in discussion with author, July 2010.

to tell this tale. Some not only accept the possibility of divine intercession but duplicate the narrative in their own village. It is only when one takes a step back to the level of NGOs and government officers working with affected and at-risk populations in the Union Territory that one begins to hear more scientific or historical explanations for the survival of the Veerampattinam.

In the following chapters I will explore the narratives depicting flood and loss in the Tamil-speaking Union Territory of Pondicherry (UTP) on the Coromandel Coast of southeastern India. These narratives can be broadly classed into binary types that can be cast easily, if erroneously, as dialectics between divine/mortal, superstitious/scientific, or backward/modern. By the former logic, one that will be explored in the current chapter, disasters are caused by the actions of gods or the inactions of men, manifest in the failure of right conduct or the failure to perform proper devotions. By the latter logic disasters are still often imagined as existing out of the ken of man but they can be mitigated through judicious combinations of policies and technologies. Catastrophes that may or may not be become predictable by Providence become preventable by planning. But it is not simply the case that divine or moralistic explanations for natural disasters are limited temporally to a distant, unscientific past or to the edges of “modern” Indian society, what Aravind Adiga has called “The Darkness.”⁵ The belief that calamity is the result of moral corruption is alive and well modern India. “Another tsunami will come because men and women no longer act as they should,” a retired Franco-Indian air force captain told me in 2009. He attributed the degeneration to the appointment of a woman as Prime

⁵ The *White Tiger* (New York: Free Press, 2008).

Minister of France.⁶ Women had taken control of the house, were prey to profligacy, and even beat their husbands “ever since that woman was prime minister.” The result would surely be a second tsunami, he affirmed, one that would “remind us who we are as Indians.”⁷

Come what may of the perceived immoralities of modern Indians in the twenty-first century, the earliest mythic and legendary floods recorded in India were caused by gods, but kings protected the people. Much later, historically verifiable floods were often ascribed to the same causes while protection and recovery were reaffirmed as duties of the king or of the sovereign state. Karikal Cola is said to have built nearly three kilometers of earthen embankments to control the flooding from the Kaveri River around Srirangam at Tiruchipalli. By the eighth century CE dykes were certainly being built along the Kaveri – two branches of which flow directly through the modern UTP district of Karaikal – specifically to prevent flooding. Sluices were built to act as spillways to relieve excess pressure during flood and the tops of the banks were planted with grass to mitigate erosion.⁸ A later inscription dating from the reign of Kulottunka Cola (1070-1120 CE) reads:

[A]nd since the king gave oral orders stating that some lands be released – since the tank, full with water, was spoiled with broken bans because of the storm – in order to make the paving stone with the name Kulottunkacolan by digging earth and manking fresh banks...I have donated the garden land and the wet land in the hamlet of your village, called Nettaipakkam.⁹

⁶ Édith Cresson, appointed by François Mitterand in 1991.

⁷ M. Dayal (retired captain, Armée de l’Air) in conversation with author, March 2009.

⁸ Anil Agarwal and Sunita Narain, eds. *Dying Wisdom: Rise Fall and Potential of India’s Traditional Water Harvesting Systems* (New Delhi: Centre for Science and Environment, 1997), 253.

⁹ G. Vijayavenugopal, ed. *Pondicherry Inscriptions*, Part II (Pondicherry: IFP, 2010), 157.

By this order issued by Koluttunka and delivered to the village by a royal officer called a cōlkōn, the local assembly in Tirukkanci village resolved to assign the income of two villages to repair a tank damaged by a storm and to use incomes from these same lands for any future repair. The matter was important enough to be inscribed both at the tank and at the temple.¹⁰

Before narrowing our focus to specifically Tamil narratives of flood, it will be useful to briefly survey several of the more well-known Sanskrit myths, as these were the first to be translated into European languages and are still used to inform in some way many of the discussions surrounding flood myths in India. Following this survey I will discuss myths and literary allusions to deluge of the Tamil south, legends which Sumathi Ramaswamy has shown to have long shaped ideas about flood and loss in South India.¹¹ As will be seen, both the Sanskrit and the Tamil corpus ascribe flood to divine causes. Floods do not simply happen; they are *made* to happen. But man is left to deal with its consequences.

Sanskrit Flood Myths in India

Indian flood myths became a subject of great interest to European scholars in the early nineteenth century. The primary thrust of these early Sanskrit scholars was to compare myths found in texts such as the *Mahabharata*, *Bhagavatam*, and the *Puranas* with the Noachian myth of the Bible. Franz Bopp's *Die Sündflut nebst drei anderen der*

¹⁰ *ibid.* cxxxii

¹¹ See Sumathi Ramaswamy, *The Lost Land of Lemuria: Fabulous Geographies, Catastrophic Histories* (Berkeley: University of California Press, 2004).

wichtigsten Episoden des Maha-Bharata and Félix Nève's "De l'origine de la tradition indienne du Déluge" were two of the earliest examples from the first half of the century.¹² Nève, considered now to be a minor Belgian Indologist, was the first to seriously attempt to create a center for Indological study at the University of Louvain, though only a single student of his Sanskrit lectures, Charles Michel, remained in the field.¹³ He was not, in fact, a philologist like Bopp in the strictest sense; he paid little attention to Sanskrit grammar, etymology, or the comparative linguistics being developed at the time. His two works on the deluge arose more out his interest in literary history, religious appreciation and apologetics.

One of the oldest Indian flood myths is found in the *Śatapatha Brāhmaṇa* (1.8.1), and is generally agreed to date in written form to around the first half of the first millennia BCE,¹⁴ though almost certainly existing as an oral tale even earlier. The story is a creation myth identifying Manu as the scion of civilization in the subcontinent:

Manu was brought water for washing. As he washed, a small fish came into his hands. The fish spoke to Manu, saying that the smaller fish are the prey of the large, and if Manu should save him, he in turn would save Manu. So Manu put the fish in a pot and, in time, when the fish outgrew the pot and was put into a pit, and finally outgrowing the pit, Manu carried him to the sea to be released. Honoring his promise, the fish told Manu that in

¹² Franz Bopp, *Die Sündflut nebst drei anderen der wichtigsten Episoden des Maha-Bharata* (Berlin: Königliche Akademie der Wissenschaften, 1829); Félix Nève, "De l'origine de la tradition indienne du Déluge," *Annales de philosophie chrétienne* 38/39 (1849) and "La tradition indienne du Déluge dans sa forme la plus ancienne," *Annales de philosophie chrétienne* 52 (1851).

¹³ See G. Pollet, *Indian Epic Values: Rāmāyana and its Impact* (Peeters Press: Leuven, 1995), 101-109. A tradition of Indological study was not established at Louvain until 1877, and then only through the teaching of Charles de Harlez de Deulin who studied Sanskrit as an autodidact and, ironically, had not even heard the Sanskrit lectures of his predecessor Nève, who had retired to a solitary confinement between 1872 and 1876 due to a serious illness.

¹⁴ See, for example, Witzel (1997), Keay (2000), Ludden (2002).

a certain year a flood would come, and if Manu built a ship in preparation for that time, the fish would return and see that Manu was saved. The year came, as did the flood, and when the water had risen Manu entered into the ship. The fish swam up to him, allowed the ship to be tied to his horn, and pulled it swiftly to the northern mountain. “I have saved you, now tie the ship to a tree and descend the mountain when the water recedes,” said the fish to Manu. And thus was he alone saved from the flood.¹⁵

Other versions repeated and expanded the general outlines of Manu’s tale in the centuries following its appearance in the *Brāhmaṇa*. Similar narratives appear in the *Mahābhārata*, which is known to have reached a stable written form by the 4th century CE,¹⁶ and the *Matsya Purāṇa*, which probably appeared sometime between the 2nd and 4th century CE, though certainly no later than the 6th century.¹⁷

An interesting variation to the common form of this myth can be found in the *Bhāgavata, Purāṇa* which many scholars date to the end of the third millennium BCE, though others recognize that its current form might not have been attained until as late as the tenth century CE.¹⁸ This vast difference in dating is meant to underscore the essentially oral (and fungible) nature of the puranas. “Fundamentally they do not belong in books,” wrote Ludo Rocher.¹⁹ During this long life in orality Manu has been replaced by Satya Vrata, the king of the Dravida. The king recognizes the fish as Vishnu, who tells Satya Vrata that in seven days the three worlds will be over-flooded. He is told that

¹⁵ *The Satapatha-Brahmana Part I: The Sacred Books of the East Part Twelve*, trans. Julius Eggeling (Delhi, Motilal Banarsidass [1978]), 216-217.

¹⁶ James L. Fitzgerald “Mahābhārata,” in *The Hindu World*, ed. Sushil Mittal and Eugene Thursby (New York: Routledge, 2004): 52-74.

¹⁷ See Negendra Kr. Singh, ed., *Encyclopaedia of Hinduism* (new Delhi: Anmol Publications, 2000), 1672.

¹⁸ See Edwin Francis Bryant, ed. *Krishna: A Sourcebook*. (New York: Oxford University Press, 2007), 111-113, and Freda Matchett, “The Purāṇas,” in *The Blackwell Companion to Hinduism*, ed. Gavin Flood (Malden, MA: Blackwell, 2003), 129–144.

¹⁹ Ludo Rocher, *The Puranas* (Wiesbaden: Harrassowitz, 1986), 59.

a ship will appear to him and that he is to board it with all plants, seeds, and the seven *Rishis*, and only in this way would he be saved for the next age.

Both of these myths – and many variations – are Sanskrit and predominately locatable to northern India. There are other flood traditions in the sub-continent recorded in its many vernacular languages, such as the Bhil creation myth discussed examined by Wilhelm Koppers.²⁰ But it is the Sanskrit myths of Manu that attracted particular interest in the second half of the nineteenth century and first half of the twentieth. Many scholars, from the above-mentioned Bopp and Nève to Adam Hohenberger, A.S.Vaidyanatha Ayyar, and Surya Kanta in early twentieth century were fascinated by what parallels could be drawn between these myths and traditions found in the Middle East and the Levant. Ayyar, for example, in a paper given to the Bombay Historical Society, went so far as to suggest that the flood myth found in the *Brāhmaṇa* was the originating legend, concluding:

The *Brāhmaṇa* account has been pointed out as the source for the later Puranic versions of India; and the Chaldean account has been noted as, in all probability, conveyed to Babylonia by the Dravidians after Aryan civilization and culture had made its way into Southern India.²¹

There is no question that Puranic flood myths eventually spread the length and breadth of India, where they became familiar if not ingrained in the fabric of the local legendarium, while other traditions were quite limited in their spread, such as the creation myth of the central Indian Bhils noted above. I raise these myths not only because of their ubiquity across the sub-continent, but also because the Sanskrit corpus of flood

²⁰ Wilhelm Koppers, "Bhagwan, the Supreme Deity of the Bhils," *Anthropos* 35/36 (1940-1941): 265-325.

²¹ A.S.V. Ayyar, "Flood Myths of the East," *Journal of the Bombay* 2 (1929): 14.

myths stands in stark contrast to another mythic tradition, one that concerns the present study greatly.

Tamil Mythic Flood and the Caṅkam Tradition

Tamil possesses its own body of ancient literature, the corpus of Cankam literature, which contains flood myths distinct from those found in Sanskrit. Legends found in medieval sources mention three great Cankams, or poet academies, that date back thousands of years. These academies, according to sources discussed below, were credited with producing the great works of Tamil prosody known to exist during the first millennium CE. The mythic sage Agastya was said to have written the first Tamil grammar, *Akattiyam*, during first Cankam in Old Madurai; the first still extant grammar, *Tolkāppiyam*, is said to have been produced during the Middle Cankam held at Kapāṭapuram,²² while all other texts – such as the *Eṭṭutokai*, or the Eight Anthologies – were assigned to members of the third academy. The earliest text on Tamil prosody is the *Ceyyuliyal*, the eighth chapter of the third part of *Tolkappiyam*, which dates to the second century CE,²³ which falls into line with the majority of evidence that suggests that

²² Clarence Maloney, "The Beginnings of Civilization in South India," *Journal of Asian Studies* 29, no. 3 (191970): 612. Maloney has noted that the same text states that the Middle Sangam was held at Alaivāy, which he identifies as modern Tiruchendur. This second location is less than twenty kilometers from Korkai, a known Pandyan port mentioned in the *Periplus*. Kamil Zvelebil extends this boundary somewhat, ascribing "pre-Sangam" literature and the *Ur-Tolkāppiyam* to as early as the 2nd-1st century BCE and the earliest Sangam poems to between the 100 BCE-200 CE, with the later strata – e.g. Aiṅkurunūru, Akanānūru, Patirrupattu, etc. – dating to as late as the 4th century CE. See *The Smile of Murugan: Tamil Literature of South India* (Leiden: Brill, 1973). For notes on the evidence for Pandyan habitation at Korkai see A. Abdul Majeed, "A note on Korkai Excavations," *Tamil Civilization* 5, no. 1-2 (1987): 73–77.

²³ See Ulrike Niklas, introduction to *Yāpparungalakkārikai*, trans. Ulrike Niklas (Pondichéry: Institut Français de Pondichéry, 1993), ii.

most of these texts were produced between the first and third centuries CE.²⁴ Whatever their actual age, these texts fed into the newly invigorated Dravidian and Tamil nationalist movements that gained momentum after the turn of the twentieth century and were increasingly used to try to circumscribe an ancient Tamil tradition meant to rival classical Sanskrit. It became tremendously important in the first decades of the last century to define not just this tradition but also the geo-political region within which it was fostered and supported, so-called *Tamiḷākam*, or the Tamil lands. Understanding how this region was defined and delimited, not just by Cankam poets but by later Tamil nationalists, is key the ways in which catastrophic flood came to be understood in the Tamil regions of southern India.

Since the discussion to follow will treat specifically the loss of *Tamilakam* to multiple catastrophic deluges called *kaṭalkōḷ* (*kaṭal* = sea, *kōḷ* = to seize), it will serve us to first examine what region the term was thought to define. *Vaṭa vēṅkaṭa teṅ kumari/āyīṭait/tamiḷ kūrūm nal ulakattu*: “Between Venkata in the north and Kumari in the south, is the good earth where Tamil is spoken.” So says Paṇampāraṇār in his preface to *Tolkappiyam*.²⁵ A somewhat more expansive definition is found in the treatise *Kākaippāṭiṇiyam*, offered by David Buck and K. Paramasivan in *The Study of Stolen Love*, states:

²⁴ See George Hart, “Review: *Kāvya in South India*,” *Journal of the American Oriental Society* 124, no 1 (2004): 180-184.

²⁵ *Tolkappiyam* of *Tolkappiyar*, Project Madurai, http://www.projectmadurai.org/pm_etexts/pdf/pm0100.pdf. Project Madurai is an open source initiative to publish digital versions of classical literature written in Old Tamil. Unless otherwise noted, all translations are my own.

In the north and the south, the west and the east,
Venkatam, Kumari, and the sweet-water seas:
The range of a book lies within these four bounds
When one expounds with clarity.²⁶

These boundaries became important in the early decades of the twentieth century as various Tamil scholars attempted to establish an ancient Tamil culture worthy to rival the dominant classical Sanskrit culture in the north.

The first Cankam text to be made available in print was *Kaḷaviyal Iraiyaṅṅār Akapporuḷ*, published by Damodaram Pillai in 1883, though the first critical edition – complete with Nakkiraṅṅār’s later commentary and based on the comparison of extant manuscript copies – was not published until well into the twentieth century.²⁷ In his commentary, almost certainly written in the eighth century CE,²⁸ Nakkiranar uses both *Tolkappiya* and *Kakkaippaṭṭiniyam* passages cited above to conclude that the Tamil lands encompassed what are now Tamil Nadu and Kerala. Within this land, he wrote, “the Pandyan kings instituted the three Cankams, the Premiere Cankam, the Middle Cankam, and the Final Cankam.”²⁹ The commentary described the first Cankam as having endured for 4,440 years under the patronage the 89 Pandyan kings from Kāyaciṅṅaḷuti to Kaṭunkōṅ; 4,449 people presented poems, including Akattiyānar, seven Pandyan kings, and Lords Siva, Murukan, and Kubera. His description ends with a geographical note: “The Madurai *that the sea claimed* is where they held their sessions and researched into

²⁶ David C. Buck and K. Paramasivam, *The Study of Stolen Love* (Atlanta: Scholars Press, 1997), 3.

²⁷ e.g. *Iraiyaṅṅār Akapporuḷ* (Madras: Damadaram Pillai, 1883). The first critical edition of the text, together with the commentary of Nakkiraṅṅār, was not published until more than half a century later by Saiva Siddhantha Works Publishing Society: Madras, 1939.

²⁸ Kamil Zvelebil, *The Smile of Murugan*, 88.

²⁹ Buck and Paramasivam, *Study of Stolen Love*, 4.

Tamil, they say.”³⁰ The second Cankam, kept at Kapatapuram by the fifty-nine Tamil kings from Celiyan to Tirumaran the lame, lasted for 3,700 years and produced the grammar *Tolkappiyam*.

The transition between the second and third Cankam presents us with an interesting moment. Nakkiranar closes his commentary of the Middle Cankam with a much more equivocal statement than that used to describe the end of the Premiere Cankam: “Perhaps the sea took Tamil Nadu then as well.”³¹ While firmly asserting that the last royal patron of the second Cankam was Tirumaran the lame, he hedges somewhat regarding the absolute causes for the academy’s end. In listing the patrons who maintained the Final Cankam – whose sessions and research were conducted in the city of Upper Madurai, which today is understood to be modern Madurai – Nakkiranar names “Tirumaran the lame, *whom the sea took*, to Ukkira-p-Peruvaluti.”³²

Several things stand out from Nakkiranar’s description. The first is that there is already, for the modern reader, a clearly mythic component to the history of the Cankams. Were we to take the commentator at his word, we would be treating a lineage of Pandyan kingship that extended back in time to more than five millennia before any evidence of a highly developed civilization exists anywhere in the subcontinent, let alone in the far south.³³ A second mythic component of Nakkiranar’s history is the claim that the gods themselves – namely Siva, Murukan, and Kubera – took part in the first studies

³⁰ *ibid.* Italics added.

³¹ *ibid.* 5.

³² *ibid.* 6.

³³ I am, of course, referring to the Indus Valley Civilization, whose mature period lasted from 2600 to 1900 BCE. See, for example, G. Possehl, *The Indus Civilization: A Contemporary Perspective* (Walnut Creek, CA: Alta Mira Press, 2002).

of Tamil grammar and poetics. The only named text claimed by Nakkiranar to have survived in any form from this mythically distant time is the *Akattiyam* of Agastya (Akattiyar in Tamil), and even this text is only attested to by allusions to his (now lost) grammar and a handful of *sūtras* attributed to him quoted by later commentators and grammarians.³⁴

A second fact that leaps out at the reader is the certain claim that a city named Madurai was “claimed” by the sea and that a second city, Kapatapuram, might have been over-flooded by deluge as well. Nakkiranar seems less certain on the fate of this second capital, Kapatapuram, though he names without qualification the sovereign who oversaw transition between the Middle and Final Caṅkams: “Tirimaran the Lamé, whom the sea took.” It was this last intimation that was seized upon by his successors and, more importantly, by those in the early twentieth century motivated by ideas of an ancient Tamil heritage, a pure Tamil language, and a lost Tamil continent.

According to G. Vijayavenugopal, epigrapher at the École Française d’Extrême Orient (EFEO) in Pondicherry, the *Kalaviyal* is the only Cankam text to mention a deluge sweeping away parts of *Tamilakam*, an opinion seconded by Thomas Lehmann.³⁵ What is particularly interesting in the account given by Nakkiranar is the use of the quotative

³⁴ See K.A. Sivaraja Pillai, *Agastya in the Tamil Land* (Madras: University of Madras, 1930). For an example refer to Kārikai 2 of Niklas, *Yāpparuṅkalakkārikai*, 14-17. Notwithstanding the attribution of the first Tamil grammar, Agastya is a figure surrounded by a grandiose mythos. One of the *saptarishis*, *his feats* include the composition of many Rg Vedic hymns, the foundation of the first Sangam, the coaxing of the Kaveri River from Lord Ganesh and getting the Thambariparani River from Lord Siva. Agastya is also said to have drunk the oceans dry and shares his name with the star Canopus, called “cleanser of the waters,” since its rising is said to calm the Indian Ocean.

³⁵ G. Venugopal (epigrapher, École Française d’Extrême-Orient) in discussion with author, April 2009.

‘eṇpa’ (modern eṇru), or “they say,” throughout the passage on the three Cankams, for example:

*avaruḷ/talaiccaṅkam eruntār
akattiyaṇārūm
tirupuram eritta viricaṭaik kaṭavulūm
kuṇarrenta murukavēlum
muriñciyūr muṭinākarāyarum
nitiyiṅ kiḷavanum/eṇa ittoṭakkattār
aiññūrru nārpattōṇpatinmar/
eṇpa³⁶*

They say that five hundred and forty-nine people participated in the Premiere Sangam, including Akattiyānar [a disciple of Agastya], [Lord Siva], Lord Murugaṅ... [Lord Kubera] and others.

*Avargalaic caṅkam irī iṇār
kāycciṇavaluti mutalāka
kaṭuṅkōṇ iṇāka
eṇpattōṇpatinmar
eṇpa*

They say eighty-nine kings, from Kaycinavaluti to Katuṅkon, established the [Premiere] Sangam.

*Avar
caṅkam irunta taṁiḷ āṇāyntatu
kaṭal kollappaṭṭa maturai
eṇpa*

The Cankam where Tamil was studied [was] at Madurai that the sea claimed, *they say*.

It is instructive to compare instances where the quotative marker is not used, as when he writes of the second Cankam:

³⁶ *Kaḷaviyal eṇṇum iṇaiyaṇār akapporuḷ*, Project Madurai, http://www.projectmadurai.org/pm_etexts/pdf/pm0301.pdf.

avar
caṅkamirunta tamiḷ āṛāyntatu
kapāṭapurattai
eṇpa

akkālattaip pōlum/pāṇṭiya nāṭṭai kaṭal koṇṭatu

They say Kapatapuram is the city in which the second Cankam researched into Tamil. Like that time the sea took Pandya Nadu as well.

While there appears have been what amounted to a legendary traditional among Tamil poets that spoke of three great academic gatherings under the patronage of Pandyan kings nearly from time immemorial and a myth that said the first Cankam *might* have been destroyed by the sea, the same uncertainty does not seem to exist as regards regard the second Cankam. Nakkiranar follows oral tradition regarding the Premiere Cankam: “Madurai that the sea claimed, they say.” Tradition, it seems, was more certain regarding the second academy, presided over by Tirumaran the Lambe, “whom the sea took,” who was both the last patron of the Middle Cankam and the first patron of the Final Cankam.

This narrative was mobilized by medieval Tamil poets as what Sumathi Ramaswamy has called “labors of loss.” Labors of loss are “those disciplinary practices, interpretive acts, and narrative moves which declare something as lost, only to ‘find’ them through modernity’s knowledge protocols, the very act of discovery and naming constituting the original loss.” For Ramaswamy, these lost places “do not exist as such in our life-worlds.” Rather they are called into being, the “product and outcome” of our labors of loss.³⁷ In constructing an ancient Pandyan life-world lost to the sea poets in the

³⁷ S. Ramaswamy, *Lemuria*, 7.

courts of the Pandyan kings sought to legitimize their patrons by linking them to the noble history of the study and patronage of the “good tongue,” the Tamil language.

Although it is a difficult proposition to ascribe processes of memory-making to authors separated from us by well over a millennium, it is not unlike the argument forwarded by Dutch philologist Herman Tieken. In his book, *Kāvya in South India*, Tieken posits that Sangam literature amounts to little more than invented tradition perpetrated in the ninth or tenth century CE by a poet or poets belonging to the Pandyan court seeking to create a “classical” Tamil literary tradition capable of rivaling the Sanskrit.³⁸ Although both his method and his core conclusion have been roundly criticized,³⁹ Tieken inadvertently raises an important question about the authors of the texts attributed to the Sangam era, namely: if Nakkiranar’s is the only commentary that directly reference a deluge that destroyed ancient Tamilakam and all other references are oblique at best, what was the purpose of suggesting to their audience that some poorly defined mass of the Tamil lands was swept away by a great flood? What result was desired and was such a result achievable?

There is little doubt that Pandyan kings sought to establish undisputed links between themselves and an ancient Tamil tradition. Such claims were *de riguer* for kingship in the subcontinent in the first millennium CE. In the northern kingdoms, Brahmin priests were typically utilized to legitimize claims of sovereignty. Vedic/Brahman-lead forms of Hindu worship were notably more absent in the south, and

³⁸ Herman Tieken, *Kāvya in South India: Old Tamil Caṅkam Poetry* (Grningen: Egbert Forsten, 2001).

Tieken argues that in order to accomplish the deception, the author/s appropriated old names and history, as well as an older Tamil grammar. He further claims that there are counterpart Prakrit poems and concludes that the Cankam corpus is entirely derivative of extant northern literatures.

³⁹ See, for example, Gabriella Eichinger Ferro-Luzzi (2001), Cox (2002), and George Hart (2004).

the Pandyan control of the Tamil south was being re-established concurrently with the rise of *bhakti* forms of worship in the eighth century CE. Nevertheless, it remained useful, if not necessary, to establish claims of sovereignty based on ties to a (real or imagined) historical past.

Just using Tieken's own examples it quickly becomes clear that Pandyan kings did indeed seek to establish claims of legitimacy through the patronage of a Tamil literary tradition. In the Larger Sinnamanur Copper Plate Grant, for example, one of the king's ancestors is said to have "corrected and investigated the brilliant Tamil language along with the Sanskrit, thus becoming the foremost among the learned," and again, according to the Davalaypuran inscription, to have "studied Tamil with the help of the Akattiyar (the Tamil grammar of Agastya)" and "having founded Madurai in the south, set up there a good *cankam*...[which] caused Tamil to flourish."⁴⁰ Tieken unfortunately draws the wrong conclusion from these lines, partly through incorrect translation.⁴¹ What *should* be clear is that there was a deliberate effort to link the Pandyan line to an already extant Tamil literary tradition that kings studied with the help of Agattiyar's grammar, in other words, the *Cankam*.

Serendipitously for Tamils in the south reacting against both British and Hindustani hegemony in the dying years of the nineteenth century, the rediscovery of these earliest of Tamil texts followed on the heels of a series of scientific events that led

⁴⁰ Tieken, *Kāvya*, 133.

⁴¹ The line as written in the Sinnamanur Grant reads "*oṅ tamīlum vaṭamoḷiyum paḷuttarāt tāṅ ārāyntu,*" which would be better translated as "having studied Tamil and the northern tongue (Sanskrit) to perfection." There is, as George Hart (2004) points out, no mention of anyone "correcting" Tamil. Nor is there any reference in the poetry that Tieken claims the Pandyan king was having written to the *Cankams* to which he, the king, was supposedly trying to link himself.

to several momentous conclusions. In an 1864 essay titled “The Mammals of Madagascar”, Philip Sclater noted a zoological oddity: “while 30 different species of Lemurs are found in Madagascar alone, all of Africa contains some 11 or 12, while the Indian region has only 3.”⁴² He suggested as an answer to this conundrum that “some land-connection must have existed” between Madagascar and the subcontinent upon which the progenitors of modern lemuridae had flourished during the Mesozoic. But as Ramaswamy has demonstrated, Sclater was not the first nineteenth century man of science to suggest a submerged Indian Ocean continent. Five years earlier, in 1859, Alfred R. Wallace read a paper before the Linnean Society in London in which he attributed anomalous fauna in the Celebes to a sunken continent. The following year Wallace’s English contemporary, Searles V. Wood, hypothesized an erstwhile southern continent to explain certain biological and geological curiosities across the Indian and Pacific Oceans. Long before either of these men, the French natural historian Etienne Geoffrey Saint-Hillaire posited that Madagascar had once been part of a “fourth continent” that was “much more different from Africa, which lies so near to it, than from India, which is so far away.”⁴³

The second event was the completion of the H.M.S. Challenger’s four-year project to survey of the Atlantic floor between 1876. The scientific team on the Challenger uncovered a fascinating and vast network of underwater ridges and valleys that the Victorian imagination quickly to ascribe to ancient civilizations long submerged

⁴² “The Mammals of Madagascar,” *Quarterly Journal of Science* 1, vol. 2 (1864): 215-219, quoted in S. Ramaswamy, *Lemuria*, 22.

⁴³ S. Ramaswamy, *Lemuria*, 23.

under the ocean and described by such worthy ancients as Plato. “Science,” wrote Madame Blavatsky, “has finally accepted...and thus vindicated the truth of one more fable.”⁴⁴ And while it is true that by the end of the nineteenth century no scientific survey had revealed on the ocean floor the same phenomena found in the Atlantic, theories of diffusion were rife in scholastic fields as diverse as biology and folklore. The lemur was proof enough for many that the African continent and the Asian had at one time been connected.

Dravidianists gleefully leapt on the findings of the Challenger as confirmation of the handful of vague lines written a thousand years before. The limits of post-deluge *Tamilakam* had never been in question; both *Tolkappiyam* and *Kakkaippaṭṭinīyam* agreed on its boundaries. Its northern boundary was the Venkata Hills, due west of Pulicat Lake near Tirupati, now in Andhra Pradesh; its southern border was Kumari, the southernmost tip of the subcontinent. Everything in between was the “the range of the book,” “the good earth where Tamil is spoken.”⁴⁵ Further confirmation, and perhaps even the source, of this conclusion appeared in *Puṛaṇāṅṅūru*, one of the earliest Sangam texts that have come down to us. Verse six states *teṅā atu urukelu kumariyiṅ teṅkum*, “there in the south appears Kumari,”⁴⁶ and again in verse seventeen:

⁴⁴ A. Trevor Barker, *The Mahatma Letters to A.P. Sinnet from the Mahatma M. and K.H.* (New York: Rider, 1923), 155.

⁴⁵ Malayalam, spoken in modern Kerala, did not exist as a separate literary language until perhaps as early as the 9th century CE, but certainly by the 11th.

⁴⁶ George Hart offers a much more eloquent rendering: “Even north of the mountains that tower eternally frozen in the north/even south of the river Kumari, river of terror, in the south/even east of the ocean dug out of the earth at the eastern shore/even west of the ancient ocean long set into place in the west...” See *The Four Hundred Songs of War and Wisdom* (New York: Columbia University Press, 1999), 6-7.

*tenkumari vaṭa peruṅkal
kuṇa kuṭa kaṭalā vellai,
kuṇṇu malai kātu nātu
oṇṇu paṭṭu vali moliyaga*

Southern Kumari, northern mountains
eastern [and] western seas bright,
hills, mountains, forests, pasture,
are the lands of [Tamil] language.

But it remained unclear precisely what had been lost to the deluges Nakkiranar claimed to have swept away the Pandyan courts at Madurai and Kapatapuram.

Taking on the vexed issue of the confines of “Pre-Deluge Pandinad,” S.S. Bharati attempted to define, once and for all, the extent of the territory described by Nakkiranar in his commentary on the *Kalaviyal*. His argument focused primarily on the relative placement of the rivers Pahruli and Kumari, both of which were mentioned in Cankam texts. It should be noted that in none of the lines quoted above, many of which are cited by Bharati, is it made clear that Kumari, the southernmost cape of India, is a river and not a coastal marker. Bharati labors mightily, however, to establish the riverine character of Kumari, quoting first Sikandiar, then Ilango Adigal⁴⁷:

*vēṅkaṭam kumari tīmpuṇaṅ pauvameṅ
riṇāṅkellai tamīl atuvaḷakkē
paṅṇuḷiyāṅṇuṅ paṅmalaiyaṭukkattuk
kumarik kōṭuṅ koṭuṅkaṭal koḷḷa*

Vekatam, Kumari, and sweet-water seas,
Are the four borders within which Tamil is spoken,
The great sea having taken [the] Kumari
Hills [together] with [the] Pahruli River...

⁴⁷ S.S. Bharati, “Pre-Deluge Pandinad,” *Journal of Annamalai University* 5 (1935), 70.

Bharati draws heavily from the corpus of Cankam texts, first to establish the boundaries of Pandinad, the lands of the Pandya kings, then to argue for the geographical placement of the river Pahruli to the north of the river Kumari, a topographical feature that is not, he concludes, to be understood as contiguous with Cape Cormorin/Kanya Kumari.⁴⁸

Bharati never questions the veracity of the Cankam poets regarding the story of the lost regions of Pandinad. He quotes Aṭiyārkkunallār's 13th century commentary on the beginning of the *Venirkatai* of *Cilappatikāram* – which in its turn drew evidence from Nakkirinar – to delineate these lands:

At the close of the first or primary period, in the south (submerged) Madura City, 89 Pandya Kings successively upheld the 1st Tamil Academy. Of these only seven sovereigns passed muster as authors and took rank as Sangam-poets themselves, of whom Jayamakirti Nilantharu-tiruvil-pandyan was one. In his court was Tholkappiyam first ushered in [sic]. At that time in their (Pandya's) country occurred the destructive deluge that submerged a vast territory comprised of about 48 countries or districts and many other tracts besides; and all this lost land lay between the *river Kumari* and the *river Pahruli* which latter river was the northern limit of the southern province of the then extant Kingdom of the Pandyas. As all these were then lost in the sea-swell, the author Ilango here referred to Kumari sea instead of the old Kumari river as the southern boundary.⁴⁹

⁴⁸ This is to say that Kanya Kumari does not represent the northernmost bank of an ancient river also named Kumari, as might seem a logical conclusion given the documentable incursion of sea waters on coastal lands over time. For comparison's sake, several older fishermen in Veerampattinam told me anecdotally that encroachment by the sea on the shoreline during their lifetimes has been as much as fifty meters in some places. Nevertheless, the kind of encroachment necessary to erase an entire river running parallel to the coast, and very nearly the memory of it as well, would likely take thousands of years. Notably, several other fishermen claimed that the sea has, in fact, retreated not advanced since their childhoods.

⁴⁹ S.S. Bharati, "Pre-Deluge Pandinad," 75.

Every description of the mythic Pandyan deluge that has come down to us takes this same general shape and all seem to be based on Nakkiranar's *Kalaviyal* commentarial *ur*-text. There is, of course, no way to know what other versions might have existed and been lost to time, nor how prevalent this flood narrative was in his time, but given the tradition of oral poetry and transmission that existed across India and dated even before the Common Era,⁵⁰ it is unlikely that Nakkiranar imagined the deluge scenario out of whole cloth.

Not all Tamil flood myths, however, concern themselves only with loss. It was often the case that (quasi-)divine forces were instead responsible for preventing or turning back a disastrous flood. On such story, contained in the *Cikāḷittalapurānam* of Aruṇācalakkavirāyanar narrates how Siva, "the First Principle," was the sole survivor of universe annihilating deluge. In order to remake the world, he made the *praṇava*, "which is the sound of the Vedas," into a boat (*tōṇi*). Siva entered into the boat with Umā and sailed the waters until they found a shrine "standing as firm as *dharma*." Declaring it to be the root of the world, he remained there in his boat. When the guardians of the quarters found him there they cried out, "He has dried up the waters with his third eye!" The lord of the sea, Varuna, then came there to worship "the god who saves those without egoism from the sea (of rebirth)."⁵¹

This story introduces several concepts important in both flood myth and the Tamil flood imaginary. In the story the town of Cikali, which is also called as *Tōṇipuram* or the city of the boat, is given its provenance. Siva, too, is provided with an explanation for

⁵⁰ See Rocher, *The Puranas*.

⁵¹ *Cikāḷittalapurānam* of Aruṇācalakkavirāyanar, 2.15-41. See David Shulman, "The Tamil Flood Myths and the Cankam Legend," in *The Flood Myth*, ed. Alan Dundes (Berkeley: University of California Press, 1988).

one of his common appellations, *Tōṇiyappar*, the boatman, a form of the Siva of especial importance to Pandyan mythology.⁵² Vaishnavite *bhakti* tradition tells of the infant Krishna surviving the final flood on a banyan leaf. Other stories make the earth a consort of Vishnu, and images carved in the edifices of Mahabalipuram show her in his embrace, recovered from the flood by his will alone. Still others tell of how Krishna prevented the deluge from over-sweeping the earth in the first place by casting his javelin into the ocean depths.

Versions of these stories also circulated in which kings rather than gods acted as savior. Just as the Dravida king, Satya Vrata, took the place of Manu in later Sanskrit flood myths, the first Pallava king, mirroring the infant Krishna, was said to have arrived in India from Southeast Asia after a shipwrecked Pallava sailor married a Naga princess and sent the offspring of their union across the sea on a *tonṭai*, or creeper vine. Vadimbu Allamba Pandya is said to have prevented the onslaught of the sea with his foot, while other Ukkirapandiyan is credited with the Krishna-like feat of drying the oceans with a javelin's throw.⁵³ In a possibly related myth, the Chera king Cenkuttuvan – perhaps best known for the portrayal of life in his court given in Cilappatikaram – is given the epithet *kaṭal pirakk oṭṭiya cenkuṭṭuvan*, “Cenkuttuvan who drove back the sea.” He, too, lifted his spear against the sea, but the even the medieval commentary suggests that this is rather a reference to pirates or other raiders who made the sea their stronghold.⁵⁴

⁵² G. Vijayavenugopal (epigrapher, EFEO) in conversation with the author, April 2009.

⁵³ Shulman, “The Tamil Flood Myths,” 314.

⁵⁴ *ibid.*, 315. Cenkuttuvan's defense of the shore was recorded in *Patirrupattu* (41.21-23).

Tiruvāl combines the feat of Ukkirapandiyan with a version of the *Cikalittalapuranam* story that at once reminds us of the close alliances between the Pandyan court and the Cankams and the fact that Pandyan kings often took the place of divinities in tales of salvation from natural calamities. Shulman narrates:

“Once the sea rose against the ancient city of Maturai. The gods were alarmed and, seeing this, Śiva appeared to Ukkirapāṇṭiyan in a dream and told him to throw his lance which he had given him against the fearsome sea. The Pāṇṭiyan awoke and, after being urged again by the god, threw his spear at the sea, which became calm and lapped at his feet. Tamilcokkaṇ (Śiva) appeared, erected a maṇṭapa, and said, “this will be the site of the first and second Caṅkam; the third will be on the banks of the Ganges.”⁵⁵

This narrative – caused in this instance by Indra, who was jealous of the Pandyan king’s virtuous rule and devotional consecration of ninety-six horse sacrifices – places the scion of the royal house in direct opposition to Lord Indra, a tactical-literary move which G. Vijayavenugopal interprets as evidence of Dravidian/Aryan tensions in peninsular India.⁵⁶ By naming the Pandyan king foeman to Indra, a divinity much more closely associated with northern India, poets could situate themselves strategically in the simmering tension between Tamil/anti-Brahmin partisans and the political and religious influences coming from the north. Ironically, Vijayavenugopal also detects an Aryanization of Pandya ritual and naming protocols, noting that the word *paṇṭiya* itself cannot be adequately accounted for through Tamil philology. He further posits that the Colas, the dynasty that bifurcated the Pallavas in the north from the Pandyas in the south,

⁵⁵ *ibid.*, 312.

⁵⁶ G. Vijayavenugopal (epigrapher, EFEO) in conversation with the author, April 2009.

originally came from the north and in this way introduced many words that have no Dravidian roots into Tamil.

It is certainly reasonable to assert that kings of the late Pandya dynasty in the mid-12th to mid-14th centuries C.E. would seek to assert their own legitimacy by forging bonds to their historical forbears, the first Pandyan dynasty, which was established in the southern tip of the subcontinent by the middle of the first millennia BCE.⁵⁷ In hearkening back to earlier Pandyan kings, poets and commentators linked their own patrons with a greater historical narrative, one that overarched the largest part of the peninsula. The Pandyan kings of the later dynasty were merely re-establishing the dominance that felt their due by historical precedent. In this context it should be noted that these commentaries referencing *katakkol* and a mighty Tamil empire lost to the sea began to appear just at the time of a resurgence of Pandya influence in the south, a resurgence that began with Katunkon's defeat of the Kālvars at the end of the sixth century.⁵⁸ Nakkiranar's *Iraiyanaṅ Akapporuḷ* appeared at the height of the three century Pandyan empire inaugurated by Katunkon's victory, sometime between 650-750CE.⁵⁹ Adiyarkunallar's commentary on *Cilappatikaram* is believed to have been written during the zenith of second Pandyan revival in the 13th century.

⁵⁷ *Memoirs Geological Survey of India* (Calcutta: Geological Survey of India, 1883), 80. First century CE sources are rich with evidence of Pandyan primacy in the coastal regions of modern day Turicorin district. The *Periplus* mentions the pearl fisheries located in the vicinity of Korkai, near modern day Tiruchchendur (see chap. 59). Pliny the Elder, in *The Natural History*, wrote of the Coromandel ports *ibi regnabat Pandion, longe ab emporio in mediterraneo distante oppido quod vocatur Modura*, "here reigned the Pandyas, far inland from the port in a town called Modura(Madurai)" (VI.105).

⁵⁸ R.C. Majumdar, *Ancient India* (Delhi: Mitilal Banarsidass, 2003 [1952]), 393. Note, too, that Nakkiranar names Katunkon (r.c. 590-620 CE) as the last king to preside over the Premiere Sangam.

⁵⁹ Zvelebil, *The Smile of Murugan*, 46.

Why should it be that stories that narrate the sudden and unavoidable loss of ancient Pandinad be (re-)written precisely at the time of the reappearance of Pandyan influence in the peninsula? And why should these accounts describe two very similar calamitous sea-swells separating each of the great assemblies? Finally, why should the last named patron of the mythic Premiere Sangam, Katunkon, be the same as he who historically renewed the Pandyan dynasty at the end of the sixth century?

In answer to the first question I would suggest that such stories were intended on the one hand to legitimize renewed Pandyan sovereignty in peninsular India, as much as to say “we ruled once and so we shall rule again.” By detailing, or at least alluding to, Pandyan myth-history medieval commentators on the Cankam poets were inscribing genealogies of Pandyan kingship at the end of which it was understood came their own patrons, heirs to the classical Tamil academies. But these narratives did further work for the poets mobilizing them in the Pandyan courts at the end of the first millennium CE.

While there were no reasons given for why the sea should claim the first two Pandyan capitals, there are hints given in others stories of flood and loss. Flood is commonly used as both a destructive and creative force, the two acts often going hand in hand. As we saw with the story of Manu, a flood came to destroy the earth, but a single (righteous) man was chosen to survive to repopulate and regulate the earth. Though not specifically Pandyan, the Dravida king Satya Vrata was credited with the same feat in the *Bhagavata Purana*, not a protector of people but a protector of creation itself. Vadimbu Allamba Pandya stopped the floods with his foot, while Ukkira Pandyan prevented the fury of Indra from destroying Madurai, and by extension the Pandyan kingdom, by throwing his spear into the waters amassed against him by Lord Indra. In Cenkuttuvan’s

story the king is credited with driving back the seas after lifting his spear against in defense of his people.

Such narratives of (divine) flood underscored the king's duty to his kingdom by commenting on and celebrating the actions of his predecessors. At the same time, these stories rendered the sometimes petulant nature of the gods tangible; only the most devout – Ukkira Pandya, Satya Vrata, Manu – or those otherwise endowed with divinity could overcome such terrible fury. In yet other cases, as with Cenkuttuvan, the sea stood in for the dangers against which a king must stand in order for the kingdom to prosper, just as Murugan threw his spear across the ocean to defeat the demon Cūr and in so doing dried up the waters to create the earth upon which the world could grow.⁶⁰ Finally, the story of lost Tamilakam made successive kings heir to an enormous empire with culture and history to rival the Sanskrit tradition pressing down from the north. This history could be held as a shield against any whom would seek to demean the stature or importance of the Tamil lands.

But factual answers to these questions, and just how academics square historically certain events with those accounted for mythically in Cankam commentaries, matter less in the construction of the Tamil flood imaginary than do the ways in which these stories were (and are) received and combined with the many other flood narratives that still percolate in the Tamil-speaking Indian peninsula. I have already suggested that these stories were used as a way to legitimize Pandyan rule, poets linking their own patrons to historical kings in a bid to create an unbroken chain of sovereign right and forging a

⁶⁰ !lānkōvaṭikaḷ. *Cilappatikāram*(Pākaṇēri : Ve. Peri. Paḷa. Mu. Kācivicuvanātaṅ Ceṭṭiyār, 1942), book 24.

literary and historic past to rival the Sanskrit tradition. What has been made clear by other writers, particularly Sumathi Ramaswamy, is that later writers and historians with their own ideological bones to pick appropriated these stories for precisely this reason, e.g using labors of loss in an attempt to establish the historicity of a lost (Tamil) continent, a proverbial thumb in the eye of the presumed Indo-Sanskrit dominance across the sub-continent. What I will do in later chapters is illustrate how imaginary flood histories continue to shape the ways in which victims understand new occurrences of inundation and their subsequent relief by the agencies that respond to and prepare for future flood events.

But before examining these issues in the modern day, let us explore how the first European colonists responded to cyclonic flood – in their own words, in the words of Tamil witnesses, and in the words of historians. It was their own experiences far more than the Tamil flood imaginary that shaped colonial disaster response mechanisms in French Pondicherry. Let us jump forward into the modern era, for it was the French and Dutch experience of cyclone on the Coromandel Coast that led to many of the infrastructural improvements held in such high regard today by disaster management officials in the Union Territory.

The Colonial Foundations of Flood Response

L'Établissement français de l'Inde, the French colonies of India made up of Pondicherry and its dependencies – the colonies of Karaikal and Yanam on the Coromandel Coast, Chandernagar thirty kilometers north of Calcutta on the Hooghly River, and Mahe on the Malabar Coast encircled by Kerala's Kannur District – was born out of the desire to compete with British and Dutch trade in the East Indies. In 1664 Jean-Baptiste Colbert planned the *Compagnie française pour le commerce des Indes orientales*, the French East India Company, to capitalize on recent activity in the subcontinent. The arrival of the French in India had actually preceded the establishment of the *Compagnie française* by half a century, placing them in the subcontinent concurrent with the arrival of the British in the second decade of the seventeenth century, and the two nations vied for supremacy in the subcontinent for the next century and a half.

Throughout its development as an urban port center, Pondicherry's European rulers made the most of its geographic location. Built originally on large sand dunes called *mēṭu* in Tamil, the factory took advantage of indigenous practices to limit sea incursion into the town. During a brief period of Dutch control at the end of the seventeenth century a series of hydrological practices were put into place that set a high tone for future water management and flood mitigation in the French territories. The structures put into place in this first period of settlement – what would later become the Grand and Petit Canals, the Uppar Drain, and a series of canals and sluice gates that

surrounded the colony and controlled the flow of water – endured into the era of relative non-aggression that followed three Karnatic Wars and decades of seizure, occupation, and retreat between the two powers during the largest part of the eighteenth century.

By the time the French regained control of their territories for the final time in 1816 the foundation for the town, the basic shape and design upon which the final town was rebuilt, had been in place for over a century. What remained for the French to establish in regards to storm and flood policy were mechanisms of response to emergency. This is not to suggest that the French administration set out to design policies that would meet any eventuality. Such policies were established slowly, over time, and through the lessons of trial and error. What can be traced through this third period of French settlement in India – the century lasting from 1816-1916 – is the gradual development of disaster response mechanisms that came to be reworked and remobilized with each new instance of flood.

In this chapter I will chart the development of flood related policies from the late seventeenth century until 1916. I will show that each new policy built upon or modified existing structures, resulting in an entrenched matrix of response patterns that shaped government reaction to each new instance of storm or inundation. This matrix endured into the twentieth century and formed the foundation for disaster policy by both the late colonial French administration and the first independent Indian administrations and, in turn, set the stage for responses to the 2004 Asian tsunami, as we will see in the following chapter.

I will begin with the establishment of the French colony at Pondicherry and its development as an urban center, with an eye on the construction and maintenance of the

town infrastructure. I will also begin to examine in detail the binaries that still dominate the discussion of disaster causation in the region: science/myth, technology/tradition, natural/supernatural, mortal/divine. A discussion of European efforts to understand meteorology in India will follow in order to outline the ways in which colonial administrators came to understand climate and weather in the subcontinent. Such knowledge was necessary preparation for those needing to acclimate as quickly as possible to l'Établissement's tropical environment. I will end the chapter with an examination of specific instances of relief in French India: cyclones and inundations in 1832, 1872, 1885, and 1916 and the Great Famine in 1876-1878. Pertinent to this discussion is the response to the Great Famine, which affected much of India between 1876 and 1878, as responses to this crisis in turn shaped responses to later crises. Each "event" illustrates a specific development in the ways in which the French administration responded to flood crises in their colonies and shaped the matrix bequeathed to the new, post-colonial administration at the *de facto* merger of the French colonies with the independent Republic of India in 1954. I maintain that it is only by understanding the development of colonial mechanisms of disaster response in the French territories that we can begin to understand the state of disaster management in the Union Territory of Pondicherry in December 2004. The local administration's first response to the tsunami was not that different from Governor Alfred Martineau's response to the 1916 cyclone that devastated French shipping at Pondicherry. It was not until the inefficacy of these entrenched colonial mechanisms came to be recognized through their mobilization post-tsunami that the administration in the contemporary Union Territory of Pondicherry began in earnest to re-imagine better ways to respond to disaster.

Early Floods in the First Factory

The first European occupiers of the region were the Portuguese who, according to Barros, established a factory (*feitoria*) at *Puducheira* in 1553 which they kept until driven away by the Nayak of Gingee in 1614.⁶¹ Three years later, in 1617, Jean Pépin, acting on behalf of the *Compagnie de Saint-Malo*, received permission from the “nayacq of Pondichéri” to build a fort, but he soon abandoned the site and the company never returned. The following year, on two separate occasions, Dutch travelers recorded staying in the area. P. van der Broecke spent the night at the choultrie of Polosére on February 9, 1618 and Simon Joosten, an agent of the Dutch Company, recorded sheltering at Poulisjeri later that same year, where he founded, and soon abandoned, a factory for the Dutch.⁶² Pondicherry was not permanently settled by Europeans until the Nayak of Gingee offered the land to the Danes, who built a permanent house there and who starting from 1620 had a larger settlement some 150 kilometers south, at Tranquebar, just north of the boundary of modern Karaikal.⁶³

By the second quarter of the sixteenth century, then, the site had been established as a way-station for Europeans traveling along the Coromandel Coast, but it was not until 1664 that Samson d’Abbeville first sited the location on a map, calling it *Pudécheira*. Contemporaneously with d’Abbeville’s map a Dutch explorer named Gauthier Schouten, who traveled in the region between 1658-1665, described the coastline sailing north from Tranquebar in a long passage detailing the available portages:

⁶¹ See G. Jouveau-Dubreuil, “Le Puducheira des Portugais au siezième siècle,” *Revue Historique de l’Etat de Pondichéry* 9 (1955): 235-238.

⁶² See “La foundation du comptoir français de Pondichéry en 1617,” *Revue historique de l’Inde française*.8 (1952): 167-172.

⁶³ See Jean Deloche, *Pondichéry hier et aujourd’hui* (Pondichéry: Insitut Français de Pondichéry, 2007).

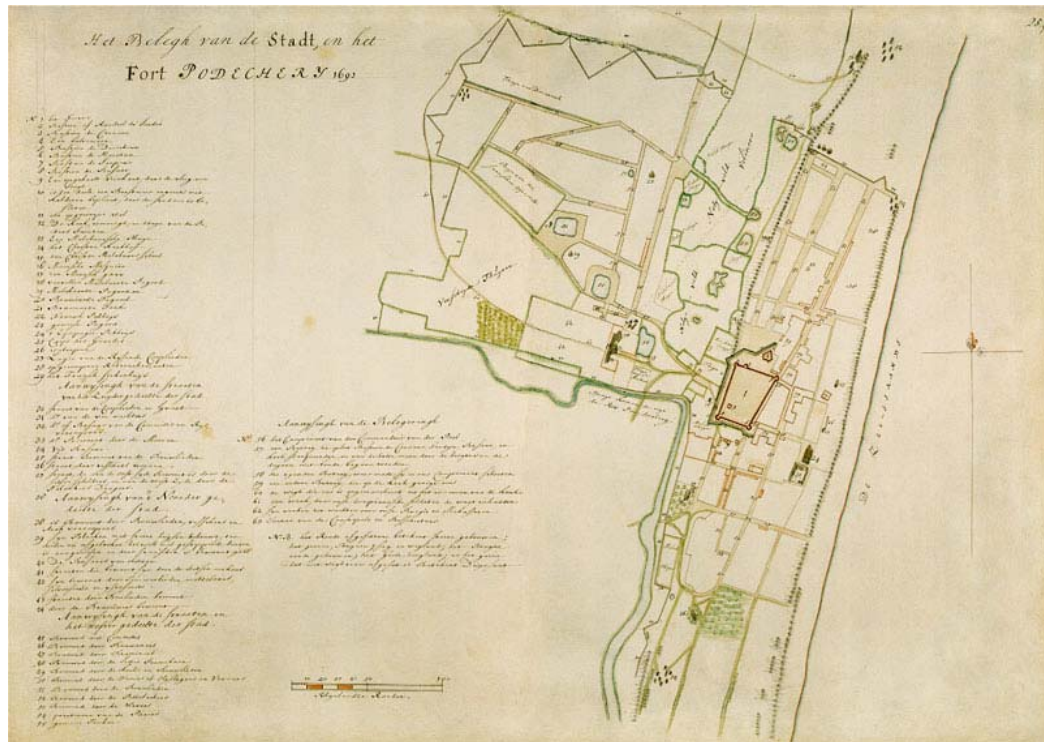
Porto Novo is not of much importance. Once one passes four temples one discerns *Teguepatnam*...further on to the north one sees *Poule Cére*, *Coulemour*, *Alemburi*, and *le Long Bois*, until finally one sees *Sandrispatnam*.⁶⁴

The French returned to the area in 1673 with the arrival of Bellanger de l’Espinay, who found the Danish house and a small factory when he landed in early February of that year. He was quickly followed by François Martin, who as Commissioner of the Compagnie had been appointed to establish a colony on the site he described as “*n’était autrefois qu’un hameau de pêcheur*,” or nothing more than a hamlet of fishermen.⁶⁵ During the first two decades of French habitation at Pondicherry, until the Dutch invaded in 1693, there was little urbanization in what was little more than a sleepy entrepôt. Lanes were irregular, crisscrossing tracks and there was little attempt to differentiate native versus non-native habitats. The completion of Fort Barlong in October 1689 – an irregular quadrilateral redoubt built atop a sand dune running between to the sea and the marshy lowlands to the west – finally began to establish the settlement as something more than “a hamlet of fishers.”

⁶⁴ See *Voyage de Gautier Schouten aux Indes Orientales, commence l’an 1658 et fini l’an 1665* (Amsterdam: Pierre Mortier, 1708), 487-488. Given the ordering of known towns, there is no question that Schouten is naming towns in geographic position from south to north. Teguepatnam is taken to be modern day Devanampattinam on the mouth of the Ponnar River at Cuddalore, based on a map printed in Schwartzberg’s *Historical Atlas of India* (plate VI.B.4, p. 52). Alamburi, some fifty kilometers north of Pondicherry, was the sight of a small, protected boat landing later chosen by Dost Ali Khan for the construction of a fort in 1746, gifted to Dupleix for services rendered to Subedar Muzarfazang in 1750 and destroyed by the British in 1760. Given Schouten’s positioning of *Poule Cére* between these two it is unquestionably Pondicherry. Sandrispatnam is likely Sadraspattinam, near the mouth of the Palar River just south of Mamallapuram.

⁶⁵ François Martin, *Mémoires de François Martin, fondateur de Pondichéry (1665-1694)*, vol. III (Paris: Société d’éditions géographiques, maritimes, et coloniales, 1943), 333.

On examining a map prepared by its Dutch occupiers in 1693, three avenues can be seen on the far right heading north from a quadrilateral fort (illus. 2.1).⁶⁶ A barrier wall protected the undeveloped section of land to the north of the Uppar River, which runs horizontally through the center of the map. The river continues to define the border of the colony as its course turns almost due south close behind the landward wall of Fort Barlong. It is important to fix the river's course in one's head, for this feature defined much of the later development of the urban center as well as water and flood control planning later undertaken by the colonial administration.



Illus. 2.1 Pondicherry at the time of the Dutch Invasion, 1693

⁶⁶ VEL 1095, Het Nationaal Archief, Den Haag, Nederland. Fixing this map in the mind will render the following maps more intelligible. The majority of maps of the region were prepared with the orientation rotated clockwise 90 degrees, that it with the eastern shoreline at the bottom of the map and cardinal north to the left-hand side. The remaining maps in this chapter follow this more unfamiliar orientation, thus when I write of the Uppar River's western ingress into the town, for example, the reader should look towards the top center of the map. These lanes have remained streets even into the modern day (from east to west): Rue de Saint-Louis, Rue de François Martin, and Rue de Manakkulam Vinayanagar Koil.

It was during this first phase of French settlement that the earliest modern-era cyclonic storm was recorded, occurring on November 19, 1681. In his 1917 monograph, *Le cyclones à la cote Coromandel de 1681 à 1916*, which details the history of cyclonic storms affecting the Pondicherry region, Governor Alfred Martineau described a three-day hurricane centered over Porto Novo, sixty-five kilometers south of Pondicherry in Cuddalore District, which caused:

*Plusieurs petits vaisseaux furent brisés dans la rivière; beaucoup de maisons s'effondrèrent sous les efforts de la pluie et la population se sauva dans l'intérieur du pays.*⁶⁷

Several small boats broke up in the river; many houses collapsed under the [heavy] rains and residents sought safety inland.

Cuddalore District, a part of the Madras Presidency directly adjacent to the French colony at Pondicherry and recognized as especially prone to damage from cyclone, was named as the site of landfall for a major storm six years later, in August of 1687. Incorrectly cited by Yvonne Robert Gaebelé as the first major cyclone to affect the French colony, it was said to have destroyed five ships in the sea lanes south of Madras and ten smaller vessels anchored at Porto Novo.⁶⁸

⁶⁷ Alfred Martineau, "Les cyclones à la cote Coromandel de 1681 à 1916," *Revue Historique de l'Inde Française* 2 (1917), 231.

⁶⁸ Yvonne Robert Gaebelé, *Une parisienne aux Indes au XVIIe siècle* (Pondichéry: Bibliothèque Coloniale, 1937). The August cyclone mentioned in Gaebelé's biography of François Martin's wife is problematic. Catastrophic cyclones are rare at this time of year on the Coromandel Coast, though not unheard of. Mandal (1993) recorded only thirty cyclonic storms occurring during August in the Bay of Bengal between 1891-1989; that is to say, only about 16% of recorded cyclonic disturbances recorded over the course of a century developed into full cyclonic storms. In contrast, in November during the same period, 65% of disturbances developed into full storms. By itself, this fact does not present insurmountable inconsistencies in Gaebelé's tale. Two other factors, however, also complicate the picture. He based his account on one given in *Les Annales de l'Inde Française*, a journal I have not only been unable to locate

Technology or Tradition: Accounts of the 1745 Cyclones

After the historically problematic storm of 1687 the record of cyclone activity in the region remains silent until the mid-18th century, when two remarkable accounts appear detailing a severe storm that occurred in November 1745. The first comes from a fragment of a letter dated January 11, 1746, addressed to the *Conseil Supérieur à la Compagnie* in Paris, presumably written by Governor General Joseph François Dupleix (governor from 1742-1754) or by an agent on his behalf. Copied from a document now lost from the Pondicherry Archive, the letter published by Martineau reads in part:

The winter was very bad. We were struck by two hurricanes, one on the 2nd and the other on the 27th of November, which laid waste across the land.⁶⁹

Remarkably, the letter goes on to blame the uncommon violence of the flood that ravaged the native part of the town on the actions of one Monsieur de Cossigny:

Plus de 2000 maisons de cette colonie ont été jetées à bas et plus de 40 personnes périrent dans les eaux don't la ville noire fut inondée par la faute de M. de Cossigny qui n'avait bouché qu'avec de la terre les ansees du *pont sans peur* où les débordements se sont communiqués dans la ville avec une violence aussi suprenante que peu ordinaire sans ces contrées.⁷⁰

More than 2000 houses in the colony were swept away and 40 persons perished in the water that inundated the black town through the fault of Monsieur de Cossigny, who had

but also authenticate. One wonders whether Gaebelé perhaps meant *Annales d l'Extrême Orient*, a journal published in Paris by Challamel Ainé from 1878-1891, but I find this conclusion doubtful, for even its succeeding titles do not closely match Gaebelé's. In his *Madras Gazetteer* (1908), W. Francis mentions a cyclone in October of the same year, while Alfred Martineau, in his exhaustive *Les Cyclones à la côte Coromandel de 1681 à 1916* (1917) fails to mention any storm whatever in 1687. In the absence of more definitive evidence, it is certainly possible that a cyclone occurred in the last half of 1687, but I am incredulous that it necessarily occurred during the August espionage plot detailed by Gaebelé, a conflation that may well have served dramatic effect rather than strictest truth.

⁶⁹ Martineau, "Les cyclones," 232.

⁷⁰ *ibid.* 232-233.

blocked [the drain] at the *Pont sans Peur* with mud [causing] the overflow to sweep through the town with a violence never before seen.

This account, written by an official in India to officials in Paris, is the first to assign blame for the havoc wrought by flood to a human actor. As we saw in the previous chapter, and as we will see again below, the Tamil flood imaginary did not conceive of inundation as the result of mortal failure but rather precipitated by supernatural causes. Unlike the instances of flood appearing in Cankam and medieval Tamil literature, in which floods were typically the result of gods meddling in the affairs of men, here is a “modern” account in which an individual is identified and held responsible, effectively accused of *misdirecting* flood overflow into an inhabited area of the colonial ville. Two additional details have much to bear on this accusation: M. de Cossigny, the man blamed for the disaster, was in fact Jean François Charpentier de Cossigny, a military engineer born in Marseilles in 1690 who had an active career in the East Indies, serving both in Pondicherry and on the Mascarene Islands.⁷¹ More interesting still, in the late 1730s Governor Pierre Benoît Dumas (gov. 1734-1741) – the predecessor of Governor Joseph François Dupliex – had ordered de Cossigny to refortify the town. During the planning de Cossigny had asked to reinforce the defensive ditch at the Villenour Gate in the southwest quarter of the town with masonry in order to prevent future flooding, but officials in Paris refused to fund the project.⁷² When the flood defenses failed in 1745 they failed at the *pont san peur*, the span directly north of the

⁷¹ He was also close relation of David Charpentier de Cossigny, Governor General of Pondicherry from 1785-1787.

⁷² Aniruddha Roy. *The Merchant and the State*, vol. II (Delhi: Manshiram Manoharlal, 2004), 722.

Villenour Gate, precisely the location identified by de Cossigny several years prior as a weak point in the colonies flood defenses.

A second, much more detailed account of the inundation is recorded in the diary of Anandarangapillai, a highly placed agent of the French in Pondicherry who was to become chief *dubash* under Governor-General Dupleix. He wrote of a “great tempest striking” (*perungāṟṟaṭittatu*) that began immediately after the sun set (*astamittavuṭanē tuvakki*) and lasted for twelve hours (*muppatu naḷikaiyum aṭittatu*).⁷³ He continued *ānāl, inta kāṟṟinuṭaiya piratāpam inna maṭṭenṟu oru vitamāyc sollakkūātu*, “but the immensity of this storm should not be described as having such and such a measure, according to just a single criterion.”⁷⁴ Avenues of trees were uprooted and entire plantations of mango and coconut leveled, causing the ruin of many planters. On the banks of the Uppar River an entire neighborhood of houses was swept away from a new three-street suburb. Anandaranga notes as cause for the flooding the failed sluices, the same mentioned in Dupleix’s letter to the *Conseil*, but where the governor placed responsibility for the flood on a human agent, Anandaranga says only that the sluice gave way (*anta matakai piṭuṅkikkonṭu, anta vellam oṭṭṟu*, “having burst through the sluice the flood ran [through the town]”).⁷⁵ Anandaranga further confirms what Dupleix’s letter only implies: that these sluices were built for the purpose of controlling the flow of water into the town by diverting water into surrounding channels. It is not unreasonable to suggest that had this infrastructure been improved during renovation by Cossigny several years prior, as

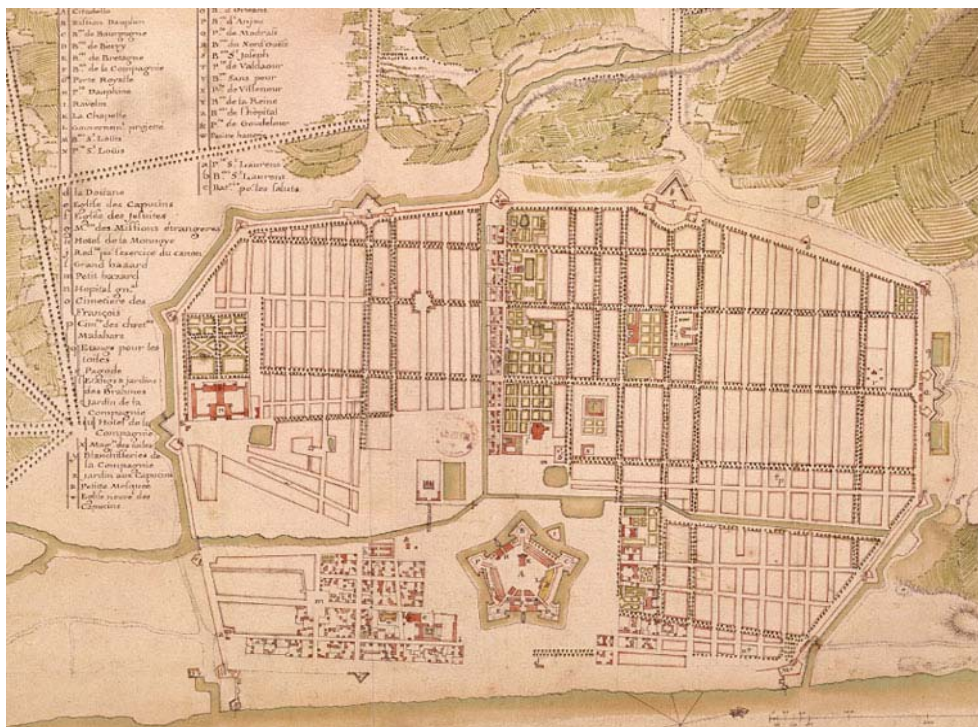
⁷³ *Āṅgantarāṅkap piḷḷai nāt kurippu*, tok. 1 (Putuvai: Kalai Panpāṭṭut Turai, 1998), 218. Pillai’s words literally translate as “[it] blew for 30 *naḷikai*,” an astrological unit equal to twenty-four minutes.

⁷⁴ *ibid.* 218. The “wit” here is more sardonic than comical: Anandaranga uses the word ‘*piratāpam*,’ which connotes “greatness” or “magnificence” in the sense of fame or celebrity. Its use here is archly ironic.

⁷⁵ *ibid.* 219. The word ‘*piṭuṅku*’ means to pull out or snatch [out of the way]. The line means literally “having plucked away that sluice/regulator, that flood ran.”

Cossigny himself had requested, this particular flood could have been greatly mitigated, if not altogether avoided.

The newly built quarter mentioned by Anandaranga is a little difficult to place without definitive supporting administrative documents, but it is still possible to reconstruct the most likely site of this neighborhood. Examining a map of Pondicherry produced in 1739 (illus. 2.2), six years prior to the inundation, we find a more urbanized settlement complete with the fortifications completed by Cossigny. The Uppar River still flowed into the town from the west-north-west at *le pont sans peur* on the western edge of the colony (illus. 2.2, top-center) and followed its natural course through the town,



Illus. 2.2 Pondicherry and its enclosure, 1739

bearing south behind the western and the south-western bastions of the newly completed Fort St. Louis, whence it continued into the Chunnambar River south of the town and thence into the sea. The water from this “*ruisseau qui forme l’inondation autour de la*

place,” as it was dubbed on a 1748 town plan, was diverted at *le pont* in order to fill a defensive ditch that had been built to encircle the town. Within the town, the Uppar’s watercourse had been extended northwards by the construction of a canal from the behind the *Porte de Dauphine* to the colony’s northern border,⁷⁶ exiting the settlement at its northern extreme between the *Batterie d’Anjou* and the *Batterie d’Orleans* into another newly constructed channel meant to protect the north-eastern approach leeward of the Madras Gate. These two extensions laid the foundations of what was to become the modern Grand and Petit Canals.

The neighborhood to the north of Fort St. Louis appears consistently in plans of the town dating back to 1693.⁷⁷ Though habitation is sparse, the earlier Dutch map-



Illus. 2.3 1694 Dutch Town Plan

maker had lined out three lanes north of Fort Barlong. Another map from the same year, “after a report by two natives,” though less exacting, also showed houses to the north and seaward sides of where the fort later came to be built.⁷⁸ A Dutch plan of the town

dated 1694 (Illus. 2.3)⁷⁹ intimates the intentions the Dutch held for designing an urban center with clearly demarcated quarters based on vocation laid out in parallel lanes west

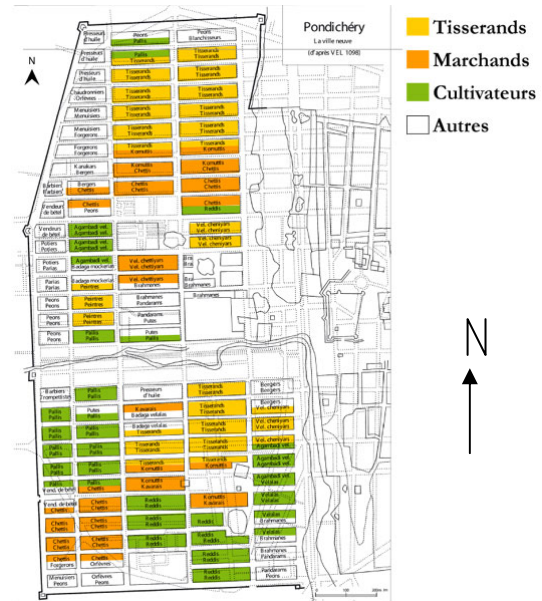
⁷⁶ The placement of the defensive wall that surrounded the town to this defines the boundaries of the core of Pondicherry town: South Boulevard, Anna Salai on the west, and S.V. Patel Road ringing the north.

⁷⁷ VEL 1095, Het Nationaal Archief, Den Haag, Nederland.

⁷⁸ VEL 1096, Het Nationaal Archief, Den Haag, Nederland.

⁷⁹ VEL 1098, Het Nationaal Archief, Den Haag, Nederland.

of the fort (Illus. 2.4). Another plan made by Nyon in 1704, after the Dutch had handed the territory back over to the French, shows the progress of urbanization in the years immediately following the colony's return to French control (illus. 2.5). One of the first priorities of the Compagnie was not the development of land below the Uppar – as was entertained by the Dutch – but the establishment of a new bastion, Fort St. Louis



Illus. 2.4 Detail by Jean Deloche⁸⁰

Louis, around which the town would later grow. Maps made after the turn of the eighteenth century clearly show the development of the town by the French along the foundation laid out in Dutch maps drawn during their brief occupation of the territory (1693-1699), an argument made most forcefully by Jean Deloche.⁸¹ Those sections of the oldest parts of the colony – those shown in illustration 2.5 – were clearly not the same neighborhoods described by Anandaranga Pillai.

According to Jean Deloche, Muslims were the first to settle on the southern bank of the Uppar, sometime around 1721, in a curious configuration of diagonal lanes set out along the path of the Cuddalore Road (see Illus. 2.2).⁸² An anonymous town plan drawn

⁸⁰ Deloche, *Pondichéry hier et aujourd'hui*.

⁸¹ See *Origins of the Urban Development of Pondicherry According to Seventeenth Century Dutch Plans* (Pondichéry: Insitut Français de Pondichéry, 2004).

⁸² Deloche, *Pondichéry hier et aujourd'hui*.



Illus. 2.5 Pondicherry and its environs, 1704

in that year shows three such lanes already laid out. Since Muslim weavers were well established in the crook of the Uppar well before mid-century it is also unlikely that the “houses newly built” mentioned by Anandaranga were in *le faubourg des Maures*.

By the same measure, the area on the eastern bank of the Uppar, south of the new fort in *ville blanche*, had been undergoing extensive restructuring by the French administration during the same time. Thoroughfares had been straightened around the newly established *Petit Bazar Saint Laurent* (1714) and residents were forced to build in rectangular blocks. Several important civic buildings were fixed south of Fort St. Louis: the *Hôtel de la Monnaie*, completed 1736-1738, and the second Capuchin church, *Notre Dame des Anges*, constructed 1739-1758. With the reconstruction of the bridge connecting the eastern and western quarters of the town across the Uppar at the Villenour Road in 1738, the southeastern, seaside quarter of the city directly below the fort and well away from the sluice-gate seems equally unlikely as the location of this disaster.

The clue to identifying the “new” neighborhood identified in Anandaranga’s diary is the phrase found in Dupleix’s letter to the *Conseil* which places blame on de Cossigny

for blocking the arches of *pont sans peur*. The pont was a part of the Fort de peur, located at the far western edge of the town at the point where the Uppar's watercourse entered the colony, the first defensive bastion north of the Villenour Gate. It was here that potable water entered the town, and the entry was provided with a regulator/gate to control the flow of water into the inhabited areas of the town.⁸³ The area just within the wall adjacent to the stream – what is now the Petit Canal – had only recently been laid out and was just beginning to see urban growth by the end of the 1730s. Further bolstering this conclusion is the fact that this part of Pondicherry town is *still* prone to flood during even the most average monsoon, and so it seems to be the most likely suburb to have been inundated in the way described by Anandaranga.

Anandaranga went into great detail describing the effects of this cyclone. The town was inundated, and both people and cattle perished in the rushing flood. Houses both inside and out of the town were laid low and water stood in places up to a man's waist. Birds and livestock died in large numbers, their bodies littering the streets for days afterward. Dead goats were purchased, brought into the city to be butchered and left to dry in houses, but the unrelenting dampness in the following days prevented drying and soon the town was filled with a sickening stench so horrific that people remained in their homes for days, even after the storm stopped and the flood subsided. "Because the wind had continued to blow in this way," concluded Anandaranga, "not a single house in the

⁸³ The fort sans peur was a defensive bastion. Even if canals flowing into the town were not fitted with sluice gates, which we know was the case from the documentation cited above, it would have been provided with some form of barrier to prevent unregulated entry into the town.

town escaped, [but] God preserved us.” (*Appaṭi kāṛṛu aṭittatāl paṭṭanattilē oru vīṭākilum tappamāṭṭātu. Suvāmi kāṭṭār*).⁸⁴

On November 10, Anandaranga noted the departure of Governor Dupleix to a retreat at Mortandi Chavadi, “as he finds the rainy season in Pondicherry a nuisance.” Two weeks later, on November 23, another storm lashed the town, though he estimated its strength to be but one fortieth of the last (*nāṛpatilē oru pangu*).⁸⁵ According to Pillai this second storm, unlike the first, had been perfectly predictable: *muntina kāṛṛu aṭikkirapōtu oruttarākilum aṛinta sonṇillai. Inta vicai saṇaṅkaḷellārum payantiruntārkaḷ* (“No one could have predicted the previous tempest [but] on this occasion everybody was afraid”).⁸⁶ Relying on “the *sāstras*” as unerring proof of the correctness of his (after the fact) prediction,⁸⁷ Anandaranga reasoned that the storm had been inevitable due to a convergence of three factors: namely that 1) the new moon 2) occurred on a Tuesday 3) under the influence of the star Kēttai. Fortunately, he concluded, though everyone was afraid, *suvāmi tayavupaṇṇiṇar*, “God favored us [with a gentler storm].”

The following Sunday, November 28th, a third storm of middling strength again struck the town. “Its strength might have been three-quarters that of the first storm, but some think it was only half as strong.” Anandaranga dismissed this lower figure, attributing it to the lesser amount of damage caused, pointing out that “all the mischief

⁸⁴ *Āṇantarāṅkap piḷḷai nāṭ kurippu*, 219.

⁸⁵ *ibid.* 220.

⁸⁶ *ibid.* 220.

⁸⁷ see H. Dodwell, ed., *The Private Diaries of Ananda Ranga Pillai*, vol. 12 (New Delhi: Asian Educational Services, 1985), 292. As J.F. Price writes in his own footnote on the matter, “The common astrological saying is that is the new moon falls on a Tuesday, and the governing constellation of that particular day be that named Kēttai, a storm will certainly occur on it.”

that could be done having occurred during the earlier storms.”⁸⁸ He ended his diary entry with some final words on the uncommon triple cyclone: “Never before have there been three storms within the same month. What evil times these may be.”⁸⁹ It is worth underscoring the ill-omen ascribed to this event by Anandaranga. Remember from chapter one that mythic Tamil kings had convened three Cankams that were catastrophically and irrevocably swept away by great deluges. Triplicate eclipses have been connected the destruction of ancient Dwarka by flood in the *Mahabharata* and at least one popular contemporary author made time-index correlations between triple eclipses and the most calamitous events of the 20th century: World War I, World War II and the Holocaust.⁹⁰

In the entries that follow, Anandaranga made no further comment upon the occurrence of these three cyclones, neither of the damage caused by them nor the recovery from their depredations. His very next entry, for example, describes the dedication of several images in a newly built church in Reddiarpālaiyam village, between Pondicherry town and Oḷukarai on Villiyānur Road, listing all of the communities invited “without distinction” and detailing the care taken to observe caste restrictions on food preparation.

The evil times foreseen by Anandaranga did indeed blow into French India. The following year saw the beginning of the Karnatic Wars and fifteen years of Anglo-French conflict that resulted in the permanent demise of French aspirations in the subcontinent.

⁸⁸ J.F. Price and K. Rangachari, eds., *The Private Diary of Ananda Ranga Pillai*, vol. 1 (New Delhi: Asian Educational Services, 1985), 293.

⁸⁹ *ibid.*

⁹⁰ DK Hari and D Hema Hari, *Will History Repeat Itself: The Triple Eclipse of July 2009* (Chennai: The Art of Living, 2009).

On October 2nd, 1746, another hurricane lashed the sea-roads between Pondicherry and Madras, destroying a squadron under the command of Bertrand-François Mahé de La Bourdonnais on the way to blockade the English at Fort St. George in Madras. The *Duc d'Orleans* sank with almost all hands; *L'Achille*, the *Bourbon*, and the *Neptune* all foundered, losing large parts of their artillery and much of their cargo, as well.⁹¹ Though contemporary sources are unclear, historian Marc Vigié records that nearly 1,200 people perished in the storm.⁹²

It is instructive to briefly compare the Tamil and French account of the storms. Where Dupleix ascribes no significance to the advent of these cyclones, Anandaranga is keen to comment on the astrological happenstance that forecast the calamitous events of November 1745. Dupleix's description was enumerative – 2000 houses destroyed, more than forty people lost – secular, and above all “modern”; he sought cause in human error, in “la faute de M. de Cossigny.” Anandaranga's account, on the other hand, was more emotional and “scientific.” His reasoning was no less logical than Dupleix's – a full moon under a malevolent star on a particular day of the week – but his science, astrology based upon the sastras, was decidedly less modern. His portrait of the aftermath, too, was centered more on the lived experience of the event than on hard numbers. He wrote of the water level rising to past the thigh, of the hundreds of dead birds littering the streets, of the devastated plantations, the uprooted trees and the stench of rotting animals. "Thereby many people were ruined" (*atinālē vekupēr keṭṭupponārkaḷ*) he wrote,

⁹¹ Neither were the English spared, losing the *Marie-Gertrude*. The captain of the *Phoenix*, however, had sailed her to fairer seas off of Sri Lanka.

⁹² Marc Vigié, *Dupleix* (Paris: Fayard, 1993), 244.

underscoring less the specific economic losses but rather the experience of those who suffered.

Strategies to cope with the flooding, both those initiated to mitigate the eventuality of storm and those undertaken after its occurrence, seemed fruitless to Pillai. Referencing the same flood gates mentioned in the French account, Anandaranga wrote that "[with] the strong winds a high flood rushed into the Uppar [River] and burst through the closed sluices,"⁹³ an account which does not necessarily absolve Monsieur Cossigny from blame, but narrates the flooding of *ville noire* as all but inevitable, regardless of whatever measures may have been taken to mitigate flooding prior to the cyclone. Nor can it be known if the flood would have been lessened, or even prevented, if Cossigny had been allowed to reinforce the western ditch near the Villenour Gate with masonry as he had requested several years earlier. Certainly the problem had been identified long before the 1745. Efforts to alleviate the distress caused by the flooding also went awry: "Because it was the case that goats died in great numbers [in the countryside], people bought them and brought them into the town to be dried, but they were drenched in the rain and a tremendous stink rose through the town, and people would not go into the streets for some two or three days."⁹⁴

The point here is not to place a truth value on one narrative over another, for the ways in which both men described the causation of the events of November 1745 were inherently logical to each man. One account is not more important than the other because it details "actual" economic or material loss while the other focuses instead on the social and personal effects. Rather I am highlighting the similarities over time between specific

⁹³ *Āṅṅantarāṅkap piḷḷai nāṭ kurippu*, 218-219.

⁹⁴ *ibid.* 219

narrative types discussed in chapter 1 as they have been mobilized at various times to describe specific (historical) flood events and as they will be deployed again after future floods discussed in later chapters. We have already seen in historians' accounts that it is often the numeration of loss that garners the most ink. The concreteness of such evidence is considerably easier to parlay into a causal chain. Vigié's breathless declaration of "*on dénombrait au total près de mille deux cents victims!*"⁹⁵ leads his reader directly into a discussion of La Bourdonnais's disgrace following his unexpected rout by the uncontrollable forces of weather, which is, after all, more to the point of his history.⁹⁶

"Modern" accounts of flood and loss really only begin to appear in India from the eighteenth century. But together with the growing scientific description of weather in the subcontinent and its effects on agriculture, folkways, and the human body there remained a more "traditional" accounting of flood and loss, as exhibited by Anandaranga. In this anti-modern rendering disaster was understood to be both predictable and unaccountable. The conceptual binaries of natural/supernatural, science/myth, and mortal/divine has endured into the modern day, but an exploration of the ways in which events are still narrativized within these binaries – a process that too often obscures the lessons that can be learned from crisis events at the cost of better mitigation and of creating more resilient communities – will be undertaken in chapters 4 and 5. But now let us turn our attention back to the development of emergency response during the colonial period.

⁹⁵ Vigié, *Dupleix*, 244.

⁹⁶ I understand, of course, that this is not entirely fair to Vigié's account which, after all, is included in a biography of Dupleix. It would be unrealistic to ask an historian to give better shrift to what was, after all, a minor event in the scheme of French colonial history. However, I call it to the reader's attention here in order to underscore one of the ways in which disastrous events are framed by those who narrate them. Vigié is not the first historian to treat lightly the affects of cyclone on broader events in South Asia, as we shall soon see.

Siege and Cyclone

A number of smaller cyclones struck the Coromandel Coast over the next fifteen years – Martineau mentions storms in 1749, 1752, and 1754. Martineau’s source for the 1749 storm seems only to be a letter sent to the East India Company in Madras by one Monsieur Floyer, dated 11 May 1749. But Martineau does not quote M. Floyer, instead giving only a gloss of the text, which is primarily a request for a number of cannon be brought to Pondicherry. Occurring as it did during a lull in the recently quieted Karnatic Wars this seems a singular request, especially given that the hurricane (fr. *Ouragan*) mentioned had already halted an English expeditionary force near Porto Novo. Pondicherry itself seems not to have been heavily affected. Floyer’s account as recounted by Martineau focuses on English losses: the magazine at Porto Novo, the hospital ship *Apollo* with all hands, the 60-gun *Pembroke*, the 74-gun *Namor*, and 750 British sailors. The damage to the French navy was limited to, in Martineau’s words, *un navire et deux petits vaisseaux*,⁹⁷ swamping sixty cannon.

There is often very little that can be said with certainty about most of these early tempests, many warranting little more than a line or two in some colonial brief or gazetteer. But it is important to recognize that cyclones, even “minor” ones, were regarded as worthy of report in both English and French sources. Though removed by over a century from the events described, the compiler of the 1857 *Revue colonial* still had this to say of the October 1754 cyclone, couched in a paragraph naming cyclones between 1778 and 1854:

⁹⁷ Martineau, “Les cyclones,” 236.

*On a prétendu à tort que l'établissement et la rade de Karikal était situés en dehors de la sphere des coups de vent. Du 8 au 10 octobre 1754, les maisons, les arbres furent renversés et la moisson détruite par un vent d'Est très violent.*⁹⁸

“It would be wrong of us to assume that the [sea] road to Karaikal is outside the influence of the winds. From the 8th to the 10th of October, 1754, the houses and trees were leveled and the harvest destroyed by a very violent easterly wind.”

Martineau uses this storm to emphasize the rarity and comparatively lessened severity of storms in Karaikal versus Pondicherry town. As for the *Revue*, its bare descriptions are very much the same as those given of sixteen separate events between 1761 and 1830 given by Martineau:⁹⁹

1763: A tempest lasting fourteen hours struck Madras with great violence. Every ship at sea was destroyed with almost all hands lost.... The *Gazetteer* mentions that three French ships were demisted, but does not specify them.

1787: There was a terrible hurricane at Pondicherry. Remark the date [May 20]: this is not the usual time for such big storms.¹⁰⁰

1795: A cyclone struck the district of South Arcot, causing much crop loss.

1811: The ships of was *The Dorn* and *The Chichester* were completely destroyed during a violent storm, together with several other ships and boats.

1820: A violent tempest in the same region [Pondicherry]. Several landing crafts were lost and there was great damage to livelihoods.

⁹⁸ *Revue Coloniale, tome XVIIIe* (Imprimerie et librairie administrative de Paul Dupont: Paris, 1857), 53.

⁹⁹ Martineau, “Les cyclones,” 239-241.

¹⁰⁰ Martineau’s commentary is quite fascinating. “On remarquera cette date,” he wrote, “ce n’est point d’ordinaire à cette époque que se déclarent les grandes orages.” The fact that Martineau recognized the rarity of such out of season storms lends credence to my own suspicions that Gaebelé’s claim of an August 1687 storm (discussed in fn. 69 of the current chapter) was likely a dramatic conflation.

This list is not intended to name every storm in the region of Pondicherry in the last half of the eighteenth century, but rather it is meant to illustrate the ways in which such storms were framed within the colonial gaze. On the one hand, the paucity of information could signal a lack of sources available to Martineau. To be sure, the second half of the eighteenth century was a time of great and enduring conflict between rival powers in the subcontinent. Pondicherry was occupied and razed by the British multiple times between 1760 and 1816, and while the French had a policy of removing important documents under siege (see chapter 4), it is certain that other records deemed less vital were lost.

On the other hand, the spartan descriptions suggest just what was important to take away from such events: “much crop loss,” “great damage to livelihoods,” “[two] ships of war...completely destroyed,” and “every ship destroyed with almost all hands.” What matters to the unnamed enumerators of these storms from whom Martineau drew his material is the way in which they affect the *capacity* of the colonial project. Losses to ships, sailors, agriculture, and commerce rate far higher than do the kinds of losses experienced and described by Anandaranga Pillai. When the lives of Indians are mentioned they appear only when they impact the colonial administration in some direct, measurable way. An October 1782 storm at Madras was blamed for the destruction of “every indigenous craft loaded with rice,” precipitating a famine that caused 10,000 deaths by starvation.¹⁰¹

As has been demonstrated, many of Martineau’s descriptions are no more detailed than those given in contemporary English sources covering much vaster areas and many

¹⁰¹ Martineau, “Les cyclones,” 239.

more aspects of the colonial experience than does Martineau's monograph. The *Imperial Gazetteer of India*, for example, says this about storms:

The number and character of the storms which form in the Bay, and hence also the distribution of the rainfall accompanying the retreat of the south-west monsoon humid current, vary very largely from year to year. In some years, for example in 1896, no storm of importance occurs, while in others two to four severe storms of cyclones may be experienced. The years 1876, 1886, and 1891 were remarkable for the number of fierce and extensive cyclones which occurred during this period.¹⁰²

It should be said that this gazetteer, or rather any gazetteer, was meant as a general reference text concerning the geographic, natural, social, and economic features of place, not unlike the French *Revue Coloniale*. This passage occurs in a lengthy chapter on the meteorology of India, detailing the seasons, winds, tides, etc. of the Bay of Bengal and the Arabian Sea, precisely the kind of information that the earliest European settlers in India lacked. The initial lacuna in practical information about the living and weather conditions in the subcontinent was remedied over time through observation and collection of various data and increased exponentially during the nineteenth century with the publication of numerous manuscripts on Indian meteorology, discussed below.

Outside of the personal account of the 1745 cyclones left to us by Anandaranga Pillai, the best documented eighteenth century Coromandel tempest occurred in December of 1760, during the Third Karnatic War (1757-1763). The French at Pondicherry had been under English blockade since the summer. Then, according to an anonymous chronicler of the Anglo-French Wars,

¹⁰² W.S. Meyer, *Imperial Gazetteer of India: The New Edition*, vol. 1 (Oxford: Clarendon Press, 1909), 137.

[T]he season now beginning to grow precarious, the admirals Stevens and Cornish prepared to leave the coast of Coromandel during the monsoons, and retire to the Dutch island of Ceylon, where they could refit the squadron, and shelter it from the storms which were expected to come on. Agreeable to this resolution they set sail on the 23rd [of October], and committed the blockade of Pondicherry by sea to captain [sic] Haldane, with five ships of the line.¹⁰³

This smaller blockade continued through the end of 1760 when, in the dying days of December, a powerful cyclone hit Pondicherry.¹⁰⁴ In the words of G.B. Malleison:

On the 31st the roadstead of Pondicherry was visited by one of those storms not uncommon at that season on the Koromandel [sic] coast. The effect of this of the English fleet was most disastrous. Three large ships were driven ashore two miles below Pondicherry; three others, having on board 1,100 Europeans, foundered; all the remainder were severely injured. Nor did the siege works escape...Soldiers, unable to carry their muskets, had thrown them away in despair; all the ammunition, except that in the store, was rendered useless.¹⁰⁵

Though Malleison does not name the ships, other sources do. The author of *A Complete History of the War in India* lists “the *Aquitain* and *Sunderland*, two 60-gun ships...[and] the *Newcastle* of 50 guns, the *Queensborough* of 20, and the *Protector* fire-ship,”¹⁰⁶ accounting for five of the six ships described by Malleison.

In examining this latter account we learn that the *Newcastle*, *Queensborough*, and *Protector*, “in the general tumult [of the storm] unable to make out the sound of the surf

¹⁰³ *A Complete History of the War in India* (London: M. Cooper, 1761), 79.

¹⁰⁴ There is some question as to the actual date of the storm. The contemporary, anonymous account quoted above gives the date 1 January 1761, while Col. G.B. Malleison, in his *History of the French in India* (1909), names the day prior. To further confuse matters, Martineau gives the date of cyclone as 30 December 1760. This last source is used by F.C. Antony in the gazetteer, *Union Territory of Pondicherry* (1982). Whatever the correct date, all sources agree that the leading edge of the cyclone crossed the coast around 8 p.m.

¹⁰⁵ G.B. Malleison, *History of the French in India* (Edinburgh: John Grant, 1909) 573.

¹⁰⁶ *A Complete History of the War in India*, 83.

against the strand,” ran aground two miles south of Pondicherry town; crew, cannon and stores were all “mostly” saved. It was the *Aquitain* and the *Sunderland* – the two largest ships in the blockade – and a third, named by Martineau only as *le Duc*, which foundered and sank offshore, very nearly losing all hands to the tempest.¹⁰⁷ This third ship, *le Duc*, must have been small indeed in order to account for the crew losses not attributable to the larger ships.

In the available sources we find accounts that focus primarily on quantifiable losses. Given the provenance of these accounts, this should not be at all surprising. *A Complete History of the War in India*, published as it was almost immediately after the cessation of hostilities between the French and English in India, was addressed to Robert Clive and as such was clearly intended for a knowledgeable and expectant audience at home.¹⁰⁸ The omission of casualties might be attributable to a desire to shield the reader from the grisly realities of war, but it seems much more likely that readers would already be acquainted with the relative size of ships of the line if given tag-like descriptions (e.g. a sixty-gun ship, a twenty-gun ship, a fire-ship, etc.).¹⁰⁹

¹⁰⁷ The anonymous author of *A Complete History of the War in India* claims eleven crew members of these three ships survived; Martineau only seven.

¹⁰⁸ Though the Treaty of Paris ending the Seven Years War was not signed until 1763, the fall of Pondicherry in January 1761 effectively ended French aspirations in India. The remaining French military outpost quickly succumbed to the British. The garrison at Thiagar surrendered to Major Preston on February 4th, at Mahe on the Malabar Coast to Major Monro on February 13th, and finally on April 5th Gingee surrendered to Captain Stephen Smith on favorable terms.

¹⁰⁹ See “Prominent Periods of Warships Serving in the Royal Navy from Early Times to Present Day: Fifth Period,” Royal Navy History, accessed April 26, 2011, <http://www.royal-navy.org/warships/>. According to the Institute of Naval History, 60 gun ships are classified as 4th rate vessels. Though no crew limits are given, they can be postulated from those given for 1st, 2nd and 5th rate ships – 850, 750, and 300 respectively. From these numbers it is reasonable to estimate a crew of 400-450, unless these vessels were converted troopships, not unreasonable given that they were engaged in a blockade with a “home” port only 20 leagues, or about 140 miles, away.

Another English chronicler of the British in India, Edward Thornton, offered a somewhat more feeling account, writing in 1859 that:

[T]he English suffered severely from a dreadful storm. The sea broke over the beach, and overflowed the country, carrying away the batteries and redoubts. Their tents were destroyed and their ammunition rendered useless, while the soldiers, in many instances, abandoned their muskets in their anxiety for personal safety. Many of the native retainers of the camp perished.¹¹⁰

Thornton goes on to describe the strategic effects of the storm, noting that the “wide-spread waters” made repositioning artillery impossible and prevented the French from sallying against a British encampment that could only have responded “feebly” if they had. Following Robert Orme’s assessment, Thornton asserts that “three hundred men properly armed would not have met with a hundred together in a condition to resist them.”¹¹¹ And it is worth noting again the common disparity: while many soldiers “abandoned their muskets” for safer locations, Indians were left to drown in the flood.

A French historical account, published in Paris in 1845 by Adolphe Philibert Dubois de Jancigny and Xavier Raymond, recorded that “[w]ithin a moment, it seemed as if the heavens had come to the aid of the beleaguered town”:

The English flotilla holding the blockade was broken and dispersed. The sea burst its limits [the sea-wall?] flooding all the way to the hedge-wall, submerging and washing away the batteries and redoubts of the besieging encampment. The inhabitants of Pondicherry thought they had been delivered. But the tempest ravaged the town as well, pulling down magazines and hospitals and destroying everything within.¹¹²

¹¹⁰ Edward Thornton, *The History of the British Empire in India* (London: Wm. H. Allen and Co., 1859), 78.

¹¹¹ *ibid.*

¹¹² A.P. Dubois and Xavier Raymond, *Inde* (Paris: Firmin, Didot, Frères: 1845), 442.

Just as other authors had noted, the sea blockade was shattered, but Dubois and Raymond added new details: repairs within the town were “carried on with great celerity” and the blockade was reestablished within a week. Such was the state of the French in Pondicherry by the first week of January 1761, after eight months of siege and a strong punctuation mark delivered by a devastating storm, that they were obliged to return English prisoners captured during a January 5th action “under a promise not to serve again” because the town was unable to spare the food to keep them alive.¹¹³ By the third week of January,¹¹⁴ Pondicherry had fallen to the English in what Dubois de Jancigny and Raymond called “a fit image and striking *resumé* of the history of the last three years of the French in India.”¹¹⁵

From the known mid-century diarists¹¹⁶ we can glean little additional information. Anandaranga Pillai makes no mention of this cyclone at all though he spends almost all of his September entries to detail the advance of the English towards Pondicherry and preparations within the town for upcoming hostilities. But in truth by this time he had long been suffering from illness.¹¹⁷ As a result of his health neither does his diary detail

¹¹³ Thorton, *British Empire in India*, 78.

¹¹⁴ Thornton suggests the 13th; Malleson the 16th. Malleson is nearest, though not strictly correct. In his letter of capitulation to the English forces under Sir Eyre Coote, dated 15 January 1761, Lieutenant-General Lally wrote “Mr. Coote may take possession tomorrow morning at eight o’clock of the gate of Villenour; and after tomorrow at the same hour that of the Fort St. Louis.” Colonel Coote agreed in a response dated the same day.

¹¹⁵ A.P. Dubois and Xavier Raymond, *Inde*, 443.

¹¹⁶ Anandaranga’s uncle, Guruvappa Pillai, was reported to have kept a diary, though it has been lost. The only other known Tamil diarist from the 18th century is Iraṅtām Vīrānāykar whose diary is much later.

¹¹⁷ See *The Private Diary of Ananda Ranga Pillai* vol. 12, ed. H. Dodwell (New Delhi: Asian Educational Services, 1985), 28-29, 400-401. Consistent with his belief in and reliance upon astrology, the penultimate paragraph of Anandaranga’s last personal entry, dated 24 September 1760, describes how “Till now I have been under the influence of the *Apasavya* [literally, left-handed] sign, according to the predictions, so that I and the town as that influence drew to an end have been in trouble. Either a new Governor with reinforcements must come to save the town or I must leave it. I have only waited to see what signs of the future course of events appeared....” Almost ironically, Anandaranga’s entry six months earlier, dated 31

the siege of Pondicherry, nor did he live long enough to see its final surrender on January 16th, 1761. Rangappa Thiruvengadam Pillai, Anandaranga's nephew, began his own diary on January 1st, 1761. His first entry reads:

After eight o'clock last night till five o'clock in the morning, a violent storm accompanied by heavy rain devastated the town. All the trees were uprooted, and the flag mast broke and fell turning the entire town into a forest. Of the fourteen ships of the English that were anchored in the sea together with one sloop, four ships sank, three were driven ashore, four lost their masts and these damaged ships and the sloop disappeared almost without a trace.¹¹⁸

The next several entries hold little of interest to the present study, though he does mention doles being rationed to the French on the January 4th.

Rangappa's entries for January 10th-12th offer us the best insight into his uncle's reticence on the matter of the British cordon. They are, in fact, duplicate entries to those logged into Anandaranga's diary on the same days; Anandaranga had simply become too ill to continue his writing.¹¹⁹ An English bombardment of Pondicherry began on January 10th. There is no mention of this in the elder's diary, though cannonades appear frequently in his writings. What was detailed in these final pages are the efforts of some within Pondicherry to leave prior to the British entering the city, Anandaranga's failing

March of the same year, describes in some detail the astrological influences of his horoscope on the upcoming year (he marks the date as the start of his 52nd year). He notes the day also being the end of the 54 year *Apasavya Chakra*, under which influence "there was a progressively evil influence...throughout the land [but] from today prosperity will daily increase for 54 years in place of the adversity that has been seen till now, according to my horoscope and to the *Simsumāra Chakra*."

¹¹⁸ S. Jayaseela Stephen, ed. *The Diary of Rangappa Thiruvengadam Pillai: 1761-1768* (Pondicherry: IIES, 2001).

¹¹⁹ See *The Private Diary of Ananda Ranga Pillai*, vol. 12 (New Delhi: Asian Educational Services, 1985), 408, fn.1. Writes H. Dodwell, editor of the last volume of the English translation of Anandaranga's diaries, "From this date onwards the diary appears to have been written, not by Ranga Pillai, but by another, perhaps Ranga Pillai's nephew who continued to keep a diary after Ranga Pillai's death." Given the near exact duplication of these entries between the two diaries, I would agree with Dodwell's assessment.

strength and his efforts to put his affairs in order. His final entry, dated January 12th and clearly written by another hand, reads:

He said that a letter might be written to Chidambaranatha Pillai saying, ‘You have paid no attention in spite of my having sent many men to you. You may not see me hereafter.’ He [Anandaranga] told me to write such a peremptory letter and have it dispatched. I wrote one and brought it to him for his signature. He got up and sat, ordered the two doors to be opened, and putting on his glasses, signed it, adding, ‘This must be considered my last letter.’ I read the letter and wondering why he wrote so, put it in a cover and gave it to Saravana Mudali to be dispatched. Afterwards his body was very [...]

At which point the diary breaks off. This same passage appears in Rangappa’s diary, word for word, with two additions. In a paragraph immediately following the lines quoted above he writes, “in the night, at five *naligai*, Maharaja Raja Sri Pillai passed away,” while a final paragraph describes the funereal ablutions and rituals performed as well as the inconveniences occasioned by visitors. In a final, oblique reference to the ongoing siege Rangappa mentions the collapse of a godown under enemy bombardment on the far side of the town.¹²⁰

Obviously 1760-1761 is not the last recorded instance of cyclone and inundation in the eighteenth century, but due to its occurrence during one of the most important European military campaigns of the eighteenth century in the subcontinent it is by far the best documented. Martineau lists with the scantest of details sixteen more cyclones between 1761 and 1829, several of which have already been discussed. It is unlikely that all of these storms rose to the level of crisis, but even in such cases – such as the famine-causing 1782 Madras cyclone – Martineau is either unable or unwilling to document his

¹²⁰ S. Jayaseela Stephen, *The Diaries of Rangappa Pillai*, 5.

accounts with contemporary sources. It is at this point, however, that his catalogue of Coromandel cyclones becomes very detailed indeed. It is here, too, that we begin to see the aftermath of disaster more directly addressed by the French colonial administration.

Climate in the Colonial Gaze

During the era of their greatest influence in the subcontinent through the first half of the eighteenth century the French followed a policy of restoration of the Indian territories to their legitimate rulers rather than simply expelling and replacing English dominance with French.¹²¹ The term "legitimate" is of course problematic here, for Governor-General Dupleix's *de facto* policy was one of elaborate and intricate *gouvernement indirect*, a practice by which the French were able to maintain control over a region or population through the covert manipulation of its native government. General Thomas Arthur, comte de Lally, dispatched to command the French expedition in India when war broke out with England in 1756-57, submitted his view of the French role in the subcontinent in the following terms:

*La politique à suivre, c'est de commencer par exterminer les Anglais dans l'Inde. Cela fait, il faut donner, en plein éclat de la Victoire, l'exemple d'une modération qui conciliera le respect et l'amour de tous les voisins. C'est le moment où il faudra rendre toutes les provinces usurpées à leurs souverains.*¹²²

The policy being followed is to exterminate the English in India. If done [properly], this shining example of temperance will win the love and respect of all our neighbors. At this point all seized territories will be given to their [rightful] rulers.

¹²¹ Jean-Marie Lafont, *Indika: Essays in Indo-French Relations, 1630-1976* (New Delhi: Manohar, 2000), 151.

¹²² T. Hamont, *Lally-Tollendal* (Paris: E. Plon, Nourrit, 1887), 61.

It was the aggressive adoption of this policy that allowed the British first to establish suzerainty and then sovereignty over India after the defeat and marginalization of the French in India at the end of the Third Karnatic War. According to Jean-Marie Lafont this policy was continued by the French to the end of the eighteenth century, but the administration at Pondicherry was effectively barred from further practicing the policy by the terms of the 1763 Treaty of Paris. Regardless of their policies across the greater region during this period, it is evident that internally the administration at Pondicherry undertook to control the hydrology of their colony and mitigate the worst effects of seasonal flooding. That they were not always successful, as we saw above, is not entirely surprising given that the exigencies of economy or of war often superseded the less than immediate contingencies of the irregular requirement of flood mitigation.

The most complete record of flood in French Territories – likely in the whole of southern India – remains Alfred Martineau’s monograph, *Les cyclones à la côte Coromandel de 1681 à 1916*. Martineau, Governor-General of Pondicherry for most of the second decade of the twentieth century,¹²³ was an amateur historian of some renown. He focused his attentions on the French colonies, especially on *l’Inde Française*, with several notable publications on commerce and political history.¹²⁴ Martineau also founded *Le Société de l’Historique de Pondichéry* and its journal, *Revue Historique de*

¹²³ First briefly in 1910-1911, then again from 1913-1918.

¹²⁴ For example, *Le commerce français dans le Levant* (Paris: Guillaumin & Cie, 1902) and *Les origines de Mahé de Malabar* (Paris: E. Champion, 1917), along with several volumes on Dupleix and the history of Pondicherry. He also edited the memoirs of François Martin, the titular “founder” of Pondicherry (though such a designation has already been problematized at the beginning of the present chapter), and cataloged the *Actes de l’État civil de Pondichéry* from 1676-1760, and edited six volumes of correspondence between the colony and the Compagnie, among other historical work. Martineau’s résumé on the history of the French territories in India is profound and unrivaled among his contemporaries.

Pondichéry, first published in 1916.¹²⁵ In only its second volume Martineau printed his nearly one hundred page compendium of historical instances of storm and flood in the French territories of India culminating with his own account of the disastrous cyclone of 1916, a storm that finally crippled Pondicherry as the major French port in the subcontinent.

While Martineau's interest in South Asian weather was quite personal – he was governor when the 1916 tempest struck – European travelers had been providing accounts of the seasonal monsoon for nearly two thousand years.¹²⁶ The earliest modern accounts of monsoon were heavily descriptive, the urge to quantify such phenomena under the rational scope of science not yet developed or wholly necessary to pre-colonial trade with India. Writing at the beginning of the seventeenth century William Finch, who arrived at Surat in 1608 under the command of William Hawkins, wrote that:

[T]he winter here beginneth about the first of June and dureth till the twentieth of September; but not with continuall rains, as at Goa, but for some sixe or seven dayes every change and full, with much winde, thunder, and raine. But at the breaking up cometh alway a cruell storm, which they call the tuffon, fearefull even to men on land; which is not alike extreame every yeare, but in two or three at the most. Monsons heere for the south serve in Aprill and September, and for Mocha in February and March. From the south ships come hither in December, January and February, and from Mocha about the fifth of September, after the raines.¹²⁷

¹²⁵ The journal is still published, though only occasionally, under the editorship of another amateur historian, Dr. Nallam Venkataramayya.

¹²⁶ In fact, ancient writers named the seasonal winds as they related to sailing in the first century CE (see *Periplus* 39, 57) and Megasthenes is credited by Arrian with describing the heavy rains that come with them (Arr. Ind. 10)

¹²⁷ See William Foster, *Early Travels in India: 1583-1619* (London: Oxford University Press, 1921), 135.

Edward Terry, a near contemporary of Finch who had been appointed ambassador to Ujjain in 1617, noted the seasonal rains in contrast to the hot season:

[The monsoons] blow constantly, altering but few points; sixe moneths southerly, the other sixe northerly. The moneths of Aprill and May, and the beginning of June till the rayne fall, are so extreme hot as that the winde, blowing but gently, receives such heate from the parched ground that it much offends those that receive the breath of it...but there is no cuntry without some discommodities.¹²⁸

While such accounts continued to appear in the succeeding centuries it was only from the middle of the nineteenth century that colonial officers stepped up their efforts to catalog and classify every aspect of their empire, what James Scott has described as a “project of legibility”¹²⁹ intended to simplify complex realities in order to make statecraft possible. This process creates “elaborate artifacts of knowledge” that necessarily privilege certain facts over others. This process is manifest in official narratives that frame storms as endangering the material instruments of the colonial apparatus, whatever other risks they may pose to indigenous populations.

Weather patterns in the sub-continent attracted a great deal of attention from colonial administrators, due in large part to the damaging effects of climate on commerce and manpower. The cataloging of instances of cyclone on the Coromandel Coast was part and parcel of the over-riding disciplinary regime determined to make the every corner of the empire legible beneath the colonial gaze. Future administrators needed to know what they were getting into, whether they were new to the colonies or simply new

¹²⁸ *ibid.* 303-304.

¹²⁹ James, Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998).

to the district. As colonial influence expanded in the subcontinent, so too did the boundaries of and need for utilitarian, documentary data.

As part of this project gazetteers, district guides, census ethnographies, and a myriad of other publications were prepared for the benefit of administrators, military officers, and other colonial personnel. Though information in such reference works was sometimes negligible there was often at least some mention made of the prevailing weather conditions that awaited new officials, merchants, and colonists. As with the earliest descriptions, general accounts about the Indian climate revolved around two axes, the wet season (monsoon) and the dry. In addition to the scores of reports and memoranda written by district collectors, *tāsildārs*, and other officers of the colonial government, there were numerous publications on specific aspects of climate or storm that were collated from this data: J. Glaisher's 1863 *Report on the Meteorology of India in Relation to the Health of the Troops Stationed There*, C. Meldrum's 1873 *Notes on the Form of Cyclones in the South Indian Ocean*, H.F. Blanford's 1881 *Note on Cyclones of the West Coast*, and a series of *Cyclone Memoirs* published serially in the late 1880s under the direction of J. Eliot. There were also a variety of articles written about specific incidents of storm in periodicals like *The Indian Forester* and *Indian Meteorological Memoirs*.

One of the earliest of these monographs produced was J.E. Gastrell and H.F. Blanford's *Report on the Calcutta Cyclone of the 5th October 1864*.¹³⁰ Unlike gazetteers and district guides, Gastrell and Blanford were able to give a complete accounting of the cyclone, from a meteorological description of its formation and progress to a lengthy

¹³⁰ J.E. Gastrell and H.F. Blanford, *Report on the Calcutta Cyclone of the 5th October 1864* (Calcutta: O.T. Cutter, Military Orphan Press, 1866).

exposition of the havoc wrought to property, materiel, and life. Their account is particularly remarkable for very human face they put on the calamity, giving over nearly three times the space to loss of life and vocation of the local population as they do to the impact on colonial infrastructure and commerce. Their total estimated mortality from the cyclone topped 48,000 concluding that “the deaths by the sickness which rages in the districts swept by the storm-wave...would, in all probability, not be overestimated at 25,000 to 30,000.”¹³¹ Adding impact to their report, the authors included first-hand accounts from ships’ logs, lighthouse journals and the like in a series of appendices. One such account read:

You may imagine it was not pleasant. We watched as much as we could...the rise of the water; and sure enough, though I did not see any actual *bore*, the water all at once suddenly rose as if by magic, and slowly rolled towards us. The top of the wave appearing to be only two or three feet lower than the top of the bund [sic]. The people then seized me and dragged me out of the ruined hut; and tried to run away from the water....Finding it impossible to make head against the wind, we sat and laid on the road, forced to await the approach of the water. Of course I gave myself up for lost.¹³²

1864 was a particularly bad year for cyclone damage on the western coast of India. The storm described by Gastrell and Blanford on 5th October was followed by additional cyclonic landfalls further south. The *Imperial Gazetteer of India* lists one striking Masulipatnam, penetrating seventeen miles inland, inundating 780 square miles, and killing upwards of 30,000 people.¹³³ The district collector at Kistna, G. Thornhill, wrote to the Provincial Governor at Madras, “never before, anywhere, has so much loss

¹³¹ *ibid.* 139-140.

¹³² *ibid.* xxii-xxiii.

¹³³ W.S. Meyer, et. al. *Imperial Gazetteer of India*, 321.

occurred due to a cyclone. The cyclone-tidal surge combination resulted in a major calamity. There are no words to describe it.”¹³⁴ Disasters on this scale had likely been hardly imaginable to the English who found themselves displaced in the distant East, but officers of the crown remained starkly utilitarian in their analysis of need during crisis, writing for example in the 1880 Famine Commission Report, a necessary precursor to the development of the Famine Codes, that:

.....the earlier despatches of the Bengal Government, while breathing a tone of sincere compassion for the sufferings occasioned by famine, are busied *rather with its fiscal results*, as affecting the responsibility of the Company towards its share holders, than with schemes, which would have seemed wholly visionary, for counteracting the inevitable loss of life.¹³⁵

The importance of understanding meteorology to the colonial project in south Asia is underscored by the frequent references made to it from the mid-nineteenth century on. The effect of climate on colonial officers and associated employees was of the utmost importance to the East India Company, as Glaisher’s 1863 *Report* mentioned above suggests. Six years later a civil surgeon by the name of Andrews contributed the entry on climate published in D.F. Carmichael’s 1869 *Manual of the District of Vizagapatam in the Madras Presidency*, in which he gave details on the general climatology of the district. He wrote of the heaviest showers falling from April to the beginning of the southwest monsoon in June. “In Jeypore country the heat is intense in the day, but the nights are cool; the monsoon sets in early and is very heavy; it frequently rains

¹³⁴ Quoted in S. P. Cohen & C.V. Raghavulu, *The Andhra Cyclone of 1977* (New Delhi: Vikas Publishing House, 1977), 9 fn. 13.

¹³⁵ J.C. Pant, “Disaster Relief in India,” in *Natural Disaster Reduction* (New Delhi: Reliance Publishing House, 1993), 80. Italics added.

incessantly for weeks together.”¹³⁶ These heavy rains, coupled with temperatures that exceed 100 degrees “for weeks together,” were considered by Dr. Andrews to be extremely injurious to the English constitution, and he dedicated three pages of his four-page article to regional diseases caused by the Indian climate in the English man, focusing especially on what he broadly described as “fevers” that so often attacked Company men. Though it is probable that he was referring primarily to malaria, there were other tropical effects as well – like Martin’s “extreme lassitude and mental depression” – that contributed to the vague definition of “fever.” Notably, he attributed the occurrence of leprosy as well to “the effects of a saline atmosphere.”¹³⁷

A similar description had been given a decade earlier by Robert Montgomery Martin in his *British India*. He opened his exposition on Indian climate with a now familiar definition: “The monsoons or prevailing winds within the tropics, as on the Coromandel and Malabar coasts, are denoted the southwest and the northeast.” The climate of Bengal was “tolerably cool” between November and January, but otherwise unbearable, while in Madras the heat was “tempered by the sea.” His description of the onset of monsoon itself is quite romantic and worth quoting at length:

I have known men and beasts to drop dead [of heat] in the streets of Calcutta....When the monsoon is on the eve of changing...respiration becomes laborious, and all animated nature languishes. The horizon assumes a lurid glare, deepening to a fiery glare.... [the] lambent flame [of lightning] illumines each pitchy mass, until the entire heavens seems to be ablaze...but at Madras...the scene in one of awful grandeur. During the rains the air is saturated with moisture; and the pressure of each square inch of the

¹³⁶ D.F. Carmichael, *A Manual of the District of Vizagapatam* (Madras: William Thomas, 1869), 36.

¹³⁷ *ibid.* 38.

human frame causes extreme lassitude and mental depression.¹³⁸

Others were more circumspect in their descriptions. As late as 1907 Baden Henry Baden-Powell used monsoon as a foil for other climatic events rather than as an event worthy of comment in itself. In *Administration of Land Revenue in British India* he gives only a single page to weather in India, most of which was devoted to describing what he called simply “the rains,” which could vary from steady rainfall to occasional downpours to “the air [only] becoming somewhat moister.”¹³⁹

But Baden-Powell’s work implied a key connection that is uncommon in the colonial literature at large, namely that between climate and its effects on larger structures: economic, military, cultural, and infrastructural, a connection that was made explicitly by T.C. Hodson in his 1931 *Census Ethnography*:

In Bengal the thatched roof is hog-backed to increase the resistance of the gable to the roof-lifting cyclones, while of the west coast the typical Nayar house has picaresquely [sic] cocked gables on a very steeply pitched tiled roof the better to resist the torrential rain.¹⁴⁰

This is the only mention Hodson made of the Indian climate, but it is telling in that it links traditional local practice directly to long-term strategies for mitigating known risks, a subject that will be taken up in detail as regards the Tamil lands in chapter 4. Let it be said in preface, however, that local mechanisms for coping with regional climate have often ignored in the conceptualization of both colonial and post-colonial “modernizing”

¹³⁸ R. M. Martin, *British India* (Delhi: Mayur Publications, 1983 [1855]), 487-488.

¹³⁹ B.H. Baden-Powell, *Administration of Land Revenue in British India* (New Delhi: Ess Ess Publications, 1978 [1907]), 8.

¹⁴⁰ T.C. Hodson, *India: Census Ethnography, 1901-1931*. (New Delhi: Government of India Press, 1931), 55.

projects. Given the early and frequent attention to meteorology, it should be surprising that once in to print in the mid-19th century so many descriptions of climate in India remained largely unchanged over the next half century, but in the process of making the colonized “legible” colonial administrators needed facts that gave them a synoptic view of an otherwise complicated picture. Grouping facts into *artifacts* by the colonial apparatus required “collapsing or ignoring distinctions that might otherwise be relevant.”¹⁴¹

French officials and scientists were also interested in the climate of their colonies, but interestingly some of the most prescient comments about climate in India came from a political scientist. Joseph Chailley – a doctor of law, professor at *l'École libre des sciences politiques*, journal editor and founder of an institute dedicated to the study of the development of the colonies – offered very much the same kinds of details regarding the Indian climate described by Martin, Andrews, Baden-Powell and the various gazetteers, but he came to very different conclusions. Unlike his predecessors he first made it very clear that the monsoons were “the critical period of the year” because the harvest – and thus the survival of the whole of India – “depends on the character if the rainfall.”¹⁴² He readily admitted that the climates of India were “harsh and trying,” and that “sun and rain combine to develop a humidity and a tension which are alike weakening,” but he came to a rather different conclusion than his predecessors, namely that English administrators

¹⁴¹ James Scott, “Cities, People, and Language, in *The Anthropology of the State*, ed. Aradhana Sharma and Akhil Gupta (Malden, MA: Blackwell Publishing, 2006), 261

¹⁴² Joseph Chailley, *Administrative Problems of British India*, William Meyer, trans. (New Delhi: FAB Publications, 1979 [1909]), 9.

must “make careful and attentive study of local hygienic conditions” that these conditions might be adapted the service of the administration.¹⁴³

Chailley was of course not the first Frenchman to record his impressions of the climate in the colonies.¹⁴⁴ Concurrent with English observers, the French were also busy cataloguing information about their colonies in the mid-nineteenth century. Unlike the contemporaneous British accounts discussed above, French writing on meteorology often sought to capture a different perspective:

Les chétives mesures d'argile des malheureux natifs se détrempe sous cette avalanche continue, leurs toits s'écroulent et les ensevelissent, ou bien ils se trouvent exposés à toutes les intempéries de l'atmosphère et périssent en grand nombre. C'est l'époque d'une immense misère qui n'épargne pas même les riches et les conquérants; les reptiles les plus odieux, inondés dans leurs gîtes, s'élancent à la surface de la terre et cherchant un abri parmi les habitations des hommes. De nombreuses variétés de couleuvres, de mille-pattes, de scorpions remontent vos escaliers, envahissent vos demeures et s'introduisent dans tous les appartements. Il est impossible de faire un pas dans sa chambre la nuit, sans lumière, sans s'exposer à une morsure qui peut être mortelle. Il faut de défier de tout ce que l'on touche; un dard cruel peut vous assassiner au fond d'une botte ou dans la manche d'un habit.

The wretched houses of the unlucky natives get drenched in the unceasing avalanche [of rain], their roofs collapse to bury them or leave them exposed to the inclement conditions to perish in great number. It is a time when the wealthy and the conquerors suffer alike [with the poor]. The most odious reptiles, flooded from their holes, seek

¹⁴³ *ibid.* 11.

¹⁴⁴ Prior to there even being colonies, of course, we have traveler's accounts dating to the 17th century: Jean Baptiste Tavernier's *Travels in India* (Paris, 1692) and François Bernier's *Travels in the Mogul Empire* (Amsterdam: Chez Paul Marret, 1699). These accounts were followed by various colonial diaries that mentioned storm, cyclone and flood, such as François Martin's (cited above, fn. 5) and Bernardin de Saint-Pierre's *Voyage à l'Isle de France* (Amsterdam: Chez Merlin, 1773), which gives a remarkably full description of an Indian Ocean cyclone.

refuge in the homes of men. All variety of snake, centipede and scorpion take shelter in back stairwells and in every room. It is impossible to walk across the room at night without a light for fear of exposure to a bite that might prove fatal. One must be wary of all one touches, for a cruel sting might be found in a shoe or coat sleeve.¹⁴⁵

And while there are no monographs similar to Gastrell and Blanford's written about Indian cyclones, that a similar interest in storms was entertained by French writers and audiences is evidenced by such texts as Zurcher and Margollé's *Trombes et cyclones* (1876), Gauthier-Villars' *Nouvelle études sur les tempêtes, cyclones, trombes ou tornados* (1897) and two separate volumes describing a particularly fierce Atlantic hurricane: Duquesnay's *Mémoire du cyclone de la Martinique* (1891) and Édouard Fortier's *Un Cyclone dans Les Antilles* (1894).¹⁴⁶ General almanacs and colonial gazetteers with general meteorological information as well as specific regional data began to appear in the mid-nineteenth century as well, though these tended towards enormous compendiums spanning the breadth of the French colonial world.¹⁴⁷

In short, from the mid-nineteenth century onwards there were produced a great many works specifically treating the climates of the colonies. The circulation of these works gave colonial administrators a baseline knowledge from which to approach storm and inundation in the colonies to which they might be sent or already found themselves assigned. Part of the motivation behind the publication of "disaster memoirs" and other such monographs, while giving the historian deeper access to the contemporary

¹⁴⁵ E.P. Margolle and F. Zurcher, *Les météores*, 3e ed. rev. et augm. (Paris: L. Hachette, 1869), 55-56.

¹⁴⁶ Wrote Zurcher and Margollé about Indian Ocean "typhoons": "[they] are preceded by the same signs and accompanied by the same phenomena as cyclones in the Atlantic, of which their particulars are different without distinction."

¹⁴⁷ See, for example, *Les Colonies françaises en 1858* (Paris: P. Dupont, 1858), *Notices sur les colonies françaises* (Paris: Challamel, 1866), *Notices statistiques sur les colonies françaises* (Paris: Berger-Levrault, 1883), and the already mentioned *Revue coloniale*.

perceptions of major events, was perhaps little different from the voyeuristic pleasure derived of books documenting various contemporary calamities and the “disaster tourism” that has followed recent calamities in Haiti and Asia. But more significantly these works contributed to the project of legibility undertaken to provide colonial administrations with the synoptic gaze necessary reduce the chaotic realities of the colonies to objects of rational observation.

Le Établissement Français dans l’Inde

In tracing the genealogy of emergency management in the French territories of India the last decades of the eighteenth century have little to reveal. The town was immediately reduced to a ruin (Illus. 2.6), and over the next half century Pondicherry was



Illus. 2.6 View of the Ruins of the Citadel, September 1762

under the direct control of the British more often than it was the French. Whatever was rebuilt during the brief periods of French control was razed again when the British regained the town in 1778, 1793, and 1803.

When the town was finally ceded to France in 1816 there was nothing left but “ruins and desolation.”¹⁴⁸ The outer boulevard as it exists today was not laid until 1824, the grand bazaar two years later, nor the canal extended north into the nearby village of Muthialpet until 1827. Even Martineau, with unfettered access to the French files in Pondicherry, could offer only the barest of details for the cyclones that occurred between 1761 and 1830, using only two and a half pages to discuss fifteen separate storms: in 1795 “Un cyclone s’abattit sur le district du South Arcot, causant des pertes immenses aux récoltes”; in 1807 “il y un violent ouragan à Madras”; again in 1818 “Violente tempête à Madras”; and again in 1827 “Tempête à Madras, six navires brisés et beaucoup de pertes subies sur terre.”¹⁴⁹

It is possible that, given the political unrest in Pondicherry in these years, the primary records from which Martineau was able to draw for his study were British, and he in fact cites the Imperial Gazetteer several times. Of the nine storms which occurred during the British occupation only two reference Pondicherry, and knowledge of one of these came to Martineau only through a 1842 report written by then Governor du Camper, who compared the 18 November 1842 storm to one that occurred in 1800 but, as Martineau opined about the earlier storm: *nous ne possédons aucun détail sur cet*

¹⁴⁸ Jean Deloche, *Le vieux Pondichéry 1673-1824: Revisité d’après les plans anciens* (Pondichéry: Institut Français de Pondichéry, 2005), 159.

¹⁴⁹ Martineau, “Les cyclones,” 240-241. The content and style of Martineau’s descriptions suggest British sources for the storms between 1761-1830. The entries are written very much like gazetteer entries, but no gazetteers of the French territories existed until the publication of Cyril Antony’s in 1981.

événement, “no other details come to us.”¹⁵⁰ Reliably accessible government records made prior to 1823 – the year when the colonial administration began to annually collate the *Bulletin des Actes Administratif* – do not even exist in the modern Pondicherry archive.

These *Bulletins* are an invaluable resource, but in the first quarter century of its existence it published no administrative orders issued in response to any of the various emergencies or crises that came to appear so numerous in the last half of the nineteenth century: cyclone, inundation, hurricane (ouragan), famine (disette), aid or relief (secours). Despite the fact that these terms all begin to appear quite frequently in bulletins, dispatches and *arrêtés* after 1854, it of course cannot be assumed that such things did not occur prior to that during the first four decades of *Le Etablissement*. We in fact know this to be so by entries in British gazetteers and by Governor du Camper’s referential letter cited below. Rather these issues did not have the administrative traction that they came to have in later years.

The first major cyclone to strike the colony after the re-establishment of French control came in early December 1830. According to a letter written by Governor de Mélay to the foreign minister on January 29, 1831,¹⁵¹ the storm destroyed a large part of the crops, destroyed nearly all of the fruit trees and damaged houses for a radius of six miles around the town. The botanical garden, the first of its kind in India, was completely devastated and “the promenade, recently completed at great cost, was littered with debris torn off the sea wall by the double action of the rain and the sea.” The governor called the *Conseil privé* in order to discuss what measures should be taken by

¹⁵⁰ *Ibid.* 240.

¹⁵¹ *Ibid.* 242.

the government for the immediate relief of the poorest inhabitants, “a great many whom are without shelter from their ruined huts.” Governor Mélay continued to explain, almost apologetically, how the necessary expenses of relief would likely impact revenue. “We should have put in effect the orders of the Ministry, especially as regards the current discrepancy between receipts and expenses, which only aggravates the difficulty of our position.”

The relief measures finally settled upon were to set the tone for all future relief efforts undertaken by the French administration. A three man committee was appointed to distribute Rs. 500 in aid for the reconstruction of *paillotes*, a word which was only used to refer to Indian houses of the meanest stature. A further Rs. 108 was dispersed equally among the 54 inhabitants of Tangattitu, an island of coconut plantations inside the mouth of the Chunnambar River. Nearly 500 damaged trees were felled and removed but, oddly, the cost of their removal was the responsibility of the island’s inhabitants, each of whom had been given money to rebuild their destroyed homes.

Affected populations engaged in vocations necessary to trade were assisted on credit. Weavers in Orleanspuram and Desbassyspuram were advanced nearly 500 pagodas to rebuild, twelve pagodas per house, over twenty times the amount given to the poorer plantation workers south of the town. Interestingly, the repayment of the amount given to the weavers was guaranteed by the privately owned textile manufacture Poulain and Company, a move that only served to underscore the importance of the weavers to the financial success of private French enterprise; the move is further remarkable for the fact that the financial stability of Poulain and Company had only been recently been guaranteed, in fact only the previous year, through an injection of funds from Arbuthont,

a firm based in Madras.¹⁵² *Chelinque* owners, those who plied the cargo between the ship and shore in small masula boats, were advanced 100 pagodas to rebuilt their launches as well as given a onetime relief of Rs. 46 each, slightly more than the weavers. Betel growers – a frequent recipient of future relief aid – were also given aid, while non-betel farmers’ requests for relief were rejected on the grounds that damages totaled less than half the value of their farms. A plantation owner who lost 94% of his coconut and 83% of his total crop was only given a tax remission of 64%. Consequent to the storm, manpower was reduced by the administration to minimize economic impact over the following year. Predicted general receipts for 1831 were revised downwards from 50,000 to 30,000 francs, even though taxes on alcohol were expected to jump from 52,000 francs to 63,000; land tax forecasts (*les redevances foncières*) were similarly reduced from 277,000 to 267,000 francs.

Several things can be surmised from the pattern of relief laid following the 1830 cyclone. The first is that while the administration had stabilized since the handover fifteen years prior there was still a great deal of uncertainty between Paris and Pondicherry. There is implicit in de Mélay’s letter a certain expectation of support from Paris. Nevertheless, it appears that the local administration was caught unprepared for

¹⁵² See Richard Roberts, “Guinée Cloth: Linked Transformations within France’s Empire in the Nineteenth Century,” *Cahiers d’Études africaines*, 128 XXXII, no. 4 (1992): 597-627. *Poulain et Cie* had grown out of a joint venture between two entrepreneurs – one from Bordeaux and the other Pondicherry based – Monsieur Blin and Delbruck, who had approached both the Ministre in Paris and the administration in Pondicherry to build a textile mill *à l’euro péenne*. An agreement was reached to give low cost loans and direct production subsidies as well as to subsidize the cost of shipping new machinery via Bordeaux, purchased from the Paris firm of Le Prince et Poulain. The latter company, seeing an opportunity to expand, requested similar considerations to open their own mill in Pondicherry in a letter sent to the Ministre de la Marine in 1829. The two companies – Blin et Cie and Poulain et Cie – merged in 1830 under the direction of Poulain. Even before the 1832 cyclone, Poulain and Co. found itself in dire financial straits only to be propped up by the firm Arbuthont in Madras. According to the GoPY, the firm remained privately owned until taken over by the Government of India in 1978 and subsequently nationalized in 1985. It now operates as Swadeshi Cotton Mills. See also Kulikarni (1979) and Lobligeois (1972).

any large-scale crisis, the eventuality of which was perhaps foreseen by the Ministry in its issuing fiscal orders the governor admitted to not carrying out. The second fact that can be teased out of de Mélay's account is the close relationship between local weavers and Europeans in the town. The importance of cloth manufacture to Pondicherry during this period cannot be overestimated, but it is notable that the only monies guaranteed to be repaid by a third party were those given to the weavers.

The third fact that can be drawn out from the relief schedule outlined by de Mélay is the relative status of laborers in the colony. The poorest inhabitants, those day laborers on the l'île de cocotiers, those most likely to suffer the longest from the after effects of the cyclone and those likely living in the meanest conditions received the least, two rupees per family, an amount deemed sufficient to rebuild their damaged homes but not so much in total (only 31 pagodas) that its loss through non-repayment would greatly impact the colonies finances. Similarly, farmers of limited external importance – subsistence farmers and those raising food for consumption in the colony – were denied any relief at all while those with trade value – plantation owners and betel nut growers – were given significant ex gratia aid that amounted to twenty times what the poorest laborers received in addition to substantial loans. Weavers, too, received large loans from the government that were guaranteed by a third party, and while these guarantees cannot be equated with ex gratia doles received by laborers and *chelingues* they do amount to a distinct advantage in terms of ease of recovery over other victims.

One final characteristic of the response needs to be taken forward from the 1830 cyclone. The relief committee that was appointed for the oversight of aid became a common feature of disaster response in the French colonies from this point forward.

Over time its constitution would enlarge and alter, eventually enfranchising Indians as the French administration gave more rights to local Tamils. These committees came to reflect in a small way the political environment that pertained between the Indians and the French at any given time.

Shortly after the colony recovered from the 1830 cyclone an order was issued by Governor de Mélay to regulate charitable contributions for the “amelioration of the poor from their circumstances,” presumably a direct consequence of experiences during the prior year. The text of the *Arrête relative à la perception de contributions directes et indirectes* cited as its motivation the “inevitable fraud” likely to result from the contravention of fair distribution of aid by the government. The order went on to set specific rates of duty on everything from grains and salt, to bangh and alcohol, river passage enumerated by species and number, and littoral shellfish and shark fin in order to fund monetary efforts at relief.¹⁵³ Interestingly, the ordinance specifically guaranteed that complaints of fraud would not be summarily dismissed by the court because of defects in the complainants’ paperwork, providing that there was sufficient proof to proceed. This provision seems to have been included in an effort to make such complaints easier to file by those most likely to be the subject of such frauds, namely those poorest and least educated Indians least able complete formal procedures in French. This ordinance formed a foundation upon which flood response orders were issued for more than a century. Together with a handful of arrêtes passed by mid-century and the continued evolution of the disaster management committee first given shape in 1830, the

¹⁵³ Arrête 470, 14 November 1832, *Bulletin Actes Administratif* (B.A.A.), National Archives of India, Puducherry Record Center, Puducherry, India (hereafter NAIPRC).

French administration appeared committed both to financing emergency response and ensuring that such response was just and equitable.

Betel cultivation seemed particularly targeted by the administration for crisis related regulation and taxation. An 1849 ordinance registered penalties on illegal betel nut cultivation, citing the 1832 arrête and an earlier administrative order from 1826. Crops and proceeds from such cultivation would be confiscated and the growers would be fined between five and twelve francs – monies intended to finance future relief costs – and imprisoned for up to five days.¹⁵⁴ Yet another order, enacted four months after a November 1852 cyclone destroyed much of the betel crop, temporarily prohibited the export of betel from Villenour district for three months and imposed a one-sixth reduction of taxes on its sale when exportation to Pondicherry and its suburbs was re-instituted in July. Penalties for contravention of this temporary order were again tied to the 1832 and 1849 ordinances.¹⁵⁵ The betel growers themselves were also given *ex gratia* payments to cover subsistence during the sales ban,¹⁵⁶ a provision that was to be given to fishers in Pondicherry a century and a half later.

Planning on the Past

In the last quarter of the nineteenth century a curious change in crisis policy in the broader Indian Ocean colonies can be noticed in official documents. Relief aid in the form of government guaranteed loans and *ex gratia* payments had been common in l’Etablissement since 1830, but the great famine in southern India in 1876-78 that elicited widespread sympathy in both Britain and France and prompted the 1880 Famine

¹⁵⁴ Arrête No. 57, June 1849, B.A.A., NAIPRC.

¹⁵⁵ Arrête No. 52, 31 March 1853, *Bulletin Officiel* (B.O.), NAIPRC.

¹⁵⁶ Arrête, 15 April 1853, *Moniteur Officiel* (M.O.), NAIPRC.

Commission in British India marked a shift: the first outpouring of private sector relief subscriptions in French India. On the floor of the 28 December 1877 Ordinary Session of the Conseil Colonial, Ponnutambipillai spoke eloquently and at length:

“[I]n the face of the dolorous circumstances that have come to India this year, please permit me, in the name of my constituents, to publicly honor the great solicitude of the government and the remarkable devotion of the generous souls (*des cœurs généreux*) who have done such exceptional relief work....The merchants, moved by noble sentiment, are uniting in their efforts to assure the provisionment of our town...Indeed, after encouraging a great many donations in both India and France, aid raised by the representatives of this chamber as well as those placed in local government, much good has been achieved....The Indian population is profoundly moved by [your] interest and generous assistance [and] this public expression of our sincere gratitude is the only thanks it is in our power to give.”¹⁵⁷

In his speech on the council floor Ponnutambipillai noted the combined efforts of government and the private sector as well as the contributions of the Catholic Church in the figures of “Abbé Desaint of the foreign mission and many honorable inhabitants of Pondicherry.” He was also keen to mention the assistance of the Viceroy of India, who agreed to export grain from English ports to both Pondicherry and Karaikal “for the duration of the famine,” noting with pleasure the humility of the French governor in asking for foreign aid.¹⁵⁸

Governor Adolph Trillard, in his comments opening the session, noted other factors in mitigating the crisis. He spoke of charitable alms, notably those of the monsignor of Flaviopolis and its missionaries, “whose distribution of abundant alms has

¹⁵⁷ “Séance du 28 décembre 1877,” *Procès-Verbaux Conseil Colonial de Pondichéry de 1877, Session Ordinaire*, NAIPRC, 4-5.

¹⁵⁸ This policy was further clarified by Vice Admiral Pothuau in *Ministre décret*, No. 180, 15 April 1878.

lightened our load to a great degree.”¹⁵⁹ Trillard also noted a lessened severity of the famine in Karaikal, which he attributed to *la constitution de sa propriete fonciere et a l'organisation particuliere du travail agricole*, “the nature of landed property and the specific nature of agricultural work [there].” But even more telling is how he described the situation in the other colonies:

*Dans les autres Etablissements, il y a eu aussi de la gêne et des privations, par suite de l'elevation du prix du riz; mais les populations les ont supportees courageusement, comprenant que les ressources disponibles devaient etre d'abord affectes au soulagement des grandes miseres.*¹⁶⁰

In the other colonies [of Mahe and Yanam] there was also inconvenience and privation, due in part to the rising cost of rice, but the inhabitants have bravely endured, chiefly by apportioning the available resources to those in most need.

It is not surprising in the least that charity, particularly from a religious organization that had long hewn to a path of giving alms to the most vulnerable, formed a great portion of the relief given during the famine. Trillard’s vocal praise of private citizens in Mahe and Yanam is more interesting, particularly as they were named apart from the populace in Pondicherry. Though it only hints at what conditions must have been among the most indigent in the town at the peak of the crisis, it does suggest somewhat less amity in the town than in the French hinterlands.

Eleven months earlier, on 6 February 1877, Deputy Secretary of State, Commodore¹⁶¹ Roussin, telegraphed from Paris confirming a vote by the assembly to

¹⁵⁹ “Mgr. de Flaviopolis et ses missionnaires ont, de leur côté, allégé nos charges dans une large mesure, par les abondantes aumônes qu’ils ont distribuées.”

¹⁶⁰ “Séance du 28 December 1877,” *Procès-Verbaux de 1877*, NAIPRC, 3.

¹⁶¹ *Contre-Amiral*, translatable as Commodore or Rear Admiral.

approve a credit of 100,000 francs for famine relief in the Indian colonies.¹⁶² This action alone was remarkable evidence of the extreme urgency of the situation in India. Prior to the famine Pondicherry had been self-sufficient in matters of emergency management; rarely had it been necessary for the colonial administration to request direct aid from Paris, as the Ministry noted with due appreciation five years earlier, in 1872, when five years of remarkably heavy cyclonic activity caused the administration to spend nearly 60,000 francs on relief and repair between 1867 and 1873. Vice Admiral Pothuau, Minister of the Navy and the Colonies, wrote a lengthy letter to then Governor Pierre Aristide Faron commenting on l'Établissement's efforts at flood relief. His last paragraph was a remarkable admission of Paris's own shortcomings and Pondicherry's success:

*Je vois, d'ailleurs, avec satisfaction, que vous comptez trouver dans le ressources ordinaires du budget de la colonie les moyens d'effectuer les réparations les plus urgentes que peut réclamer l'Etat des routes et de édifices endommagés par ce cyclone. Je ne puis que vous encourage dans cette voie, car le situation du budget de l'etat ne permettrait, vous le savez, d'allouer aucun secours à la colonie sur le fonds du Trésor public.*¹⁶³

I see with much satisfaction that you expect to find the means within the regular operating budget of the colony to affect the most urgent repairs to the roads and buildings damaged by the cyclone. I encourage you in this direction because, as you know, the current state of the budget will not allow relief aid to be allocated from the public treasury.

In fact, in prior years in which cyclonic activity begat debate in the council and cost outlays for relief or repair was approved and publicized in the various *décrets, arrêtés,*

¹⁶² Arrête No. 76, 6 February 1877, B.O., NAIPRC.

¹⁶³ "Letter from Vice Admiral, Minister of the Navy and Colonies, Pothuau," No. 79, 4 January 1872, B.O., NAIPRC.

decisions, etc., in each case in the public record, necessary funds were always made to fit within the existing operating budget of the l’Etablissement. The 100,000 franc credit approved by the assembly in Paris in February 1877, then, was not only extraordinary for its size – in fact sixty percent larger than the combined expenses for relief registered in the years 1867-1873 – but for its metropolitan provenance.

In October 1877, Governor Trillard asked permission to publish a public subscription for aid against the famine and consequent threat of cholera, underscoring the burgeoning cosmopolitan environment in which aid for distant disaster was beginning to circulate. Vice Admiral Albert Auguste Gicquel des Touches approved the request in a telegram from Paris on October 27th saying that the request for donation would be distributed as an insert in *Le Moniteur de la Flotte*,¹⁶⁴ an publication whose intended audience included every person served by the French fleet, be they sailors in Bordeaux or colonists in Africa and the Indies.

In the long term, Pondicherry and its dependencies seemed to have endured the privations and sufferings caused by the long famine with the assistance of government and religious charities, but even more important were the work and contributions of private citizens, the apparently abiding sense of *communitas*, and organizational strategies put into place before the crisis took hold. As the draught ended – a circumstance foreseen by Governor Trillard in his December 28, 1877, comments regarding the “favorable change in monsoon conditions and the influence of the northeasterly winds which have already exerted an effect on public health” – Admiral Pothuau expressed his gratitude “to those who showed their devotion during the crisis

¹⁶⁴ Arrête No. 376, 27 October 1877, B.O., NAIPRC.

that traversed the colony.” Governor Trillard, in an earlier dispatch to Paris, had requested that several “honorable Indians” – Sandirapillai, S. Subrapillai, Arunagirichetty and Cinnakichenachetty – be recognized for their tireless efforts during the famine. Pothuau agreed, giving to each man a gold medal and assuring the governor that he would consider more commendations. He closed his communiqué with an expression of personal gratitude:

Now that the colony is finally released from this long crisis,
I would like to personally express my gratitude to you for
your devotion and charity and for the measures which you
have taken.¹⁶⁵

In subsequent years private sector donations became increasingly common as an internal method to fund relief aid in the colonies. Following a cyclone in New Caledonia, Governor Clément-Thomas approved a motion requested by the Ministry in Paris to open another public collection in the French settlements of India to aid victims of the disaster.¹⁶⁶ A central collection committee was established with both French and Indian members including the Tamil councilor general, Maridas Duraissamipillai, and K. Lakshmanissamichettiar, described on the register only as a “notable resident,” a move that further underscored the increasing importance of Indians in the politics and policy of the French colonies in the dying years of the nineteenth century.

By 1885 the government in Paris had seemingly grown weary of the stream of crises to strike their Indian subjects. Torrential rains in late 1884 had flooded both Pondicherry and Karaikal, causing never before seen levels of damage. Martineau’s account itemized property damage at over 800,000 francs, with 180,000 francs for

¹⁶⁵ Arrête No. 175, 11 April 1878, B.O., NAIPRC.

¹⁶⁶ Décision No. 203, 8 June 1893, B.O., NAIPRC.

immediate relief aid to individuals and an additional 57,000 to parish relief subsidies. While Martineau suggested that l’Etablissement asked for one million francs in relief subsidy, a January 1885 letter from the Under-Secretary of the Colonies, Félix Faure, coupled with telegrams sent between Paris and Pondicherry the previous month belie that assertion:

After receiving your telegram of 22 December, Admiral Peyron communicated with the Council of Ministers who decided to ask the Assembly for a credit of 500,000 fr. *for the aid of the French population of India* [in] this terrible trial of flood. This credit was immediately approved by the assembly and demonstrates the sentiments of solidarity which the capital feels for its colonies.¹⁶⁷

This communiqué followed on the heels of two telegrams sent in response to the governor’s initial request for aid: a December 30th telegram which confirmed the receipt of the governor’s request for 500,000 franc credit for repairs resulting from the flooding that asked for a survey of the disaster detailing damages to roads and bridges and estimating the cost to re-outfit masonry bridges with metal bridges and a second on the following day that read: *Vous ouvre les trois cent mille franc restant. Envoyez rapport, devis. Urgence.* “You opened a 300,000 franc credit. Send report immediately.” And as had increasingly been the case over the last decade, private charity rivaled assistance given by the administration. Martineau singled out five Indians by name, all of whom were Chettiars – two private dubashes and a third a municipal councilman – for their singular efforts at relieving the town’s distress as well as the mayor of Oulgaret who,

¹⁶⁷ Dépêche ministérielle No. 51, 2 January 1885, B.O., NAIPRC.

“with great zeal,” distributed out of his own resources food among the residents of the town.¹⁶⁸

By the end of the nineteenth century several facets of the emergency response mechanism in Pondicherry had been firmly established. Since 1830 each new storm disaster begat an oversight committee was appointed with duties that covered damage surveys and fair distribution of relief, and as the century advanced Indians were increasingly appointed as members. During the same period a series of laws were passed to insure equity and prevent fraud arising from relief operations. During the last quarter of the century, after a period of consecutive years with excessively heavy rains and flooding, public collections and private charity became a much larger factor in emergency relief, not only in India but across the French colonies, while at the same time there developed in l’Etablissement a new reliance on direct assistance from the metropole in stark contrast to the fiscal situation pertaining in the colony prior to 1875. This brings us finally to a period of decline into stagnation in emergency response in the French territories that endured for well over a century. I will the close this chapter with Martineau’s own account of the 1916 cyclone, an event that set the mold for emergency response strategies in an independent Pondicherry in the last half of the twentieth century, the period that most shaped expectations in the wake of the 2004 tsunami.

¹⁶⁸ Martineau, “Les cyclones,” 292-294.

The 1916 Cyclone and 20th Century Status Quo

“The entire population was kept awake the entire night by the noise of the tempest and the anxiety it induced. Residents busied themselves to secure their homes against the growing damage they were powerless to prevent...Power was suddenly lost at 9 p.m., plunging the town into a impenetrable darkness, leaving residents with no other means of illumination, causing even greater panic. The ceaseless rain penetrated nearly every European, brick-built home leaving their occupants to pass the night in a most precarious condition. The situation was much worse in the slums of the native town, where residents found themselves deprived of shelter in an instant.”¹⁶⁹

Alfred Martineau, as has already been noted, was Governor of Pondicherry for the majority of the second decade of the twentieth century (1910-1911, 1913-1918) and an accomplished historian of the colonies. His monograph on Coromandel cyclones remains the most complete histories of storm in India and reading it one comes to recognize in Martineau the character of a story-teller. While his narrative is often detail oriented and highly descriptive, as a writer he was very clearly moved by the plight of men rendered powerless by the forces of nature, and he made it clear that the forces unleashed during the 1916 cyclone were unquestionably the motivation behind his study:

The Indians who assisted during this cyclone [in 1916] had never seen its like, even in their childhood; the oldest among them remember only that their fathers talk about a disaster that may have been comparable, the cyclone that ravaged the colony in 1842.¹⁷⁰

In introducing his study of the 1916 storm he describes the natural desire to compare events but notes, too, that it is often impossible to accurately judge events at a distance.

¹⁶⁹ Martineau, “Les cyclones,” 307.

¹⁷⁰ *ibid.* 230.

“In this matter we can make only approximate judgments, though comparing the evidence suggests this last [cyclone] to be the most violent.”

Recovery efforts took their shape from prior mobilizations of flood relief strategies in the colonies. As in all instances of natural disaster since 1832, a survey committee of eleven members was constituted within a week of the disaster.¹⁷¹ Surprisingly, as it was originally constituted the committee included no Indian members at all and had to be amended less than a week later.¹⁷² The damage caused by the storm was indeed spectacular. All roads, rail, and telegraph connecting the town to its suburbs and beyond had been disrupted. In the majority of cases, connection was re-established within days, though the road linking the town to the fisher community at Kalapet was impassable for six weeks. Messages to Madras and to Paris had first to be carried 25 kilometers to Villapuram. The textile industry was struck with particular violence with three major cotton mills – Gaebelé in Kosapalaiyam, Savana (formerly Poulain et Cie.), and L’usine Rodier (Anglo-French) – all taking major losses. Heavy residential losses were also recorded. Damage in the French quarter was estimated over a quarter million rupees. In the larger, native section of town – by this time referred to as *la ville indigene* in preference to *la ville noire* – “was treated most cruelly,” in the governor’s words; the number of houses destroyed or “very heavily damaged” was counted at 18,857.

Prior even to the constitution of the disaster commission, the administration approved an initial sum of Rs. 50,000 to see to the immediate needs of the town, the first priority being the distribution of rice. It then fell to the commission to decide the most

¹⁷¹ “Décision nommant les membres du comité central d’assistance aux victims du cyclone du 22 novembre,” 30 November 1916, J.O. Année 57, No. 50, NAIPRC.

¹⁷² “Décision complétant la composition du comité central d’assistance aux victims du cyclone,” 5 December 1916, J.O. Année 57, No. 50, NAIPRC.

practical and efficient ways to distribute further aid. In a circular published on December 7th it was announced that Rs. 25,000 had been approved to be distributed to families inhabiting houses destroyed in la ville indienne. Each house would be apportioned between one and three rupees for reconstruction – notably less than had been given to victims of the 1832 flood – with higher amounts given to those in the town center where it was assumed that building costs would be higher and materials harder to find. The circular further assured that cases in which the fixed maximum was insufficient could be appealed to local committees appointed by individual communes. In an effort to insulate itself from inevitable criticism the commission made its intentions clear:

We wish to remind members of the local committees that this aid is not an indemnity representing the absolute value of the damages. [The amount] is the aid judged by the Colony as necessary to allow the population to try to provide expenses for their immediate need. Having established the mean rate per hut [paillote], the total has been fixed in respect to the proportion given previously under similar circumstances, notably in France.¹⁷³

The committee was finally enjoined to keep well maintained records of all payments, including the signature of each recipient.

The next duty of the commission was to see to the removal fallen trees, a need of seeming little significance in itself but one that had plagued relief efforts in Pondicherry since 1832. In order to speed removal the administration auctioned rights to the trees on the condition that winning bidders accept responsibility for their removal. An unforeseen consequence of this market solution to tree removal was that timber prices in the territory plummeted and the administration had to step in again to offer price supports.¹⁷⁴

¹⁷³ Circulaire, 7 December 1916, J.O., NAIPRC.

¹⁷⁴ Circulaire, 9 December 1916, J.O., NAIPRC.

Any expectation of aid from the capital was dashed when a subsidy approved by the state to the colony several years earlier was withdrawn due to the cost of the war in Europe. Neither was l’Etablissement able to underwrite any additional expenses out of the operating budget. As a result, notwithstanding the Rs. 25,000 already approved by the commission for the reconstruction of paillotes, “it was left to the victims to repair their own losses, which they undertook with the fortitude that animates man in even the most desperate of circumstances.”¹⁷⁵

There was for Martineau no natural law derivable from the history of Coromandel cyclones that might allow him to predict the future. “The only certainty,” he wrote, “is that such calamities will occur again,” and for this reason he pointedly made no attempt to draw historical conclusions. Here he stood in marked contrast to Anandaranga Pillai and others who followed – and who still follow – customary sastric sciences that they believed to be indeed capable of making such predictions. Martineau wrote of his study that “*c’est un simple récit des luttes de l’homme contre les forces aveugles mais toutes puissantes de la nature*,” “it is a simple narrative of man’s struggle against the blind, insuperable power of nature.”¹⁷⁶ And this short view is unfortunate, for as an historian Martineau was in the best position to see that the decisions he made had been shaped by the decisions of his predecessors: the formation of disaster commissions, the inclusion of respected Indians in the formation and execution of emergency policy, the privatization of debris removal, and the ever-increasing use of internal public donation schemes and lotteries to raise relief funds. None of the relief measures approved by Martineau appeared for the first time in 1916, and examined over the *long durée* it should have been

¹⁷⁵ Martineau, “Les cyclones,” 320.

¹⁷⁶ *ibid.* 324.

possible to see the progression of response mechanisms developing over the course of the nineteenth and early twentieth centuries.

These were the mechanisms that were in place and in practice in the dying years of l'Établissement and which were part and parcel of independent administrations from mid-century until the 2004 tsunami. As we shall see in the following chapter, the regimes of emergency response developed by the French were still very much in place after independence and continued to form the basis for crisis management even into the 21st century. It was not until ninety years after Martineau's study pointedly took no lessons from how own history that the administration in Pondicherry finally began to re-evaluate the ways in which government could better respond to disaster.

Intermezzo: Entrenched Regimes of Response

By the mid-twentieth century the matrix of patterns of response to flood in the French territories of India had been established and remained largely unchanged until the monumental paradigm shift signaled by the 2004 Indian Ocean tsunami. As discussed in the last chapter, at least from 1830 the administration of l'Inde française responded to flood reactively, instituting a matrix of response mechanisms that continued to develop over the course of the nineteenth century; new instances of cyclone begat responses rooted on decisions made by previous governors, each subsequent administration keeping most of what came before, modifying some, and adding somewhat less. By 1916 entrenched regimes of response to crisis had ossified into patterns that are recognizable in the initial response to the 2004 tsunami.

In this chapter I will discuss these patterns as they were mobilized in the dying years of l'Etablissement and the first decades of the independent Union Territory of Pondicherry. I will limit my discussion to those instances that can be reasonably said to belong to what I call "parcenary memory," a theoretical amplification of what Jan Assman called "communicative memory,"¹⁷⁸ because it was only through the deployment of such memories that beliefs about the functional, administrative history of the Union Territory came to be established. Policies enacted by later administrations did not develop through the studied examination of historical documents but rather through the structures of everyday discourse. Their creation was more often rooted in what people *said* about policy than what documents showed about them. Having examined the development of the historical policies of flood management in chapter 2, I now turn

¹⁷⁸ Jan Assmann, "Collective Memory and Cultural Identity," *New German Critique* 65 (1995): 125-133.

towards drawing out how these policies were imagined and understood by later administrators who made decisions based upon a framework of beliefs erected around them post-1954.

Using archival documents from the 1940s and 1950s I will describe the crisis management strategies in place at the time of the *de facto* merger of the French territories with India in 1954 before exploring the exceptional and unprecedented response to an enormous cyclonic event in early November 1977. Drawing from archival sources and interviews with long-time administrators I will then tease out the two over-arching narratives that most shaped decision-making regarding flood response in the Union Territory prior to 2004: that the French administration was somehow “better” at planning and response and that historical data that could have framed policy discussions was destroyed during the merger. This will set the stage for the remaining chapters, in which I will discuss the shift that took place in the Union Territory regarding mechanisms of disaster management carried forward into the 21st century.

Reactive Responses and Responsibility

After the end of World War II France was almost immediately confronted with efforts to decolonize the empire. The establishment of the French Union under the charter of the Fourth Republic – primarily a political calculation intended to remove *indigène* status from French subjects – had failed to avert the beginning of the First Indochina War in December of 1946 or the Malagasy Uprising in 1947. In India, l’Etablissement français allowed a referendum in the following year, 1948, allowing the Indian colonies to decide whether or not to join the newly independent Republic of India. Chandernagore, the northernmost enclave located on the Hooghly River, elected to join

India while the other four colonies chose to remain a part of the French Union.¹⁷⁹ Though the writing was on the wall, so to speak, for the moment France retained control over its southern Indian colonies.

On March 31, 1948, the residents of Oulgaret petitioned the colonial administration to repair a drainage culvert along the road to Bommianpet, a drain meant to direct the flow of rain water safely away from residences. Three weeks later, on April 21, the Finance Commission of the Assemblée Représentative de l'Inde Française referred the request to the Department of Public Works for review, a decision that the debate transcript makes clear was far from unanimous:

Paquirissamypoullé: “I don’t understand this attitude on the part of the Finance Commission. This petition was presented to us on 31 March, and it is now 21 April. What purpose is there in referring this matter to Public Works?”

Lambert Saravane: “The Finance Commission is not responsible for the execution of works.”

Saint-Jean: “But this is an urgent case!”¹⁸⁰

Nine months later, in December, hand-loom weavers Pondicherry town petitioned the assembly for relief from their “miserable lives.”¹⁸¹ Their request was transferred to the *Service du Ravitaillement* where it languished, evidence of the now weakened ties between l’Etablissement and the weavers’ community. And again, in September 1953, sixteen agriculturalists in Cotchery, Karaikal District, requested the administration provision them with a bridge across the Nattar River, which became impassible during

¹⁷⁹ The result in Chandernagore was overwhelmingly in favor of independence. The Government of India assumed *de facto* control over the town in 1950, though the *de jure* transfer did not occur until two years after the plebescite, on June 9, 1952.

¹⁸⁰ Procès Verbaux de la 1^e session ordinaire de mars-avril 1948 et session extraordinaire de juin 1948, NAIPRC, 73.

¹⁸¹ Procès Verbaux de la 2^e session ordinaire de 1948, NAIPRC, 143.

monsoon.¹⁸² The Finance Commission refused the request on the grounds that there was no pressing need to provide such a structure during a time of looming budget deficits.

There is discernible in these documents a sense of ennui within the French administration in Pondicherry. This is not to suggest that the administration had disassociated itself from the needs of its Indian citizens, but rather that the debates recorded from this period evoke a feeling of exhaustion. The French no longer governed l'Établissement as if they expected to remain in the subcontinent for the foreseeable future.¹⁸³ Despite this there remains a sense of responsibility to the towns as infrastructures in themselves, particularly Pondicherry town, where maintenance and improvements continued even while new projects were no longer commonly approved. In a report published by the Public Works Department in 1941, two projects intended to improve the existing through-flow of water through the town were detailed. Building on prior infrastructure projects, Public Works proposed to completely pave the Grand Canal to its northern extremity at the channel dividing Pondicherry town from Kuruchikuppam and extend the southern reach of the canal to the railroad bridge connecting the port spur to the main trunk line.¹⁸⁴ It was not so much the urban center but the hinterlands that felt the pinch.

Storms continued to affect the region during final decades of l'Établissement, but none were to strike again with the force of the 1916 cyclone. Response strategies, however, remained stable during this period, relying on the precedents set by prior

¹⁸² Letter No. 3581/TP, 18 September 1953, MISC IV/1, file 313, NAIPRC.

¹⁸³ In fact, the French Union was abandoned in 1958 in favor of the Communauté française, or the French Community, in which the colonies were given substantial autonomy, excepting only matters of currency, foreign policy, and security and defense policy.

¹⁸⁴ Service des Travaux Publics, *Rapport: Sur le fonctionnement du service des Travaux Publics pendant l'année 1941* (Pondichéry: Etablissement Français dans l'Inde, 1941), NAIPRC.

administrators. Instead of innovating mitigation strategies or seeking to improve the resilience of the populations most vulnerable to storm, under the leadership of Governor Bonvin – who acted as governor from 1938-1945 – the territories settled into an unresolved tension between meeting the colonies immediate needs and not exceeding the now precarious finances of the colony.¹⁸⁵

The first crisis met by the recently established *Territoire d'outre mer* – what l'Inde française came to be known as under the French Union – was not a flood but a series of fires. The worst of these destroyed thirteen paillotes in Mariammankoilpet, la Grand Aldée, Karaikal. Smaller fires burned houses around Pondicherry town in April and May of 1951. In a report submitted to the chief administrator of Karaikal, Police Chief Forgeat not only estimated the total damage (Rs. 865) but itemized the damage per household.¹⁸⁶ This is an interesting document in that while damage surveys had been a standard response mechanism since 1830, Forgeat's report gives the only glimpse at what such surveys entailed. Unlike the larger, neighborhood fire in Karaikal, fires in Pondicherry seemed to occur discretely across the town in areas ranging north to south from Periapet to Ariankuppam and east to west from Pondicherry town to Bommianpet, not far from the site of the drainage culvert debated three years earlier. These fires were not itemized in the same way as they were in Karaikal, but damages were valued at much higher rates: Rs. 18714 in damages for the fifteen separate fires named.¹⁸⁷ Furthermore,

¹⁸⁵ See *Annuaire des Etablissement Français dans l'Inde pour 1942-1943* (Pondichéry: Imprimerie du Gouvernement, 1942). In fact, Pondicherry commerce totals dropped from a ten year high of 224 million francs combined import/export in 1937 to only 31 million francs combined in 1941. Exports alone were almost decimated, from 143 million francs to 15 million francs. This of course had more to do with World War II than with anything internal to the colony.

¹⁸⁶ See Letter 284/2, 21 mai 1951, MISC II/8, file no. 180, NAIPRC. Ayaru, in whose house the fire was determined to have started, for example, lost his roof, a hen, two vestis and a shirt valued at Rs. 40.

¹⁸⁷ Rapport No. 166, 28 Mai 1951, MISC II/8, file no. 181, NAIPRC.

where the victims in Karaikal were guaranteed full assistance to cover their losses, those in Pondicherry were offered only a 25% subsidy.¹⁸⁸ While tempting to do so, it is precarious to draw too broad a conclusion from this disparity. We have already seen evidence of stronger currency values in Karaikal as well as Trillard's assessment of Karaikal's resilience relative to Pondicherry's during the 1876-8 Famine, and as we will see again in the response patterns that followed the 2004 tsunami, Karaikal has long been administered largely independently of, and often quite differently from, Pondicherry town. This is yet another piece of the pattern of crisis response in the territories that only becomes perceptible over the long *durée*, but it is precisely this independence that came to result in such vastly different outcomes in Karaikal post-tsunami.

The last major floods faced by a French administration hit the Coromandel Coast in 1952, but they set into motion rehabilitation projects that are particularly interesting for



Illus. 3.1 Pondicherry Pier, 1954

the ways in which they spanned the transition between the colonial and independent administrations. The cyclone that battered the coast of November 30, 1952, destroying the pier at Pondicherry (illus. 3.1),

¹⁸⁸ Rapport No. 184, 29 Juin 1951, MISC II/8, file no. 180, NAIPRC. This subsidy was confirmed in a report issued by the Commission Permanente on 20 August 1951 in which it was proposed that the Rs. 3000 credit given to the victims of the Oulgaretpet fires be funded through a credit supplement, "in the absence of an appropriate provision in the 1951 budget." The council president and Commissioner of the Territoire d'outre mer, André Ménard, amended the proposal with a presumption of "the same principle [that guided prior provisions] to limit the subsidy to 25%."

but it was the storm's effects on Karaikal that garnered the most attention in chambers.¹⁸⁹

On December 4th Commissioner Ménard wired a credit of Rs. 10,000 for the immediate relief of the town to the administrator at Karaikal. He also sent two cases of condensed milk. A second credit of Rs. 140,000 was provisionally charged against the annual budget for Supply Department for the purchase of rice.¹⁹⁰ On December 5th a telegram was sent to Karaikal – though it did not arrive until the 8th, hinting at the disruption caused by the cyclone – approving the continuation of repairs of roads in the territory, though internally the order was premised on the expectation of forthcoming expense reimbursements by Paris.¹⁹¹

Two months later, with aid still not forthcoming from the capital, a representative of the government in Kariakal opined:

[J]e suis persuadé que celle-ci nous viendra en aide. Mais pour éviter qu'à juste raison on ne nous applique le vieux dicton "aide toi et le ciel t'aidera," j'estime indispensable que vous fassiez vous même un effort pour remédier à cette situation par augmentation des recettes ou diminution des dépenses.

“I am convinced that [Paris] will help us. But, just in case, in the spirit of the old saying “Help yourself and Heaven will aid you,” I believe it would be advisable that you make an effort to remedy the situation either by increasing revenue or decreasing expenditures.”¹⁹²

¹⁸⁹ In fact, the documents left in the modern Pondicherry archive show no awareness of the damage to the pier.

¹⁹⁰ No. 13250/F.1., Rapport No, 328, Procès-verbaux de Commission Permanente, Séance du décembre 1952, 4 décembre 1952, MISC III/6, NAIPRC. This credit was granted pending a Ways and Means Committee review then underway.

¹⁹¹ No.13340/F.1, Procès-verbaux de Commission Permanente, Séance du décembre 1952, 11 décembre 1952, MISC III/6, NAIPRC.

¹⁹² Typewritten copy of handwritten notes taken during session debates on 2 February 1953, MISC IV/4, file no. 391, NAIPRC.

Debate transcripts record that the next speaker was a man named Devaissigamany, but the record makes no note of his words.¹⁹³ The only hint of the content of his comments comes in the response given by Holstein:

I am in absolute agreement [with Monsieur Devaissigamany]. If there are no cotton exports, resources diminish and the life of the territory is diminished. For many weeks now these exports have been halted, and I must tell you that our allowance of *francs pondichériens* is in large part exhausted. Councilor Devaissigamany is perfectly correct to underscore this point: where there is nothing to be had, even the king loses his rights.

This is one of the few indications we have of the precarious financial position of the territory during the last years of the colonial period. Nor do we find an answer until nearly nine months later when, on October 25th, the reply from Paris was read into the record of the eighth session of the Representative Assembly:

The cyclone of November 30th, 1952 caused tremendous damage in Karaikal, and a demand was made against the Overseas Department for a subsidy for the aid of the victims and the execution of repairs.

In light of the urgency of the situation, the local budget agreed to advance a credit of Rs. 134,463 (in consideration of a subsidy request made to the Department) to distribute as aid and to begin urgent repairs.

The Department responds that it cannot grant the subsidy but only a refundable advance.

However, in order for this measure to be approved, the territory must show [that it has] matching funds.¹⁹⁴

¹⁹³ This gap is interesting in itself. File 391 holds both handwritten and typed copies of the debates, which compare accurately to one another. Yet the comments of Devaissigamany are conspicuously absent in both, each only noting that he spoke. Given other debates that took this period of the administration – specifically debates on the language of address in chambers – my guess is that Devaissigamany addressed chambers in Tamil and the stenographer lacked the necessary skill to keep accurate notes. This is, however, only conjecture.

¹⁹⁴ 8^{ème} Séance du 25 octobre 1953, MISC IV/2, file no. 352, NAIPRC.

The communiqué from Paris is the last word from the metropole on investment relating to disaster relief in the colony. Additional resources for the rehabilitation of the battered colony would have to be sought elsewhere. Elsewhere arrived in the form of a landowner in French Indochina, identified in territorial documents only as M. Amirda, who contacted the administration in August with a request to give 25,000 francs “for the relief of the December 1952 cyclone disaster in Karaikal,”¹⁹⁵ though serendipitously the gift was not formally accepted until October 23rd, 1953, only two days prior to the formal refusal of Paris to subsidize continued rehabilitation.

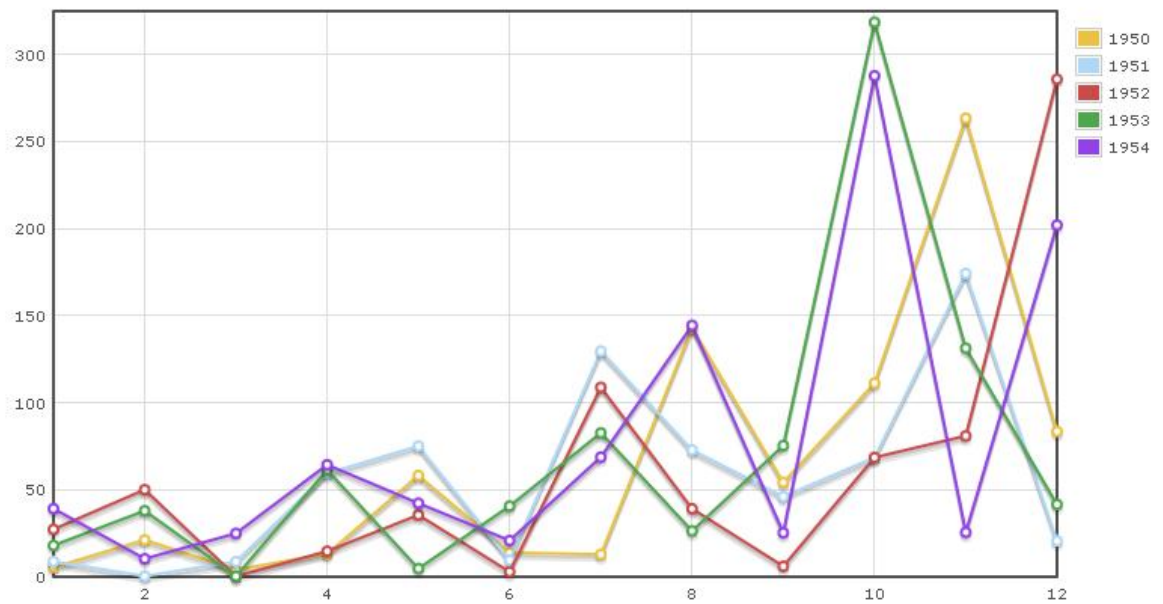
During the last years of the French administration in India, the Territoire d’outre mer seemed beset from all sides by expenses related to emergency relief and flood mitigation. Beginning with the series of fires already discussed – fires that actually began in the previous year when a man named Manjinikavundar requested government aid to rebuild his house destroyed by fire in Cinnakalpet¹⁹⁶ – the number and variety of debates, reports, projects, and orders recorded by the territorial government in published records and internal documents far exceeded any prior period..

The year 1952 was, by all accounts, a particular heavy monsoon. By the time the cyclone struck the Coromandel Coast in late November, the local administration in Karaikal had already invested Rs. 17,220 in a project to build drainage canals in the flood prone areas of Thomas Aroulpet, Darmapuram, and Puduttur and requested an additional

¹⁹⁵ Rapport a l’Assemblée Representative No. 201, Affaires Economique, No.12161/F/1, MISC IV/2, file no. 352, NAIPRC.

¹⁹⁶ Rapport No. 12227/A.P.I., *Procès-verbaux de la 2e Session Ordinaire de 1950*, 3ème séance, 20 septembre 1950 (Pondichéry: Imprimerie Gouvernement), 75.

Rs. 3,500 to complete the project just days after the cyclone.¹⁹⁷ Extremely heavy rainfall in October 1953 and again in 1954 exacerbated the economic difficulties arising from the insufficient revenue that resulted from the damage caused to exports by the 1952 storm. In fact, the October 1953 total rainfall of 318mm more than doubled the average October rainfall in the ten years preceding (158.048mm), and nearly tripled the October average for the previous five (table 3.1).



Units: Integer / mm

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1950	5.396	21.179	3.991	13.153	58.092	13.866	12.846	142.838	54.155	111.189	263.287	83.437
1951	8.79	0.397	8.696	59.326	75.049	9.538	129.586	72.785	46.035	68.522	174.155	20.631
1952	27.23	50.015	0.2	14.659	35.465	2.849	108.75	39.05	6.011	68.493	80.898	285.68
1953	17.976	37.895	0.299	61.314	4.719	40.574	82.59	26.329	75.309	318.381	131.254	41.523
1954	39.133	10.32	24.903	64.309	42.22	20.811	68.715	144.324	25.283	287.615	25.536	201.926

Table 3.1 Karaikal monthly rainfall totals, 1950-1954¹⁹⁸

Reportedly heavy August rainfall in Yanam, located some 600 kilometers north of Pondicherry on the Godavari River, increased pressure on the territory’s already over-

¹⁹⁷ Rapport No. 332, 10 decembre 1952, MISC IV/4, file no. 388, NAIPRC. This request was approved on 21 January 1953. See also *Procès-verbaux de la Session Extraordinaire de 1953*, (Pondichéry: Imprimerie Gouvernement), 40-41.

¹⁹⁸ “India Rainfall Data,” accessed April 23, 2011, http://indiawaterportal.org/met_data/.

taxed hydraulic infrastructure by damaging key structures designed to mitigate flooding in the territory's northernmost enclave. Bunds were breached during the rains, as were sluices built to divert waters away from the settlement. A report delivered to the Assembly on October 1, 1953, noted that 1034 houses had been destroyed by the inundation and offered for consideration a relief proposal that tiered *ex gratia* payments based upon estimated losses that had been developed by Yanam's mayor, M.M. Madimchetty Satia, and Canacola Tataya, an Assembly representative:¹⁹⁹

	100%	<i>pour les sinistrés ayant de</i>	2 à 10 Rs.
	75%		11 à 20 Rs.
	50%		21 à 30 Rs.
<i>et</i>	25%		31 à 75 Rs.

Following the end of World War II, Pondicherry and its dependencies were left very much to their own devices in the face of a series of chronic environmental crises that struck the territory with unusual ferocity: fire, storm, and flood taxed Pondicherry's resources from 1950 to 1954. The colonies of French India had been reorganized into the Territoire d'outre mer for the specific purpose of granting them more autonomy from the central government in Paris. With colonial unrest growing from Malagasy to Indochina, Paris had decided to give its Indian subjects a direct hand in deciding their political future. Chandernagore voted to join the newly independent Republic of India in 1948, but the other four French colonies elected to remain French. There seems in this period loss of interest from the metropole in the direct administration of its Indian subjects, but this is not particularly surprising. Since the end of World War II the capital had made political concessions towards its colonies with the slackening of central control, first with the establishment of the French Union in 1946 then with their reorganization as the

¹⁹⁹ Rapport No. 155/AY-1, 1 octobre 1953, MISC IV/6, file no. 417, NAIPRC.

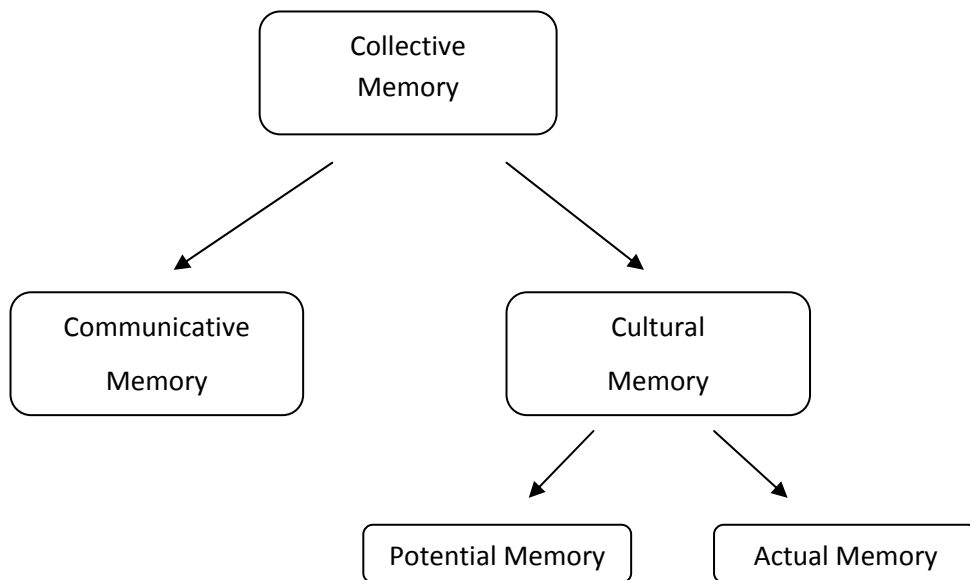
Overseas Territories. Paris also had much more pressing matters than the welfare of subjects who chose willingly to remain so: the Malagasy Uprising had resulted in tens of thousands of deaths, the Indochina War was only just getting underway, and Algeria was under foment.

One result of this peculiar self-determination among French Indians was that the emergency response strategies mobilized by Alfred Martineau in 1916 were very much the same strategies deployed by Bonvin, Ménard, and their contemporaries in the dying days of French India. Without policy input from Paris the Pondicherry administration continued to mobilize post-crisis in ways that had proven to be at least moderately effective in the past. These same responses were adopted post-merger as more dominant concerns pressed on the new Union Territory. Through the first decades of independence these ossified into a matrix of response that remained largely unchanged even in light of large disasters that came to strike India in the last decades of the twentieth century. By their own admission, disaster events that could have served as object lessons in how better to respond to disasters – Bhopal (1984), the Orissa super-cyclone (1999), the Bhuj earthquake (2001) – instead had little perceptible effect on how administrators in Pondicherry conceived disaster management. Instead, contemporary administrators of the Union Territory began to harbor unrealistic beliefs about former French policies. These beliefs proved to be fertile soil in which grew policy legends that dominated the discourse of emergency response in the Union Territory of Pondicherry for decades.

Communicative versus Parcenary Memory

Jan Assman has explored the implications of the concept of “cultural memory” as it was developed early in the twentieth century by Maurice Halbwachs and Aby

Warburg.²⁰⁰ While both of these earlier theorists used fundamentally different approaches, and in fact derived these approaches independently of one another, both Halbwachs and Warburg sought to move away from the biological and “racial” frameworks that dominated turn-of-the-20th-century discourse about collective knowledge and move instead towards a new socio-cultural understanding of the processes of shared memory. Building on Halbwachs, Assman’s works makes a clear distinction between “communicative” memory – what he understands as the stuff of “every day” communication – and “cultural” memory, from which groups derive an awareness of their unity. The distinction from communicative memory is its “fixed point” distance from the everyday, each point representing a fateful event in the formation of the group. He then moves one step further to make deeper distinctions between potential and actual memories within the subset “cultural memory”.



²⁰⁰ See Jan Assman, *Kulturelle Gedachtnis* (C.H. Beck: München, 1992). See also Jan Assman, “Collective Memory and Cultural History,” *New German Critique* 65 (1995): 125-133.

For Assman, communicative memories are made up of “those varieties of collective memory that are based exclusively on everyday communication”²⁰¹ – jokes, gossip, rumor, water-cooler storytelling and the like – things that Halbwachs would simply have classified as “collective memory.” Communicative memories are generally agreed to have a relative lifespan of eighty to one hundred years.²⁰² I am moving one step beyond these, to what I call “parcenary memories,” or those memories mobilized at the stratum of the everyday within a particular group that serve to propagate knowledge sets necessary for the functional continuation of the group as self-defined. In the modern administrative departments of the Union Territory of Pondicherry it is neither communicative nor cultural memories that shape the understanding of constituency needs, regional events and the policies developed to treat them but rather parcenary memories that perform this role. Within government these bits and pieces of shared memoria are perhaps more fragmented than a body of parcenary memory that resides within a family or community, and I will discuss these in more detail presently, but there remain certain narratives that span the divides of department and hierarchy.

Before delving more deeply into parcenary memory and the value in distinguishing it from other kinds of memory, it will be useful to consider the composition of cultural memory in general, for it also shapes long-term decision-making processes. Where communicative memories are marked by proximity to their subjects – the everyday stuff of interpersonal communication – cultural memories, as defined by Assmann, are typically contained within more official or commemorative apparatuses. Cultural memories are encapsulated in/by liturgy and rite, poem and literature, monument

²⁰¹ Assman, “Collective Memory and Cultural History,” 126.

²⁰² Wulf Kansteiner, “Finding Meaning in Memory,” *History and Theory* 41, no. 2 (2002): 179-197.

and memorial. The “potential” category of cultural memory exists suspended in its state of potentiality in archives, monuments, and the similarly static. They enter the mode of actuality when contemporary context or usage “puts the objectivized meaning into its own perspective, giving it its own relevance.”²⁰³ Above all, cultural memory remains



Illus. 3.2 Tsunami Memorial in Veerampattinam

fixed in time yet perpetually accessible and re-interpretable through processes of (re)activation and mobilization in contemporary contexts for specific purposes. Two monuments illustrate this point. The first is a tsunami memorial erected in

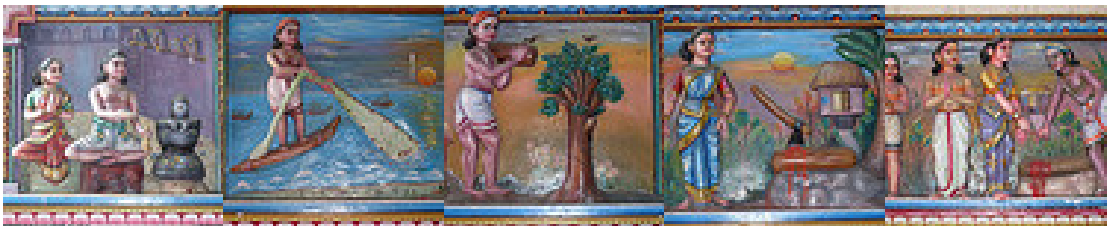
the fisher village of Veerampattinam Ariankuppam District, Union Territory of Pondicherry (Illus. 3.2). It is a simple white plaster statue of a mother holding a child; the second memorial, located at the southern edge of Karaikal town, is a more intricate monument made up of a tiled mosaic depicting an image of the tsunami hitting a beach (Illus. 3.3). The monument itself is set inside a larger memorial park set between Seagulls Resort and beachfront, due south of the old French lighthouse. Simply by mobilizing these images to illustrate a point about memory the potential memory captured within each monument has been activated, moving each from a potential memory to an actual memory through the mere act of observation.

²⁰³ Assman, “Collective Memory and Cultural Identity,” 130.



Illus. 3.3 Tsunami Memorial in Karaikal

The processes that mobilize potential memories into actual memories are easier to trace within rite and religion. The images shown in illustration 3.4 show five panels within the Senkeni Amman temple in Veerampattinam. The images shown inscribe the beginning of the temple's origin myth: 1. There once was a devout [fisher] man, 2. Who went fishing one day, 3. [and all] he brought back was a single log. 4. [One day while looking for fire wood] his wife cut into the log, which [immediately] began to bleed. 5. This [strange event] caused people from all around to come and give *puja* to the log.



Illus. 3.4 Senkeni Amman Temple Foundation Narrative, panels 1-5

This story is known in various amounts of detail to all of my local informants, as well as to many non-fishers from the surrounding areas and as far away as the fisher villages surrounding Karaikal. The potential cultural memory of the founding of this temple is locked in these images, an accompanying Tamil text inscribed in stone beneath each image, and the personal memories of every individual who knows the story. But its potentiality is *actualized* every year during an eleven day festival that begins the day before the *nālām vellī* (fourth Friday) of the Tamil month of *Ādi*. Each year the context differs from the year before based on the happenstance of the previous year and expectations for the next, but it is within this specific, annual context that the legend of Senkeni Amman is recast and bestowed continued relevance.²⁰⁴

It is tempting to apply Pierre Nora's concept *lieux de mémoire* to the images given above, and indeed doing so can shed a useful quality of light on the problem of memory in the Union Territory. As Nora defines them, *lieux de mémoire* "block the work of forgetting," and like Assmann's actual memory remain "forever open to the full range of its possible significations." As a result they are necessarily self-referential in the

²⁰⁴ The greatest disruption to the mobilization of Senkeni Amman legend came in 2005, seven months after the Boxing Day tsunami devastated the region. As was discussed in chapter 1, the survival of Veerampattinam and its residents during the tsunami was attributed by many Pattanavar fishermen to the direct intercession of Senkeni, a form of Māriyamman who in the Coromandel region typically takes on the character of *Ellaiyamman*, or goddess of the [village] boundary (see chapter 1), in which form she is understood to be the protector of the village and its inhabitants. Within the context of their recent salvation from catastrophe, Senkeni's role as protector of the village assumed new significance during the annual enactment of the rituals of her festival. Of course the transition between the potential and the actual modes of cultural memory are not limited to obvious cultural formations like commemorative texts, rites, and monuments. Every July 14th, for example, the French Consulate in Pondicherry organizes celebratory activities surrounding Bastille Day. While the social memory of the territory's French legacy is culturally more distant than Senkeni Amman's, it also attained new relevance in 2005 as French generosity following the tsunami was more evident than ever to the average citizen. In other words, Pondicherry's ties to its former colonizer were highlighted by the active mobilization of *fraternité* in the early months of 2005.

extreme.²⁰⁵ Nora's theorization of *lieux* also offers functional distinctions between archival, duty, and distance memories, where the first defines the urge behind Martineau's monograph (and its sources) explored in the previous chapter and the last gives us a conceptual framework for understanding the continued mobilizations of Atlantis/Lemuria/Tamilakam and the Great Deluge/kadalkol explored in the first chapter.

But Nora's theorization is rooted in occidental assumptions about memory and history, assumptions that cannot carry nearly as much water when applied in the post-colonial memorial environment, for Nora makes a distinction between what he considers to be "real memory" and history which, when applied to a place like India, echoes colonialist assumptions about India's lack of History, with a capital 'H'. *Lieux de memoire*, "sites of memory," come to exist only at the moment real memory dies, an affliction he equates with western modernity's loss of the sacred:

"Museums, archives...monuments, [etc] – these are relics of another era, illusions of eternity...These are *the rituals of a ritual-less society*; fleeting incursions of the sacred into a disenchanted worlds; vestiges of parochial loyalties in a society that is busily effacing all parochialism."²⁰⁶

In partial response to Nora, and serving as a possible bridge between Nora's *lieux* and parenary memory, Paul Ricoeur offers in place of a distinction between real memory and history one between *mnēmē* and *anamnēsis*, or passive and active remembering. The issue for Ricoeur is not the death of living memory-as-history (*Geschichte*) and its inadequate replacement by history-as-narrative (*Historie*) but rather the difference between memory "acting" and memory "acted upon." In the first instance,

²⁰⁵ Pierre Nora, "Between History and Memory: Les Lieux de Mémoire," *Representations* 26 (1989): 19.

²⁰⁶ Nora, *Realms of Memory: Rethinking the French Past, vol. 1*, trans. Arthur Goldhammer (New York: Columbia University Press, 1996), 7.

mnēmē, memory is passive yet operates on the mind eliciting recall, “the popping into the mind of a memory”; in the second, *anamnēsis*, memory becomes “an object of a search ordinarily named recall, recollection.”²⁰⁷ Recollection traverses the period beyond initial impression (imprint) and return (recall).

These processes can work for Ricoeur on both memory of (personally) lived experience and memory of (learned) historical narratives, which is marked by its externality. The latter is “essentially a narrative taught within the framework of a nation,” but because the student of history cannot himself witness the events narrated they exist at first only in “the province of hearsay and didactic reading....a certain violence coming from outside presses in on memory.” “Historical memory” comes only once there is “a genuine acculturation to externality...a gradual familiarization with the unfamiliar.”²⁰⁸ Elsewhere Ricoeur calls this process “The Succession of Generations,”²⁰⁹ but it is this process’s “bond of filiation” that offers us the key to understanding parenary memory. It expresses the transition between the interpersonal bond and the anonymous relation, and it is along this breach/suture that parenary memory sparks into life.

Let us, then, examine these distinctions in the context of the images above. The five images presented from the temple (illus. 4) do not in any way represent parenary memory. As icons that portray the history of the foundation of the temple they represent Nora’s archival and Assmann’s potential memory. They instantiate *anamnēsis*, insofar as they draw forth from the knowledgeable viewer memories of a story well-known, but they do not shape meaningful action within the ownership community in the way that

²⁰⁷ Paul Ricoeur, *Memory, History, Forgetting* (Chicago: University of Chicago Press, 2004), 4.

²⁰⁸ *ibid.* 394.

²⁰⁹ *Time and Narrative* (Chicago: University of Chicago Press, 1984).

they might cause the casual/non-member viewer to read the accompanying text or perhaps ask questions of attending priests. They also represent a duty memory insofar as knowledge of the narrative depicted is necessary for membership within the community that worships Senkeni Amman, but they remain at their core *external* to the viewer. The story of the founding of the temple only “presses in on the memory” when recall is forced upon the viewer through the act of viewing.

In contrast, the tsunami memorials shown in illustrations 2 and 3 appear casually as *lieux*, as part of the class of “museums, archives...monuments” that represent “illusions of eternity.” And indeed the tsunami memorial in Karaikal (illus. 3.3, 3.5) can certainly be read as representing a parochial loyalty in “a society that is busily effacing all parochialism.” In fact, it is difficult to even establish for whom it is intended. Located at the southeastern extreme of Karaikal town on the northern bank of the Arasalar River, the monument stands amidst the ruins of the erstwhile Seagulls restaurant resort.



Illus. 3.5 Karaikal monument in context, looking north towards the lighthouse

The monument proper stands approximately 100m due south of the French-era lighthouse that stands near the mouth of the Arasalar, several kilometers from the town center. The monument grounds are bounded by a chain link fence approximately five feet high and entered from the south through a heavy steel gate that remains locked. To the west, just beyond the left edge of illustration 4, stands the husk of a seaside restaurant/resort still under reconstruction from damages sustained during the 2004 tsunami. To the east, beyond the fence, is a new promenade-cum-seawall – raised about one meter from sea level – that as of August 2010 still led pedestrian approximately one kilometer north towards nowhere in particular, though the wall itself will offer some protection against unusually high tides. The beach is several hundred meters to the east; a children’s playground sits several hundred meters due west, at the edge of the resort area, behind what appears as an auto stand (though autos rarely appear).

On multiple visits during varying times of the year between 2008-2010 – from sunny August to rainy monsoon, the high heat of the school holiday, and again into June and July – I rarely saw many people here. The beach has been largely abandoned to sea eagles and ruminant animals. Large, dire warnings have been posted against swimming in the sea, and it was only during my last visit in August 2010 that any vendors were present. Their presence, finally, suggested at least a moderate increase in traffic to the beach,²¹⁰ but when asked none of the three vendors – two brothers and a son – could remember the monument ever being open to the public.²¹¹

There is, nevertheless, a certain logic to the site chosen for the monument. Prior to the end of 2004 the area had been a popular location for families and young couples

²¹⁰ There is no “through” traffic, as the beach is not on the way to anywhere. Visitors must go at least two kilometers out of their way to get there.

²¹¹ In discussion with the author, August 2010.

and it received heavy promotion from the Union Territory's tourism department.²¹² Unlike many of the beaches to the north of Karaikal and near Pondicherry town, the strand north from the mouth of the Arasalar was isolated by its location against encroachment by fisher communities and the beach was wide and flat, popular features with foreign bathers, and it was always the intention of the Karaikal administration and subsequently the Department of Tourism to rehabilitate the resort into an even more attractive tourist draw.²¹³ Should this plan come to fruition, Karaikal's tsunami memorial would encapsulate a potential memory and be a powerful instantiator of anamnesis: every visitor to the resort who gazed upon the tiled image of people fleeing from a giant wave would be called upon to imagine the terrors of tsunami. But in its present state no such processes occurs. The vendors with whom I spoke seemed to give little thought to the presence of the monument behind them; its impact is circumscribed first by the surrounding fence and second by its being located at the farthest, least trafficked edge of urban Karaikal. As for reminders of the sudden and uncanny dangers of the ocean – for is it not this for which such monuments in part stand to remind us – more immediate icons in the form of signs at the promenade entrance warning against bathing already exist to remind even the most casual visitor that risk abides in the inexplicable sea.

The instance of the monument in Veerampattinam (illus. 3.2) is of an altogether different nature. It is first and foremost located in the center of a lived environment, just a few steps south of the central path that leads from the town center (and the Senkeni

²¹² Mohammed Mansoor (Joint Project Director, PIA) in discussion with the author, August 2010.

²¹³ *ibid.* The continuity of intent between these distinct government bodies is no surprise. Mansoor was District Collector of Karaikal between 2004 and 2007. He then moved to head the Department of Tourism, which he led until 2010, when he was appointed new Joint Project Director of the Project Implementation Agency, which had been tasked with tsunami rehabilitation since 2005 (see chapter 4).

Amman temple) to the shore. The work of everyday life goes on all around it. Fishermen pass it before launching and see it upon their return to the beach. Fishwives and third-party vendors haggle over price-per-weight within sight of it. Not only is it centrally located within a fisher habitat (see chapter 5), but it open and accessible to the public. No fence controls its ambit, no gate prevents entry. Its form, too, invites a different type of engagement with the memorial than what is possible with the monument in Karaikal, where the image depicted is one of danger and fear, much more even than a similar monument erected at Kanya Kumari, the southernmost point on the subcontinent and a site geographically connected not just to tsunami but also to the mythic history of kadalkol and the loss of Tamilakam discussed in chapter 1.

The memorial at Kumari is at one stroke both more accessible than Karaikal's and more abstract (illus. 3.6). A wave towers over a partially submerged catamaran and two disembodied arms. The first is held up as if to restrain the flood while the second carries a *puja thali*, an offering to god to protect her people. The broken "country craft" recalls the same senses of fear and danger engendered by the boats swept up in the wave in Karaikal's mosaic while the



Illus. 3.6 Tsunami Memorial at Kanya Kumari

restraining hand and the offering to the divine hew more closely to the emotional content

of the statue erected at Veerampattinam (illus. 3.2). While the imagery might simply be interpreted as a loving mother protecting her child from the

dangers of the sea others, particularly the fishers, understand it more metaphorically. The woman is the goddess, the child her “children” of Veerampattinam, and her role is to protect them. Another possible reading is that the woman represents Bharat Mata, Mother India, protecting her citizens from danger. While nobody in Veerampattinam ever described the imagery of the memorial to me in this way, as will be detailed in the following chapter, many fishermen do have clear expectations that such protection should be provided by the state. Within this political environment, the Veerampattinam’s memorial could well become an index of these expectations.

There exist, then, a variety of types of tsunami memorial. Those in Kanya Kumari and Karaikal were designed essentially as Noraian sites of memory, places meant to be visited by tourists (internal and external) using icons intended to excite sympathy and elicit a sense of latent danger or risk. A second type is the (primarily) Christian Ebenezer erected for the purpose of giving thanks to God for those protected from the tsunami. Two such examples are monuments found near the Danish fort in Tarangampadi, just a few kilometers north of Karaikal, and at San Thome in Chennai:



Illus. 3.7 Tarangampadi Memorial



Illus. 3.8 San Thome Memorial

The inscription on the plaque at San Thome is exemplary of the intent behind such monuments:

St. Thomas Pole
In gratitude to God
for saving Santhome from
tsunami 2004

These operate within the broad corpus of tsunami monuments meant to elicit recall in the viewer, but their intent is wholly religious. Rather than calling forth memories or images of tsunami in particular or disaster in general, Ebenezers are meant only to call into memory the greatness of god, and as such have little bearing to the current discussion.

The tsunami memorials of the third type – those of a more “local” provenance like Veerampattinam’s – operate outside of the confines of lieux de memoire. Instead of working to recall an historical event now separated from the linear flow of lived experience such memorials are tied more intimately to quotidian concerns. Veerampattinam’s Mother statue is woven into the fabric of everyday life in such a way

that it no longer bears on daily instances of recall yet remains more subtly a part of the background against which the everyday occurs. Unlike the monument in Karaikal it is open and available to small, daily acts of commemoration like garlanding. But it also stands in marked contrast to other “open and available” monuments like Kanya Kumari’s abstract sculpture and the Ebenezzers discussed above. In the first instance the sculpture is not designed to “invite” such acts; in the latter two instances the religious content of the monument resists casual appropriation by quotidian Hinduism.²¹⁴ Yet it is precisely such memorials that point the way towards understanding the ways in which parenary memory works with a specific group.

Parenary memory should not be confused with “duty memory,” the third of Nora’s *lieux*, together with “archival” and “distance” memories. Duty memory is defined as the possession of specific memory-sets required to retain membership within a group. Duty memory implies a level of endogamy that can be read into the Mother monument. Unlike the other monuments discussed so far, the statue on the strand at Veerampattinam displays no English. All of its markings, both its official plaque and the graffito affixed to its pedestal, are in Tamil. The potential memory within can only be actualized by Tamil-speaking observers. With the passage of time and the eventual waning of interest in the events of tsunami casual observers without community-centered socialization into the motivation behind its erection may well come to see the monument as *only* a metaphor for the duty of the greater to protect the lesser, be the greater Senkeni Amman or the state. But such a reading still requires us to define which community is responsible

²¹⁴ I do not say “rejects” as there is much about tradition Christian worship in the region that has been “Hinduized” in small ways, by which I mean certain (mostly aesthetic) aspects of daily temple worship have been transposed onto Christian practices. This is much more the case in Catholic churches and long-established Protestant congregations, like the Lutheran church in Tarangampadi, than it is of more recently established Pentecostal churches.

for the maintenance of the memory. Is it only local Pattanavar fishers, all fishers in the UTP, the affected community as a whole, all Tamils, or even all Tamil speakers? The notion of duty memory as defined by Nora collapses under the weight of a group so resistant to definition.

Parcenary memories, on the other hand, are a polythetic characteristic of those who hold them, neither necessary nor sufficient to retain membership within group sets like [administration of Pondicherry] or [disaster-affected community]. Once mobilized such memories operate closer to Ricoeur's *mnēmē* than to Assmann's potential memories, but recall that for Ricoeur historical memories can only exist once true externality if the memory has been achieved. Put another way, because historical narratives are not directly observable by those who remember them, they exist in the words of Ricoeur in "the province of hearsay." Parcenary memories, by virtue of the way they are perpetuated across multiple generations within the same community, also do not necessarily preserve *lived* experiences, but because they represent the habitus within which daily life and normal decision-making processes take place at the group level, parcenary memories are *lived in*. They operate actively within memory insofar as they shape the foundation upon which decisions are made or policies are developed. Parcenary memories are not *lieux de mémoire* because *lieux* insist upon membership within the group so remembering. Parcenary memories are maintained within groups (Nora would call them "real memories") but not necessary for membership within them, all the while subjectively shaping actions and decisions taken by or on behalf of the group. They are passed between individuals as a subset of communicative memories but collate and disseminate information held crucial to the future potentialities of the larger

group. Typically passed between family members, they can also exist within organizations and often form the basis for policy legends that can exist beyond the temporal limits of communicative memory.

What then are the roles of these particular modes of memory – potential, actual, and parenary – in the realm of development programs and crisis management schemes? Martineau activated potential memories when he accessed the administration’s archive to write his monograph, but even having faced a cyclone in 1916 he did not presume to make any policy-minded conclusions about historic or future instances of flood in the French territories; in other words, he did not access parenary memories. “It is simply a description of the struggles man has made against the spectacular forces of nature,” he wrote, concluding that “[i]t simply is not possible to predict when cyclones will occur, only that similar calamities will come at the hours chosen by destiny.”²¹⁵ Yet what was his purpose if not to prepare his successors in some way for the colony’s regular dangers? What is the purpose of maintaining any record whatever of past crises and relief strategies, both successful and unsuccessful, if not to prepare for foreseeable challenges? Contrary to Martineau’s use of them, the administrative archive in Pondicherry housed the potential memories of their Indian territories that served as a benchmark for response in the post-merger Union Territory.

Parenary Memory and Risk Assessment

Understanding mechanisms of memory becomes keenly important once we begin unraveling disaster response and mitigation strategies in the half century between Pondicherry’s *de facto* merger with the Republic of India and the 2004 Indian Ocean

²¹⁵ Martineau, “Les cyclones,” 324.

tsunami. The reasons for this become abundantly clear the moment one begins casting about for data about this five decade span, a time during which records keeping and institutional memory in the Union Territory all but disintegrated, a phenomenon that will be examined in detail in chapter 4. In point of fact, very few records remain to detail this period, and what records do exist are largely lost to researcher and administrator alike through a combination of disinterest, instability and perplexing or merely failed archival policies.

Piecing together the period between 1954 and 2004 becomes, then, a work of excavation that has parallels with a Foucaultian archaeology of knowledge. The process for making sense of the needs of its constituents – needs regarding flood mitigation, development, personal and governmental responsibility – grows organically out of a matrix of rules and agreements about “how things were” pre-merger. These beliefs coagulated into parcenary memories insofar as they were shared within across the disaster management community and then used to shape decision-making related to particular issues. The process of coagulation and propagation gradually morphed these sets of “memories” – knowledge not personally experienced but perhaps “had on good authority” – into policy legends that re-echo pretexts, decisions, and justifications through subsequent administrations.

Parcenary memories necessarily form the majority of data available on cyclones, floods, disasters and their aftermath in the period 1954-2004. Many official records have been destroyed or lost through neglect while local and panchayat records of many at-risk coastal communities were lost when fisher community panchayat offices, often only several hundred meters from the shore, were over flooded in 2004. Coming to grips with

the realities of the administrative ennui that I am suggesting took hold in the Union Territory in these years requires a careful collation of such memories with the records that are available: state-level annual plans, special reports, speeches and news clippings, and the odd official document.²¹⁶

The earliest memories about the coast, the port, and the fisher communities abide with the oldest residents of Pondicherry, very few of whom are old enough to remember an operational French port in the territory. The old pier, the one damaged by the 1952 cyclone, is as much as anything an object of fond remembrance. One informant, a highly placed government official with whom I was chatting one day off the record, remembered using the remnants of the pier for swimming games during her childhood, but while she claims to remember the “terrible storm” that destroyed it, I was unable to establish with any certainty other data points that would have established her as being old enough to have such a personal memory. Even so, such memories are important as they establish the shape taken by other memories. More importantly, such memories exhibit a kind of slippage called mnemonic typification,²¹⁷ a process through which one historical moment is mistaken with another, similar moment. Such slippages often occur as a result of a certain density enjoyed by history: “eventful” moments clump together in memory while contrastingly long periods of time pass during which nothing of particular note seems to occur. For the ethnographer these phenomena present certain challenges, not the least of

²¹⁶ Sometimes very odd: the single best example of an official government document I have been able to unearth from this time period is a Revenue Department report on the 1977 cyclone that I found in the stacks of Van Pelt Library at University of Pennsylvania. Copies of this document were requested by no fewer than five separate individuals or bodies within the GoPY during my field research, including the DRDM, the PIA, the national archives satellite, and the PMSSS.

²¹⁷ Eviatar Zerubavel, *Time Maps: Collective Memory and the Social Shape of the Past* (Chicago: University of Chicago Press, 2003).

which is the dating of specific events. Thus, while it is likely that the informant cited above who “remembers” the 1952 cyclone that ruined the French pier is actually too young to remember that specific storm and is instead substituting a later storm as a stand-in, without firm evidence to the contrary it is impossible to prove such an assertion in a cultural surround in which little importance is placed on knowing the exact date of one’s birth.

Yet I will assert that for the reasons people even maintain such memories the *actuality* of them, the truth or falsity of the resulting assertions, is less material than the fact that they are maintained in the first place. It is not of particular importance whether the storm she remembered actually took place in 1952 or sometime later. The fact that she “remembers” a storm of great enough severity to destroy a structure fundamental to the economic health of the city informs her response as a government official to later instances of cyclone.

It is rarely possible to guess the outcomes of lessons so learned in the face of a future crisis, but actions based upon such lessons are as likely to have good results as bad. For example, in the days leading up to Hurricane Katrina striking the Gulf Coast there is a great deal of anecdotal evidence that many older residents of Mississippi and Louisiana made choices to evacuate or not based upon parcenary memories of Hurricane Camille. In her book *Rising from Katrina* Kathleen Koch pointedly notes that Camille was a hurricane benchmark for Mississippi residents: those who survived Camille in 1969 – the most powerful hurricane ever to hit the United States – were often less likely to evacuate in the face of Katrina. One resident of Waveland, Mississippi, baldly stated a common (mis)perception in the run-up to the U.S. disaster: “we were here in 1969 for Hurricane

Camille and we didn't get a drop of water, so we're going to stay.”²¹⁸ Patrick Turner, a survivor of both Camille and the earlier – and much less severe – 1965 Hurricane Betsy remained in his New Orleans home in 2005 precisely because neither storm had been as bad (in New Orleans) as predicted. It was not until an August 29th telephone conversation with his son, at the height of the storm, that Turner admitted that such evidence is rarely an accurate predictor of future outcomes.²¹⁹ In a trenchant reminder of the dangers posed by drawing the wrong conclusions from past experience, Max Mayfield of the National Hurricane Center pronounced, “I think Camille killed more people during Katrina than it did in 1969.”²²⁰ Indeed, history is not always the best teacher.

But then sometimes it is. Remaining in the same region, Grand Bayou, Louisiana, is an isolated town located south of New Orleans. With origins said to go back three centuries as a Native American fishing hamlet, the modern fishing hamlet survives the regular threat of hurricane through a community-driven mechanism of assent. “We know how to get ourselves out of harm’s way, official announcements or not,” said one resident.²²¹ For the length of living memory, community members have decided for themselves if and when to evacuate and have relied on their own means to get to safety, as a community forcing even the most stubborn to leave when necessary. In 2005,

²¹⁸ Melvin Beal, “Hurricane Katrina survivor regrets not evacuating her home,” WTSP News, accessed March 3 2011, <http://www.wtsp.com/news/local/story.aspx?storyid=143358>.

²¹⁹ Amanda Ripley, *The Unthinkable* (New York: Crown Publishers, 2008), 28-29. The power of paracenary memory is more visible still in the instance of Nikki and Patrick Cleveland, who stayed in their Bay St. Louis, Mississippi, home based not on personal experiences but on the experience of Nikki’s parents during Camille. But rather than the simple risk analysis undertaken by Turner, Nikki’s family had since relocated above Camille’s tide line into a home built with steel-reinforced 14-inch thick cement walls. See Kathleen Koch *Rising from Katrina* (John F. Blair, 2010).

²²⁰ *Ibid.* 28.

²²¹ *Ibid.* 135.

residents evacuated in only two hours two days before Katrina made landfall; no residents were left, and no residents were lost.

Back in the Indian Ocean, after the 2004 tsunami there was a great deal of interest in regions in which casual observation would have suggested more suffering than was actually experienced. Reasonable questions were asked about why some communities seemed more resilient while others were devastated materially and otherwise. While few coastal regions were spared from physical destruction, some appeared to be better adapted for quicker recovery following disaster, and it became reasonable to ask why this should be so.

Natural scientists and others across South and Southeast Asia noted the low mortality rate among wildlife, particularly elephants and leopards, following tsunami. Many animals that would otherwise have been nearer the coast had moved inland sometime prior to the coming of the wave, a fact that became evident afterwards when animal counts were conducted and beasts were found further inland than would normally have been common. In the Nicobar and Andaman Islands, too, there was proportionally less loss of life reported because islanders had begun to move into the inland highlands. When questioned, many islanders noted having observed the strange, almost nervous behavior of certain animals in the hours immediately before the waters crashed ashore.²²²

One of the more remarkable stories publicized after tsunami came from Indonesia, all the more remarkable for being a natural comparative study for disaster preparedness. The region of the Indian Ocean in which sits Indonesia is particular prone to tsunami. The Institute of Computational Mathematics and Mathematical Geophysics has identified

²²² K. Sivaramakrishna (Professor of Anthropology and Forestry & Environmental Studies, Yale University) in discussion with the author, April 2008.

78 highly damaging tsunamis that have affected the region since 1700. An additional eighteen, causing only “medium” damage, have affected the region during the same period.²²³ The huge majority of these have been caused by tectonic movements, though the 1883 Krakatau volcanic eruption is by far the most notable exception. Simeulue, a small island in the Aceh Province, off the western coast of Sumatra and only forty kilometers south of the tsunami’s epicenter, survived two tsunamis in the three months between December 26, 2004 and March 28, 2005 with only seven casualties. A third tsunami, in February 2008, caused another 30 casualties but only three deaths. But why should this be so?

The answer rests in an examination of the island’s use of paracary memories. In 1907 a devastating tsunami struck Sumatra. The earthquake itself has been little studied and is poorly understood, its effects little documented. What is known is that at the time there were no paved roads on Simeulue Island and because the quake struck during monsoon, the dirt paths that connected the villages on the island had been reduced to muddy, impassable bogs. There is no accurate record of the number of fatalities suffered during the 1907 tsunami, but local lore places the number around 70% of the island’s population. This story had been told and retold in the families and communities of Simeulue for nearly a century when the 2004 tsunami struck, and every villager has a version of the story. The narrative had so penetrated the local culture that the word *smong*, which means “the ocean coming onto the land,” remains in the local lexicon.²²⁴

²²³ Institute of Computational Mathematics and Geophysics, “Historical Database for the World Ocean,” Web Encyclopedia on Natural Hazards, accessed on February 10 2011, <http://tsun.sccc.ru/nh/tsunami.php>.

²²⁴ Brian McAdoo, et. al. “*Smong*: How an Oral History Saved Thousands on Indonesia’s Simeulue Island during the December 2004 and March 2005 Tsunamis,” *Earthquake Spectra* 2, vol. S3 (2006): S661-S669.

According to Brian McAdoo, et. al., within minutes of the December 2004 earthquake coastal communities were heading towards higher ground and in some cases even to prearranged meeting places in the interior highlands. In the islands northernmost town of Langi, residents had only eight minutes to respond to the first tremors, yet none of the towns approximately 800 residents perished. Island-wide, residents had on average twenty minutes to respond to the quake. On the southeast coast, near Sineubuk, residents all mustered on a ridge north of town where the community had already built bamboo frames to await evacuation, and like efforts in Grand Bayou, they had done so without government support. It is not clear that this site had been the community's established place of evacuation since the 1907 event, or whether it was used for other purposes, but communities across Simeulue were and remain prepared for flooding disasters by maintaining a body of oral history that included parcenary memories passed from the survivors of the 1907 disaster to the modern day.

Such was not the case in Jantang, on the Sumatran mainland 225 kilometers from the quake epicenter. Here along the oil-rich coast, eye-witnesses say the first waves appeared twenty minutes after the shaking stopped, and all wave activity had ceased thirty minutes thereafter. Survivors described sounds like gunfire coming from the direction of the ocean, and with the recent history of fire fights between the Indonesian military and GAM, the Free Aceh Movement, residents assumed another skirmish and fled inside their homes for safety. By some estimates, nearly 50% of Jantang's 10,000 residents died during the thirty minutes following the initial wave surge. Of the survivors

interviewed by McAdoo's team, none were aware of local seismic hazards nor did they associate the ground shaking with potential risk.²²⁵

While the comparison of Simeulue to Jantang is instructive, it would be no easy task to apply their lessons directly to communities on the Coromandel Coast. For one thing, the regions of India most strongly affected by tsunami – from central Andhra Pradesh to Nagapattinam District in Tamil Nadu – are not themselves at high risk from earthquake. Seismic events striking the southeastern coast of India are likely to have originated thousands of miles away, so it is improbable that tremors upon which to base evacuations would be felt. Neither is there a long history of tsunamis occurring along the Coromandel Coast. While the eruption of Krakatau in 1883 was certainly noticed in India, it did not wreak the havoc as tsunami. Similarly, the 1907 tsunami that was a catastrophe in Simeulue hardly registered in India. The lessons best learned are lessons of preparedness, resilience, and self-reliance in the face of a government that might be incapable of efficiently responding to a natural disaster, and lessons of the attention that ought to be paid to what warnings *do* appear that might signal oncoming peril. Such heralds are already recorded in the folklore of local fishermen, and while this lore in itself would not have predicted the 2004 tsunami, more likely risks often *are* predicted using this kind of knowledge.

Communities in both Simeulue and mainland Sumatra have mechanisms in place through which they identify hazards and assess the risks associated with those hazards. In Jantang in 2004, one of the main hazards to the health and safety of its residents was the continued skirmishing between the Indonesian army and armed members of the

²²⁵ *ibid.* S667.

separatist Free Aceh Movement who desired control of the area's oil fields. It was understood that sounds of explosion or gunfire signified danger, and the easiest way to minimize that danger was to retreat indoors. Unfortunately for residents of Jantang, this strategy turned out to be tragically wrong under the specific circumstances of 26 December 2004. Community members acted in a way understood as risk-reducing against known hazards.

Sadly, the kind of circumstantial dissonance witnessed in Jantang can hardly be avoided; there will be instances in which risks assumed given evidence will prove to be incorrect. What is perhaps most tragic at sites like Jantang is that loss could have been minimized had an early warning system, such as has been discussed by development officials in the region for many years, been operational. The fact that residents failed to recognize the hazard for what it really was signified no fault of their own; given evidence they acted in a way long proven to be effective at mitigating known risks. The fault here lies rather with those in administrative positions who, knowing the hazards of the wider region and privy to the discussions that surrounded them, have repeatedly failed to provide a means for quickly correcting false assumptions about immediate hazards because, as a UNDP project officer for the southern Indian stated it to me, “well established early warning systems can reduce risk and *save development gains*.”²²⁶

The conceptual understanding of *smong* as a local hazard is the result of the process of parcenary memory-making, a kind of joint heirship to an event that no one living personally experienced. It remains conceptually parcenary rather than collective precisely because the narrative has not been stabilized within and across communities on

²²⁶ Ravi Ranganathan (UNDP liaison officer) in discussion with the author, August 2009. Italics added.

Simeulue still continues to mobilize actions; the memory does not yet possess the *externality* required to make the event *Historie*. Every informant will narrate their own version with similar object-lessons, but there is yet to be a recognized, codified *ur-text* that might in turn ossify behavior. Through this process not only were hazards defined but so too were their inherent risks, and in so doing individual communities across the island were able to establish internal disaster response strategies. Each community had designed and maintained evacuation plans that designated safe locations and provided, at least to a limited extent, for their short-term provision.

It is these kinds of memories which must be examined in order to uncover the means by which local hazards can be anticipated by local populations. And it is these kinds of memories, adopted and appropriated as they often are, that can be used to socialize certain survival behaviors into a population that has no personal experiences of uncommon hazards that are nevertheless (at least somewhat) predictable and specific to the local region. That such disaster response socialization already takes place, as sociologist Dennis Miletti has noted,²²⁷ is why no one takes an elevator to escape a burning building, or that Hawai'ians move to higher ground when they feel the earthquake. Such responses to uncommon but not unthinkable events need to be taught precisely because, while they are uncommon, their occurrence can be anticipated.

But the proper socialization of disaster response need not necessarily be a life-long process. On Pentecost, an island in Vanuata, east of Australia, a government-operated television satellite truck begun to circulate weekly after the 1998 earthquake in Papua New Guinea. Through the truck, a UNESCO video explaining how to survive a

²²⁷ Ripley, *The Unthinkable*, 42

tsunami was shown, from recognizing the warning signs to evacuating to higher ground to seeing to the health and safety needs of survivors in the immediate aftermath. When another earthquake struck Sumatra the following year, islanders evacuated to the mountains immediately upon feeling the tremors. Even though a small tsunami wave inundated the island half an hour later only three of its five hundred inhabitants died.²²⁸

Post-merger Risk Response in Pondicherry

After 1952 no severe cyclones affected Pondicherry in the last years of French occupancy or during the years preceding the *de jure* merger. Abnormally heavy rains fell in October 1953, 1954 and 1962, but nothing historically exceptional. Torrentially heavy rains fell in November 1960, in fact the heaviest rains recorded between 1901 and 2002 at 644mm,²²⁹ but there is no retrievable record that shows even this to have caused emergency in the territory. Following the *de jure* merger cyclones considered to be “severe” by observers occurred with astonishing regularity,²³⁰ with eight such storms making landfall in the first fifteen years of independence, but for reasons that will be examined in chapter 4 there are no longer many contemporary documents that describe these storms or quantify their impact.

We are left, instead, with personal narratives of such storms, which too often are subject to mnemonic typification. It is nonetheless possible to draw conclusions from the stories people tell. Whatever the objective truth of the matter might be, it is clear today that people *believe* that the period between 1954 and 2004 can best be characterized by decreased personal responsibility, increased reliance upon the government for support

²²⁸ *ibid.* 48.

²²⁹ “India Rainfall Data,” accessed April 23, 2011, http://indiawaterportal.org/met_data/.

²³⁰ See, for example, F. Cyril Antony’s *Pondicherry Gazetteer* (Pondicherry: Government Press, 1982) and the folklore collections of P. Raja.

and relief in the face of disaster, and increased dissatisfaction with the actions taken by the administration in the name of improving the lives of vulnerable populations. Data gleaned from annual plans confirms the relative inability of the young administration to provide those things deemed most necessary by both sides – government and recipient – and the frailty of Nehruvian imperatives to improve the lot of poor Pondichériennes. Schemes undertaken during this period, though geared towards quality-of-life development, were not successful at mitigating the risk of loss from future crises but did chip away at the traditional, local level structures that had endowed communities with a certain self-sufficient resilience in the past.

Traditionally in fisher villages in Pondicherry and Karaikal the panchayat would collect a portion of the daily catch to reserve for various purposes, included relief in the case of community emergency,²³¹ added to collections taken by the local Amman Koil, or temple of a protective form of the mother goddess.²³² In times of distress, funds gathered from these collections could be distributed among the needy without resorting to government aid. In places where traditional structures are still strong, as in Veerampattinam, the panchayat may directly organize relief in the face of less sustained need following small crises like fire or localized flood:

AM: What measures are usually taken by the Panchayat [during emergencies]?

Viswa: Our panchayat will arrange for food to be cooked for the village [and] some big-shots in the village will take care of expenses.

²³¹ Vishwanathan (fisherman, Veerampattinam) in discussion with the author, July 2010; Kankayan (fisherman, Veerampattinam) in discussion with author, July 2010; Arulraj (fisherman, Vambakirapalaiyam) in discussion with author, February 2009; Veerappan (fisherman, Kuricchikuppam) in discussion with author, May 2009.

²³² E.g. Senkeni Amman (Veerampattinam, Solai Nagar), Angalamman (Vambakirapalaiyam, Keezhakasukudi), Renuka Devi (Karaikal Medu), etc.

AM: What about transportation? What if evacuation is required?

Viswa: We use individual vehicles. The fuel expenses are paid by the panchayat.²³³

Such local structures were not uncommon even in the recent past, but the power of the panchayats in Pondicherry fisher villages is now very much on the wane. Older fishermen, like Viswanathan quoted above, speak with some bitterness about what they feel to be external efforts to weaken the traditional mechanisms that structure daily village life. The semi-forced resettlement of villages since 2005 has only served to accelerate the perceived decline of tightly-knit, largely self-governing communities seeking little day to day interaction with state/central governments.

There is a general agreement among older fishermen that significant change began approximately thirty years ago. This placement in time tracks pretty accurately with the November 1977 cyclone, prior to which most memories are notably less exact as they fall victim to mnemonic typification. Puthupattar, a somewhat controversial community leader in Vambakirapalaiyam, put it most succinctly:

Many floods have happened, but I can't remember the years correctly. Thirty years ago a flood attacked the shore and damaged a lot of boats, but there was no damage to the village because the village was very distant from the shore. Now much of the shore has been eroded. Now also many nets are caught in the surf and swept away...The panchayat used to give some help in those days, but now only the name persists.²³⁴

Puthu is wistful when talking about the old Pattanavar community in Vambakirapalaiyam. The changes in the last thirty years he attributes not directly to

²³³ Vishwanathan (fisherman, Veerampattinam) in discussion with author, August 2010.

²³⁴ Puthupattar (fisherman, Vambakirapalaiyam) in discussion with the author, August 2010.

changes resulting from storms but rather to development schemes designed improve the lot of fishermen in the territory:

[When] the government began to develop the sea for tourism it did not worry about [fisher] people [in Vambakirapalaiyam]. Veerampattinam has a good shore now because of efforts to deepen the backwater, but Kottakkuppam village shore was badly affected by this work. Some government officials came here and advised the village leaders to relocate, but I argued and said “the government is giving a lot of money to fund the harbor development project but does not seem interested in helping the people.”²³⁵

The harbor project mentioned by Puthu was part and parcel of the development schemes initiated by the administration as part of the Five Year Plans organized by the central government in the 1960s.²³⁶

Similar memories percolate among fisher communities in Karaikal District. Speaking of the 1977 cyclone, Tandavasamy – one of the few fishermen old enough to have learned French in primary school – noted that “before this there were no warnings from the government, but our community sensed the symptoms of cyclone and avoided fishing [at these times].”²³⁷ Even after the cyclone, “the only help for us was self-help (*tanuṭavi*).”

The impression that the older fishers have that they were left pretty much to their own devices following the merger is pervasive, and it feeds the contemporary narrative that the government has in general done little to improve the quality of life of fisherfolk. In writing proposals for consideration under the Second Five Year Plan the newly

²³⁵ Ibid.

²³⁶ To clarify, the first Five Year Plan was instituted under the leadership of Prime Minister Jawaharlal Nehru in 1951. Pondicherry’s transitional administration was nominally involved with the Second Five Year Plan (1956-1961) but did not fully integrate itself into the central planning process until the Third Five Year Plan (1961-1966).

²³⁷ Tandavasamy (fisherman, Karaikal Medu) in discussion with author, July 2010.

constituted department of Planning and Research inadvertently gave support to this claim in their own efforts to distinguish the new Indian-led administration from the old, colonial leadership. “So long as the State was under the French,” announced the first page of the proposed programs submitted to the central government for consideration under the Plan:

[p]retty little was done for a progressive improvement of the economic and social structures of the people. Except for the cases of Medical, Education and Public Works Departments, *scarcely any department for undertaking agricultural improvements and provision of other social services existed.*²³⁸

This perspective served the immediate interests of the new administrations, and it has become a common refrain in Pattanavar and other fisher communities in the territory, but it does not bear up under scrutiny. As was explored in the previous chapter, even though the French often pursued policies that benefited their economic position in the subcontinent, most strategies were tailored to at least tangentially further the interests of certain categories of Indian subject, e.g. weavers, betel-nut growers, or *chelingues*.

In order to interrogate (the truth of) the fisher narrative it becomes necessary to excavate the official record of measures taken on behalf of fisher and other at-risk communities. The administration immediately identified what it saw as the shortcomings of the French administration – namely that they did not care about Indians *qua* citizens. Before undertaking a series of development projects, the new administration felt it necessary to cast themselves in contrast to their predecessors. But what was really at stake was the transformation of the economic system in Pondicherry from colonial to post-colonial. Agricultural development took precedence, but new development oriented

²³⁸ *Proposals for the II Five Year Plan* (Pondicherry: Planning and Research, 1955), 1. Italics added.

departments were set up (or reorganized from existing departments) expressly for the purpose of “meeting the needs of a State embarking on a program of all-round development, calculated to raise the economic and social levels of the masses.”²³⁹ Highlighting the new priorities the Agriculture department was budgeted over two lakh rupees for new projects. By comparison, the Department of Fisheries received less than one eighth of the investment in agriculture (totaling only Rs. 25,000) while roads were budgeted nine times that (18 lakh). The only investment in flood control was the revetment of the bank at Ferampeta, Yanam, for a miniscule investment of Rs. 3,000.²⁴⁰

The programs proposed for the fisheries department bear some examination at this point, because while certain programs did impact coastal fishing indirectly, it is more likely that the common impression of the government as uninterested in fisher concerns arises from the schemes developed and publicized from this period forward. These same programs, updated for technological improvements, appeared again after tsunami and were publicized by PIA as great quality of life improvements for fisher communities. Included in the plan were provisions for building cold storage lockers and setting up Fisherman Cooperative Societies. A final proposal was to provide training in mechanized fishing and other modern methods. Where cooperative societies were deemed “essential for their development,” mechanized fishing still existed in a liminal state between the present and the future. It was imagined that mechanized fishing units” would be set up to “demonstrate to the fishermen the efficiency of mechanized fishing,” but as yet no provision was given to subsidize the move from artisanal to modern fishing methods. Well into the 1960s, it was expected that the majority of fishermen would

²³⁹ *ibid.*

²⁴⁰ Other water control projects were identified costing over five lakh, but the administration decided these projects should instead be delayed until III Five Year Plan.

continue to rely on catamarans, and logs were still imported from Kerala for their construction.²⁴¹ The only one of these schemes to catch on was the development of fisher co-ops, which continue to thrive today. Unfortunately for the administration, as these are organized and managed by the fishermen themselves, the government gets little credit for their institution. On the other hand, what later turned into the unfulfilled promise of the other projects fed the narrative of a government unable, or unwilling, to assist the fisher community.

By the end of the Second Five Year Plan views on how to improve fisher communities had changed to a small extent. In the Pondicherry administration's proposals for consideration under the Third Five Year Plan are listed several additional expenses undertaken in the interim. While only Rs. 25,000 had been earmarked under the II Plan, a draft of the III Plan estimated more than seven lakhs of already incurred expense, though it is difficult to determine where exactly all of this money went. Added to the institution of coop societies was the collection and distribution of fish seed (Rs. 0.19 lakh), a 1/3 subsidy on synthetic twine for nets (.20 lakhs), a salt subsidy for preserving catches (.12 lakhs), and the provision of credit for the purchase of supplies (.58 lakh), and a subsidy for co-ops to obtain modern fishing craft (.73 lakhs). While these additional expenses under the II Plan are many, they only total Rs. 1.82 lakh. And while 22 fishermen were trained, costing approximately .35 lakh,²⁴² the provision of cold storage units were delayed until the III Plan.

²⁴¹ V. Jayanand (Joint Project Director – Fisheries, PIA) in discussion with the author, May 2009.

²⁴² The cost is assumed based upon the amount budgeted under the III Plan (.37 lakh) for the training of 25 more fishermen.

With the publication of the III Five Year Plan the Pondicherry administration did take a more determined position on flood control, but an examination of the proposals shows only one new project tangentially related to flooding while six others aimed directly at the problem merely maintained measures put in place by the French prior to 1954, primarily in the strengthening of flood banks in Karaikal and anti-erosion projects and drain improvement (Uppar, Petit and Grand Canals) in Pondicherry town. The plans submitted to the central government in Delhi during these transition years set the stage for what followed from subsequent, fully independent administrations in Pondicherry. The first Annual Plan submitted to Delhi by Planning and Research (FY 1966-1967) still named projects listed in the III Plan (1961-1966) as development *goals*. Plans submitted for the IV Five year Plan (1969-1974) *still* list the same projects submitted under the III Plan.

Flood Mitigation Projects under III Plan²⁴³

1. Strengthening of flood banks at Paravandayanur, Tirumalai Arasanar, and Nandalar rivers (Karaikal)
2. Ring bund at Iskitippa, Yanam
3. Improvements to Uppar drain, RC3-RC4
4. Drainage in Verichikudi village
5. Anti-sea erosion in Pondicherry

Flood Mitigation Projects under IV Plan²⁴⁴

1. Strengthening of flood banks at Paravandayanur, Tirumalai Arasanar, and Nandalar rivers (Karaikal)
2. Ring bund at Iskitippa, Yanam
3. Improvements to Uppar drain, RC3-R C4
4. Drainage in Verichikudi village
5. Anti-sea erosion in Pondicherry

In fairness to the administration, the strengthening of flood banks in Karaikal was completed during III Plan at a cost of Rs. 137 lakhs, but explanations for the administration's failure to complete, or even begin, the other projects was not exactly forthcoming, even while the importance of such projects was recognized. In fact, the IV plan budgeted more than Rs. 68 lakhs for schemes "designed to protect agricultural lands, situated near the banks of rivers, from getting flooded during the rainy season to the

²⁴³ Planning and Research, *Draft Proposals for III Five Year Plan* (Pondicherry: GoPY), 40.

²⁴⁴ Planning and Research, *Draft Proposals for IV Five Year Plan* (Pondicherry: GoPY), 126.

detriment of standing crops,”²⁴⁵ even while this amounted to less than half of what had already been spent to reinforce flood banks in Karaikal. Initiatives in Iskitippa and Verichikudi had been dropped and re-assigned to the IV Plan for reasons described only as “administrative difficulties.”

Plans to reinforce the shoreline in Pondicherry town had similarly been delayed despite the situation being defined in the direst terms:

The portion of the road in RC 23 from the Government Distillery up to Solathandavancouppam in Pondicherry has been badly eroded and already about 50% of the houses have collapsed. There are a number of houses in the stretch of road, costing a few lakhs of rupees. Unless some immediate protective measure is taken, the road may get washed off and a lot of private property affected....

To the South of the Government Distillery, in the first line of beach, serious erosion has taken place and there has been local subsidence at several places. Repairs have been sanctioned from the maintenance budget of the PWD. But these repairs cannot be a long term measure, *as further erosion is anticipated during the monsoon period endangering the entire town.*²⁴⁶

As noted in the excerpt above, maintenance of the shoreline had already been sanctioned from the operating budget of the Public Works Department, but more permanent solutions had already delegated to the Irrigation and Power Ministry along with the Planning Commission, recalling the conflict over the Bommianpet petition discussed at the opening of the present chapter.

²⁴⁵ *ibid.*

²⁴⁶ *ibid.*, 129. Italics added. The government distillery was located at the northern extreme of the colonial town, outside of what would have been its defensive walls but south of the canal dug separating Pondicherry town from Kuruchikuppam. Solathandavankuppam is the third fisher hamlet north of the town, now integrated into the metropolitan fabric through decades of urban sprawl.

While this shell game was occurring between the departments of the territorial administration, cyclones continued to beat the coast. Storms in both 1966 and 1969 were severe enough to merit moderately accurate recall by fishers in both Pondicherry and Karaikal and yet underscore what fisher communities came to see as the administration's inability to cope with floods. Coastal flooding in 1966 was severe enough to maroon people in Uppalam and Dubrayapet and as far inland as Lawspet and Karuvadikkupam. Catamaran fishers in Kuruchikuppam were enlisted to rescue those stranded, just as they had been by the French during prior emergencies.²⁴⁷ Rather than relying on government assistance, communities had to necessarily rely on each other and the mobilization of traditional coping and mitigation mechanisms such as choultries and temples²⁴⁸ and panchayat emergency stores.²⁴⁹ Traditional coping mechanism further mitigated damage, but at the same time government schemes intended to reinforce community resilience often had consequences that worked in direct opposition to these.

By 1969, despite over a decade of public concern for the social uplift of vulnerable groups in the Union Territory, coastal fisher communities in Pondicherry were still very much fending for themselves in the wake of cyclonic storms. A storm in October left the Sankaraparani (Chunnambar) River in high flood damaging houses and inundating paddy in Ariankuppam district. The following month a heavy cyclone struck the coast between Kakinda and Machilipatnam in Andhra Pradesh, causing heavy damage

²⁴⁷ Veerappan (fisherman, Kuricchikuppam) in discussion with author, July 2010; Arulraj (fisherman, Vambakirapalayam) in discussion with author, March 2009. The use of Kurichikuppam fishers to rescue marooned neighbors has also entered local folklore (see P. Rajan, *Glimpses of Pondicherry*) and official history (see F.C. Antony's *Gazetteer*). For earlier instances recall, for example, inundations in 1884-1885 that stranded communities as far inland as Oulgaret, discussed in chapter 2.

²⁴⁸ P. Raja (folklorist, Tagore College, Lawspet) in discussion with author, November 2008; Dr. V. Nallam (amateur historian) in discussion with author, March 2009.

²⁴⁹ Puthupattan, in discussion with author, August 2010; Viswanathan, in discussion with author, July 2010; Tandavasamy, in discussion with author, August 2010.

in Yanam and distracting the territorial administration from still recovering fisher hamlets in Pondicherry. Government relief efforts in Yanam included cash doles totaling Rs. 1.19 lakh for housing rehabilitation, Rs. 6,400 for fisher relief and Rs. 45,000 for cultivators. An additional Rs. 93,000 was given as subsidized loans for home repairs, but no relief committees were established as in the past, even as recently as the 1966 cyclone.

In the meantime, citizens in Pondicherry town found themselves without assistance. In an effort to obtain assistance not forthcoming from the government, residents in Veerampattinam led by Puthupattan approached Nicole Durieux, the wife of the French Consul-General, and asked her to intercede on their behalf. Mme. Durieux saw to the establishment of a primary health clinic in the village as well as work opportunities for local women and daycare facilities. This last was *not* an *anganwadi*, or government daycare center, but set up under the auspices of several French charitable organizations.²⁵⁰ French intervention at this moment of government failure only confirmed to the community that the French had always been more responsive to their needs than the new Indian administration had ever been, and over the following three decades very few government-led initiatives did anything to counteract this belief.

The best documented cyclone of this period struck the coast on November 11th, 1977. Unlike other storms in the period, one official report published by the Revenue Department acknowledges that prior warning of the coming cyclone had been given by the Meteorological Department in Chennai. As a result, certain preventative measures of which there is no earlier evidence were taken by the administration. According to the

²⁵⁰ N. Balasubramanian, director CERTH – India, to the Social Welfare Department, GoPY, 13 July 2005, Personal Files of Puthupattan, Vambakirapalayam, Pondicherry. The clinic is still the primary health provider in Vambakirapalayam, though it is now operated solely by CERTH –India.

Revenue Department report, the storm was expected to make landfall between Chennai and Pondicherry by the morning of November 12. In early reports and bulletins broadcast on All India Radio squally weather was expected to create 1.5 to 2 meter tidal surges and wind speed in excess of 100 kilometers per hour, or what would only measure as a category 1 storm on the Saffir-Simpson Hurricane Wind Scale.²⁵¹ Despite the only moderate severity of the storm, the administration decided to take precautionary measures:

As the cyclone was to cover a wide area and its course could not be predicted with any great accuracy, this Administration took all necessary steps to warn the people and also to evacuate them to safer places.²⁵²

Coastal announcements were the responsibility of the Ports Department, which by long tradition raised visual alerts for ships approaching in the sea road as well as for smaller, local fisher craft.²⁵³ One engineer who started working for the Ports Department only months before the cyclone remembered not just the raising of the hurricane “flag” but also autos fixed with loud speakers moving through the coastal neighborhoods in Pondicherry. He confirmed that, at least in the territorial center, coastal residents had at least 36 hours warning of the approaching storm.

Other residents, especially those in Karaikal, disagree with government claims.

With a growing body of experience suggesting an administrative disinterest in the fisher

²⁵¹ See National Hurricane Center, “The Saffir-Simpson Hurricane Wind Scale,” accessed March 11, 2011, http://www.nhc.noaa.gov/sshws.shtml#_ftn1. Given the extent of resulting damage, it seems unlikely that the cyclone that eventually struck the coast was only a category one. Unfortunately no hydrological data has survived. See C. Ramaswamy, *Review of Floods in India during the past 75 Years* (New Delhi: Indian National Science Academy, 1985), 141.

²⁵² Revenue Department, *Report on Cyclone and Flood Damages: November 1977* (Pondicherry: Government of Pondicherry, 1977), 2.

²⁵³ See “Cyclone Warning Signals,” Port Department, Government of Puducherry, last modified November 2, 2007, http://port.puducherry.gov.in/Port_data/Cyclone.htm. This visual cue was at one time a series of flags but by 1977 these had been replaced with a complex system of lights. Today these signals are published on the website of the Pondicherry Ports Department.

communities, some contemporary community leaders give accounts that contradict the government's narrative:

In 1977 a heavy cyclone came. A lot of boats were damaged during 1977. Houses were damaged, too. [AM: What precautions were taken?] There was no prior warning given by the government, but people in the community sensed the symptoms of the cyclone and avoided going to fish. Many homes and trees collapsed during that cyclone.²⁵⁴

Tangavadivel, today a community leader and former panchayat president in Karaikal Medu, recalled even earlier storms that he says “washed away the whole shore” but remembered 1977 happening as a young man still learning his trade under his father's watchful eye.

In 1977 a big cyclone hit here. Most of the villages here are placed on top of sand dunes [*mētu*] and by that are saved from floods. There was no loss of life then, only material loss like boats and nets. But there was no warning [from the government] before the storm came.²⁵⁵

Such stories contrast greatly not only with government narratives that state that “[r]epeated warnings were issued to people in the vulnerable areas through mike-fitted jeep and also by beat of drum,”²⁵⁶ but also with those told by fishers in hamlets bordering Pondicherry. Some who remember the 1977 cyclone admit to evacuating and resettling, though none of the Pattanavars with whom I spoke remember the source of the warning (port warnings, radio, jeep, or drum).²⁵⁷ Others deny that flood was ever a problem in the immediate vicinity of Pondicherry, until recently:

²⁵⁴ Tandavasamy, in discussion with the author, January 2009.

²⁵⁵ Tangavadivel (fisherman, Mahatma Phule Nagar), July 2009.

²⁵⁶ *Report on Cyclone and Flood Damages*, 3.

²⁵⁷ Ramalingam (fisherman, Vambakirapalaiyam) in discussion with author, July 2010; Viramurugan (fisherman, Veerampattinam) in discussion with author, October 2008.

I cannot remember the year correctly [but] thirty years ago flood attacked the shore and damaged lots of boats. But there was no damage to the village because the village is very distant from the shore. Now most of the shore lands have disappeared into the sea. [Before thirty years ago there was] no danger here. Flood came occasionally, so no problem.²⁵⁸

And, concludes Puthu, if flood was never a problem then there was never a need for the government to issue such warnings.

The last assertion is disingenuous in the extreme. Whatever the materials of Puthu's memory, it seems likely that in Pondicherry warnings were issued and preventative measures taken while in Karaikal such actions were lacking. Whatever the truth of the matter might be, these are the prevalent narratives. In addition to warnings being issued via various media, other actions taken by the administration in anticipation of the storm included: the assignation of specific duties and responsibilities to each of the line departments to be undertaken during and after the emergency, the opening a crisis control rooms in both Pondicherry and Karaikal, the shutting down of power supply in high-risk areas (especially in Karaikal), the regular clearing of debris from roads by fire and police personnel, and the *targeted warning of fishermen in coastal villages* by members of the Fisheries Department.²⁵⁹

After the initial cyclone passed, a second storm warning was issued on November 14th and as a precautionary measure evacuations to safer areas continued in both regions of the territory. The second cyclone did not strike the coast until the 19th, and then in only Andhra Pradesh, but from November 11th to the 19th the Revenue Department reported that the entire district administration was geared towards rescue and relief.

²⁵⁸ Puthupattan, in discussion with author, August 2010.

²⁵⁹ This last is worth noting again, as it directly contradicts accounts given by numerous informants.

People were shifted to public buildings, community halls, and temples and as more people were left without shelter increasing numbers of people – up to 10,000 daily – were fed at emergency centers run by the central administration, municipalities, and commune panchayats. One aspect of the immediate relief operations underscored by the Revenue Department was the efforts of temples to feed cyclone victims out of their own coffers.²⁶⁰

Damage surveys estimated that approximately 8,000 huts had been affected, 13,500 acres had been at least partially submerged, and 600 country craft and 57 mechanized boats had been destroyed. The Revenue Department's report, completed two weeks after the cyclones, only sketches the details of the relief measures proposed. What can be gathered from the report is that the majority of the relief measures taken were directed directly from the state level. Proposals were submitted for each sector by the concerned departments. Sector-wise proposals of state or municipal services – e.g. Electricity, Public Works, Panchayat, and Animal Husbandry – were limited to cost estimates. Residential and occupations sector proposals warrant more notice. Relief measures can be summarized as follows:

Housing: “Since the sufferers have to be given necessary assistance for the rebuilding of their thatched houses/huts immediately, gratuitous relief and housing subsidy as contemplated in the Government of India's guidelines for distribution of relief to the victims of Natural calamities circulated under their letter No. U-13030/1/74-Delhi dated 31st January, 1976 will be given.”²⁶¹

Agriculture: the immediate re-sowing of 3000 acres plus 50kg urea, free of cost; the rejuvenation of an additional 10,500 acres of partially submerged land with 20kg urea, free of cost for farmers owning > 2 acres and at 50% for those owning < 2 acres; distribution of pesticides and

²⁶⁰ *Report on Cyclone and Flood Damages*, 4. This corresponds with contemporary research on this cyclone that noted the prevalence of temples and choultries in relief efforts. See James Lewis, “Tamil Nadu Cyclone, November 1977: A Comparison of Newspaper Reports,” *Disasters* 3(2):123-125.

²⁶¹ *ibid.* 6. The letter cited is still in force and authorizes *ex gratia* payments up to Rs. 750.

fertilizers at same rate; 50% subsidy of planting materials at a rate of Rs. 500/acre (betel), Rs. 150/acre (banana), and Rs. 100/acre (groundnut); provision of taccavi loans (in cash and kind) up to Rs.450/acre to be repaid annually over 3 years.

Fisheries: full replacement of mechanized boats with engines (Rs. 88,000/boat); Rs. 100/- per catamaran subsidy; 50% subsidy/50% loan to replace lost nets (Rs.2000/net)

These three measures bear consideration. The first, the provision for housing relief, fell under rules outlined by the central government and were, more than any other relief measures, automatically given. What came of this money is up for question, as no documents can be recovered within the Union Territory that detail housing reconstruction in 1977. There were separate housing development programs in process through FY 1977-1978, and these will be discussed in chapter 5, but it is unlikely that any effort was made to integrate these earliest development schemes with the immediate rehabilitation required post-cyclone.

The fisheries and agricultural measures are more interesting. In the report the Revenue Department defined the territory as “predominantly agricultural,” and the resources given to the rehabilitation of the farm sector reflect this impression. But where the most economically vulnerable cultivators – those controlling less than two acres – are given the most assistance in the form of *ex gratia* payments and provision of materials, it is rather the *most* economically productive fishers who receive the most aid in the form of 100% replacement cost of mechanized boats and engines. The report numbers “about 4,500” fisher families living in the coastal regions of Pondicherry and Karaikal who were “extremely hard put on account of the cyclone and the preceding heavy rains, as they could not go out to sea for fishing.” The Revenue Department concluded that:

“Unless immediate assistance is given to rehabilitate [the fishers] in their occupations by a suitable scheme which would incorporate a liberal element of subsidy and loan, the fishermen community would experience great distress.”²⁶²

Notwithstanding this grim assessment of the quality of life of 4,500 fisher families, the administration chose to give as relief what amounted to loans of Rs. 1000 and *ex gratia* payments for boat repair that would not cover one tenth of replacement cost,²⁶³ and this to families who in 2010 earn on average less than Rs. 60 per day.²⁶⁴

In addition to the above measures, one further program was instituted in light of the flooding:

After the severity of the calamity was over, rescue and relief operations were carried out. By the combines efforts of all departments normalcy was sought to be restored speedily. Anti-epidemic measures were also taken by the Medical and Public Health Departments conjointly with the Municipalities and Commune Panchayats. A massive inoculation drive against cholera was started in both the regions and so far about 20,000 persons [have been inoculated]. As a result of these measures, there has been no epidemic out-break of disease.²⁶⁵

The inoculation campaign had already reached nearly 10% of the combined population of Pondicherry town and Karaikal only one week after the storm, and authorities continued to inoculate both people and wells against cholera. Given these massive relief efforts – rivaled eventually only by the 2004 tsunami recovery efforts – it is almost a wonder that there is still such firm denial of government assistance in the wake of storm disasters, especially this one, within the Pattanavar community.

²⁶² *ibid.* 10.

²⁶³ Arumurugan (fisherman, Vambakirapalayam) in discussion with author, February 2009; V. Jayanand (Joint Project Director – Fisheries, PIA), in discussion with author, April 2009.

²⁶⁴ CMFRI, “Socio-Economic Impact Assessment of Tsunami-rehabilitation measures in the UT of Puducherry,” delivered to PIA in September 2009.

²⁶⁵ *Report on Cyclone and Flood Damage*, 4-5.

Throughout the present study I have been outlining the specific ways that the French administration gradually developed disaster management policies over the course of the nineteenth century that were then allowed to languish by independent Indian administrations post-merger, 1954-2004. The 1977 cyclone seems to put the lie to this assertion, but I would counter that 1977 exhibits an extreme anomaly in the way that post-merger administrations in Pondicherry responded to the threat of cyclones and their aftermath. Nothing before or after the November 1977 cyclone suggests that the strategies pursued in its wake were either mobilized from existing standard operating procedures or maintained for mobilization during later storms. And while extant official documents and even media reports in the Union Territory during this period are exceedingly rare, the paracary memories maintained within the affected communities and the administration simply do not support the suggestion that the response to 1977 was typical.

To the contrary, all of the narratives surrounding storm and flood in the last three decades excepting the Revenue Department's *Report* suggest that Pattanavar impressions of administrative disinterest are not far from the truth. To be sure, in the five years since tsunami the stories told in fisher communities have been shaped to fit a narrative aimed at procuring more development resources. This narrative is mobilized to elicit sympathy and foster increased expenditure of within the Pattanavar communities. But there is broad agreement – in communities, in the administration, and in NGOs – that prior to 2004 the mechanisms of disaster response in the Union Territory were inadequate, almost entirely reactive, and some would even say ill-considered. Surprisingly, given the much vaster scale of the tsunami disaster, the scope of damage and relief in the wake of the

1977 cyclone was eerily comparable. Had the administration been able to draw lessons from 1977, relief efforts in the last days of 2004 could have been more rendered more speedily and effectively. Instead, in the words of Santirabal Singh, Chief Engineer of Public Works, “After tsunami we had no idea what to do.”²⁶⁶ Strictly speaking this simply was not true. But nobody knew where to look.

²⁶⁶ Er. Santirabal Singh (Chief Engineer, Puducherry PWD) in discussion with author, November 2008.

Before: Problems of Memory, Problems of Response

Pattanavars in the Union Territory have very little good to say about the administration in the years preceding the 2004 tsunami, and much that is mixed in its aftermath. But an examination of the narratives maintained within the community shows much that is mixed, too. With the advent of Independence and their gradual inclusion into the development initiatives in the system of Five Year Plans, fisher communities appear to have come to rely increasingly on the state. Though sometimes slow to acknowledge it, community leaders across the territory do admit – sometimes with anger at their own constituents – that such reliance on the government has weakened their communities. According to this narrative, traditional structures like panchayats, choultries, and temple collections – once the signposts of strong, self-reliant communities – have gradually disappeared over the course of the last thirty years.

Informants across the spectrum of relief and rehabilitation ranging from government officials and NGO workers to the fishermen themselves agree that traditional mechanisms of resilience – that is, the ability to withstand and recover from the negative effects of risk – have been replaced with reliance on external actors, an expectation of doles and handouts, and a weakening of community character. “Fishermen used to take care of their families,” said one fisherman. “Now sons are beating their mothers for pension money for drink.”²⁶⁷ Echoed another, “the government may give money for houses [to be built after tsunami], but these men, they drink it all away!”²⁶⁸ For many on the relief-giving side of the equation this has everything to do with how well-equipped

²⁶⁷ Veluthat (fisherman, Vambakirapalayam) in discussion with the author, June 2010.

²⁶⁸ Puthupattar, in discussion with the author, June 2010.

communities are to respond to disasters in the first place. Community resilience is greatly impacted by the quality of first responders, and these are not the same as those designated the role by officials but rather members of the community who are *in situ* when disaster strikes.²⁶⁹ And resilient communities – like those in Simueleu and Grand Bayou discussed in the previous chapter – are more easily rehabilitated.

At the end of the last chapter I posed a conundrum: if the response to the 1977 cyclone was so effective, at least from the point of view of the Revenue Department's own report, why did the administration not adapt and adopt it as a template for future best practice? If the administration acted preemptively by warning vulnerable communities of the coming storm, aiding in the evacuation of low-lying areas, and making provisions for quick relief in the immediate aftermath through the deployment of relief camps and emergency food kitchens, why is there no memory in the affected communities of “positive” responses to imminent risk by the administration? Such forgetting can be ascribed to two separate processes, the first linked to archival memory and the second to parcenary.

Remember from chapter 3 that archival memory is but one category of Nora's lieux de memoire, one that preserves memory-as-artifact within institutions. It is the urge to record, classify and retain every iota of history, though for what purpose never need be defined. There is no requirement for archival memory to be retrievable; the mere act of preserving it within an archive is enough to make it a memory-site. It is gestural: “There

²⁶⁹ See, for example, Virginia García-Acosta, “Historical Disaster Research,” in *Catastrophe and Culture: The Anthropology of Disaster*, ed. Susanna Hoffman and Anthony Oliver Smith (Santa Fe, NM: School of American Research Press, 2002) and Renos Vakis, “Complementing Natural Disasters Management: The Role of Social Protection,” (WorldBank 2009), <http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Social-Risk-Management-DP/0543.pdf>.

stands the archive, and within in lies a (our) history.” Whether it is ever accessed is not the point.²⁷⁰

But let us examine the second process first. Parcenary memories are preserved precisely because of their utility. In a community that has come to depend upon government assistance, narratives that confirm response, relief and attentiveness undermine narratives of neglect and of deficiency. “The government has done nothing,” said one man employed as a builder during Veerampattinam’s housing rehabilitation project begun in June 2010. “They used to give a loan for boats, but it is not sufficient because we have to buy the net and all these things. We can’t do anything. We can’t save any money. And the government is doing nothing.”²⁷¹ The sentiment that the administration should be even more present, that fisher safety is the responsibility of the government, hints at the breadth of the expansion of the government into people’s lives in recent decades, particularly as it is most often expressed by fishermen in their early twenties living in communities with weakened panchayats. “The government should help us,” said Arul. When asked what responsibility he bore during flood or other crisis his answer was pointed: “No, not me. First the government, definitely. Then the NGOs.”²⁷²

This submission to the direction of agencies charged with the welfare of state subjects contrasts strongly with the image of self-reliance and state-subject cooperation maintained by older Pattanavars. As recently as 1968, fishermen in Kuruchikuppam had been enlisted to use their catamarans to rescue flood victims stranded by inundations throughout Pondicherry town, a cooperative strategy of rendering aid that had first been

²⁷⁰ The India Office Records maintained by the British Library seems the quintessential example of this. It is, of course, accessed and its records mobilized daily. But it seems likely that therein lie records that will never again be examined, but it is enough that they exist within its fourteen kilometers of shelves.

²⁷¹ Joseph (day laborer, Vambakirapalaiyam) in discussion with the author, July 2010.

²⁷² Arulraj, in discussion with the author, June 2009.

deployed in the mid-nineteenth century.²⁷³ Others remember proactive evacuations as recently as 1977: “At that time we vacated out hamlet and resettled here again.”²⁷⁴ But frustration about the level of relief assistance is regularly expressed in a temporally vague way, though specific instances of dissatisfaction can often be pinpointed based on the specific details of memory. For example in 1987, remembered as the year M.G. Ramachandran died, “the state helped us but they could not fulfill our needs. They provided only to a few victims, but the remaining [victims] were helpless.”²⁷⁵

There is general agreement among fisherfolk that for the duration of living memory their villages have been left largely to fend for themselves. This has not necessarily been perceived as a detriment to the community. Residents in Veerampattinam have long-established donative practices that the panchayat has used to sustain the community in times of crisis.²⁷⁶ Similar practices prevailed in all Pattanavar communities in the Union Territory until very recently. For example, certain days would be announced for the benefit of the common village fund. All fish caught on that day would be given to the panchayat. Some of the money raised would be given to the fishermen who participated in the catch, but most would be kept by the panchayat to plan festivals and community welfare programs. Panchayat leaders have also been active

²⁷³ See chapter 3.

²⁷⁴ Ramalingam (fisherman, Manal Medu) in discussion with the author, June 2010. I say “proactive” because despite the 1977 Revenue Department report discussed in chapter 3, fishermen do not remember evacuation orders being given, only that *they* chose to evacuate. In the construction of narratives in which Pattanavars are left to fend for themselves in the face of a government imagined to be unengaged in the plight of fisher communities, the fact of official evacuation efforts undermines the fishers’ own sense of agency.

²⁷⁵ Ibid. MGR was a popular film actor – especially among the *minavar*, or fisherman, communities in Tamil Nadu and Pondicherry – who turned politician and quickly rose through the ranks of the Dravida Munnetra Kazhagam (DMK). In 1972 he broke away to form his own party, the Anna Dravida Munnetra Kazhagam (ADMK). He was elected Chief Minister of Tamil Nadu in 1977 and served until his death in 1987.

²⁷⁶ Murugan (fisher) in discussion with the author, August 2010; Kankayan (Veerampattinam panchayat president) in discussion with the author, August 2010.

advocates for the community in the face of unwanted development schemes devised by the administration over the years. The Veerampattinam fishers worked with the fishers of Vambakirapalaiyam and Manal Medu to advocate against a new harbor planned at Tangathittu, *l'île de cocotiers*, a small island located in the mouth of the Ariankuppam River behind the breakwater dune that currently serves as a protected landing for fishers in Manal Medu. But where the hard-scrabble living that characterizes life in the fisher hamlets once fostered self-reliance, or at least a grudging understanding that if the community needed something it needed to acquire it by its own means,²⁷⁷ there is now perceived among the younger generation a notable languor that roughly coincides with development initiatives started in the late 1970s:

There has been a change in mentality among the fishermen... Everybody wants nice things – you know like TV, scooter, AC – but they are not willing to put in the hard work for it...[it started] when the government started giving FRP boats [and] people started to think they could go off alone.²⁷⁸

These are the words of Murugan, a younger son of Tandavasamy, elder and former panchayat leader in Kilinjil Medu, Karaikal District. Encouraged by his father *not* to be a fisherman, Murugan went to college before becoming the merchant marine, and in so doing he offers an almost unique perspective on the rupture between traditional practice and government-driven modernization. But his opinion on this is little different from that of many of his elders. Puthupattar, a community leader in Vambakirapaliyam since the late 1960s, noted the same change in the following terms:

People are changed very much from the past. Before we earned money for daily subsistence, but now the situation is changed. People are bound to earn more money [so] the

²⁷⁷ For example, the medical clinic discussed in the previous chapter.

²⁷⁸ Murugan, in discussion with the author, July 2010.

thoughts to make money have increased. Thatched houses were enough for us at that time.²⁷⁹

Puthu's perception is not significantly different from Murugan, though they differ by a generation. The concept of "mentality" used by the younger, English-educated man is one that percolates within the circles of disaster management, government and non-government alike. The idea of a "fisher mentality" is one worth examining in depth. It goes to the core of the contradictory narratives about flood response in the Union Territory. Broadly speaking, the first is constituted by memories that reject evidence of government intervention in the face of crisis. The second is supported by documents that hold countervailing evidence that various sorts of aid have indeed been made available to the community. While the latter narrative is largely rejected by members of the Pattanavar community, the equally widely held belief – particularly among younger fishers – that government assistance for the acquisition of trade tools and supplies is not "aid" but rather the community's barest due belies the claim of government disinterest in the community.

The change in mentality noted by Murugan, Puthu, and others is rooted in the development measures initiated during the period of transition between the 1954 *de facto* transfer and the 1963 *de jure* merger of the French colonies with India. Projects aimed at modernization began with the territory's inclusion in the Second Five Year Plan (II Plan) in the mid-1950s, but the process of change did not really get underway until the late 1970s. To summarize, the II Plan sought the "transformation of the economic system in India so as to ensure greater efficiency in production as well as equality of justice."²⁸⁰ Agricultural development took the highest priority in this program, but the development

²⁷⁹ In discussion with the author, August 2010.

²⁸⁰ II Plan, 1.

of coastal economy also received attention that would lay the groundwork for the normalization of the entitlements. In their inaugural year, 1956-1957, fisheries development programs were limited to the setting up of cooperative societies, the provision of cold storage units, and training in modern fishing techniques. These programs were continued through the II Plan at a total expense of only Rs. 3 lakhs divided almost equally among the three programs.²⁸¹ Other programs intended to address quality of life issues included limited housing projects intended aimed at fisher communities and government workers, a discussion of which follows in chapter 5.

Development projects benefitting fishers increased significantly under the III Plan with additional schemes to collect and distribute fish seed, build ice plants, and provide subsidies for salt and synthetic twine. Two further programs provided subsidized credit for the acquisition of modern craft and other trade tools, both to individuals and to fisher co-op societies. These last programs were aimed specifically at the “ignorance and poverty” of fishermen “unable to command funds for purchase of craft and tackle, clearance of debts, repair of boats, net-making, etc., except at usurious rates from money lending-class [sic].”²⁸² An article published in *Putuvai seytigal* proclaimed this boon to the fisher communities of the territory: “*Mīṇavar nalam*,” “Fishermen benefit.”²⁸³ Fisherman could obtain so-called “pablo” boats – capable of hauling up to 23,500 kilograms of fish – at reduced cost from the government and receive training in any of the territories four enclaves.²⁸⁴

²⁸¹ II Plan, 47.

²⁸² III Plan, 29.

²⁸³ “*Mīṇavar nalam*,” *Putuvai seytigal* (Pondicherry, India), January 8, 1964.

²⁸⁴ III Plan, 28. In fact, as proposed in the III Plan, boats were made available through a “hire-purchase” system at 25% subsidy. At over Rs. 9,000/boat, these craft were still out of reach for most fishers.

State sponsored mechanized fishing and training in modern fishing methods expanded slowly over the course of the decade. In a summary of the III Plan published in the Union Territory's Annual Plan, FY 1966-1967, it became apparent how slowly progress on the coastal economy had been developing. In the first four years of the plan, 1961-1965, only two boats had been distributed, with four planned for distribution in the final year of III Plan and six more in the first year of IV Plan.²⁸⁵ Numbers drawn from the UTP Annual Plan FY 1968-69 show that even this was optimistic. While engines became available under a hire-purchase system, no boats were made available until FY 1968-1969:²⁸⁶

FY 1966-1967	5 marine engines purchased; "suitable" boats under construction
FY 1967-1968	3 engines imported, 2 ordered locally; Orders placed for 3 hulls
FY 1968-1969	9 boats to be constructed and distributed

The slow rate of delivery on promises no doubt made an impression on the communities these projects were intended to benefit. Pablo boats were phased out during the first half of the 1970s to be replaced by fiber reinforced plastic, or FRP, boats that could be fitted with small, diesel outboard engines (illus. 4.1). FRP boats had several advantages over traditional catamarans: they were larger, held more men, carried more weight, and were more durable.²⁸⁷ The most ambitious modernization scheme to date, initiated in FY

²⁸⁵ When the IV Plan was finally released in 1969 it did not include any provision for the continuation of the mechanization program.

²⁸⁶ *Annual Plan 1968-1969*. Numbers submitted the following year show only eight boats distributed.

²⁸⁷ Catamarans, country craft made by lashing logs together with rope, are much smaller craft that allow crews of no more than three and considerably limit fish catches. According to V. Jayanand, a career administrator with the UTP Department of Fisheries and Fisherman Welfare, logs for their construction have long been imported from Kerala at costs that are still prohibitive to traditional fisherman but many still prefer them for the durability, weight, and stability in rough water.

1975-76, was intended to speed the implementation of FRP fishing According to the plan:



“The program of mechanization of fishing crafts will be continued at a more intensified scale by procuring 120 boats. Boat hulls made of glass fiber and reinforced plastic will be introduced [and] production is expected to increase from 16,000 tons to 25,000 tons by the end of V Plan.”²⁸⁸

Illus. 4.1 FRP boats at Kuricchikuppam

This is the moment, a time when the government was heavily subsidizing the introduction of FRP boats and working mightily to develop and modernize the craft of fishing to the Union Territory, identified by Murugan as the change-point in the fisher mentality. It is worth noting, too, that the period he identifies as the moment in which local fishermen started to increase their dependence upon the government while growing increasingly complacent in their own welfare came during a time when the Central Government was at its most intrusive.

The independent administration of the Union Territory was already proving unable to meet development goals within planned timelines, and fisher communities promised specific aid programs saw more promises failed than fulfilled. Despite numerous betterment schemes proposed in the years following the transfer, time and again the administration left development goals unmet. With such a record it is not surprising that vulnerable and marginal communities have come to hold very low expectations for government assistance, even rejecting evidence that displayed a more responsive side to government by excluding it from community narratives, insisting

²⁸⁸ *Annual Plan 1975-76*, ii.

instead that “the government does not protect us at all.”²⁸⁹ The regular repetition of individual incidents of perceived injustice re-echo through Pattanavar communities confirming the perception of an unsympathetic, or least unengaged, government:

A young man was killed last year when the wall collapsed, but we will not be getting [any] money for two years.²⁹⁰

They provided 10kg of rice to every family, but it was bad quality to cook so we traded it in the shop [for other things].²⁹¹

In the morning they’ll bring some idlis, in the afternoon some lemon rice or curd rice in a packet and they’ll just give it and go away. [AM: For how many days?] Just that day...and after that they don’t do anything. They may ration some rice. That’s all. [But] it will be yellow.²⁹²

Despite the dissatisfaction resulting from what is perceived to be almost certain neglect by the government in Pondicherry, local political structures that in the past might have fulfilled the relief role undertaken by the central government are also seen to be in decline. The bodies of local governance that have traditionally been responsible for the health of the community, the panchayats, are seen by many to be in decline across much of the Union Territory. In Vambakirapallayam, for example, the Pattanavar panchayat has been the victim of caste miscegenation. “We do not have this system because of village conflict,” said Ramalingam. “[Other castes] kept coming and coming into the village to stay,” forcing the fishermen into the margins.²⁹³ Puthupattan agreed, adding

²⁸⁹ Nagarajan (fisherman, Kilinjil Medu) in discussion with the author, July 2010.

²⁹⁰ Perumal (fisherman, Manal Medu) in discussion with the author, June 2010.

²⁹¹ Ramalingam, in discussion with the author, July 2010.

²⁹² Joseph in discussion with the author, July 2010.

²⁹³ In discussion with the author, August 2010. Ramalingam’s words were, “Avañka *pōñki pōñki pōñki pōñki tañkiñka*.” The repetition of the word ‘*pōñki*’, “having gone,” accompanied with hand motions moving farther away from his body with each repetition was conveyed as sense of inexorable invasion.

that panchayat structures only work in homogenous communities. “Here there are different castes. Their occupations are different. It is hard to control them.”²⁹⁴

In Vambakirapalaiyam, fishermen date the decline of their local panchayat to the 1990s. It was then that Cinna Pattanavars, a different fisher caste found primarily around Chennai, began settling in Pondicherry. Conflict between the fisher castes shattered the established hierarchy in the village, leading to rowdism between factions seeking an upper hand in the local economy. But more than tensions between fisher castes, Vambakirapalaiyam was victim to the heterogeneity identified by Puthu. “Every caste here has their own community panchayat,” said Ramalingam, naming in Hindu, Christian, and Sambavar as three groups within the village that had their own panchayats.

A similar change has been noted in Karaikal District, particularly where communities displaced by the tsunami have been relocated. But here there is less agreement about loss of local power structures. Srijji Kurup, the district director for CEE, an environmental education and development NGO, began noticing changes as soon as tsunami nagars – complete colonies built expressly to relocate displaced populations – were completed. Traditionally communities would nominate up to fifteen members to serve for a year-long term. These nominations were based largely on respect and position within the community. When villages were relocated, said Kurup, members from smaller villages would often be consolidated into larger colonies, destabilizing older hierarchies. In itself this likely would not have been enough to lead to the kinds of disintegration of local level control seen by Kurup, but it did begin a process similar to that described by Ramalingam and Puthu in northern Pattanavar villages. “Who will they look to in a crisis?” he asked me. “They do not know anymore,” he replied, answering his own

²⁹⁴ Puthupattar, in discussion with the author, August 2010.

question. “They will look to the government because they no longer know where to look in the community.”

A more satisfactory answer was given to me by L. Mohammed Mansoor, former District Collector in Karaikal, who had seen the same kind of disruption. “It keeps them socially cohesive,” he said, but added that the panchayats had too much power over the community in the past. “People are more willing to speak out against the panchayat,” he said, “because they are emboldened by government allotments.” He explained that community members who could have formerly been marginalized by village leaders were gaining new affluence through government doles. Rehabilitation assistance was not something that local leaders could limit or take away as it was received directly from the government. Village members no longer had to rely solely on the munificence of local leaders. Villagers who may have earned the village’s ire, who had been ostracized or otherwise marginalized from the community center, received government handouts regardless of their status within the community, and this freed them to criticize village leaders.

A second component contributing to the decline of the traditional panchayat was the institution of elected panchayats in the Union Territory in 2006. Where under the older, caste-dominated model members were nominated by village members based on respect, influence, wealth, and other signifiers of position, elected panchayats were not only open to any village members who chose to run, but barriers of caste were removed in villages with significant minority populations. Veerampattinam, for example, remains a predominantly Pattanavar village with approximately 4,000 residents. Kankayan, the current panchayat president, is sanguine about the traditional leadership. “There is no

problem here. Dalits and Vanniyars are minimal in number here, so they are not fighting with us.”²⁹⁵ In the entire village Dalits number less than one hundred voting members and Vanniyars less than fifty. Even in the elected leadership there is little chance of minority castes garnering enough votes to disrupt Pattanavar control. In Vambakirapalaiyam, on the other hand, its formerly Periya Pattanavar majority is now challenged by significant populations of Cinna Pattanavars, Sambavars, Christians, and even Telugu-speaking Ambattars. As already noted above, the Periya Pattanavars have long since lost their local dominance, and as a result have little chance to control the elected panchayat. But the introduction of an elected leadership that subverts historical caste dominance goes beyond the mere loss of caste influence within a given community. As one tahsildar noted to me, rehabilitation agencies must as a matter of law deal not with traditional panchayats but with elected leadership. This change has flipped older structures of reciprocity on their head. Nominated (e.g. caste) leaders have lost their control over resources given to the community by the central government. This double undercutting of traditional village hierarchies – the direct giving of *ex gratia* payments by the government to recipients and the transfer of power from caste-determines leaders to non-caste-determinative village-level leadership – had greatly weakened traditional fisher panchayats, especially in the more heterogenous, urbanized villages in Pondicherry District.

Coupled with the loss of community mechanisms that abet preparedness and mitigation – building atop *medus*, panchayat collections, and familiar hierarchies of leadership in crisis – there is a perceivable loss of vocational lore that has long been used by fishers to protect against the risks associated with the sea, part and parcel of the

²⁹⁵ Kankayan, in discussion with the author, July 2010.

change in mentality that was until recently the indigenous bulwark against the natural behavior of the sea. Before moving to examine the failures of institutional memory in the years leading up to the 2004 tsunami it will be useful to become familiar with the indigenous mechanisms of response that have been left to atrophy as government programs have increased.

Even the Wide Sea

Pattavar fishermen in the Union Territory, perhaps more than anyone, must find a way to balance the risks associated with living near the sea with the benefits. Among the benefits are vocation and sustenance; the risks are rather more numerous and uncertain. This uneasy balance is captured in a verse of the Tirukkural, Thiruvalluvar's classical text of Tamil couplets, which many older fishermen know and were proud to be able to recite to me as evidence of their learning:

*netuṅkaṭalum taṅ nīrmai kuṅrum taṭint
eḷilitāṅ nalkātu āki viṭiṅ²⁹⁶*

Even the wide sea will be depleted
if the clouds do not give of themselves

By itself the couplet ties the wealth of the ocean to the inevitable regularity of monsoon. The sea is not an infinite resource to be mined without consideration for the future. And while the medieval science of the aphorism is wrong – no contemporary fisherman with whom I spoke believes that clouds can drink up the whole of the ocean – the words are a reminder to the community that the resources of the sea must be husbanded with care.

This care comes in knowing not only when and where to fish, but also when *not* to fish. This knowledge is tied to the cycle of the monsoon, regionally called *musappu*, a

²⁹⁶ *Thirukkural*, 1.1.2.17.

Pattanavar dialect word derived from the Tamil words for ‘three’ and ‘month’ – *mūṇru* and *mācam*, respectively.

“It’s a local term [that] may vary from Pondy to Karaikal region. Musuppu means a strong cloud will form and the weather and wind will change immediately. By these symptoms we know not to go fishing.²⁹⁷

In the standard spoken dialect of the Pondicherry region this is typically rendered more closely to written Tamil as “munu masam” or “mul masam,” referring to the three months between October and December when heavy cyclones are most likely, and it remains today a low register shorthand for the annual northeast monsoon season.²⁹⁸ An awareness of musappu and being able to recognize its “symptoms” was once part of traditional fisher folklore. This knowledge provided a modicum of safety to the community by mitigating the worst risks associated with storm and the heavy seas associated with them by preventing the riskiest behavior, namely going to or staying at sea when a storm approached.

The foundation of this knowledge was simply knowing when musappu occurs. Even with modern technology fishermen remain acutely aware of the wind, as this is often the first symptom of impending trouble. From mid-January until June the prevailing winds bear south to north. From June to mid-July the winds subside until mid-July, the beginning of the Tamil month of āṭi (anglicized ‘Aadi’). Aadi masam, sometimes called “kattu masam” or “the month of wind,” is notable for its *muṭṭā kōṭa*

²⁹⁷ Tangavadivel (panchayat member, Karaikal Medu) in discussion with the author, July 2010.

²⁹⁸ Most Pondicheriennes simply use the word monsoon. Several Franco-Indians used *ouragan* or *tempête* when speaking to me, though it is unclear whether these words were a part of their normal usage or if they deployed them solely for my benefit as a foreigner. Certain French words have penetrated the *de facto* register of older, French educated Pondicheriennes speaking to foreigners – words like *monsieur* (pron. ‘mohsee’) and *beaucoup* (pron. as in French) – even, in my experience, to non-French or Tamil-speaking foreigners.

kāttu, or strong summer winds, which impact on the fishers has earned it the name *mēlā* or *pallik kāttu*, the west or Vanniyar wind.²⁹⁹ The Vanniyar wind cuts harshly across the shoreline making the daily return from sea extremely arduous for non-OBM³⁰⁰ fishers must paddle directly into the wind or, with modern boats, expend more than usual amounts of petrol as their small outboard engines muscle against the wind. From mid-August “the sea will be silent,”³⁰¹ and the wind may change direction without warning.

The western wind of Aadi masam is followed by the erratic stillness of late August and September. The subsequent arrival of a steady wind out of the north marks the beginning of musappu. It is the most predictably dangerous time of year for the entire coastal economy. Catamaran and FRP fishers who still survive in a largely subsistence economy will avoid launching when the seas are stormy and might miss several days of work in a single week, especially during the Tamil month of Karthikai, when the *kuṇṇodai kattu* blows from mid-November to mid-December.

Even more dangerous than storms during musappu are the infrequent and unpredictable storms of Chitirai masam (mid-April to mid-May):

Oru marakkā tali arata puyal citirai puyal

A storm in Chitirai reaps a *marakka* of grain.

This proverb is framed as an exaggeration that serves to underscore the belief that the sudden storms Chitirai masam are calculably worse – in fact eight times worse – than the

²⁹⁹ The Vanniyars are the dominant agricultural caste in Pondicherry hinterland, referred to somewhat dismissively by the fishers as *mērka*, literally ‘the west’ but encompassing nearly all things beyond the coastal limn of daily fisher life, called *karapōṅku*. For a discussion on the differentiation between *karapōṅku* and *mērka* see S.B. Bharathi (1999).

³⁰⁰ Outboard motor

³⁰¹ Veluthat, in discussion with the author, July 2010.

typical storms of musappa.³⁰² Pattanavars in Pondicherry also say *chitirai puyal kunnodai puyal* – “Chitirai storms [like] kunnodai storms” – which equates storms occurring in late April and May with Kartikai’s *kunnodai kattu*.³⁰³ One fisher, Tangavadivelu (hereafter, Velu) of Karaikal Medu, described such out of season storms in the following way:

“It will come in Chitirai, but there is no scientific explanation. [It] is from the north to east direction. It starts like a mild wind but takes drastic effect within half an hour.”³⁰⁴

Velu’s description highlights the uncanny nature of Chitirai storms. Where storms during monsoon are expected, and even understood as a natural artifact of the annual progress of the seasons, there is little comparable understanding of the meteorological phenomena that create storms in general, nor even a recognition that they are caused by similar phenomena. Many fishers who avoid going to sea during the height of monsoon to mitigate the risks associated with fishing in rough seas have nevertheless been caught unaware by oncoming Chitirai puyal for this very reason. Despite the dangers inherent in being caught at sea, few fishermen take proactive, material measures to prepare against such possibilities beyond staying ashore during the harshest seas of musappa.

We take a water bottle and food in tiffin box for one day.
If we are going for two or three days we cook in the boat.
Small fiber boat fishers take *kanji*.³⁰⁵

Preparations similar to those described above are practiced across the territory. As a rule, fishers head out to sea with some water, but not enough to last should they be caught in an emergency. Sometimes a little food is taken, but not with regularity.

³⁰² A *marakkāl* is a unit of measure equal to eight times a standard measure, the implication being that monsoon is perforce the standard measure of the strength of a storm.

³⁰³ The Tamil month of Kartikai falls from mid-November to mid-December, normally the period of heaviest storm.

³⁰⁴ Tangavadivel, in discussion with the author, August 2010.

³⁰⁵ Tangavadivel, in discussion with the author, July 2010.

It also used to be the case that each day at sea would begin with a prayer – to Renuka Devi and Balanchar in Karaikal, for example, or Senkeni Amman in Veerampattinam. “They will protect us if we do proper *puja*,” said Nagarajan.³⁰⁶ Added Velu, “The sea is god to us, so we pray before going fishing. Kadal Mata will definitely save us from evil.” He continued:

The sea gods are Kuttiamdavar, Kilakathiyar, Samparuppam, Kanniamma, [and] Kodaimarathat. We always pray [to] god when we used to go fishing. Now the situation is changed. For catching the *kōlā* (flying fish) we always pray. We do not wear chapals or even cut our hair on a fishing day. [But] by seeing foreigners and Americans (*velaikkararum amerikarrarum*) we are now coming out of our traditional practices.³⁰⁷

The change is especially acute among the younger men, those often considered rowdies by the older generations. Perumal, a curious drunk who swings quickly from jollity to anger whenever he is in his cups, complained bitterly about both the government and god whenever I asked about what kind of help is given to storm victims: “They are nothing. They are not helping us properly. I have [only] my brother and the rest [of the Manal Medu fishers].”³⁰⁸ Rowdism and drunken behavior is less prevalent in the villages north of Karaikal than it is in and around the Pondicherry fisher hamlets, which only makes the

³⁰⁶ Nagarajan, in discussion with the author, July 2010.

³⁰⁷ Tangavadivel, in discussion with the author, August 2010. Kola fishing is a significant event in the annual fishing cycle, occurring between May and August, and traditionally brings rich returns. Kola fishing takes place in the deep sea, often at twice the depth of other fishing, and is consequently more dangerous. As a result it is subject to a complex set of rituals prior to commencement, alluded to by Velu. According to Bharathi preparations for the first kola voyage also include bathing in oil and maintaining ritual purity by abstaining from non-vegetarian meals and from sex. Fishwives will also maintain ritual purity and prepare a special variety of pongal that can keep for several days. Since success depends upon the blessing of the deity, fishers will not even refer to the kola fish or to their gear by their usual names, instead deploying a separate vocabulary for these items during fishing. See also S.B. Bharathi, *Coromandel Fishermen*, 61-63.

³⁰⁸ Perumal, in discussion with the author, June 2010.

more sober opinion of fishers like Arumugam more poignant. When asked if he practices puja like his elders he says matter of factly, “no, the gods mean very little.”³⁰⁹

All of this is part of the change in mentality perceived by Murugan, Velu, and others in both the fisher communities and in the agencies aiding in their development, a change that is seen by many to highlight the loss of regard for traditional ways. “Before if a *vellaikarar* (outsider, non-fisherman) touched a net with their shoe we would immediately hit them because it is [like] god to us, but now the attitude is changed.”³¹⁰ This quasi-mythic “before,” *munnale*, the time many older community members reference when speaking about traditional ways of knowing the sea, is impossible to pin down with any specificity but can be located prior to the development initiatives that took place in the late 1970s. It ends during their youth but includes the time of their own apprenticeship and the time of their fathers’. These memories, parenary in character, inform the narrative of who they are as men and what they *used to be* as a community. “We know about the climate....we adapted to live with disaster,” explained Tandavasamy,³¹¹ a sentiment echoed and amplified by almost everyone:

We have knowledge about the sea and wind, traditional fishing techniques [that] are changing terribly now.³¹²

We don’t have fear about the sea. We are accustomed to it. Whether it is heavy rain or wind, we are not afraid.³¹³

³⁰⁹ Arumugam (fisher, Kilinjil Medu) in discussion with the author, June 2010.

³¹⁰ Anandarajan (fisher, Karaikal Medu) in discussion with author, July 2010. Similar sentiments are often expressed by musicians in both India and Indonesia: musical instruments – like the mrdangam and veena in South India and the Indonesian gamelan – are traditionally regarded as manifestations of the divine. Any mistreatment – rough handling, neglecting puja, even stepping over them instead of walking around – can be taken as a grave insult and cause the instrument to ring sour. Govindarajan Narayan (mrdangam player, Chennai), in discussion with author, October 1996; Vijalaksami (veena player, Chennai) in discussion with author, October 1996; T. Vishwanathan and Ramnad Ragavan (flute and mrdangam players, Middletown, CT) in discussions with the author, 1999.

³¹¹ Tandavasamy (fisher community leader, Karaikal Medu) in discussion with the author, March 2009.

³¹² Puthupattar, in discussion with author, August 2010.

³¹³ Murthi (fisher, Karaikal Medu) in discussion with author, July 2009.

It is very dangerous. The whole fisherman life is danger. There is no security when we go fishing. Cyclone, tsunami and a lot of [other] dangers are there.³¹⁴

This attitude of hard-won wisdom and confidence in the face of certain danger is what Pattanavar elders mean when they speak of a fisher mentality. It is based, they insist, on traditional knowledge that is “absorbed from their parents” without “follow[ing] any verbal teaching.” “We live here from childhood,” summarized Murthi, “and have mentally adapted.”³¹⁵

Local coping mechanisms for dealing with the annual inevitability of cyclonic storms has traditionally been geared towards identifying and minimizing the risks associated with living and working in close proximity to Kadal Mata, the Sea Mother. Velu, who is remarkable for the breadth of his traditional knowledge despite his comparatively young age, is one of the few fishermen young enough to have come of age after the end of the “Before” who still fully embraces traditional ways of knowing the sea:

Most of our villages are placed over the *mētū* (sand dunes), [and] by that save themselves from the floods. There is no life loss during cyclone, only material loss like boats [and] nets. But due to overpopulation now fishing hamlets are getting dispersed into plain areas, too.³¹⁶

This has certainly always been the case in Karaikal,³¹⁷ where medus rise abruptly out of the *kallarām*, the sandy beach, to heights of ten or more meters forming a natural sea wall that repel all but the most ferocious storm surges. This is somewhat less the case in Pondicherry town where medus are far less prevalent but almost the whole of the settled

³¹⁴ Tangavadivel, in discussion with author, January 2009.

³¹⁵ Murthi, in discussion with author, July 2009.

³¹⁶ Tangavadivel, in discussion with the author, August 2010.

³¹⁷ See Bharathi, *Coromandel Fishermen*, 18-20.

town from Vambakirapalayam to Solainagar, a distance of about four kilometers, is fronted by a ten meter stone revetment that grew out of the original French seawall. North of Solai Nagar and south from Dubraypet much of the kallaram had disappeared beneath enormous stone breakwaters extending into the sea from the shore, called *tuntil valivu* in Tamil, one of the government infrastructure initiatives begun since 1980 intended to protect fisher villages and mitigate the effects of beach erosion.

A sizable fraction of accumulated traditional fisher knowledge treats what Pattanavars call the “symptoms” of storm, indicators by which fisherfolk can identify an approaching storm. As was already discussed above, winds a key symptom. But changes in wind are often too sudden, as in the case of *chitirai puyal*, or the character of the wind is too seasonal – e.g. the *vata kattu*, the *aadi kattu*, etc – to give any kind of warning of an impending change in the weather. Fishers that barely manage a subsistence living³¹⁸ over the course of a year cannot afford the luxury of staying ashore during the three months of *musuppu*. The situation has been exacerbated in recent years with the institution of a forty-five day ban on fishing during the dry months of April and May.

Since *not* fishing is not a viable option for many of these men, being able to recognize the symptoms of an upcoming storm used to be vital to their safety part and parcel of their socialization into the community. Skilled fishers could “sense the nature of the shore soil and predict the weather, [and] in a majority of the occasions their prediction came true,”³¹⁹ but now much of this local knowledge is being forgotten. Even

³¹⁸ CMFRI, *Socio-Economic Impact Assessment*. According to a study commissioned by PIA and carried out by CMFRI in Kerala, the average daily income of non-mechanized – e.g. *catamaran* – is Rs. 56, which still represents an increase of more than 30% from pre-tsunami incomes. Small-scale motorized fishers, those using FRP craft with small outboard diesel engines (OBMs), earn nearly three times that, Rs. 145 or about \$3/day, an increase of nearly 25% over pre-tsunami incomes.

³¹⁹ Puthupattar, in discussion with author, July 2010.

before the government began to discuss building media centers in tsunami-affected villages, the electronic media of radio and television had already begun to supplant traditional ways of knowing. “The television will warn us is a cyclone is coming,” agreed a group of fishers in Kilinjil Medu, begging the question: what about before television? “The radio would warn us. There is a weather station in Chennai and Andhra. They would give a cyclone warning.”³²⁰ Many others agree. Today, when a storm approaches, “the government tells us” using radio, television, and local public announcement systems.³²¹ Ironically, a sizable number of men who declare unreservedly that the government does too little to help the community no longer seem able to identify traditional signs of coming danger. The government may do too little to secure the safety of Pattanavar communities, but then so apparently do many young Pattanavars.

The recognized signs of a coming storm are few but nearly universal in both Pondicherry and Karaikal districts. The first indication of impending bad weather is often a ring around the moon.³²² But a peri-lunar ring is rarely enough of an indicator by itself to prompt the mobilization of precautionary measures. Rather the appearance of such rings would encourage fishers to look for other signs or, if such indicators had already appeared, the combination of signs would force a decision to be made about the safety of launching on a given morning. These signs are specific to the fisher community, unavailable to outsiders. One method still used in Karaikal District for identifying the approach of storm is to note the behavior of the fish themselves.

Tandavasamy explained:

³²⁰ Nagarajan et. al., in discussion with author, July 2010 .

³²¹ Arumugam, in discussion with author, July 2010.

³²² The phenomenon is caused by light refraction off of ice crystals. Such crystals indicate high atmosphere cirrus clouds that often precede a warm weather front by a few days. Warm fronts are associated with low pressure systems that often cause storms.

Few types of fish settle near the shore. [When a storm approaches] the water current flows in two directions. The upper level and lower level flow in opposite directions, [and] by this action some unexpected types of fish will be caught. It's also a symptom of climate change.³²³

In Tandavasamy's telling, the symptom of cyclone is the presence of *unusual* fish close to the shore, mackerel and cuttlefish being frequently named. Often this is coupled with multiple counter-directional currents, called *irukkā vellam*.³²⁴ This method was used in the fishing grounds near Pondicherry town, as well, but had declined in recent years. According to one informant from Vambakirapalaiyam, when the currents are altered by an approaching storm "whales swim in the upper layers towards the shore."³²⁵ Sea snakes, too, appear in the upper currents curling into balls.

But it is not just unusual fish that signal impending heavy weather but a change in quantity of common fish. Everyone with whom I spoke in Karaikal District agreed that unusually high amounts of ribbon fish and prawn could presage a storm. In fact this was typically the first symptom named to me. Pondicherry fishers agreed that it did indeed used to be the case that before storms "fish were available near to shore, but now they are not available because STB boats (large trawlers) washed away the small fishes."³²⁶ Kankayan, president of the Veerampattinam panchayat in 2010, put the matter most succinctly, saying "we are habituated to the coastal environment. Any change happens is easily apparent to us."

But prophesying cyclones and mitigating their effects are different matters. To know a storm is approaching is not the same thing as taking measures to reduce risk and

³²³ Tandavasamy, in discussion with the author, August 2010.

³²⁴ See also Bharathi, *Coromandel Fishermen*, 32.

³²⁵ Puthupattar, in discussion with the author, July 2010.

³²⁶ Karaikal Medu Panchayat, in discussion with the author, January 2009.

lower ones exposure to hazard. Most Pattanavar fishers, including many of those already quoted, speak proudly of their habituation to the dangers of life near the sea, but even those no longer able to predict the onset of a cyclone still reduce risk by avoiding fishing in seas wrought with distant storms. Among older fishermen being able to identify the symptoms of a storm themselves is all that is required to avoid undue risks, either by staying ashore or trying to make it back to shore before the worst. This latter group does not eschew technology – many have televisions and most own radios – but adaptations to weather are made on the basis of personal knowledge, and risks is minimized using traditional technologies.

Two of the most significant local adaptations to storm traditionally made by fisher communities have been building their villages atop medus and down their protected west-facing sides and using the traditional catamaran (illus. 4.2). Much more than the newer FRP boats slowly replacing them, traditional catamarans are



Illus. 4.2 Traditional catamaran

built to work in the conditions under which they are used. “The wooden catamarans are very safe in [storm] conditions,” said Ramalingam, a fisher working out of Manal Medu in Pondicherry District. “It never tilts, but the fiber boats are very dangerous.” He continued:

[The FRP boat] can tilt very easily. With a catamaran, even if it tilts it can be adjusted. But fiber boat, when it tilts it is difficult to bring it back into position. We go through the wind and settle on the shore of another village. They will help us.³²⁷

These measures seem inadequate in the face of what we now know the sea is capable. The 2004 Indian Ocean calamity overwhelmed the Pattanavar community's traditional mechanisms for coping with inundation just as the recent events in Sendai, Japan, have underscored just how unprotected, even unprotectable, coastal communities are from the massive wave surges caused by tsunami. But these tools for identifying risk and mitigating loss from flood are a part of the traditional identity narratives of fisherfolk in the Union Territory. They have been enough, excepting in the most extreme cases, because according to the fishermen themselves there is almost no danger of flood in traditional villages. As Puthu put it, "There is no danger here. Flood only comes occasionally, so no problem. The sea never came inside the village or eroded the shore."

But what does he mean by this seemingly counterfactual statement? It certainly is not the case that Pondicherry – a predominantly coastal region – is not at risk from flood. According to the administration's annual disaster management plan the district is vulnerable to a variety of flood scenarios:

Puducherry has always been classified as a multi-hazard prone district. Cyclones and floods have wreaked havoc in the district several times in the past few centuries...Part of the problem owes its genesis to the location of the district [which] has a coastline of approximately 24 km. Therefore the district is vulnerable to the cyclonic depressions of the resultant rains, which cause floods.

Puducherry has an area...of extremely fertile and well irrigated lands benefitting from water draining over fields and through major and minor river systems. The district

³²⁷ Ramalingam, in discussion with the author, June 2010.

however suffers from the flooding when excess water flows down these local rivers...due to the Northeast monsoon rains in the river basins [upstream in Tamil Nadu] and in the district itself.

The drainage is poor and the encroachments over the drought years have led to a scenario where even rainfalls which are slightly above normal can cause floods disrupting the normal course of work.³²⁸

More than any other man, Puthu was inconsistent in his claims about flood, insisting on one day that floods never occurred and on another that they only came once or twice, or even occasionally, but were nevertheless “not a problem.” In fact, fishermen in Pondicherry make a key distinction that, once understood, clarifies Puthu’s apparently incongruent flood imaginary.

The Tamil word translated as ‘flood,’ *vellam*, has two distinct uses in the PATTANAVAR dialect, neither of which is used to denote flood at all, at least as it is understood by international bodies like the World Bank or the European Union. In his case study of the flood management techniques used during the 2004 floods in Bangladesh Ainun Nishat, country representative of the World Conservation Union, cites two factors necessary to combine for an event to be called a flood. First an area must be submerged under water “for some time,” causing inundation. Second the inundation must cause damage to property, disruption to the communication or commerce, or otherwise cause harm to life. That is to say, “inundation plus damage equals flood.”³²⁹ The European Union similarly defines flood as “the temporary covering by water of land not normally covered by water” and flood risk as “the combination of the probability of a

³²⁸ Revenue Department, *Northeast Monsoon 2009 Action Plan* (Pondicherry: GoPY, 2009), 21-22.

³²⁹ Ainun Nishat, “A Review of Flood Management in Bangladesh: A Case Study of the 2004 Flood,” WorldBank.org, accessed March 29, 2011, http://siteresources.worldbank.org/EXTWAT/Resources/4602122-1213366294492/5106220-1213804320899/21.0Flood_Mitigation_Bangladesh.pdf.

flood event and of the potential adverse consequences for human health, the environment, cultural heritage and economic activity.³³⁰ But there is no one to one correspondence between these definitions of flood and the Tamil word vellam.

When I first began asking about the occurrence of flood in fisher hamlets I was frequently told to much personal consternation that *inke vellam vantille*, “vellam does not come here.” My initial confusion was compounded by an historical knowledge of floods that had occurred in the region, some even quite recently, but my informants were responding to me as *they* understood the word. The first use, already noted at above, appears in the sense of an ocean current. The current (vellam), like the wind (kattu), varies from season to season, and knowledge of it is necessary to navigate between shore and fishing grounds. Any combination of simultaneous currents, the *irukka vellam*, is often a surer sign of approaching inclement weather than are changes in the wind. The second common usage, closest to the western understanding of what flood is, was explained in the following way:

Vellam and vatham are the two words. Vellam means increase in sea water, vatham means decrease. When the sea does come into the village it immediately goes out again.³³¹

The final sentence was spoken with emphatic gestures, one hand drawing slowly over the other then quickly sweeping out with a sudden clap: *kaṭalnīr poṅki* (the sea having come) *varakum* (it will go [like that]). This effect is almost entirely due to the traditional placement of villages on medus, for whenever water does come into the village (vellum) it would quickly drain back into the sea (vatham), what Ainun Nishat describes as

³³⁰ “Directive 2007/60/EC,” Chapter 1 Article 2, *Official Journal of the European Union* 288 (2007): 27-34, accessed March 28, 2011, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:288:0027:01:EN:HTML034:EN:PDF>.

³³¹ Puthupattar, in discussion with the author, August 2010.

traditional practice of flood proofing.³³² To apply the concept ‘flood’ – at least as it has been defined by international bodies like the European Union and the World Bank – to the word ‘vellam’ was not sensible in the context of the local Pattanavar dialect. In short, fishers who spent their lives *in water* simply did not conceive of flood in same way as the agencies rehabilitating them post-tsunami. Vellam, in the sense of flood, is a Vanniyar word and a Vanniyar problem.

In short, the Pattanavars have a very specific relationship to the risks of storm and sea and their traditional role in mitigating them, and the narratives they tell reflect these beliefs. To borrow a phrase from A.R. Venkatachalapathy, in those days there was no flood, because ‘flood’ was an unnecessary concept within the community. Because of traditional building patterns, water came and went; it did not stay. Because of traditional knowledge about the wind and the current and about the “natural behavior” of fish and sea and sand, fishermen could identify with “90% percent knowledge” the approach of dangerous storms,³³³ and when storms did come they were weathered with traditional technologies and other coping mechanisms. This all began to change, particularly from the mid 1970s, due to government development initiatives. Programs aimed at fishing technologies increased fish catches through improved materiel and training, but the subsidies required to support these changes in turn increased dependency on government programs, though this last effect is scarcely recognized within the community. It is these older certainties that came into conflict with the rehabilitation efforts undertaken by the Government of Pondicherry and various NGOs post-tsunami, efforts that themselves

³³² Ainun Nishat, “A Review of Flood Management in Bangladesh,” accessed March 29, 2011, http://siteresources.worldbank.org/EXTWAT/Resources/4602122-1213366294492/5106220-1213804320899/21.0Flood_Mitigation_Bangladesh.pdf.

³³³ Krishnakumaraswamy (Tamil Nadu PWD engineer, ret.) in discussion with author, February 2009. Others placed the accuracy somewhat lower, but always well over 50%.

were shaped by administrative narratives about the historical role played by government in disaster relief and rehabilitation.

An-Archives: The Failure of Administrative Memory

The real work of post-disaster reconstruction always takes place at the local level. Such an assertion may seem counterintuitive in the face global response to recent disasters like the earthquakes in Chile and Haiti and the tsunami and nuclear disaster in Japan. To be sure, a functioning centralized government might have alleviated some of the problems of coordination that have beset reconstruction in Haiti, just as federal efforts aided quick - if not necessarily effective – response in Chile and Japan. But such centralization can also confound efforts at relief and repair if vested political interests have too much sway, as has been in evidence since the Fukushima nuclear emergency in Japan in the spring of 2011.³³⁴ The kinds of problems intrinsic to powerful, vested interests accruing to themselves too much control over recovery projects was described to me by L. Mohammed Mansoor as “too many cooks.”³³⁵

It would be easy to explain this apparent dysfunction by relying on comical bureaucratic stereotypes or what amount to a neocolonial framework that cavalierly pits notions of “development” versus “deficiency” against one another – where development

³³⁴ As of this writing events at the Fukushima plant are still unfolding but almost daily reports of malfeasance appear ranging from issues of covering up prior safety violations, to concealing risk in the immediate aftermath, to admissions of inadequate safeguards. While it is impossible to draw conclusions so early, a picture is emerging of an industry with influence enough to, at least initially, conceal information damaging to its public image despite risks posed to the public. See “Fukushima nuclear plant owner falsified inspection records,” *The Australian*, March 17, 2011, accessed Mar. 17, 2011, <http://www.theaustralian.com.au/fukushima-nuclear-plant-owner-falsified-inspection-records/story-fn84naht-1226023073141>; “Agency knew of staff nuke risk,” *The Australian*, March 28, 2011, , accessed Mar. 29, 2011, <http://www.theaustralian.com.au/agency-knew-of-staff-nuke-risk-at-fukushima-plant/story-fn84naht-1226029008117>; “Japan admits inadequate nuke safeguards,” *Adelaide Now*, Mar. 30, 2011, accessed April 1, 2011, <http://www.adelaidenow.com.au/news/world/japan-admits-inadequate-nuke-safeguards-after-quake-disaster-and-fukushima-fallout/story-e6frea8l-1226030693886>).

³³⁵ L. Mahammed Mansoor, in discussion with the author, July 2010.

is conceived only as a western-styled modernity while nations found deficient lack or even actively resist such a “western disease.”³³⁶ But while such apparatus might be alternately entertaining and offensive, they do little to illuminate the processes mobilized during a natural disaster or other civil emergency. *Effective* disaster response, in other words those strategies that not only serve to relieve immediate distress but also works in the long term to build resiliency, mitigate or even eliminate future crises, requires a kind of organizational learning that can be difficult to achieve in a pluralistic, democratic polity. Simple “detection and correction of error”³³⁷ often stands in place of actual organizational learning. The latter requires what Lloyd Etheredge and James Short have called a “collective intellectual coherence,”³³⁸ a shared map of reality that embodies coherent policy commitments across an agency or organization over time. Detection and correction can be hindered in a number of ways, not least of which is a lack of communication between responsible agencies – an obstacle to detection – and the hierarchical processes of government itself in which decision power is fragmented both within and across agencies, a dual policy that both protects against individuals or partisan cadres unilaterally changing policy while granting effective veto powers to the same.³³⁹

In Pondicherry this fragmentation had effects that only came to light post-tsunami. First, bureaucrats within the administration often proved unwilling to share information with agents outside of their immediate chain of command. While careful

³³⁶ This structuring of a cosmopolitan argument as “development versus deficiency” was problematized during a conversation I had with Sheldon Pollock during the Comparative Literature Association’s annual meeting in New Orleans in April 2010.

³³⁷ C. Argyris and D. Schön, *Organizational Learning: A Theory of Action Perspective* (Reading, MA: Addison-Wesley, 1978), 2 and John P. Lovell, “Lessons’ of U.S. Military Involvement: Preliminary Conceptualization,” *Foreign Decision Making: Perception, Cognition, and Artificial Intelligence*, ed. D.A. Sylvan and S. Chan. (New York: Praeger, 1984), 133.

³³⁸ “Thinking About Government Learning,” *Journal of Management Studies* 20, no. 1 (1983): 48-49.

³³⁹ See James H. Lebovic, “How Organizations Learn,” *American Journal of Political Science* 39, no 4 (1995): 835-863.

circumspection is not necessarily unwarranted when sensitive information is shared across departments, surprising tensions manifested between and even *within* departments. On one occasion while trying to coordinate file access permissions between the Department of Revenue (DRDM) and the Project Implementation Agency (PIA), I overheard PIA Joint Project Director V. Jayanand exclaim to his office manager, “Kandasamy [Chief Collector Ragesh Chandran’s personal assistant] is not my boss!” But Kandasamy was acting as the direct mouthpiece for the Chief Collector, whose office I had just left and who was in fact, as the head of PIA, his boss.

Fractures such as these were often a direct result of adherence to an arcane set of administrative procedures practiced in the Union Territory, procedures arising out of an overlay of Tottenham-based reforms adopted in the 1960s over the erstwhile French system of administration. Founded on the recommendations of the Tottenham Committee (1945-46) for the reorganization of the entire British colonial secretariat system, the Tottenham system called for the strict separation of duties for each grade of secretarial officer and rigid structural hierarchies. Every official action undertaken in an office operating under Tottenham structures is recorded in a various registers in order not only to monitor progress but also arrest delays and limit arrears. It is quintessentially, even proudly, bureaucratic. In the words of a one training manual used for the UNDP’s two year “Strengthening of State ATIs” project:

[T]he present system of administration is called Bureaucracy, which is also called Desk Government, and it is blamed for all the evils of delays and red tapism [sic].

The salient features of bureaucracy are:

1. Hierarchy
2. Following Rules and Procedures
3. Written Documents
4. Impersonal Order

Bureaucracy aims at rational or impersonal Government because all the decisions are taken based on rules and regulations on written documents.

Tottenham system is based on the principles of Bureaucracy. The first step in the system is to divide the office into various sections....Depending on the size and functions of the office, the nomenclature will be different.³⁴⁰

One of the intrinsic weaknesses of Tottenham is its vulnerability to malpractice when its dictums are taken to extremes, a fact exhibited to exasperating effect when I tried to obtain a copy of a letter that granted me express permission to access files at both DRDM and PIA. The letter, which had been written by the Chief Collector-cum-Director of PIA Ragesh Chandran, had been submitted to PIA several weeks prior, where I had been duly accorded access to files in that agency. In accessing specific files I learned that files created prior to May 2005 were held by DRDM, a department headed by the same man. When I sought these documents directly from Revenue officers I was informed that I would first need to obtain permission. Having already obtained this from the Chief Collector, I returned to PIA in order to make a copy of his letter granting it. When I asked the office manager at PIA for a copy of the letter he seemed nonplussed. I explained to him that the letter had already granted me permission to access PIA *and* DRDM files and explained that as the head of both departments the single letter from Ragesh Chandran was meant to serve for both agencies. “Well, yes,” he replied, “as a person he is a single man, but as head of this or that department he is two completely different people.”

³⁴⁰ The Anchor Institute, *Distance Training Manual on Office Management* (Hyderabad: Dept. of Personnel and Training, Government of India), 37-38.

This kind of dysfunction, motivated as it was by a zealous adherence to Tottenham procedure, is illustrative of the obstacles to mission coherence identified by Etheredge and Short in their own examination of bureaucratic mechanisms in the U.S. “If different programmes are adopted, at different times, to achieve different ends, in response to different constituencies,” they wrote, “the cumulating *mélange* may have no other collective rationale.”³⁴¹ As “sub-unit intelligence” increases, the effectiveness and coherence of an agency as a whole can actually decrease. The loss of internal coherency is exacerbated when parallel responsibilities are located across agencies, even when the agencies are located within the same government and working towards the same goals.

This effect is beautifully illustrated in the above example. As PIA grew increasingly coherent as an agency its sub-unit intelligence began to diverge from the super-unit intelligence of DRDM, despite the fact that both units were working towards similar aims, e.g. post-tsunami rehabilitation. The most detrimental effects can be minimized through adequate communication and record-keeping – even within the strictures of the Tottenham System – but communication is too often hampered by conflicting hierarchies, such as those in evidence across the DRDM-PIA complex. For example, even before the establishment of PIA a single tahsildar had been tasked with coordinating rehabilitation projects within DRDM. His role was effectively duplicated when PIA was created, but his duties were never coordinated with those of the new agency. Ironically, avoiding this kind of redundancy was part of the originating rationale behind the creation of PIA in the first place.

³⁴¹ Etheredge and Short, “Thinking About Government Learning,” 49.

To move now from the contemporary results to the historical foundations, the records used by Alfred Martineau in the compilation of his 1917 monograph on Coromandel storms originated in the French colonial archives held in Pondicherry. These archives originated out of mandates enacted at the end of the eighteenth century that established the *Archives nationales* in 1790, consolidated and centralized pre-Revolution records in 1794, and created departmental archives in 1796. By the time the French regained permanent control of their territories of India in the first quarter of the nineteenth century, a well-regulated file management and archive system had been in place in Paris for two decades. Prior to this, as part of *les Établissements français de l'Inde*, the engine of colonialism necessarily required efficient record-keeping. Regular dispatches were sent to the home offices in Paris, and *in situ* files were physically removed from Pondicherry prior to sieges and occupations by hostile forces. Despite having been put to the flame on multiple occasions by British forces, the French were nevertheless able to carry away and return or otherwise preserve the records that were later used by Martineau to write his history.

The administrative system in use in Pondicherry during the colonial period was described by Cyril Antony as a “near perfect system of record management.”³⁴² Antony had served as Undersecretary for Art and Culture and his opinion of the French records system grew out of his experience conducting research for the Pondicherry Gazetteer in the late 1970s and early 1980s. As compiler of the gazetteer and curator of the state museum in Pondicherry he was regularly confronted with the problems of historical materiel in the Union Territory. Certainly the French kept very good records, but after more than sixty years of independent rule and archival misrule the duplication of

³⁴² F. Cyril Antony (GoPY Undersecretary for Art and Culture, ret.) in discussion with author, August 2009.

Martineau's achievement is difficult to imagine. The state archives in Pondicherry are a shadow, almost literally, of what must have been available to Martineau as Governor-General of French India. Its existence is obscure, its location is widely unknown, and its records are in disarray. As with other archives in India, once a file has been located and pulled for examination there is no guarantee that it will be re-shelved where it might be found again.³⁴³ Unfortunately, this aura of disarray extends beyond the state historical record and penetrates into the mechanisms of current administrative discipline, and as a result the possibilities for institutional learning are severely curbed.

The period between the *de facto* transfer of the French territories to India in 1954 and the *de jure* merger in 1963 is best described as a period of confusion as the new government transitioned from one system of political administration to another. A sizable number of experienced French-Indian civil servants opted for French citizenship only to be replaced by equally large numbers of inadequately trained political cronies. Many appointments were handed out as favors by politicians both within and outside of the former territories, and those who had been trained in systems of office management were trained in the Tottenham system rather than the system prevailing in the former French territories. The decade following the *de facto* merger was a period marked, even marred, by favoritism and “ad hoc governance.”³⁴⁴

Adding to the confusion was the disregard with which resources husbanded by the former administration were treated. As experienced colonial administrators left the territory the institutional memory that had been sustained by them fell into disarray. The French removed most of the documents related to the *premier* and *deuxième Bureaux*,

³⁴³ This happened to me on several occasions, and not just with more obscure file portfolios but with individual volumes of extensive published works.

³⁴⁴ F. Cyril Antony, in discussion with author, July 2010.

including the papers of the *Bureau des Affaires Politique* and most documents directly related to the political or military affairs of the colonies. Others deemed less sensitive were left behind. Many of these were packed into zinc-coated lockers before being removed to storage; others were left *in situ* while departments reorganized or shifted spaces.³⁴⁵ Still others were reportedly thrown into refuse piles or burned indiscriminately by the incoming (Tamil) appointees.³⁴⁶ Of the files that remained, very few were treated even with the care prescribed by the Tottenham system. Some were moved to the Romaine Rolland public library, for want of a better location, while others remained in bundles and were left to deteriorate beneath stairs, in abandoned storage rooms, and even in water closets. In short, the decade 1954-1963 reduced the archival memory established by the French administration to a pitiable condition.

With the *de jure* merger came a flurry of experimentation in an attempt to reform records management in the now Union Territory of Pondicherry. The first administrators of the new U.T. were members of the Indian Foreign Service who had staffed the Indian Consulate to French India. As Indian officer liaisons to France they were ignorant of French file and archiving systems in place in the colonies and consequently many older documents – even those produced during the transfer years – were often obscure to them. With any sense of continuity between the colonial administration and the post-merger government fatally disrupted, coordination between pre- and post-merger services and functions was impeded by an inability to coordinate past and present policies. The first officials elected in the U.T. began appointing political favorites and other “toadies” while

³⁴⁵ Ibid.

³⁴⁶ Jean Deloche (historian, EFEO) in discussion with author, October 2008. Deloche is curiously adamant about this assertion. It was not IAS officers in general who were responsible for the wanton destruction but Tamils.

under the administrations of Edouard Goubert (1963-1964) and V.V. Reddiar (1964-1967) IAS officers from neighboring Tamil Nadu were deputized to serve the government of Pondicherry. The appointees were not familiar with the French system of file management and the new civil administration was dominated by civil servants with neither the knowledge nor the experience to effectively deal with the issues faced by the infant administration.³⁴⁷ What files were maintained “were only showpieces.”³⁴⁸

Between the years 1963 and 1969 four significant measures were taken in an effort to re-establish administrative efficiency. The first was the 1963 introduction of the Secretariat system of administration in which policy matters were attended to by twelve secretariat departments as defined by the Government of Pondicherry (GoPY) Allocation Rules of 1963, a system still in place to this day. It has not been without critics. F. Bahnuna, Chief Secretary to Government in 1985, wrote:

“There has been a tendency to shuffle the subjects from one department to another and from one Secretary to another rather frequently and *without due consideration to any known principle or stated policy* leading to what may be described as a ‘blurring’ of the dividing line as [sic] between the Secretariat Departments, aiming no more sense of the number and nomenclature of the Departments as determined by the Allocation Rules.”³⁴⁹

In 1967, an inspection team from Delhi seeking to tighten efficiency in the UTP conferred *ex officio* status on several heads of department and simultaneously introduced

³⁴⁷ MISC III/5, file 258-267, 1952 and MISC V/4, file 539, 1955, NAIPRC. This period was further marred by disagreements regarding the day to day administration of the enclaves. By the terms of the *traite de cession* Pondicherry, Karaikal, Mahe and Yanam were to remain under the administrative rules in place under the French. Throughout the 1950s, the central government in Delhi made demands upon the Pondicherry administration that countermanded established rules, in stark defiance of the terms of the treaty. In response, officers in Pondicherry would fire back memoranda resisting Delhi’s efforts to meddle in local governance and demanding that the settled terms be met.

³⁴⁸ F. Cyril Antony, in discussion with author, July 2010.

³⁴⁹ “Administrative Reforms Revisited,” *Journal of the Indian Institute of Public Administration* (1985). Italics added.

a single file system that they hoped would result in the speedier culling of outdated files. The shift resulted in a considerable dilution of power within some departments while others disintegrated altogether. Assuming this semi-collapse to be due to the introduction of the single-file system rather than to the conferral of additional department titles, it was replaced by the Tottenham System less than a year later, on July 1, 1968. The system was expanded into non-Secretariat departments by August 1 of the following year, but little progress could be made towards efficient reorganization of the administration without manuals detailing the new system, and according to Bahnuna these manuals were not even provided until 1975.

The final management innovation of the decade was the introduction of the Central Records Branch and Internal Records Sections. After 1972 the Central Records Branch began to operate as a unit of the Organization and Methods Cell, though over time it too migrated, eventually ending up within the Department of General Administration under the Chief Secretary (Stationery and Printing). In spite of – or more likely because of – these changes in the years immediately following the *de jure* merger, the general impression of the UTP administration during the 1960s was one of disorder. The cogs of government had been greased with the labor of unqualified or untrained workers then replaced by civil servants from Tamil Nadu who, while better trained, were unfamiliar with the methods used in the UTP before 1968. And then even after this transition had taken place, reference manuals were not provided for seven more years.

All of this served to disrupt the collective intellectual coherence of the post-merger GoPY. Without stable structures to adequately maintain the *quotidian* work of the administration the political and policy memory of the government had no foundation

upon which to stand, no reservoir from which to draw. In the early 1970s Cyril Antony, then assistant publicity officer to the GoPY,³⁵⁰ was assigned the task of compiling the first gazetteer for the Union Territory. During his work to uncover what he calls “the mementos of the colonial administration” Antony found what records left by the French to be in appalling condition, heaped in inaccessible corners across the city. The files of the directorate of education, for example, were discovered lying in an attic of a French period building, while other boxes of documents had been left beneath a leaking sewage pipe. “The rest,” says Antony, “were in powder. I saw it.”³⁵¹

During a research trip to New Delhi Antony met with then Director of the Archives of India, S.N. Prasad, to whom he described the state of the French records in Pondicherry. According to Antony, Prasad had long held a desire to open branch archives outside of Delhi, and Antony suggested Pondicherry as the location for the southern district branch. The Pondicherry Archive was formally announced in March 1979,³⁵² though construction did not begin until Prasad’s successor, S.A.I. Tirmizi, inaugurated the project in the early 1980s. The Pondicherry Archive was tasked with the long-term preservation of records deemed of “permanent value” and thus closely linked not only to the responsibilities of the Central Records Branch decreed in 1972 but also to the dictates of the Tottenham System, which classifies in great detail how long official files are to be kept, and in what manner.³⁵³ But where the Central Records Branch was under the

³⁵⁰ In 1966, Antony was one of the first civil service officers in Pondicherry to receive appointment not through political favor but through the Union Public Service Act. A native of Kerala, Antony had served in the army as a censor and translator from the late 1950s. Having discovered “some small talent as a writer,” Antony left the army because he found the work to be boring. In discussion with the author, July 2010.

³⁵¹ In discussion with the author, August 2009.

³⁵² G.O.Ms. 39/78/Arch/Cul. *Pondicherry Gazette*, vide 475, NAIPRC.

³⁵³ For example, Secretariats are to keep files for years, proceedings of the various directors for five, office instructions for three, etc. Files are further classified in R. Disposals and D. Disposals. D. Disposals are

direction of the Organization and Methods Cell, the archive was ordered by the Deputy Secretary to Government (Education) and placed under the temporary jurisdiction of the State Editor under the direction of the Undersecretary to Government (Art and Culture). Put another way, from the outset responsibility for the creation and maintenance of the Pondicherry Archive was divided between three administratively unrelated sections – Printing, Education, and Art and Culture – while its duties were beholden to the responsibilities of yet a fourth section, the Central Records Branch, which was under the direction of yet a fifth, Organization and Methods. The situation fostered neither ease of communication nor cooperation between respective agencies and the resulting disorder has had echoes that continue to affect efficiencies surrounding the tsunami rehabilitation.

The results were predictable: the administration, lacking a legacy of records continuity while simultaneously building additional layers of inter-departmental hierarchies often working at cross-purposes, had created for itself an inefficient engine to sustain institutional parcellary memories of past policy or for recognizing historical parallels with contemporary crises. The consequences of this included not only in a marked lack of coordination between departments tasked with response and relief in the event of a crisis but also between the enclaves of Karaikal and Pondicherry. While the creation of PIA was intended in part to remedy a situation in which right hand almost literally did not know what the left hand was doing, the in-built inconsistencies and incoherencies in the administrative apparatus were simply duplicated in PIA then multiplied across the channels of communication between PIA and its nominal parent, DRDM.

kept for ten years after which time they are subject for review for continued preservation. R. Disposals are “permanent,” though even these are to be reviewed ever fifty years.

Such incoherencies could have been avoided with the establishment of appropriate continuities with past policy. This is not to suggest that old policies should have been recycled and reused indiscriminately, a strategy that has been problematized by Anna Tsing and Henrietta Moore and Megan Vaughan, among others.³⁵⁴ Rather, as was shown in chapter 2, French response policies in the colonial era were built upon every prior mobilization of relief. Successful policies were reprised and improved – for example the modification of survey teams constituted first only of Frenchmen to teams dominated by Indians – while unsuccessful policies were revised or discarded. Contrariwise, in the independent Union Territory each new incident of relief was approached as a discreet event, unbound from history. As a result, with the exception of November 1977, each new storm was treated as the last. And even the exception proves instructive: instead of learning from the response in 1977, potential lessons were remaindered unequivocally to the past. When strategies similar to 1977 do appear they run on parallel tracks. That is to say, matching strategies were achieved not through intentional reduplication of past success but rather through unintelligible happenstance achieved by trial and error. Lacking long-term continuity of personnel – and the system of seniority used in the UTP not only allows but encourages movement between unrelated departments – continuity of records, that is an established and accessible institutional memory, is the best way to create coherent policy.

³⁵⁴ See Anna Tsing, “Becoming a Tribal Elder, and Other Green Development Fantasies,” in *Transforming the Indonesian Uplands*, ed. Tania Murray Li (Amsterdam: Harwood Academic Publishers, 1999) and Henrietta Moore and Megan Vaughan, *Cutting Down Trees* (Portsmouth, NH: Heinemann, 1994).

This environment begs the question: can such a government learn? Antony, an out-spoken critic of the UTP standard operating procedures, thinks not.³⁵⁵ He firmly believes that Pondicherry has lost many good officers due simply to the way in which it has historically been run. When he came to the territory in 1966 as a UPSC appointed junior officer he was joined by another officer appointed to be Senior Town Planner who left after only a few years, telling Antony that he was “disgusted” with how UTP was run.³⁵⁶ Antony himself volunteered for early retirement in 1989 for the same reason: “I saw the administration going to the dogs.”³⁵⁷ The material and administrative legacy of Pondicherry, he asserts, have been shamefully neglected for half a century. “I find that everything [about how documents are kept by GoPY] is wrong, from top to bottom,” he opines, insisting that an organization not properly organized cannot preserve the records, and that records not properly organized signify a disordered organization. “Can there be such a government in existence, or is it a mafia organization?”

Such hyperbolic language does not draw advocates to his cause, but his insistence that this is an intentional neglect is not wholly unfounded. His comparison with the mafia is rooted in the same blame game alluded to by the Director of Planning and Research, A.S. Vijayalakshmi. If there is no record of a blunder – or more pointedly of

³⁵⁵ Though critical of the system of administration in UTP, Antony is also a tireless champion of the preservation of Pondicherry’s historical legacy. While the assignment to write the gazetteer came from his superiors after recognizing that he “had a small knack for writing,” Antony was the driving force behind the foundation of the Pondicherry museum. During his research for the gazetteer he developed an affinity for his adopted city and proposed the museum because of it. His efforts resulted in his appointment as curator of the museum as well as his position as Undersecretary for Art and Culture.

³⁵⁶ In discussion with the author, July 2010. This recollection of Antony’s is problematic in that it is based on a thirty year old memory of a man whose name he did not remember, even after questioning on several occasion, and who he knew professionally for only a few years. I give it credence in part because of Antony’s firm adherence to the narrative, his strong, consistent, yet loyal critique of the administration, and the testimony of other long-serving civil servant in other agencies across the UTP. I think what can be said without hedging is that Antony was not the only officer to leave public service in disgust.

³⁵⁷ *ibid.*

an intentional misdeed – the resulting professional or public consequences are slower to come. The urge to perform effectively is too often over-ridden by the desire to suppress failure and avoid blaming or embarrassing others, which only encourages individuals to manage error by duplicating the circumstances that lead to error in the first place: “withholding negative information, avoiding direct confrontation, seeking unilaterally to control the situation and to protect both self and other.”³⁵⁸ As a result, the administrative apparatus in place in Pondicherry in late 2004 was one that favored murkiness over transparency and in which resistance to accept personal responsibility for the smallest of tasks retarded transformations that might have resulted in more responsive governance.

So, do governments learn?

“Governments do learn,” wrote Lloyd Etheredge a quarter of a century ago, “although primarily tactics to stay out of trouble in the press.”³⁵⁹ Speaking of the U.S. government’s repeated involvement in Central America Etheredge described American institutions as following a “reparative (and ahistorical) logic that is neither rationally derived, nor moral, nor effective (on its own terms) in the long run.”³⁶⁰ Emergency response in Pondicherry in the six decades between the *de facto* merger and the 2004 tsunami similarly followed a reactive, ahistorical logic neither rationally derived nor effective (on its own terms) in the long term. As we saw in chapters two and three, the archival record suggests that the French administration actively sought to minimize the effects of the monsoon season. From Charpentier de Cossigny’s plan to reinforce with masonry the defensive ditch encircling the southern quarter to improve flow-through and

³⁵⁸ Argyris and Schon, *Organizational Learning*, 85.

³⁵⁹ Etheredge, *Can Governments Learn* (New York: Pergamon Press, 1985), 196.

³⁶⁰ *ibid.* 197.

alleviate flooding – flooding that persists to this day – to the erection of the seawall on the coast to the construction of the *syndicat agricole* and the coastal road in Karaikal linking the Arasalar River to the *medu* villages in the north, the infrastructures built by the colonial administration seemed to be purposively designed against the inevitable risks associated with seasonal flooding.

This begs the question: what was the post-merger administration designed to do? One of the chief concerns of the colonial government was to maximize the profits derived from exports from the colonies. After their military and imperial ambitions in the subcontinent had been tightly circumscribed by the British in the eighteenth century, the French were forced of necessity to focus on the production and protection of trade goods. Efforts by the administration to minimize losses resulting from seasonal flooding made sense, even if recommended projects were not always completed. The negative effects on trade into and out of Pondicherry after the 1916 cyclone were aggressively moderated by major repairs completed in 1922, and trade saw exponential growth over the next decade, with total export value increasing more than tenfold, from 24.5 million rupees to 270.9 million rupees between 1921 and 1929.³⁶¹

But this prosperity was short-lived, as the effects of the world depression leveled the French economy by the middle of the next decade. By 1932, total exports from Pondicherry had almost halved, from 129 million tons to 66 million tons, while the value of exports to France had dropped more than two-thirds, from 85.3 million to 27.8 million rupees. The pier was again damaged by cyclone in 1952, further disrupting repairs that had been suspended the prior year due to lack of funds, and this blow signaled the end of

³⁶¹ *Annuaire des Etablissement Français dans l'Inde pour 1933* (Pondichéry: Imprimerie du Gouvernement, 1933).

the French entre-pot. By 1953, one year before the merger, the total tonnage ported through Pondicherry, including imports and exports, had been reduced to 22,000 tons.³⁶²

These numbers only serve to underscore the dominant interests of the French during their tenure in the sub-continent. The erection of the seawall served to protect the port. The maintenance of the canal surrounding the town, formerly a defensive moat, served to direct the overrun of rainwater away from the production centers of the city, particularly the southwestern quarter, long home to weavers and oil-pressers. With trade nearly decimated from a pre-merger high of 129 million tons, a now non-functional port, and new access to the much larger ports at Madras and nearby Cuddalore sea trade was low on the list of priorities for the post-merger administration.

Beginning in 1956 Pondicherry was included in national-level state development planning as outlined in a series of Five Year Plans, even though the French territories would not officially join the Indian union for another seven years. The changed priorities of the new territorial government were outlined from page one of their addenda to the Second Five Year Plan:

“So long as the State was under the French, pretty little was done for the progressive improvement of the economic and social structure of the people. Except in the case of Medical, Education, and Public Works Department, scarcely any department for undertaking agricultural improvement and provision of other social services existed.”³⁶³

After the *de facto* transfer, departments engaged in any measure of development – e.g. Agriculture, Fisheries, Health and Welfare – were reorganized “to meet the needs of a

³⁶² I.G. Chacko, *Report on the Minor Ports of India and Development Works at Each Port* (New Delhi: Ministry of Transport, Government of India, 1956), 270.

³⁶³ *Pondicherry II Five Year Plan: 1956-1961* (Pondicherry: Planning and Development Department, 1955), 1.

State embarking anew on a program of all-round development, calculated to raise the economic and social levels of the masses.”³⁶⁴

Several development projects were planned to improve the conditions of the lowest classes at a projected cost of nearly 19 million rupees in 1955-1956. Flood control and drainage schemes were immediately planned in Karaikal and Yanam and new flood banks and a regulator were planned on the Chunnambar River dividing Pondicherry town from Ariankuppam. Fisheries initiatives proposed included the development of Fisherman Co-op Societies, a small-scale mechanized fishing unit, the provision of cold-storage units, and vocational training in modernized fishing methods. Additional projects included the construction of public latrines in Karaikal and Mahe and the housing projects discussed in chapter 5. It was also proposed that a new pier be built and portage facilities be expanded and improved south of the main town, on a site then occupied by a fisher hamlet, the removal of which was not deemed to be in the least problematic.³⁶⁵ Tellingly of things to come, by 1965 Pondicherry’s planners were already scaling back some proposals. G.R. Kamat, Secretary to the Planning Commission, wrote that planning “should be oriented to meet the needs of defence and to safeguard the country’s security and its long-term interests.”³⁶⁶ Housing projects planned during the 1950s were limited “in view of the shortage of building materials and *defence requirements*,”³⁶⁷ while Fisheries Department objectives were limited to boosting production and flood control projects were restricted to improvements already begun on the Uppar Drain; all other flood control measures were delayed until the IV Five Year Plan (1969-1974).

³⁶⁴ Ibid.

³⁶⁵ Chacko, *Report on the Minor Ports*, 267-268.

³⁶⁶ Planning Commission letter No. PC (P) 2/65, Sept. 18, 1965, NAIPRC.

³⁶⁷ Pondicherry Annual Plan 1966-1967, 1. Italics added.

Why Governments Need to Learn

Institutional memory is maintained within two primary mechanisms of recollection, the archive and the personal memories of individuals within a given organization. Lloyd Etheredge's examination of U.S. foreign policy in Central America demonstrated an inability of the U.S. government to learn from past policy decisions, but this was not for lack of archival material from which to draw lessons. Rather Etheredge argued that policy makers generally drew the wrong conclusions from known facts and preconceptions about the situation on the ground. Rather than following what was perceived by critics as an interventionist stance, U.S. policy in Central America was characterized by a "business as usual" inattention: in any situation not yet deemed to be a (potential) trouble-spot it was taken for granted that the situation would not change. In the absence of dramatic evidence to the contrary, U.S. foreign policy decisions about Central America were based on "imagination systems" characterized by "patterns of policy, of misjudgment and misperception and of collectively self-defeating behavior within the policy process."³⁶⁸

The post-merger approach to disaster in the Union Territory was characterized by similar processes. As discussed above, however, where the U.S. had at its disposal a powerful archival apparatus, the UTP lacked from the beginning the tools necessary for forging meaningful links to historical decision-making. The result was a system based less on a coherent understanding of how past policy decisions had been made and their long-term effects on the territories and more on a series of beliefs about what the hydrological infrastructure of the colonies had been. The result was the development of a

³⁶⁸ Etheredge, *Can Governments Learn*, 170.

specific body of legend surrounding the efficacy of French hydrological science in the colonies. These legends, called “policy legends” by Gary Alan Fine and Barry O’Neill, led many contemporary administrators to decide that more pro-active approaches to flood mitigation were unnecessary, as decisions made by the French had rendered such policy-making redundant. The existence of water-control infrastructures also gave administrators a ready scapegoat to deflect guilt arising from failures to address predictable seasonal flooding. Systems meant to alleviate flooding and redirect overflow were already present, they would argue, thus any flooding must be the result either of failures in the French design or, more likely, of encroachment upon these systems.

Policy legends are texts “that [describe] an institution’s action in a context that supports a particular policy choice or presents social conditions in a context that calls for governmental or collective action.”³⁶⁹ In their transmission policy legends present “facts” relevant to an ongoing public debate or point of policy. They are legends in the proper sense of the word, more content than fixed form, even while legend as a folk genre is notoriously difficult to define.³⁷⁰ In general, legends are more connected to “real life” than fairy-tales, closer to history than to myth. They are historical narratives rooted in time and place and they are fiercely local. Gary Alan Fine’s definition of (contemporary) legend explains the processes at work: “An account of a happening in the world which the narrator or an immediate personal contact was not directly involved, and is presented

³⁶⁹ Gary Alan Fine and Barry O’Neill, “Policy Legends and Folklists: Traditional Beliefs in the Public Sphere,” *Journal of American Folklore* 123, no. 488 (2010): 151.

³⁷⁰ See, for example, Linda Dégh (1972, 2001), Thomas Tangherlini (1990), and originally Jacob Grimm’s Preface to the second edition of *Deutsche Mythologie* (1844)

as a *proposition for belief*; it is not always believed by speaker or audience, but it is presented as something that *could* have occurred and is told *as if* it happened.”³⁷¹

Two policy legends appeared again and again during conversations with informants. The first is the nebulous belief that flood mitigation and relief was somehow “better” during French control of the region. While the form of the legend is never quite the same – sometimes taking shape as a full narrative, sometimes as a bit of gossip or a complaint against the predations of the lower classes – the content was remarkably stable over a period of two years spent collecting examples of the legend as it percolated between the various line departments. The second, related legend holds that all (important) French records have been lost. The specter of this second legend has already been raised above, and the adherence to this belief often works to confound the work of historians of Pondicherry, many of whom do not even seem to know where the state archive is.³⁷² But the effects of these legends on even the most conscientious administrators – among whom I number Ragesh Chandran and Mohammed Mansoor – are more pernicious because the imagined loss of historical evidence absolves contemporary officers of any responsibility for possessing an awareness of precedent. They can (and do) claim for themselves the benefits of French policy without the fear of being contradicted by documentation.

To return to the first policy legend, that French water policy was somehow better, one of the most common shapes that this legend takes is as a query set, a device to

³⁷¹ Gary Alan Fine, *Manufacturing Tales* (Knoxville, University of Tennessee Press, 1992), 2. Italics original.

³⁷² Interestingly, not even Cyril Antony knows the location of the Pondicherry Archive, even though his conversations with S.N. Prasad in the late 1970s might be at least partially responsible for its existence. He feels the absence of an historic textual legacy so keenly that he independently produced and submitted to the GoPY a report on the state of records management in the Union Territory in 2010, more than twenty years after he retired from public service.

provide information perceived to be of some utility while deflecting responsibility for whatever may be discovered thereby. A conversation I had in July 2009 was typical of this instantiation of the legend. It started as a typical interview:

AM: What is your job here?

Devadasan: My job, or the job of the Department [of Planning and Research]?

AM: Let's start with Planning and Research

Dev: We are the liaison department between the Delhi government and Pondicherry.

Devadasan went on to describe the role of the department in collecting the budgets, expenditures, and plans of each department and collating them into an annual report submitted annually to the central government. While the department periodically creates reports on its own, it is currently more of a clearing house of government fiscal and development planning information. Consequently, when tsunami hit the territory in 2004 it was the responsibility of P&R to find the financial resources necessary to fund the initial response.

AM: You know what every other department is doing, but you don't really plan anymore? Isn't that the role of the department?

Dev: No. We designed a small savings plan [used to benefit fishers] and handle right to information [inquiries].

AM: You know I am here researching floods in Pondicherry. How the government responds. I would have thought that the Planning Department would be involved in that.

Dev: Pondicherry is not much affected, in spite of Pondicherry being spotted as the most damage prone area by the scientific section. Pondicherry is one of the most damage prone areas *because of some scientific things that I have been told by some scientists*. But you are asking about floods? Look at the *syndicat agricole*, the French period *syndicat agricole*. The irrigation...

This was not the first time I had heard the syndicat agricole – a series of ponds, tanks and channels linked throughout the territory for purposes of both irrigation and drainage – referenced in conversations about flood control in the territory, but this conversation highlights several important characteristics of this particular policy legend. Devadasan’s allusion to the syndicat was designed as a means to deflect the conversation away from his personal authority or knowledge. His reference was used to signal the end of our interview by suggesting that he could help me no further, that I must seek information elsewhere. Interestingly, he coupled this implication together with further disclaimers about “some scientific things that I have been told by some scientists,” at once granting authority to his account by relying on “scientific things” while yet deflecting factual responsibility from himself onto “some scientists.”

Devadasan took no credit for having information about the syndicat, instead depending upon scientists’ explanations. But in pairing “scientific things” with the syndicat he was making the pointed suggestion that it is not just science that can explain the flood conditions of Pondicherry, but *French* science that laid the foundation. This same science explains the inherent contradiction in his claim: “Pondicherry is not much affected, in spite of Pondicherry being spotted as the most damage prone area.” Through the judicious application of science (really of engineering) Pondicherry has avoided the worst effects of floods, despite its location in a flood-prone area. Devadasan’s invocation of the syndicat was the merest insinuation of a deeper history of hydro-engineering in the colony. He made no direct claims about the utility of the system himself, but he was certain that the answers to my questions lay there in their underlying “science.”

The implicit message of the legend – the purpose for which it was typically mobilized – was that the French administration was able to control flooding in the territories, that they bestowed usable infrastructures to the post-merger government, and that these systems had been allowed to degrade to an alarming degree in the subsequent decades. The moral character of the legend was very nearly universal among the government officials who spoke of the syndicat. Even in the rare instances in which non-government informants spoke of it, the details enumerated in the telling were consistent with the versions circulating within the administration.

Outside of the government few informants spoke directly about the syndicat but with Devadasan were insistent that I look into the history of French hydro-engineering in the territory. Speaking of the seawall built across the city below the modern promenade, for example, Jean Deloche said that without it “half of Pondicherry would be destroyed,”³⁷³ an assessment not so very different from the dire predictions voiced by the Department of Planning in its draft proposal IV Plan discussed in the last chapter. While never a part of the syndicat system proper, the seawall has been something of a bulwark against encroachment from the sea since the mid-eighteenth century (Illus. 4.3). Deloche and fellow Pondicherry historian P. Raja credit the wall and its drains – which themselves *are* an integrated component of the syndicat – with contributing to the long-term preservation of the colonial *ville*. But much like Devadasan, their versions of the narrative only nibble at the edges of the legend proper.

³⁷³ In discussion with the author, October 2008.



Illus. 4.3 Vue des magasins de la Compagnie des Indes à Pondichéry³⁷⁴

The syndicat agricole was built taking advantage of existing, pre-colonial irrigations tanks called *ēri*. Like the syndicat that followed it, eris had a multiform role in water management in the Tamil-speaking region of south India. Not only were they used for the obvious purposes of preserving rain run-off and recharging groundwater supplies, but they were also a means to moderate soil erosion and control flood. Sometimes dating back as far as the medieval period, these often extensive water systems were not built by single patrons or dynasties but rather represented what Anil Agarwal and Sunita Narain called the “steady accumulation of skills” needed to command the huge amounts of labor and wealth required to support what were often massive undertakings.³⁷⁵ “Traditionally,” they continued, “people realized that their generation did not represent the last word in the development of a technique and that future generations should be left with something.”

³⁷⁴ Musée de la Compagnie des Indes, Lorient.

³⁷⁵ Agarwal and Narain, *Dying Wisdom*, 293.

Unlike the British, whose often massive expropriations at the local level eventually left communities with too little money to maintain their eris,³⁷⁶ the French not only maintained but enlarged the system, a policy that remained a development priority in French India at least through the 1930s (illus. 4.4).³⁷⁷ As part of this system,



Illus. 4.4 Syndicat Agricole, c. 1935

Pondicherry's original channels and drains – what are now the Grand and Petit Canals, parts of the Uppar Drain, and the channel dividing Pondicherry town from Kuricchikuppam – were integrated to direct rain overflow safely through the town and out to sea.³⁷⁸ A 1941 report on the operations of the Public Works department details continued efforts to improve drainage, protection and communication between the ville and the outlying fisher districts. The Grand

Canal, first built to stabilize and extend the water resources of the small Uppalam stream around which the colonial factory was originally built (see chapter 1), was extended northwards then east to the sea. Its southern length was also improved, reaching as far

³⁷⁶ *ibid.* 246. Data cited by Agarwal and Narain shows, for example, that communities often contributed as much as 4-5% of gross produce to maintain eris.

³⁷⁷ Girod, *Programme de grands travaux pour le développement de l'outillage économique & social* (Pondichéry: Imprimerie du Gouvernement: 1937)

³⁷⁸ Due to the geographic location and topography of both Pondicherry and Karaikal, rainfall in neighboring Tamil Nadu must necessarily flow through the Union Territory during its egress to the sea. Thus Pondicherry especially is at risk of alluvial flooding, not just from heavy rainfall but also as a result of flow-through.

south as the railway bridge in Duppeypet. The length of the canal was paved in order to increase flow-through rate while the seawall at Kuricchikuppam was strengthened, putting the lie to Jean Deloche's assertion that the stone revetment was a more recent construction. A third project – the replacement of the old bridge connecting Vaithikuppam with Kuricchikuppam with a metal bridge – eased commerce between the ville and the outlying fisher villages.³⁷⁹ All three of these measures were intended to mitigate, if not completely eliminate, the effects of flooding in the town.

It cannot be suggested that the existence or purpose of the syndicat is generally known by the majority of people living in the Union Territory, though the presence of canals throughout the town is obvious and agricultural workers, who according to the 2001 census still make up nearly 25% of the labor population, still depend on the remnants of the syndicat. But the traces of the syndicat linger in the public discourse, especially among the well-educated urban elites. One college professor, who lived near the canal in Muthialpet north of the town center, said to me that flooding was entirely the responsibility of the slum-dwellers who build their huts right against the canal. “Ten or fifteen years ago it was not so bad,” he told me in English. “But they kept building more and more houses next to the *eri*. Now every time it rains the houses flood and they ask for a hand out from the government.”³⁸⁰ The same story was repeated by many residents of the old ville indienne, especially those who lived near to Petit Canal, an area that still

³⁷⁹ *Rapport: Sur le fonctionnement du service des Travaux Publics pendant l'année 1941* (Pondichéry: Etablissement Français dans l'Inde).

³⁸⁰ S. Arokianathan (Dean, School of Tamil Language and Literature, University of Pondicherry), in discussion with the author, March 2009.

suffers terrible flooding during monsoon. “They come and sleep right next to the canal and when the rain washes everything away they always want some handout!”³⁸¹

But the core of this legend resides within the administrative circles of the UTP government. The narrative simply holds that flood mitigation policy was better under the French administration. While nobody ever suggested to me that the administration responded more efficiently during emergencies during the colonial period, the implication was that the need for response was mitigated by the effectiveness with which the French planned against the event of flood. Speaking in 2009 to a disaster management workshop organized by the DRDM and the UNDP, Chief Collector Ragesh Chandran gave an eloquent encomium of the system developed by French over the course of the nineteenth century:

The French designed the canal system so beautifully. It was so elegant. They were all interconnected so when water was overflowing or full in Ousteri tank it would go to Valliandrapet. When it was full in Valliandrapet then it would go into another and then into the river and then into the sea. But now there is not even one meter [of drainage clearance] there.³⁸²

On its face Chandran’s statement is true. Not only did the syndicat divert flood from residential areas, but it also saved water for future use. But it bears repeating in the face of this most persistent legend that the system was originally developed by local populations from the time of the Pandyas to the Vijayanagara dynasty.

Regardless of its origins, the syndicat was maintained and improved during the colonial period. It was left to atrophy only after the *de facto* merger in 1954, a process that only accelerated after the *de jure* merger nine years later. In the decades that

³⁸¹ Vani (housewife), in discussion with author, August 2009.

³⁸² Ragesh Chandran, “Opening Address,” (presentation, DRDM-UNDP Consultative Workshop on Disaster Management,” Pondicherry, July 23, 2009.

followed, continues the Chief Collector's narrative, the syndicat was allowed to decline through a combination of lax maintenance and lazy building regulation enforcement which allowed large hutment colonies to spring up against the *eris* and canals. This was especially evident at Ousteri west of the town proper, to the northwest between Gorimedu and Lawspet, and to the southwest at Abishegapakkam, regions that saw explosive suburban growth from the mid-1980s onwards. As a result, he said, "this system no longer exists intact. There were drains wide enough to be one hundred feet across, but they have all been encroached."

There can be no question that this legend does have a basis in fact. The French built and maintained an integrated irrigation systems that expanded the capacity of traditional Tamil irrigation methods. They built canals to connect lakes and tanks, and they did all of this to conserve rainwater for irrigation as well as to mitigate the effects of seasonal flooding. They also diverted and improved the course of the Uppar River as it flowed along its natural course through the colony from very early on in their residency.³⁸³ Where this history turns into policy legend is at the moment when decision-making elites marshal this narrative around specific issues of policy, namely in an effort to qualify the reasons for seasonal flooding, or rather to explain (away) the administration's failure to alleviate it. Er. M. Rajendiran, Chief Engineer of the Ports Department, articulated a good summary of the legend:

You see this at Abishegapakkam, where the people have built their houses...you see, during French times there were canals connecting all of the kulams so that if one overflowed the water would just flow to the next tank, and the next one and so on. In this way floods were contained. But now there are houses right up against Abishegapakkam Lake. Developers came in and built houses and all along

³⁸³ See Chapter 1, Illustrations 1.1 and 1.3.

lake. And in Saram, Rainbow Nagar, Ousteri...this is only since the 1980s when builders started building so many houses in these places [which happened] because the government did not enforce any regulations. So people have their homes right against the water [so that] when flood comes the water has no place to go but into their houses. And then they come to the government asking for relief.³⁸⁴

Several characteristics of the legend reappear in this telling. The most obvious is the invocation of “French times,” a phrase intended to set up a distinction between controlling powers, between then and now. This construction is the same as that used by the Pattanavars when speaking about “munnalle,” or “before.”

A second, more curious, characteristic is the appearance of Ousteri Lake, also called Ousudu, which is a constructed lake dating to the Vijayanagar period. Though it was later abandoned it was rebuilt at the insistence of Anandarangapillai during Duplex's tenure as governor of Pondicherry to irrigate the nearby field as well as to supply water to the town, underscoring the link between French hydrological infrastructure of its Indian predecessors. The French later built a water filtration plant on the site at Muttrapallayam – yet again fitting into the history of French water management in the region. But the land around Ousteri has only recently begun to be developed as the urban population of Pondicherry presses westward. He may well have been thinking of either Murungapakkam Lake to the southwest or perhaps Kanakan Lake, which sits halfway between Ousteri and Pondicherry on National Highway 45A and is the site of ongoing residential development at places like Pudhu Nagar, Tatchnamoorthi Nagar, Sri Moogambigai Nagar and the Indira Gandhi Medical College. But his telling is doubly interesting because he speaks of “Saram, Rainbow Nagar, Ousteri,” neighborhoods

³⁸⁴ In discussion with the author, April 2009.

radiating westwards from the center. While Ousteri certainly remains an icon of French hydrological science, this is perhaps not the reason that it was inserted into the narrative. Rather, it seems more likely that it was a phrase meant to express the inexorable crawl of urbanization into what used to be wilderness.

In 2010 I was again able to speak to the Chief Collector and I asked him what role he thought the *syndicat agricole* played during the tsunami, whether he believed it mitigated the effects of the wave. His response stepped back from the position he had stated the prior year. “I won’t be able to say that,” he replied. “The fact of French government, the records, how it was designed, [it] is a matter of history now. It’s a matter of history.” But then he immediately restated the legend even more vigorously:

And when we study that we see that it’s perfectly designed. The entire Puducherry region was perfectly designed as far as drainage is concerned, as far as roads. But we have not developed upon that. We have seen [that] people have encroached upon, most of those drainages have been blocked, the many lakes which are supposed to be water carrying bodies have been filled up. It had that effect, no doubt about it. But to say that there was something else...I can only say that the granite boulders that were put around Pondicherry have prevented tsunami from hitting us. I don’t have anything to say.³⁸⁵

Just as the French were said to have possessed a “near perfect system of record management,” so too had the French colonies been “perfectly designed” for drainage. Just as the confusion that followed the merger irreparably damaged the potential (or archival) memory of the Union Territory, so too did unregulated growth spoil its flood imaginary.

³⁸⁵ Ragesh Chandran, in discussion with the author, August 2010.

The parallelism between fisher narratives and administrative policy legends is quite striking. Both versions of Pondicherry claim a “before” that was better; both versions assert a gradual decline for which the narrators are not responsible. The fishers blame the government, sometimes for coddling the young, sometimes for failing to heed the old. The government blames those in the kutchra hut squatter colonies (*kudisaikal*) but also “builders” and those in previous administrations who allowed the decline to happen. And in neither instance do the narrators permit responsibility for what are seen to be systemic failures to fall on their own communities. Both versions grant, even if incidentally, that part of Pondicherry’s resilience has to do with its placement, its planning, and its design. Both Karaikal and Pondicherry were built on expansive river plains on top of quick draining, sandy soil. Engineers and fishers both claim that much of the impact of the tsunami was, in the words of fisher Arulraj, “drunk up” by the rivers.³⁸⁶ Much of the rest, at least in Pondicherry, was deflected in some small way by the expansive stone seawall protecting the coast.³⁸⁷

Yet there seem to be no lessons drawn by either side from the interim period between coadunation and catastrophe, 1954-2004. Even if we grant that things were somehow “better” *munalle*/in French times/before – which is not a concession that I am making here – and that changes to response mechanisms and coping strategies necessarily followed the tsunami, what are we to make of this post-colony/pre-disaster period? It is here that the critique of Cyril Antony and the all too infrequent admissions of various administrators – many of which will be discussed in the next chapter – becomes most poignant. For where Alfred Martineau was pointedly aware of the stream of policy

³⁸⁶ In discussion with the author, March 2009.

³⁸⁷ Karaikal did not enjoy the same protection and suffered a much longer inundation than did Pondicherry town.

history in which he was swimming, even if he refused to draw conclusions, the administration of the Union Territory was only treading water in the years and decades before 2004. And at a certain scale, perhaps Martnieau was correct to draw no conclusions. Recent events in Japan have reminded us – as if we could have forgotten – that it is impossible to adequately prepare for a calamity on the scale tsunami, and whatever measures might be taken too often go awry.³⁸⁸

But communities can and do prepare for crisis and for disasters that are imagined possible. The Government of Pondicherry did not make substantive efforts in this direction in the years before 2004, depending instead upon mechanisms designed in a different era for a different imaginary. Nevertheless, the Union Territory was extremely lucky to escape tsunami with damages that were in many ways comparable to the losses suffered during the 1977 cyclone, and with a mortality rate for the entire Union Territory that was lower than that of the neighboring town of Devanampattinam, Cuddalore District. In the wake what Santirabal Singh called a “loss to the nation” Pondicherry finally began taking steps to minimize future losses and build more resilient communities, but in doing so they have damaged some of the very mechanisms that made fisher hamlets – and even Pondicherry itself, the erstwhile *hameau de pêcheurs* – resilient in the first place.

³⁸⁸ “Tsunami floodgate ‘did not work,’” BBC News, Mar. 20, 2011, accessed March 22, 2011, <http://www.bbc.co.uk/news/world-asia-pacific-12801085>.

Rehabilitation: Discussions and Debates

For all that has been written since 2005, it cannot be said that the December 26 Indian Ocean tsunami was “unprecedented.” The medieval Tamil flood imaginary, as was demonstrated in chapter 1, was founded on mythic and literary images of catastrophic flood, images that were re-mobilized at the beginning of the twentieth century by Tamil nationalists seeking to counter the hegemony of classical Sanskrit culture. In chapter 3 it was seen how residents on one Indonesian island had maintained for nearly a century coping and response mechanisms that prevented major loss of life in 2004. In fact, the incidence of tsunami in Indonesia is quite high: fifty eight occurred in the century before the Indian Ocean disaster.³⁸⁹ A similar earthquake off the coast of Chile in February 2010 sent tsunami warnings across the Pacific. Though the highest recorded wave amplitude was only 2.6m,³⁹⁰ many towns along the Chilean coast were devastated.³⁹¹ The March 2011 earthquake in Japan registered yet another precedent for calamitous tsunami, while their inevitability was underscored by the (re)discovery of stone tsunami warnings dating back more than six hundred years. “High dwellings are the peace and harmony of our descendants,” read one stone slab found in Aneyoshi, Japan. “Remember the calamity of the great tsunamis. Do not build any homes below this point.”³⁹²

³⁸⁹ ICMMG, Historical Tsunami Database, accessed April 5, 2011, <http://tsun.sccc.ru/nh/tsunami.php>.

³⁹⁰ “Tsunami message from WCATWC”. West Coast and Alaska Tsunami Warning Center, accessed April 5, 2011, <http://wcatwc.arh.noaa.gov/2010/02/27/725245/04/message725245-04.htm>.

³⁹¹ Benjamin Witte, “Chile earthquake: Residents wait for aid in tsunami-hit coastal towns,” *Christian Science Monitor*, March 4, 2010, accessed from Lexis-Nexis, April 5, 2011. See also “Pacific coastline devastated; 350 killed by tsunami that hit one small town,” *msnbc.msn.com*, accessed on April 5, 2011.

³⁹² Jay Alabaster, “Tsunami-hit towns forgot warnings from ancestors,” *New Zealand Herald*, April 7, 2011, sec. World.

Catastrophic tsunamis may well remain rare, but cyclone has long been a risk associated with the Coromandel Coast, and storms capable of washing away entire villages have occurred in living memory. The torrential rains in Rameswaram, Ramnathapuram District, in mid-December 2004 – less than two weeks before the Asian tsunami – prompted one resident interviewed by *The Hindu* to recall a 1964 cyclone that washed away the town of Danuskodi.³⁹³ This forty year old storm made the news again when *Dinamalar* printed an article on the centenary of the Pamban rail bridge that connects mainland India to the site on Rameswaram from which Lord Rama is said to have surveyed Lanka.

Even when we grant that no one can predict tsunami, rain and flood – and the risks attending each – are an accepted part of life on shore and sea for Pattanavars in the Union Territory of Pondicherry. Necessarily it begs the question: having recognized the dangers, how do they cope every day with risks that others might reasonably seek to avoid? What coping mechanisms have the Pattanavars developed over time to mitigate either the risks or the anxieties associated with coastal work and living? In the last chapter I explored many of the material strategies used by fishermen to predict danger and limit loss: building communities atop sandy *medus*, learning the natural behavior of fish and sea, recognizing the warning signs of impending change, and supplicating Kadal Mata for protection. All of these go into the communal construction of a “fisher mentality” believed to endow Pattanavars with the physical and mental attributes required by their vocation.

³⁹³ “Rameswaram rain revives cyclone memories,” *The Hindu*, December 14, 2004, accessed July 23, 2011, <http://www.hindu.com/2004/12/15/stories/2004121508760400.htm>.

Another explanation has been offered by Robert Paine, who theorized that communities living in close proximity to hazards learn to cognitively repress the calculation of risk in order to move through dangerous life-worlds without falling victim to anxieties about what might befall them, what he calls the “no-risk” thesis of risk management.³⁹⁴ Members of these groups use a variety of methods to suppress the need for such calculations. They might, for example, attribute negative experiences to bad fortune or the actions of spirits, demons, or deities. Negative hazard outcomes are ascribed to “God’s will.” U.S. pastor John Hagee, for example, famously called Hurricane Katrina “the judgment of God against the city of New Orleans,”³⁹⁵ while radio broadcaster Glenn Beck said of the Sendai disaster, “whether you call it Gaia or whether you call it Jesus, there's a message being sent.”³⁹⁶ Similarly, a retired Franco-Indian Air Force officer told me that the tsunami had struck India because women had too many rights.³⁹⁷

Another common process identified by Paine is the suppression from personal and collective memories of experiences that contradict desired outcomes. Puthu’s assertion that “flood does not come here,” for example, is a parallel manifestation of a similar process, but as was shown in the last chapter this kind of hazard suppression is based more on the construction of hazard at the local level than it is on the willful nullification of dangers. Active suppression of such memories *is* evident in the ways that tourism enterprises were often exempted from buffer zone regulations barring new construction in

³⁹⁴ Robert Paine, “Danger and the No-Risk Thesis,” *Catastrophe and Culture: The Anthropology of Disaster* (Sante Fe, NM: School of American Research Press, 2002).

³⁹⁵ “Interview with Terry Gross,” *Radio Times*, National Public Radio, September 18, 2006.

³⁹⁶ Elizabeth Tenety, “Glenn Beck: Japan quake a ‘message’ from God,” *The Washington Post*, 19 March 2011, sec. Metro, B02.

³⁹⁷ In discussion with the author, April 2009.

the tsunami belt.³⁹⁸ To be sure, such calculations were economic at their base, but their commercial success depends upon the process of risk suppression described by Paine. Neither of these mechanisms reduces risk. Instead they “manage” the perception of risk by constructing shared frameworks of meaning and establishing shared systems of belief.

Both processes are evident among the Pattanavars, though sometimes more obliquely than described by Paine. Experiences of loss are frequently attributed to the will of gods. Blame, however, often lies not with the inscrutability of the goddess but more with a local failure to perform the necessary devotions. Fishermen up and down the coast predicted dire consequences if disrespect was shown to any manifestation of the sea god, a belief that motivated Murthi to tell me that if I – or anyone – stepped across his nets or gear that he would strike me because, “they are like gods to us.” To many older fishermen the idea of not performing puja was bewildering. “If we do good puja,” said one man in Kilinjil Medu, “Elaiyamman will certainly protect us.” The requirements for good puja vary from village to village, and they are well-known even by children. In the same village, primary school children from the age of eight could tell me that Elaiyamman was to be given buttermilk, paneer and turmeric water. But when asked if they were ever supposed to give chickens or goats, as they do to Senkeni Amman in Veerampattinam, they rejected the suggestion in no uncertain terms. Such beliefs represent the obverse to Paine’s thesis that malevolent powers cause disasters. This may sometimes be perceived to be true – a fact we saw underscored by Anandaranga Pillai’s

³⁹⁸ “Landlessness and Land Rights in post-tsunami Sri Lanka,” Centre for Policy Alternatives, accessed February 18, 2008, http://www.cplanka.org/research_papers/IFRC_land_study.pdf.2008. See also Kathleen Thurnheer, “A House for Daughter,” *Contemporary South Asia* 17(1):79-91.

astrological explanation for the 1745 cyclone – but just so, external powers can be cajoled to prevent disasters through right conduct and proper devotion.

The last chapter explored the ways in which fishermen across the UTP actively resist or reject certain events from memory, particularly examples of government assistance to the community that demonstrate an administration that is more responsive to the needs of the fisher community than community narratives wish to admit. We saw in chapter 3 how the establishment of the Durieux Health Clinic after the 1968 cyclone was attributed to the empathy of the French embassy, particularly the empathy of the wife of the Consul-General, in the face GoPY ambivalence, though the construction of such a clinic could not have been undertaken without government permission and assistance. We have already seen among some fishers a denial of risk, much as Paine's thesis predicts. Even more interesting, however, is not the denial of risk, or even the acceptance of risk coupled with assertions of characteristics or abilities specific to the task of weathering them, but the very different perceptions of risk that exist within and without the community. "There is no danger here," they say, "[because] flood only comes here occasionally." Sea water (or heavy rains) coming into the village, even coming into the house, does not signal flood. Flood only occurs when water comes and does not recede quickly, as within a day. "If water comes and stays, then only is it a flood. If the water comes and goes, no flood has occurred."³⁹⁹ The Pattanavar definition of flood becomes particularly significant in view of the ways in which the GoPY has sought to rehabilitate fisher communities since 2004.

³⁹⁹ Nagarajan, in discussion with the author, July 2010.

Contrary to Paine's no-risk thesis, however, there is an explicit understanding of many of the risks inherent in the fisher vocation; older Pattanavars do not shy from admitting the dangers of their work. Informants in both Pondicherry and Karaikal described at length the dangers inherent in off-shore fishing, and they described the measures taken against these risks. Even though many measures were based upon regular and proper religious sacrifices, and others rooted in superstition, the mere fact of conscious acts to control and mitigate risk belies the suggestion that Pattanavars work to suppress the calculation of risk. Rather, and this is key to understanding many of the tensions that arose between the government and Pattanavar communities, the dangers are perceived differently among fishers than they are among more inland communities. This difference is underscored by the connotative difference between *vellam* and *vatham* discussed in the last chapter and evinced in comments that assert that "flood does not come here" or verses tying the health of the sea to regularity of the rain.

"The fisherfolk live with risk anyway," said CEE's Srijji Kurup. "They are more daring. They take more risks. These are their lives."⁴⁰⁰ The idea that the *character* of the Pattanavars is tougher, less risk-averse, or more naturally resilient is expressed with pride by many within the community, and one accepted largely without question outside of it. "We are accustomed to it," is the most common refrain. Said Veerarappan: "I am a man. I have two arms. They have always brought me back. I am a man, and there is god [gesturing above.] This is all I need."

⁴⁰⁰ Srijji Kurup (liaison officer, Centre for Environmental Education, Karaikal office) in discussion with the author, January 2009.

The Project Implementation Agency

In the days and weeks that followed the 2004 tsunami disaster response in the Union Territory was limited to providing immediate succor to its victims and surveying the extent of damage. According to a government public relations publication, “the Administration, *as has always been*, acted swiftly and launched massive rescue and relief operations by putting the official machinery into service.” The account continued:

The officers and field staff of various departments swung into action and did their best. Utilising the services of School kitchens and Central kitchens food was prepared for one lakh people within three hours and supplied to them who ran away from their homes to safer destination [sic] including relief camps opened by the Govt. The officials of Police, Revenue and Fire service rescued the people from the debris from the inundated area. The Samaritans of neighborhoods and N.G.Os plunged into action in extending helping arms to tsunami victims.⁴⁰¹

This narrative, published in an internal government newsletter nearly a year after the disaster, paints an image of an efficient and capable administration that contradicts the impressions of Santirabal Singh, Chief Engineer, PWD, quoted earlier saying that the government “had no idea what to do.” In fact, Singh confirmed that the administration provided food for tens of thousands of victims well into January 2005. But the real work of rehabilitation did not begin, could not begin, until the GoPY better systematized relief operations.

In the immediate aftermath the GoPY created several committees units to oversee relief operations at different levels. A rather unwieldy State Level Relief and

⁴⁰¹ Project Implementation Agency, *Putu valvu cunāmikku pin*, vol. 1 (November 2005), 12. Italics added.

Rehabilitative Committee – made up of then Lt. Governor M.M. Lakhera, Chief Minister N. Rangasamy, and all Secretaries and department heads as well as members of the legislative assembly – was constituted on January 3, 2005.⁴⁰² The establishment of this committee within a week of the tsunami seems to have been motivated more by the political need to publicly demonstrate engagement with the disaster, as there already existed within the Union Territory two bodies responsible for disaster planning and relief: the High Power Committee/State Disaster Management Authority, which had been entrusted with coordinating mitigation and preparedness planning in the UTP since 2003⁴⁰³ and the District Disaster Management Committee, established at the same time and responsible for extending immediate relief measures to disaster-affected people.⁴⁰⁴ In light of the argument presented earlier, namely that the Government of Pondicherry had developed such a labyrinthine matrix of cross-hierarchies that different sectors of the administration literally did not know the responsibilities of other sectors, the State Level Committee represents another manifestation of an administration weaned almost entirely from efficient response.

By the end of January 2005 Village Level Core Teams had been established to more directly monitor relief and rehabilitations measures being organized at the village and hamlet level.⁴⁰⁵ Unlike the SLRRC, which virtually duplicated the oversight responsibilities of the High Power Committee, the village teams were tailor made to translate the duties of the District Disaster Management Committee at the local level. Exactly six months later, a second government order established Village Committees for

⁴⁰² GoPY, G.O. Ms. No. 1, 03-01-2005, *Pondicherry Gazette*, NAIPRC.

⁴⁰³ GoPY, G.O. Ms. No. 45, 19-09-2003, *Pondicherry Gazette*, NAIPRC.

⁴⁰⁴ GoPY, G.O. Ms. No. 46, 19-09-2003, *Pondicherry Gazette*, NAIPRC.

⁴⁰⁵ GoPY, G.O. Ms. No. 10, 25-01-2005, *Pondicherry Gazette*, NAIPRC.

each hamlet to oversee the allotment of house sites to beneficiaries.⁴⁰⁶ The direct engagement with relief oversight at the village level was an innovation intended to foster a sense of ownership of the reconstruction within individual recipients, investing at least part of the responsibility for the success or failure of reconstruction efforts within recipient communities rather than wholly upon the state apparatus.

In March a smaller Empowered Committee was established for the purpose of considering proposals received from NGOs and voluntary organizations for the construction of houses and the “development of habitats including community assets.”⁴⁰⁷ In discussions earlier that year, the state level steering committee had entered into negotiations with the World Bank to provide funding for the reconstruction of the Union Territory. Numerous smaller offers were also tendered to the administration, but there was no initial agreement on how such donations should be handled. The Empowered committee was constituted in part to coordinate this end of the rehabilitation. One option they considered was to hand funds directly to individual line departments – Public Works, Fisheries and Fisherman Welfare, Women and Child Development, Agriculture, etc. – who would be responsible for specific sectors of the rehabilitation, but World Bank officials rejected this proposal, citing their experience in Gujarat following the 2001 Bhuj earthquake.⁴⁰⁸

Meanwhile, a joint delegation of officials from the World Bank, the United

⁴⁰⁶ GoPY, G.O. Ms. No. 89, 25-07-2005, *Pondicherry Gazette*, NAIPRC.

⁴⁰⁷ GoPY, G.O. Ms. No. 29, 15-03-2005, *Pondicherry Gazette*, NAIPRC.

⁴⁰⁸ Ragesh Chandran, in discussion with the author, August 2010. In a 2005 lecture, P. Sainath asserted that only 20-25% of money donated for the Bhuj reconstruction was used for reconstruction projects. And equal amount was spent to climate control tents used by relief workers. According to Sainath, “twelve foreign agencies contributing to the recovery efforts “effectively blocked these resources from local agencies that would have been infinitely more effective.” See “Globalizing Inequality,” PDXJustice Media Productions, accessed May 6, 2011, <http://www.pdxjustice.org/node/3>.

Nations Development Program (UNDP), the Asian Development Bank (ADB) and the International Development Association (IDA) had come to Pondicherry in February to tour the devastation and have discussions with GoPY leadership, including Lieutenant Governor Lakhera, Chief Minister N. Rangasamy, Chief Collector Ragesh Chandran, and Karaikal District Collector L. Mohammed Mansoor. According to interviews conducted between 2008-2010 with GoPY officials present at these meetings, in lieu of providing monies directly to line departments the World Bank suggested the creation of a central agency to monitor *but not execute* rehabilitation projects akin to neighboring Tamil Nadu's Project Monitoring Unit. According to Ragesh Chandran, the GoPY proposed instead to go even further. "Being a small area we will do one thing," he recalled:

We will create a project implementation agency. We will implement it ourselves without handing it over to the different departments and diverse interests. And then the World Bank went to Tamil Nadu and said "you must do the same thing." Well, Tamil Nadu said, "No, we have a well set out system [and] we will implement it through the various departments. We will also create the monitoring unit." So they have the PMU, we have the PIA. That is how it came. It has been decided by the government before it was created. We will create the system; they [the PIA with World Bank funding] will implement it.⁴⁰⁹

Follow-up discussions held with officials from the Government of India (GoI) and Planning Commission in New Delhi resulted in the Emergency Tsunami Reconstruction Project (ETRP), "a long-term Rehabilitation work relating to housing and other infrastructure development works."⁴¹⁰ To further facilitate World Bank financing of the ETRP and other rehabilitation programs along the tsunami-affected Coromandel Coast, a Development Credit Agreement was signed on May 12, 2005, between the GoI and the

⁴⁰⁹ In discussion with the author, August 2010.

⁴¹⁰ *Putu vālvu cunāmikku pīn* 1, 22.

World Bank signing on behalf of the IDA. Simultaneously, another agreement, viz. the Project Agreement, was signed between the World Bank and the GoPY, which allowed the territory's ETRP to be inaugurated on May 19, 2005.

Prior to the inauguration of these projects the details of the ETRP had been outlined by the World Bank in a technical annex submitted to the GoI. In it the World Bank described the creation of “a new legal entity — PIA — [that] will be established with its own bank account, accounting, reporting and auditing arrangements,”⁴¹¹ The name “PIA” was not defined in this document, though from Collector Chandran’s account above and documents discussed below it can be surmised that PIA was by this time a familiar acronym in the circles discussing the GoPY’s collaboration with the World Bank. The details of PIA's operations and management, however, were left to be defined in an Operations Manual then under preparation..

The Project Implementation Agency (PIA) was announced by government order on April 24, 2005, in the following terms:

[I]t has been decided...in order to implement the assistance given by the World Bank as well as to undertake various other activities related thereof for relief, rehabilitation and reconstruction in various sectors, and also to give effect to the policy of reconstruction of permanent houses and infrastructure facilities for the Tsunami affected areas and rehabilitation of Tsunami affected people with the participation of NGOs and voluntary organisations in a speedy and time-bound manner.⁴¹²

Rather than establishing it as a new sub-unit within an existing agency or department, PIA was constituted under the Societies Registration Act of 1860. By doing this the

⁴¹¹ World Bank, “Technical Annex on a Proposes Credit in the Amount of SDR 308.4 Million to the Government of India for the Emergency Tsunami Reconstruction Project,” Report No. T7653, April 13, 2005, 12. DRDM archive, Pondicherry.

⁴¹²GoPY, G.O. Ms. No. 57, 27-04-2005, *Pondicherry Gazette*, NAIPRC.

governing body of the PIA was vested with sole control of all properties and finances belonging to it, in effect setting up an administrative structure parallel to but *not a part of* the GoPY. Relief funds – whether from the World Bank, the GoI, or other bodies – were deposited into a separate bank account controlled by PIA’s governing body and not subject to established GoPY accounting rules or auditing protocols, though separate protocols were put in place as a necessary condition of World Bank assistance.

By the rules of the Societies Act PIA was also granted the ability to alter, extend, or abridge its mandate subject only to a vote of its members, rather than to the regulations of the government as a whole. Thus changes to the mandate of PIA would be subject only to the imprimatur of its individual members rather than to the legislative process required for amending secretariats and line departments. The only rein on PIA’s independence was a grant of supersession given to the GoPY in the case of gross mismanagement, but even then such supersession could not be for more than one year.

The agency was originally charged with four primary objectives: 1) the repair, reconstruction, or resettlement of affected communities, 2) the revitalization of agricultural livelihoods, 3) the development of a fisheries policy to include a study into new forms of livelihood support, and 4) a vulnerabilities assessment for the long-term risk management of the coastal zone. Because of its status as a registered society, the agency held unprecedented power within the GoPY to act and operate independently of the government apparatus. In addition to streamlining the process of project funding, subject now only to the will of its Joint Project Director, PIA was given decision-making powers unavailable to other government agencies: the ability to hire third party consultants, the ability to execute contract based on cost coupled with quality control, and

most importantly the ability to directly accept funds from the World Bank and other donors into agency controlled bank accounts.

The terms of the agreement between GoPY and the World Bank – the first agreement ever signed between GoPY and an external agency⁴¹³ – and its status as a charitable society gave PIA broad responsibilities over all rehabilitation or development projects growing directly out of tsunami recovery and a wide scope in which to carry them out. By the publication of the agency's operations manual in the summer of 2005 the agency had already expanded its mandate beyond its original four duties to include:

[U]ndertak[ing] restoration, reconstruction and rehabilitation work and programmes necessitated by *any natural calamity* in the State with funds provided to it by the State Government or received by it from the Central Government or any donor or Funding Agency in order to enable the PIA to implement the restoration, reconstruction and rehabilitation works and programmes entrusted to it by the State.⁴¹⁴

Objectives outlined in the manual included, but were not limited to:

- Resettlement
- Social and economic rehabilitation of affected populations
- Planning for long-term disaster preparedness and loss mitigation
- Undertaking research examining the causes for loss and the means for minimizing the same
- Increasing funds through charitable collection
- Increasing these funds through investment (vis. Societies Registration Act of 1860 and the Bombay Public Trust Act of 1950)

What becomes clear from the enumeration of objectives is that while the original responsibilities outlined in both the technical annex and G.O.Ms. 57 remained in force

⁴¹³ As a union territory, Pondicherry is under the direct control of the central government in Delhi. While MLAs and the Chief Minister are elected, the Lt. Governor and secretaries are appointed by officials in New Delhi. Prior to 2005 such agreements would have been signed by Gol.

⁴¹⁴ *Operating Manual* (Pondicherry: PIA, 2005), 4. This 88-page document was obtained from the PIA as a soft copy. Italics added.

within months of its creation PIA had already exercised the rights afforded it as a “charitable society” to expand beyond post-tsunami rehabilitation to include, among other things, general disaster response planning and long-term financial investment. Despite guaranteed World Bank funds earmarked for rehabilitation and development initiatives, new stress was put on both the collection of additional charitable funds and their increase through mechanisms of intelligent savings and investment. The financial stability fostered by these practices proved the agency’s sustainability. As a result there was little resistance to PIA requests to extend its terminal, three year mandate, first in 2008 and again in 2010.

One consequence of this success is that officials are now discussing the indefinite continuation of PIA as *the* nodal agency for disaster management and crisis mitigation planning in the Union Territory. “The present perspective is that not everyone will return to their line departments,” explained the Chief Collector. “The thinking is that the new department requires a disaster management wing, [then] why not the mandate of PIA be changed from tsunami rehabilitation alone to help the disaster management division of the Revenue Department?”⁴¹⁵ Such a decision seems likely to create tensions within the GoPY for several reasons. First, other departments may well grow to resent the fact that PIA operates freely outside of the strictures of hierarchy imposed on line departments. PIA also controls its own operating budget external to the central operating budget of the GoPY. It is unclear whether this would continue should PIA become the new disaster wing, but there is no provision in the Societies Act for how to treat any capital gains earned through investments authorized by the governing body. Rather, the Act states that

⁴¹⁵ In discussion with the author, July 2009.

control of these will be vested in the governing board until the society is dissolved. Finally, many officers tasked to PIA from line departments were chosen based on their training and experience within those departments. Permanent reassignment would necessarily negatively impact the operations of line departments until replacements could be assigned, and even then there would be a significant loss in institutional memory and sub-unit intelligence within each department. But these issues were only just being considered in mid-2010. At the time of this writing any further speculation serves little purpose.

Comparative Magnitude at a Glance

As was discussed in chapter 3, since the cyclone that struck the Coromandel Coast in November 1977 could have in many ways served as a template for subsequent large-scale disaster response in the Union Territory it is worth briefly comparing the magnitude of each event side by side. This comparison is not meant to suggest that the 1977 cyclone was of similar scale to the 2004 tsunami. In terms of scope and effect the cyclone has more in common with earlier cyclones than it does with long-term trauma caused by the tsunami. Nevertheless, when discussing the physical rehabilitation faced since 2005 it is instructive to compare it with the earlier event in terms of material scale.

At first glance the exercise seems unreasonable (Table 5.1). In terms of affected population, number of relief camps, number of fishing craft destroyed, and fatalities there seems little reason to compare these events. On unpacking the numbers more carefully, however, the utility of such a comparison becomes more apparent. Beginning with the number of villages affected, it is at first surprising to see that more than three times as

many villages were classified “affected” in 1977 than in 2004. Certainly the tsunami affected the coast, and even at its widest the Union Territory rarely extends more than five kilometers inland. Several factors clarify this dissonance.

Particular	1977	2004
No. of Villages affected	113	33
Population affected ⁴¹⁶	> 10,000	43,432
No. of Relief Camps	5	48
No. of fishing boats damaged/destroyed	657	7,491 (CMFRI)
No. of houses damaged/destroyed	7426	10,061
No. of crops affected	1214 Ha.	792 Ha.
No. of deaths	2	601

Table 5.1 Comparison of key damage metrics, 1977 and 2004

First and foremost, where the tsunami only affected coastal regions the cyclone dropped rain on the entire region. In addition, due to their physical locations, both Pondicherry and Karaikal are subject not only to the rain that falls in the district but also the rain that falls in Tamil Nadu and must flow through the Union Territory watershed. While the inundation resulting from tsunami did reach several kilometers inland in many places, such as at Karaikal, it did not do so at Pondicherry town. The reasons given for this vary but fall into two broad categories. Engineers and scientific officers working for the GoPY suggest that Pondicherry town escaped the worst because of its

⁴¹⁶ This is a category given in GoPY documents on tsunami. “Affected” is never defined, but it differs from “Evacuated,” which is numbers at 70,000. For 1977, I have used the number of victims fed at government relief centers daily. This does not included relief given by temples, which was officially noted but not enumerated.

geomorphology. Being sited near the mouths of the Ariankuppam and Chunnambar Rivers allowed much of the force of the wave to be “swallowed” by the rivers and allowed to quickly drain back into the ocean. A few even credit the remnants of the syndicat agricole for effectively increasing the hydrological capacity of the district. This latter group suggests that the old seawall also helped to blunt the destructive force of the wave. Pattanavars, on the other hand, maintain that the seabed before Pondicherry town drops suddenly some distance from the shore. As the tsunami wave neared the shore it effectively “fell” into a deep trench, dropping the height of the wave so that a shorter wave hit Pondicherry than struck the coast at neighboring Devanampattinam, for instance. Such a physical feature also would have affected the roll of the wave, causing it almost to “stumble” and dissipating some of its force. Either effect could have an impact on the number of towns inundated by the tsunami, limiting the scope of the disaster to the villages nearest the shoreline.

The population numbers are somewhat more difficult to compare. It is needless to compare fatalities between the two disasters, but a single detail about the tsunami adds a modicum of verity to the villages numbers discussed above. In the entire Union Territory there were 601 deaths from tsunami. The majority of these were in Karaikal, but 107 deaths did occur in Pondicherry.⁴¹⁷ In nearby Devanampattinam, Cuddalore District, approximately the same number of deaths occurred, but across a population nearly 1/100 that of Pondicherry’s. One source told me that as many as five times as many people were killed in Devanampattinam.⁴¹⁸ The relative resilience of the densely urban

⁴¹⁷ *Status Report of Rehabilitation/Reconstruction Works in the Union Territory of Pondicherry* (Pondicherry: PIA, 2006), 6.

⁴¹⁸ P.S. Ravichandran (PMSSS) in discussion with the author, November 2008.

Pondicherry (pop. 735,000) compared to the markedly less urban Devanampattinam (pop. 8,500) is only made more notable when cast in the light of the physical features discussed above.

The “population affected” numbers are somewhat more difficult to compare. Numbers from the 2004 disaster have been firmly at 43,432 since mid-2005, compared to approximately 10,000 affected by the 1977 cyclone. While what constitutes “affected” was never clearly defined in either instance, the category certainly includes those who were evacuated and fed in shelters. In 2001 the total population of UTP was 974,000; thus the affected population numbered about 4.5 percent of the total population. In 1977 the Revenue Department did not enumerate the affected population, but it did note that between 10,000 and 11,000 people were fed daily in government relief centers. Using numbers from the 1981 census, the population of UTP in 1977 would have been a little less than 600,000 people, meaning that less than two percent of the population was fed by government kitchens during the crisis. But being fed is not the same as being affected.

Neither does this number track with a third number, the number of houses damaged or destroyed, which in 1977 totaled nearly 7,500. It seems fatuous to suggest that the number of people fed in government kitchens numbers less 1.5 per house damaged when most houses would have housed families. But neither does it follow that every family living in a damaged or destroyed house was necessarily fed in government kitchens. Nevertheless, it might be safely inferred that the “affected population” in 1977 was considerably higher than merely the 10-11,000 people fed. Household size in India

today averages 4.8,⁴¹⁹ suggesting that if we count as “affected” all members of destroyed and damaged houses based on modern numbers the “affected population” would surge to 36,000, or approximately 6% of the population in 1977. Of course we cannot assume these numbers, but it suggests that the percentage of the population affected by the 1977 cyclone is much nearer to 4.5% “affected” by the 2004 tsunami. It is reasonable to assume, then, that the total percentage of the population affected by the earlier disaster was comparable, if not greater than, the total percentage affected by tsunami.

As regards the fisheries, despite the vast difference in the raw numbers, the scale of loss from the two disasters was comparable in this regard as well. According to the Revenue Department report published after the cyclone, in 1977 there were about 4,500 fisherman families living between the two town centers. In the mechanized fishing sector alone 33 boats were completely destroyed while another 24 were “also sunk [but] being salvaged.”⁴²⁰ This represented a significant percentage of the total mechanized fishing capacity of the Union Territory in the late 1970s, a sector that had only recently begun to modernize under the programs of the IV Plan. At the beginning of the decade there were only forty mechanized boats in the entire Union Territory,⁴²¹ and subsequent schemes to increase mechanized capacity were scaled back annually for the remainder of the decade.⁴²² The 600 catamarans lost to the cyclone represented about one-seventh of the total country craft in UTP and affected more than 1,000 fishers. On the whole, following

⁴¹⁹ “National Family Health Survey -3,” International Institute for Population Sciences, accessed May 6, 2011, <http://www.nfhsindia.org/nfhs3.shtml>.

⁴²⁰ *Report on Cyclone and Flood Damage*, 10

⁴²¹ GoPY, *Annual Plan 1971-1972*, 57.

⁴²² See GoPY, *Annual Plan 1972-1973*, 69. For example, in FY 1972-73 a scheme to acquire 20 mechanized boats was dropped because subsidies could not be guaranteed by Gol. It was instead projected that only five boats would be added to the UTP mechanized fleet.

the cyclone UTP fishermen lost more than twenty percent of their total capacity, and well over fifty percent of their mechanized capacity.

By comparison, a 2009 study conducted by the Central Marine Fisheries Research Institute on behalf of PIA identified a marine fisher folk population of 43,000, of whom approximately 25% were employed in fishing activities. CMFRI identified 365 mechanized boats damaged or lost to tsunami, affecting a working population between 1,800-3,000 fishers out of a total 10,341.⁴²³ Nearly 8,000 smaller boats were lost – 93 FRPs and 7,436 catamarans – which easily represents the remainder of the active fishers in the Union Territory. Furthermore, beyond the simple material damage incurred by tsunami, many fisherman admitted being fearful of returning to the sea, some not doing so for six months or more after tsunami. While the 1977 cyclone severely hampered fisheries production, the 2005 tsunami crippled it well for well over a year, and it has been slow to recover ever since. According to CMFRI, the average annual marine fish landings in the decade before tsunami was 18,416 tons, while in the years following the average has dropped to 10,819 tons.⁴²⁴

The more interesting numbers, from a comparative standpoint, are the damages to housing and to agriculture. The latter can be handled quickly, but demonstrates the vast scope of damaged wrought by the 1977 cyclone. According to the Revenue Department surveys, 1214 hectares of ready-to-harvest crops were completely destroyed by the dual action of the cyclone and its subsequent inundation. This number is already 60% higher than the 792 hectares damaged by tsunami, but an additional 4,249 hectares of crops were

⁴²³ According to many informants, mechanized fishing boats, so-called STB boats, typically carry crews of at least 5 but more often 8 or more laborers.

⁴²⁴ CMFRI, *Socio-Economic Impact Assessment*. The author received a hard copy of this presentation from Mohammed Mansoor, July 2010.

partly damaged in 1977, bringing total agricultural damage to seven times that caused by tsunami.

It is housing, however, that makes for the most interesting comparison, because it is housing that was identified by GoPY and the PIA as the foremost responsibility of rehabilitation. And it is housing rehabilitation that has caused the most tension across the Union Territory in the years since tsunami.

Habitats versus Houses

By the end of January 2005, housing reconstruction had eclipsed all other necessarily rehabilitative measures being pursued by the administration. As important as it might have been to get fishermen to resume their daily routines (a process that in some places took up to a year) and to repair or rebuild portage facilities, the need for shelter dominated the discussion. Without purpose-built cyclone shelters, like those found in Bangladesh, GoPY quickly set up neighborhood relief “camps” in schools, marriage halls, and other large public spaces. The immediate concern was how to provide succor in the face of catastrophe, but it was clear the administration was at a loss on how to proceed in the long term. As Santirabal Singh pointed out, providing food, water, and shelter for weeks on end was not the solution. He admitted, too, that “[reconstruction] is our duty, even though we failed in 2005-2006.”⁴²⁵

“The task before us,” wrote GoPY Development Commissioner B.V. Selvaraj (I.A.S.), “is to undertake long term rehabilitation and reconstruction measures.”

The foremost responsibility in hand it to provide **pucca disaster-resistant dwelling units** to those who have lost their houses and those who are living in vulnerable coastal

⁴²⁵ In discussion with the author, November 2008.

areas. The initiative and the lead taken by some of the NGOs is extremely encouraging and is rather unprecedented.⁴²⁶

Other key measures named by Selvaraj were the restoration of livelihood, “particularly in the fishing villages/hamlets,” and the reclamation of agricultural lands.

Despite the catastrophic scale of tsunami, post-tsunami rehabilitation presented to the administration an unprecedented opportunity to “build back better.”⁴²⁷ *New Life After Tsunami*, the PIA newsletter for rehabilitation progress first published in late 2005, declared “Construction of New Houses and Modern Habitats.” The article cited public statements made by Indian Prime Minister Manmohan Singh, who said that scientists cannot remain “silent witnesses” to natural disasters. Rather, “we must enhance our predictive capabilities *and preparedness for meeting emergencies*” arising from natural causes.⁴²⁸ The idea that tsunami presented an opportunity to build better, disaster resistant houses circulated within the administration at the same time that notions of what constituted “modern” habitats were debated. What emerged from these debates was what came to be frequently expressed to me as “habitats not housing.” This trope argued for an aggressive program of community (re-)engineering in which “better” – that is to say more modern – colonies would be constructed for tsunami affected people. These colonies would include many amenities that middle-class Indians already took for granted: in-home current, clean water, toilets, public schools/anganwadis, a community center/emergency shelter, and available media centers.

⁴²⁶ “From the Editor-in-Chief,” *Putu valvu cunāmikkup pin* (November 2005), 47. Original bolding.

⁴²⁷ UNICEF, “Building Back Better,” accessed May 6, 2011, http://www.unicef.org/infobycountry/files/TSUNAMI_E_BOOK_spreads.pdf.

⁴²⁸ *Putu Valzu* 1, 27.

One local NGO that this way of conceptualizing the rehabilitation project was the Pondicherry Multi-purpose Social Service Society (PMSSS), a development NGO attached to the archdiocese of Pondicherry. PMSSS worked extensively on development projects arising out of tsunami rehabilitation, building over 1,000 houses in Pondicherry and Tamil Nadu. In an undated draft proposal for a joint housing project undertaken with Caritas Internationalis in Devanampattinam, Cuddalore District, Tamil Nadu, PMSSS defined the primary responsibility of the government as “provid[ing] properly built houses in safe location [sic] to the affected people respecting C[oastal] R[egulation] Z[one] notification issued by Government of India.”⁴²⁹ In stating the government's responsibility this way two central aims of tsunami rehabilitation were balanced against each other: the protection and husbanding of environmentally sensitive regions along the coastline and the habitation of vulnerable coastal populations, either into homes rebuilt *in situ* or into new colonies built out of the CRZ.⁴³⁰ The project itself undertook to “give a new quality house *in an improved environment* and increased social bonds [sic].”⁴³¹ It was this combination of “improved environment” and “increased social bond” that motivated much of the planning discourse.

However habitat would come to be defined, disaster recovery began in relief camps. Most of these were located with the ambit of everyday life in a given community or neighborhood. Serendipitously, in the tumult of evacuation the administration managed to create an environment within the relief camps that fostered community

⁴²⁹ PMSSS., *Permanent Houses for Tsunami Affected People at Devanampattinam Village, Cuddalore District, Tamil Nadu: Project Report*, 1. Undated draft copy received from PMSSS files.

⁴³⁰ The Coastal Regulation Zone, or CRZ, was first defined under clause (d) sub rule (3) of rule 5 of the Environment Protection Rules (1986) on 19 February 1991. In UTP this notification was published as G.O.Ms. No. 18/93/Hg, dated 31 December 1993.

⁴³¹ PMSSS, *Permanent Houses*, 2. Italics added.

recovery: not just individual, atomized families were placed together, but entire villages were allowed to settle as groups into marriage halls and other large public-use spaces. At least in Karaikal the initial response of evacuation had been prepared by the District Collection, Mohammed Mansoor, for several years. Prior to tsunami each community had an assigned evacuation site, typically in schools, but during tsunami, says Mansoor, “this all fell apart.”

Nobody knows how they ended up in the Royal and Shanmugan Mahals [marriage halls]. It is a decision that somebody made in a moment and people just ended up there. The earmarked things did not work.⁴³²

According to Mansoor, by 3 p.m., approximately seven hours after the first wave hit the coast, the situation on the ground had been stabilized. The district administration in Karaikal quickly recognized that their original plan to evacuate refugees to schools – a plan that had been drilled into district level task forces for at least three years – was untenable. Schools were too small, often inconvenient, and lacked facilities. Unlike schools, marriage halls had kitchens, an unplanned for need after three or four days of relief, and they could shelter ten times as many people as schools, centralizing relief efforts. Communities had also managed to locate themselves together, though without and sometimes against government orders. “It was not a conscious effort on our part. If there were requests they were accommodated.”

Trauma literature has long argued that this is the preferred way to treat refugees. In his study of the 1972 Buffalo Creek mine disaster Kai Erikson noted the abject failure of relief workers to take community networks of emotional support into account when assigning victims to temporary camps following the collapse of the impoundment, or

⁴³² In discussion with the author, July 2010.

“gob,” dam built above Saunders, West Virginia.⁴³³ Speaking to the historically close-knit culture of mining communities in general, but especially in the tight confines of Appalachia's narrow valleys, Erikson challenged the decision of federal aid workers to place families into relief camps pell-mell, without regard for existing family or community connections. Families from different communities were placed in adjacent shelters, disrupting paracenary support networks built up over decades. In the social webs of mining communities, strangers are rarely accepted into the close networks of friendship and support that exist within communities, and while certain allowances might be given to families who share the risks associated with mining, the trust required to activate traditional mechanisms of coping with grief did not translate across communities even when only separated by a few miles within the same valley. Had relief workers taken the additional step of identifying the home community of each displaced resident and made an effort to locate members of individual communities together, argued Erikson, many long-term psychological effects engendered by the trauma could have been mitigated, if not altogether avoided.

Similarly, Australian psychologist Gordon Milne linked the power of place to mitigating post-traumatic stress disorders. In his survey of adult victims of 1974's Cyclone Tracy in Darwin, Australia, taken five years after the storm, Milne found that 31% of evacuees who relocated after the disaster suffered from emotional disorders, compared to only 13% of those who had never left in the first place, or who evacuated but returned and rebuilt. These same victims spoke as if “mourning over [a] loss which went deeper than deprivation of house, possessions or job,” and 25% of evacuees

⁴³³ Kai Erikson, *Everything in Its Path* (New York: Simon and Shuster, 1976).

interviewed by the Department of Social Security two years later, in 1981, regretted their choice to leave Darwin.⁴³⁴ Writing of the same disaster Peter Read admitted that neither relief officials nor victims cited the loss of community as a significant cause of emotional distress, but noted that officials from the Australian Department of Social Security conceded that “since homes are of central importance...every consideration should be given to restoration where possible, or to *rebuilding on the same sites to maintain established communities.*”⁴³⁵ Even so, they did so without conceding that it was the initial destruction of these neighborhoods that had in fact been a contributing factor to the trauma in the first place.

Read further argued that the reason that the “health” of homes or communities is central to the emotional recovery of its victims is because:

[A]n ordinary home or suburb, once loved, transcends particularity for as long as the person who formed the attachment values that bond. Mystery and pathos...seep from earth and bubble out from water in any place where people have loved and bred and feuded with each other. Each construction of event, experience, memory and place is unrepeatable.⁴³⁶

Like residents of the Karaikal fisher hamlets, residents in the affected communities of Darwin identified themselves and clustered in ways not recognized as meaningful to outsiders like relief workers or environmental impact assessors. In doing so they (re)made for themselves precisely the meaningful social links that aided their emotional recovery from the disaster, a process notably absent from relief efforts in

⁴³⁴ Gordon Milne, “Cyclone Tracy: Some Consequences of the Evacuation for Adult Victims,” *Australian Psychologist* 12, no. 1 (1988).

⁴³⁵ *Returning to Nothing* (Cambridge: Cambridge University Press, 1996), 157. Italics added.

⁴³⁶ *ibid.*, 197.

Buffalo Creek. By allowing refugees to self-organize, relief workers in Pondicherry and Karaikal avoided inflicting the kinds of unintentional trauma related to loss-of-place described by Erikson, Milne, and Read, even if the process began unintentionally. The extended family units of the Pattanavar fisher communities were, for the most part, able to locate together. Once in relief camps, tsunami victims were quickly resettled back into their home communities as soon as practicable. Temporary home repairs were then begun with residents already *in situ*.

By adopting the “habitat not houses” trope GoPY disaster management officials rewrote the tsunami as an opportunity to remake backwards classes in an image considered more suitable for the 21st century, essentially making the project one of enforcing a notion of modernity. Rehabilitation offered an unlooked for blank canvas on which to outline the all-at-once social uplift of backward castes, a project that had been in process since the integration of the Union Territory into the II Plan (1956-1961). But it also set back forty years of development.

In 1955 the Planning Commission had written of Pondicherry that, “so long as the State was under the French, pretty little was done for a progressive improvement of the economic and social structure of the people.”⁴³⁷ This first statement is demonstrably untrue (see chapter 2), but it served a practical political motive: differentiating the former colonial administration from the central government in New Delhi. By insinuating that the prior administration had been exploitative of “the people,” Delhi was placing its own motives as contrastingly liberal and egalitarian. That this statement was made during the

⁴³⁷ *II Five Year Plan: Revised Proposals of Pondicherry State* (Government of India: New Delhi, 1955), 1.

de facto administration was no coincidence either, signaling a promise of future development and modernization.

The II Plan went on to note “the peculiar town-building plans obtaining here,” in which “houses are built right on the road and touching each other without open areas or



compounds.”⁴³⁸ This second statement was largely accurate (illus. 5.1). Facts on the ground would require a program of slum clearance before any new housing initiatives could be undertaken. A few housing

Illus. 5.1. “Peculiar town-building plans” in Vambakirapalaiyam projects intended as subsidized housing for government employees were started at the end of the 1950s, but housing projects targeted specifically towards fishermen, who had been described in the II Plan as “generally poor and [who] suffer to a great extent for lack of housing facilities,” did not begin until more than a decade later.⁴³⁹

The first housing project for fisher communities was not completed until 1970. Forty houses were completed that year at a cost of Rs. 1000/unit, 75% of which was subsidized by the government with the remainder being applied as an interest-free, five

⁴³⁸ Ibid. 22

⁴³⁹ GoPY, *Annual Plan: 1969-1970* (Government of Pondicherry: Pondicherry, 1969), 45.

year loan.⁴⁴⁰ An internal review in 1972 found the allotment to be insufficient to build adequate housing and the amount was consequently doubled. This program continued for several more years, with the cost/unit being again increased to Rs. 3700 during FY77-78 due to an increase in labor and material costs. The program disappeared from the Annual Plan after FY1977-78 having completed fewer than 500 houses. The idea, if not the scope, reappeared fifteen years later, in FY93-94, as a “model village” of twenty *pucca*, or cement, homes and a tube-well proposed to be funded under GoI VIII Plan.⁴⁴¹

Despite these modest efforts, in the half century since the 1954 transfer of power by the French to the Indian government, the GoPY always seemed rather flat-footed when questions of low-income housing arose. If post-tsunami reconstruction was to be successful, the underlying reasons for this needed to be addressed. In part, says Mohammed Mansoor, there has always been a problem of “too many cooks.” “There are too many interests in Pondicherry,” he said. “The Chief Minister, the Lt. Governor, the central administration [in Delhi]; all of them are vying for handouts to this group or that group.”⁴⁴² A second problem, particularly in Pondicherry town, *was* “the peculiar town building plans pertaining here,” as it was described in the II Plan. Because of Pondicherry’s origins as a walled colonial factory, space in its core remains tightly circumscribed. Nevertheless, for Mansoor the imperative was clear: “this is a once in a

⁴⁴⁰ *GoPY Annual Plan: 1971-1972*, 67. It should be noted that the financial numbers for the completed houses do not jibe. While an additional 100 houses were slated to be built in FY71-72 with a projected cost of Rs. 1,00,000 the anticipated expenditure published for the 40 completed houses – Rs. 20,000 – covers only half of the recorded cost.

⁴⁴¹ *GoPY Annual Plan 1992-1993*, 357. The projected expense was Rs. 20 lakh plus Rs. 3.75 lakh to complete the well.

⁴⁴² In discussion with the author, July 2010.

lifetime chance to have an RCC house.”⁴⁴³ The prevailing feeling within the GoPY was it was the duty of government to provide them.

After the State Level and Empowered committees had been constituted in early 2005, village level teams were established to assist with damage assessment and other localized tasks. By May, PIA had been registered under the Societies Act and various NGOs had entered in Memoranda of Understanding with GoPY. The next step was to secure land for the purpose of building new colonies, and it was here that the manifest differences between the urban development of Pondicherry town and Karaikal appear most pronounced. In 1937 the French Director of Public Works described Pondicherry in the following way:

[It] was reconstructed at the turn of the 18th century and its rectilinear streets and colonnaded homes push right against the sea. The layout of the town is impeccable: the avenues broad, the city seats majestic, the homes in high style.⁴⁴⁴

Karaikal, in contrast,

[I]s separated from the sea by a sandy plain; to the south lies the bed of the ancient Arasalar [River]...a sea breeze blows pleasantly from the coast [and] the inhabitants thrive and do not worry. All of its houses are away from the sea and there is not, as in Pondicherry, a promenade along the coast. It is said to be quite an agreeable location because the area is not over-built.⁴⁴⁵

Neither town has changed much at its core in the seventy-five years since Girod wrote these words, and they remain a fair representation of each city’s center, though it must be noted that Girod’s idyllic description of Pondicherry appears limited to the seaward *ville*

⁴⁴³ *ibid.* RCC stands for Reinforced Cement Concrete.

⁴⁴⁴ *Programme de grands travaux pour le développement de l'outillage économique & Social: dressé par l'ingénieur des ponts et chaussées Girod, Chef du Service des Travaux Publics.* Pondichéry: Imprimerie du Gouvernement: 1937), 89.

⁴⁴⁵ *ibid.* 95.

blanche where the administration sat and its officers made their homes (illus. 5.2).



Illus. 5.2 Girod's *ville blanche* (seaside right)⁴⁴⁶

To each, of course, can be added three quarters of a century of growth, but where in Karaikal there is yet room to expand in every direction, within Pondicherry center – the region demarcated by the former colonial town, its ramparts, and its immediate suburbs – outward growth has long since swallowed the formerly separate villages of Kuricchikkuppam and Muthialpet to the north, Muthaliarpet and Oulgaret to the southwest, and the southern fisher villages above the Ariankuppam River. Within the limits of the old town there is little space in which to build without demolishing existing structures (Illus. 5.3). These different urban characters have played a defining role in how reconstruction has been played out.

⁴⁴⁶ Deloche, *Pondichéry hier et aujourd'hui*.



Illus. 5.3 Northern edge of the old colonial center today, looking south⁴⁴⁷

According to a revenue officer overseeing reconstruction projects in Pondicherry town, there were factions in the government who desired to move entire fisher communities to locations outside the CRZ.⁴⁴⁸ This idea had several benefits: it removed entire populations from the perceived risks associated with coastal flooding and storm surge, it cleared the CRZ for improved protection of coastal environments, and it made use of what open space remained in the territory. Each of these reasons was mentioned in turn by officials across the spectrum of the rehabilitation project, and when they were invoked it was done so with seeming sincerity, but their individual merits are debatable.

⁴⁴⁷ *ibid.* The intersection shown was the site of the Madras Gate at the northern extreme of the colonial town. Pictured is *ville indienne* (formerly called *ville noire*), which was the Indian quarter of the colony, located on the landward (western) side of the main canal. The avenue pictured was built on the foundations of the old main road to Chennai.

⁴⁴⁸ K.S.M. (GoPY official) in discussion with the author, February 2009. This particular officer spoke quite frankly about many organizational shortcomings but only on the condition of anonymity.

Almost universally, the last reason ever given to support relocation was the utilization of unused or underused land. In Karaikal this fact was accepted almost as given. Deputy Collector Mansoor claimed to have only approached owners of lands not currently under cultivation. “‘This is a barren land,’ I said to them. ‘You cannot cultivate it for many years after the salinization.’ [So] we fixed them a high price and we nearly gave them that value.”⁴⁴⁹ For Mansoor these negotiations were negotiations over opportunity cost. “Better to sell them to the government than invest in desalinization,” he laughed.

Today he claims that these lands were not under cultivation anyway, but whether this was actually the case was not the point for Mansoor. After the disaster any crops under cultivation on lands between the medu villages and the town would have been destroyed by the inundation. But between 2008 and 2010 wide swathes of land between Karaikal town and the coastal road that remain undeveloped and uncultivated. Numerous informants told me that it had long been true that these lands were kept fallow. Some attributed this to the desire of landowners to sell out to developers at high prices, while others agreed with Mansoor that the land was too saline for cultivation.⁴⁵⁰ Whatever the actuality, such lands were relatively easy for the government to appropriate in Karaikal, and relocation colonies numbering 1,986 houses were completed and ready for occupation in places like Keezhakasakudy, Thalatheru, and Koilpattu by January 2008.⁴⁵¹

⁴⁴⁹ In discussion with the author, August 2010.

⁴⁵⁰ Tangappa (day laborer, Karaikal) in discussion with the author, January 2009.

⁴⁵¹ These are the so-called “revenue villages,” or administrative units overseen by individual tahsildars, in which the villages discussed herein are located, e.g. both Karaikalmedu and Kilinjilmedu are located within Thalatheru. Nine revenue villages covering nineteen individual hamlets were identified for housing rehabilitation in Karaikal; In Pondicherry a further nine were identified, covering fifteen separate hamlets.

The same approach applied to Pondicherry – e.g. the forced relocation of vulnerable populations out of high risk locations to lower risk sites – enjoyed a great deal of silent support in the administration, but only the revenue villages most distant from Pondicherry town had any undeveloped land for the construction of resettlement colonies.⁴⁵² The policy was never voiced publicly for fear that to do so would “dilute the entire process.” Whatever officials might have wished privately, there were public anxieties that any indication of such plans would be aggressively resisted. One tahsildar worried aloud that the “rougher fishermen will not be able to blend with a new community”⁴⁵³ and he was not alone in his anxiety. “Fishers are difficult to handle,” explained Mansoor, “so any action we take for them must be balanced against their needs.” It is true that many fisher hamlets further from the center like Veerampattinam and the Medu hamlets remain largely homogenous, but this is often a vocational choice: “They have to be there [by the sea]. They should be there.”⁴⁵⁴ But blended communities like Kurichikuppam, Vaithikuppam, and Vambakirapaliayam put the lie to these worries.⁴⁵⁵ It is not that fisherfolk cannot live among others but that doing so, at least in the urban center of Pondicherry, has led to a decline in traditional community structures.

⁴⁵² Peter Wilcoxon, “Climate Change and Disaster Response” (presentation, Moynihan Post Disaster Recovery Conference, Syracuse, NY, April 15, 2011). This is exactly the approach taken by officials in Nashville, Tennessee, after the disastrous floods there in 2010. Residents in at-risk sites were given compensation to move out of areas with higher flood risk, and these areas were then turned into natural preserves. Exactly the opposite approach was used in New Orleans, where victims of Hurricane Katrina have been underwritten by the government to rebuild in locations known to be at high risk from Category 4 and 5 hurricanes, both by recent events and more than two decades of research.

⁴⁵³ Kandasamy (PIA) in discussion with the author, March 2009.

⁴⁵⁴ V. Jayanand (Joint Project Director – fisheries, PIA) in discussion with the author, May 2009.

⁴⁵⁵ Through conversations with residents outside of fisher areas it is clear that this concern is not unfounded. Or rather its obverse is evident: many Pondicheriennes privately believe fishermen to be uncouth, lazy, and dangerous. It is more likely that communities into which the Pattanavars would be moved would object than that the fishers themselves would prove unable to adapt. It is not that fishers

Reconstruction in locations like Kalapet, Ariankuppam, and Poorananakuppam were approached in much the same way as in Karaikal, though not without unique challenges. In the latter two revenue villages it proved possible to locate rehabilitation colonies in close proximity to villages destroyed by the tsunami. In Kalapet, however, located well away from the city at the northern edge of the Union Territory, GoPY originally planned two colonies totaling 800 dwellings. To initiate such a project they needed to acquire lands under private ownership, but tensions were already high in Kalapet. Many landholders had already lost land on the west side of the East Coast Road (ECR) to eminent domain demands made by the government during the construction of Pondicherry University, and officials were fully cognizant of the threat felt by owners facing demands to cede seafront land for rehabilitation. There were further tensions between these same landowners and fishers in Kalapet, who the former felt were already encroaching on their rightful claims of legal ownership on lands east of ECR through traditional squatting rights accorded to fishers in UTP.⁴⁵⁶ These legal tensions were still playing out in court in 2008 when construction on a planned 1014 houses in Kalapet finally got underway.⁴⁵⁷

Urbanized villages like Solai Nagar, Vaithikuppam, Dubraipet, and Vambakirapalaiyam were classified into special categories for *in situ* reconstruction. A technical committee headed by the Chief Town Planner was constituted in November

cannot live among other communities but that doing so, at least in the urban center of Pondicherry, has lead to a decline in traditional community structures.

⁴⁵⁶ Kandasamy (PIA) in discussion with the author, March 2009; Kothandaraman (faculty, Pondicherry Engineering College) in discussion with the author, April 2009.

⁴⁵⁷ According to the new Joint Project Director of the PIA, L. Mohamed Mansoor, all litigation related to post-tsunami land appropriations has been resolved since the beginning of 2010. In discussion with the author, July 2010.

2005 to work out a plan for the rehabilitation of nine urban hamlets. Each hamlet was classified as an X, Y, or Z village and assigned tight building limitations based on subjective determinations of urbanization. In the least urban revenue village of Pillaichavady, 550 plots of 800 sq. ft. were identified for the construction of homes on raised plinths measuring 325 sq.ft. In Pondicherry, however, which included seven separate villages totaling 2,000 individual dwellings, plots were limited to a 150 sq. ft. plinth, regardless of the original area of the home being replaced. With neither large sections of adjacent houses which could be cleared nor with temporary shelters adequate for 2,000 families, it was necessary to pursue strategies different from the large-scale, government-driven colonies built in Karaikal and Kalapet.

The availability of land was not the only reason marshaled in support of proposals to relocate fisher communities inland. In terms of fostering disaster resistant communities, protecting the Coastal Regulation Zone (CRZ) was one of the most developmentally progressive reason given for moving fisher communities inland. The CRZ was declared by the Central Government in 1991 pursuant to the Environment Protection Rules defined in 1986.⁴⁵⁸ The CRZ notification strictly regulated growth activities within 500 meters of the high tide line, specifically industrial development excepting only those projects “directly related to water front or directly needing foreshore facilities” or projects developed by the Department of Atomic Energy.⁴⁵⁹ Similarly prohibited were “commercial purposes such as shopping and housing complexes, hotels

⁴⁵⁸ Ministry of Environment and Forests, S.O. 114 (E) “Declaring Coastal Stretches and Coastal Regulation Zone (CRZ) and Regulating Activities in the CRZ” (New Delhi, Feb. 19, 1991), last modified December 18, 2008, <http://envfor.nic.in/legis/crz/crznew.html>.

⁴⁵⁹ *ibid.* para. 2.i.

and entertainment activities.”⁴⁶⁰ By the terms of the CRZ zones defined as CRZ-I, areas defined as ecologically sensitive or important – national parks, sanctuaries, preserves, mangroves, reefs, breeding and spawning grounds – commercial and residential rehabilitation projects were forbidden. Instead the Forest Department initiated a plan to mitigate erosion and sea intrusion by planting a coastal belt of coconut, casuarinas, punnai, pungan, and other trees along the coastal belt of the Union Territory.⁴⁶¹ There is anecdotal evidence that in Tamil Nadu protected lands were often given over to resort/tourism development, but none that I have been able to confirm. In Tamil-speaking regions of Sri Lanka, on the other hand, similarly defined areas were most certainly exempted for commercial tourism enterprises and many coastal areas were cleared of fisher communities ostensibly for concerns over safety only to be later handed over to developers of high-end resorts.⁴⁶² Jennifer Hyndman, too, has demonstrated how the government encouraged fears of tsunami in order to ease the transfer of sensitive areas to politically powerful constituencies.⁴⁶³ But such egregious examples are not documentable in UTP.⁴⁶⁴

CRZ protections often resulted in absurd contortions, particularly within the urban areas of Pondicherry town covered by category CRZ-II, defined as “areas that have

⁴⁶⁰ *ibid.* These rules were later relaxed under strict guidelines and prior approval by the MEF. See Annexure II, para. 7(1).

⁴⁶¹ *Putu vālvu* 7: 50.

⁴⁶² Centre for Policy Alternatives, *Landlessness and land rights in post-tsunami Sri Lanka*, 5.

⁴⁶³ Jennifer Hyndman, “The securitization of fear in post-tsunami Sri Lanka,” *Annals of the Association of American Geographers* 97(2):361-372.

⁴⁶⁴ Developers did propose a resort on the site of Manal Medu. Citing environmental concerns, PIA denied the project unless it was moved to a less sensitive location in Karaikal District. Citing the same concerns PIA decided internally to remove the fisher hamlet at Manal Medu in June 2010. Even though no public announcement had yet been made, rumors were already spreading through the community in August. L.M. Mansoor, in discussion with the author, August 2010; Ragesh Chandran, in discussion with the author, August 2010; Joseph (day laborer), in discussion with the author, July 2010; Vanaraj (fisher), in discussion with the author, July 2010.

already been developed up to or close to the shoreline.” In this context, “developed area” meant:

[T]hat area within the municipal limits or in other legally designated urban areas which are already substantially built up and which have been provided with drainage and approach roads and other infrastructural facilities, such as water supply and sewerage [sic] mains.⁴⁶⁵

In these areas construction was only permissible on the landward side of “new (or approved) road or authorized structures,” and it was this clause that was used to allow dozens of new houses to be approved in the most marginal of areas of Vambakirpalaiyam in 2010. Located at the very edge of urban habitation in Pondicherry, Sivaraman Imuldar’s plot is a case study in the difficulties inherent in the rehabilitation of fisher habitats in urban areas. Located at the eastern end of a narrow, paved alley, the plot represents both the challenges of reconstruction and the manipulations to CRZ regulations required to approve reconstruction at such sites (illus. 5.4).

In order to reach the building site materials needed to be hand-carried down the narrow alley pictured, significantly increasing both the time and the labor required to complete the project. Water is supplied to the site by a spigot located directly above the *kuṭam* – a broad bottomed pot traditionally used for fetching water – shown in the bottom left-hand corner of the frame, but drainage and sewerage are both provided only by the open drain visible running vertically down the center-left of the photograph. A survey of

⁴⁶⁵ PIA and PMU, *Environmental and Social Management Framework*, 16. Department Archive: PIA, Pondicherry.



Illus. 5.4 Sivaraman Imuldar's building site

the wider site shows it to be located beneath Pondicherry's massive stone revetment (illus. 5.5). The only other access to the site is an earthen path running parallel to the seawall that provides the "approved road" necessary to permit construction (illus. 5.6).



Illus. 5.5 Looking east towards the seawall



Illus. 5.6 The "approved road," northern view

The last rationale typically given for using rehabilitation to move fisher communities inland, hazard minimization and human safety, is considerably more fraught. It is debatable whether the 300 sq. ft., two storey house built by Sivaraman will

be any safer than the considerably larger single-storey home he will eventually be forced to abandon. While it will be built on a plinth raised one meter above ground level, health risks related to lack of sanitation and the presence of open sewers remain. Furthermore, while the plinth is intended to raise the living space of the house above marginal levels of flooding, such flooding is *more* likely to occur in areas protected by the seawall because no drainage cuts have been provided to allow water in the town to flow out to the sea less than fifty meters away. Finally, raising the foundation of the house will result in its upper storey being above the level of the wall, mitigating any nominal protection afforded by the wall against lashing of monsoon rains and wind.

One point not taken into account by government planners, discussed in detail in chapter 4, is that Pattanavars conceptualize the threat of flood differently than communities living away from the coast. As Nagarajan said, it is not enough for water to come into the town, or even into the home, to say that a flood has occurred. Rather, standing water must *remain* in the village for some internally definable length of time. For Pattanavars, it is *reasonable* to expect some amount of water to be in the village at various times of year, especially during the monsoon, and villages had been built to mitigate these effects. Homes built atop medus allowed water to quickly run downhill away from inhabited areas or to filter through the porous sand. In areas like Vambakirapalayam these characteristics are not only removed – there are not sandy medus aiding ground absorption upon which to build – but actively (if unintentionally) designed against: villages are built on hard surfaces that slow natural absorption and the seawall built to protect the urban center from storm surges actually retains water inside parts of the town where no outflow has been provided. This effect is even more

pernicious in newly built “tsunami nagar,” colonies like Mahatma Phule Nagar and Ammankoilpet built by PIA and contributing NGOs as part of tsunami rehabilitation.

Like the calculations made by Karaikal landowners approached by Mohammed Mansoor in the early months of 2005, discussions about housing were discussions about opportunity costs: what were the perceived benefits of relocation balanced against the disadvantages? The benefits already noted included lowering risk to vulnerable population, protecting the CRZ, and using speeding rehabilitation. Arguments raised by fishers against relocation centered on the loss of traditional land rights and home ownership, loss of material security, inadequate provision of infrastructure in the new colonies, and poor quality control in the new colonies, and the vocational need to be in near proximity to shore.

The last three of these concerns also manifested as tensions between PIA and NGO organizations. At their core these tensions defined the essence of the dominant housing trope: what *is* a house and what *is* a habitat. If “houses” were nothing more than empty dwellings into which recipient families could be placed without consideration for what happened thereafter, what exactly defined “habitat”? Whatever the ultimate outcomes, GoPY and the larger charities most privy to these discussions – PMSSS, CEE, SOS Save the Children, etc. – had similar ideas about what constituted proper habitats. Internal checklists included many of the same details: in-built flood-resistance, drainage and modern sanitation, provisions for latrines, community center-cum-emergency shelters, primary school, public commons, clean water, and space to expand dwelling space as families and communities grew. But the devil is always in the details.

Surprisingly it was often the first, in-built flood resistance, which proved most difficult to provide. We have already seen how urban development and mitigation planning in Pondicherry town created a situation in which inundation became inevitable given a not infrequent convergence of circumstances. But unthinking planning often had the same result in more rural areas. Ravi Subramanian of PMSSS complained that much of the flood resistance planned into post-tsunami rehabilitation colonies designed by NGOs was neutralized by redesigns demanded by state planners. Speaking about the colony at Devanampattinam, Ravi expressed confidence that the plan submitted to the Government of Tamil Nadu by PMSSS-Caritas had been the best design achievable within material constraints. “We were able to bring out a very good house [design] for them,” he said. “The thing is, though:”

[W]e approached the [Tamil Nadu] administration and they allotted the land. We had wanted the houses to go where the backwater could not enter into these houses, but that was made a challenge for us. So we were forced [by the government] to build many of these houses in that area where sea water actually enters.⁴⁶⁶

Unfortunately, Ravi’s prediction was born out during heavy monsoon rains in 2008.

During a series of interviews conducted at the Centre for Environmental Education (CEE) in 2008-2010, I was told how GoPY had similarly scuttled plans for colony reconstruction. Sriji Kurup, who had been acting regional coordinator at the time of tsunami and remained the district point person into 2009, described three different blueprints submitted to PIA by CEE. According to Kurup, each was summarily dismissed or radically altered before it was approved. Despite the view that tsunami reconstruction offered an opportunity to build back better, decision-makers seemed

⁴⁶⁶ Ravi Subramanian (PMSSS) in discussion with the author, November 2008.

unwilling to entertain anything very radical. Kurup, however, did not condemn the administration. His favorite discarded design, for example, was described as a geodesic dome structure made from cost-effective, energy-efficient synthetic materials. He admitted that, despite the eco-friendly design, fisherfolk would have a colony built of such homes difficult to accept. A further disadvantage was material availability. Even though the panels required for construction would have been inexpensive to obtain during the initial construction, once the project was completed replacement panels would have been difficult to obtain. Should the homes be damaged, or even require routine maintenance, owners might simply forego repairs or jerry-rig quick fixes using locally available materials, both processes which would degrade the quality of the dwelling over time.

Part of the internally agreed definition of improved housing was that *pucca*/reinforced cement concrete (RCC) houses must be built to replace those that had been lost to the disaster.⁴⁶⁷ This requirement might have been enough on its own to thwart especially creative solutions to housing, but RCC construction had many advantages. It was at once strong, generally disaster resistant, and widely available in India. RCC construction also had great scope for repair, renovation and reinforcement should engineering improve in the future. “Anything is possible with reinforced concrete,” said S. Kothandaraman, an engineer at Pondicherry Engineering College hired to consult on rehabilitation projects. But even its strength and configurability could not guarantee long-term viability if each building could not be properly maintained, one of the principal concerns with the CEE plan. Education for routine maintenance of RCC

⁴⁶⁷ *Summary on Relief, Rehabilitation, and Reconstruction Efforts Made/Proposed Following Tsunami Disaster* (2005), 5. Department Archive: PIA, Pondicherry.

constructions would be required in order to ensure the long-term durability of the structure. Because rebuilding was taking place so close to the shoreline, Kothandaraman was already predicting a decline in structural integrity. Structures built in the disaster zone were subject to salt, surf and sulfites which were “the total enemy” of reinforced cement. Problems could appear in as little as five years, he warned, and without attention homes could become uninhabitable in as little as fifteen. His solution was to provide training in routine maintenance to recipients. “It is our responsibility to train them how to maintain these structures,” he continued. “Otherwise it will become a colossal waste, and it should not be like that.”⁴⁶⁸

But just as NGOs criticized administrators for enforcing unreasonable guidelines, quashing innovation, or simply not paying attention to the physical features of a build site, PIA seemed equally unenthusiastic about much of the work being completed by NGOs. While officially welcoming, even encouraging, the contributions of external aid agencies,⁴⁶⁹ GoPY officials quickly soured at the part played by many smaller societies. When asked about the criticism leveled by many NGOs that the government completed colonies then forget about them, DRDM tahsildar M. Kandasamy responded that it was the government left holding the bag after NGOs left the field. It was the government, he said, that provided potable water and latrines, electricity, and roads. “NGOs only build houses,” he concluded. “Once the buildings are completed they pack up and leave without giving further assistance.”⁴⁷⁰ But his assertion is not unassailable. If, as Kandasamy admitted, it was the government’s role to address infrastructure – sewage, water, electricity, etc. – why was a water purification plant completed by Volontariat in

⁴⁶⁸ A. Kothandaraman (faculty PEC), in discussion with the author, April 2009.

⁴⁶⁹ *Summary of Relief*, 5.

⁴⁷⁰ M. Kandasamy (PIA) in discussion with the author, March 2009.

Ammankoilpet in 2008 still disconnected from public water in 2010? “We need to provide these things in a proper format,” admitted Ragesh Chandran. “And we should not allow these things to happen.”⁴⁷¹

Inattention to such details resulted in colonies with a variety quality control issues. Because the area surrounding Karaikal is flood prone, tsunami nagar built closest to the old medu hamlets were built on raised earthen plinths in an effort to minimize flooding. Unlike traditional medu villages that combined height of sand dunes with their natural drainage capacity, the new colonies were built on packed earth. Roads reaching the area were already built atop; the coastal road linking Karaikal town to the northern fisher hamlets, for example, had been built to a height of 1.5 meters prior to tsunami. Because these roads had been largely destroyed in 2004, during reconstruction they were raised to two meters,⁴⁷² and the colonies reached by these roads were raised to the same height. An exemplar of this approach is Mahatma Phule Nagar. Consisting of five hundred houses contributed by the Government of Maharashtra and another five hundred fifty built by Development Alternatives, MP Nagar also represents one of the largest. The section of the colony built by the Government of Maharashtra was completed in January 2008, but in August 2010 almost 99% of the dwellings remained vacant. But why should this be the case?

The colony was provided with many of the amenities discussed above: sanitation, electricity, potable water, public school, and a community center. Drainage was provided by a deep, cement U-drain running along the length of the northern and eastern sides of the colony (Illus. 5.7). The colony’s community hall-cum-emergency shelter and primary

⁴⁷¹ In discussion with the author, August 2010.

⁴⁷² *Summary on Relief* (2005), 27.

school are both visible in the top left corner of illustration 5.7. A bank of public buildings contributed by the local NGO, Sneha, is also visible. A low, grey form on the drain's opposite side. Each house is approximately 325 square feet with an open roof terrace accessed by an external stair and an attached latrine. Water was made available at hand pumps located in courtyards shared by groups of twenty houses. In fact, GoPY intended



Illus. 5.7 MP Nagar U-drain, looking north

to provide MP Nagar every modern amenity, a list which included an anganwadi, overhead water storage tank, internal roads, a desalination plant, sewage treatment plant, drainage, street lights, primary school, play and shopping areas, community hall, and rain-water

harvesting facilities.⁴⁷³ The only other conveniences imagined during the planning process were primary health care centers, libraries, and computer/media centers.

Facilities like those provided to MP Nagar made the development wish-lists of both the GoPY and the larger charities contributing to the rehabilitation. Providing these to displaced communities, they felt, would create “habitats” not just “houses.” Where communities had been uprooted they had lost not just their homes but also the social fabric of daily life. But few of these things actually made it into MP Nagar. There was a community hall, but it was locked and empty during visits in 2008, 2009, and 2010. The primary school remained unfinished as late as August 2010, though I was told by a

⁴⁷³ *Putu vālvu* 1, 31.

panchayat member in Karaikal Medu that it would be completed in a few months time.⁴⁷⁴ Houses were wired for current, but wires ran exposed along bare walls.⁴⁷⁵ Other complaints were leveled against the quality of construction: floors were uneven, windows and doors were broken, safety bars were not installed, and the interiors were already stained by water and mold (illus. 5.8-5.9).



Illus. 5.8 Kitchen interior



Illus. 5.9 Common room interior

“Why should we want to live in these homes when where we live now is dry and close to the sea?” reasoned Ambalavan.⁴⁷⁶

But one deficiency was especially difficult to overlook: PIA had inadvertently created a residential flooding problem where none had existed before. In raising the colony above ground level, PIA had inadvertently built barriers for to natural drainage. The U-drain directed overflow south of the colony, emptying into a low-lying area immediately south of the colony (illus. 5.10). But the newly rebuilt access road running along the seaward edge of the colony had not been provided with sufficient drainage channels *through* the bund, trapping both rain and drain water in the adjacent field. The

⁴⁷⁴ Tangavadivel, in discussion with the author, August 2010.

⁴⁷⁵ It should be noted that many of the even middle class homes in which I have been in have exposed wiring, e.g. not hidden away within conduit tubing behind walls. The difference here was that in many places live wires were exposed, and while typically running along the ceilings and generally speaking out of reach, they still presented a safety hazard.

⁴⁷⁶ Ambalavan (fisher, Karaikal) in discussion with the author through a translator (Jerome of Sneha), January 2009.

same phenomenon occurred on the western edge of the colony (illus. 5.11), where the raised roadbed connecting Mahatma Phule Nagar to Ammankoilpet trapped water between the two colonies with no outlet.



Illus. 5.10 MP Nagar, southern approach



Illus. 5.11 MP Nagar, looking north

Ambalavan's comment raises an important secondary point about how the fishermen view the idea of habitat: *their* habitat is close to the sea. The colony at MP Nagar was two kilometers from the sea, too far for the comfort of the Pattanavar community for whom it was intended. Without someplace near the beach to secure their gear, none of them were comfortable so far away. While the PIA had promised locking shelters, and even provided them in several other villages, they had not yet been built in Karaikal Medu and Kilinjil Medu. By the end of 2008 fishers would only talk of moving after the monsoon had ended. A panchayat meeting scheduled to take place in late January 2009 proved inconclusive. Eighteen months later the majority of the colony was still uninhabited, and the territorial administration had in effect conceded entirely to the demands of the fishermen by allowing them to keep their tsunami-damaged homes as "work shelters" while at the same time handing over possession of houses in the new colony, even though an original condition of receiving new houses had been the cession of traditional rights over their old houses to the PIA.

Fisher communities, in short, had a very different idea of what constituted a proper “habitat.” Men were less concerned with latrines than they were with the safety of their vocational tools. They were also generally less concerned with family-oriented amenities like *anganwadis*, primary schools, and training opportunities than they were with securing their livelihoods. Women, on the other hand, saw the latter as boons to the general welfare, and in non-fisher communities where women held more influence habitat outcomes were notably different.

Ammankoilpet, a much smaller colony built by the French NGO Volontariat, was planned to provide many of the same infrastructure amenities originally included in the plans for MP Nagar. Today there is a water filtration facility, a library, a shopping center, and even a health clinic (illus. 5.12-5.15). The men in this colony displayed little interest in these facilities, but the women were quite proud of them – even though they remained



Illus. 5.12 Ammankoilpet, Main Road



Illus. 5.13 Water filtration facility



Illus. 5.14 Shopping center



Illus. 5.15 Health clinic

unused as recently as 2010 – and they gave full credit to the panchayat for getting Voluntariat to provide them. “They asked for them. Our panchayat leaders told them, ‘you build them,’ so now we have them.”⁴⁷⁷ Even the handful of women living in MP Nagar in 2010 recognized the efforts of Ammankoilpet’s panchayat, even while critiquing their own. “Our leader (*talaivar*) never asked for them,” one mother told me. I asked, “why does Ammankoilpet have these things?” “Their panchayat went to the government and asked for them. So they have them over there, but not here.” Underscoring the value women have placed on the health of the community, women who felt that rehabilitation was meeting expectations were far more likely to take part in safety and awareness offered by the government or by voluntary societies. They were also far more likely to attend vocational training classes and take part in income replacement initiatives offered by PMSSS and the Department of Fisheries and Fisherman Welfare.⁴⁷⁸

In differentiating between houses and habitats, PIA hoped to provide a framework within which rehabilitated communities could be made more self-sufficient. By doing so it hoped to recreate those intangible structures of support that permeate long-standing

⁴⁷⁷ In discussion with the author, June 2010.

⁴⁷⁸ Ravi Subramanian, in discussion with the author, May 2009; Antoine Leese (co-director ORSED) in discussion with the author, January 2009; Sriji Kurup (CEE) in discussion with the author, January 2009. Observations of open (non-gendered) training sessions have since confirmed Ravi’s assertion.

communities, precisely those (social) structures disrupted by the response to the disasters at Buffalo Creek and Darwin, Australia. In the immediate aftermath of the tsunami the GoPY's disaster response apparatus moved refugees into relief centers established within the ambit of daily experience. In Karaikal, officials had drilled emergency protocols and evacuation points, but when these collapsed they adapted quickly to victims' needs as these needs were made apparent by the victims themselves. In both Pondicherry and Karaikal, as refugees began to self-organize relief camps the officials quickly changed their own expectations for how relief operations should proceed.

The next step was to shift them as quickly as possible back into permanent or semi-permanent housing. Within thirty days GoPY managed to return 80% of tsunami victims to their communities,⁴⁷⁹ which was certainly not the case in Tamil Nadu.⁴⁸⁰ But the contrast between housing successes and failures in UTP remains quite stark. Until empty tsunami nagar in Karaikal are permanently inhabited, the reconstruction of Kalapet is completed, and owner-driven construction in Pondicherry town has run its course it will be impossible to determine the relative success of housing reconstruction in the Union Territory, because these three projects alone represent nearly 40% of post-tsunami housing projects. Regardless of these remaining open questions, there is much to be learned by examining the approach PIA has taken in this sector of reconstruction. Where rehabilitation has been most successful it has paid heed not just to the desires expressed by the recipient community but to the invisible structures all too often lost in a disaster.

⁴⁷⁹ *Executive Summary of 'Supplementary Memorandum,'* January 2005, 2. Department archive: PIA, Pondicherry.

⁴⁸⁰ See P. Pavananthi Vembula, R John Suresh Kumar, and C. Sathyamala, "Post-tsunami Housing in Tamil Nadu," *Economic and Political Weekly*, April 19, 2008: 39-43.

Conclusion

In the days following the Sendai earthquake and tsunami New York Times blogger, Andrew Revkin, invoked the phrase “disaster memory” to describe mechanisms of recall deployed by the Japanese to warn against the threat of tsunami.⁴⁸⁰ He dated his use of the phrase to a conversation he had had with Idaho State University anthropologist Herbert Maschner, who had described to Revkin how villages in the Aleutian Islands tended to be near the coast, for reasons not unlike the Pattanavars’. Revkin’s memory of the conversation has Maschner describing how Aleuts would remain in these coastal villages until a large quake and tsunami would strike the region, at which point settlements would be moved back from the sea for three to four generations until, gradually, people forgot the reason they were so far from the sea and resettle nearer the shore.⁴⁸¹

Revkin’s own accounts of Japanese disaster memory show how villages consciously placed large stones engraved with explicit warnings about settling too near to the sea. “If an earthquake comes, beware of tsunamis,” warned one.⁴⁸² Another reads, “High dwellings are the peace and harmony of our descendants...Do not build homes below this point.” The fact that some of these stones are more than six hundred years old belies Maschner’s implicit claim that societies are unable maintain such functional

⁴⁸⁰ Andrew Revkin, “‘Disaster Memory’ and the Flooding of Fukushima,” *Dot Earth* (New York Times blog), April 4, 2011 (11.17 a.m.), <http://dotearth.blogs.nytimes.com/2011/04/04/disaster-memory-and-the-flooding-of-fukushima/>.

⁴⁸¹ Andrew Revkin, “On Elephants’ Memories, Human Forgetfulness and Disaster,” *Dot Earth* (New York Times blog), August 12, 2008 (9:42 a.m.), <http://dotearth.blogs.nytimes.com/2008/08/12/on-elephants-memories-human-forgetfulness-and-disaster/>.

⁴⁸² Jay Alabaster, “Tsunami-hit towns forgot warnings from ancestors,” Associated Press content, Newsvine.com, accessed May 7, 2011, http://www.newsvine.com/_news/2011/04/06/6418935-tsunami-hit-towns-forgot-warnings-from-ancestors.

memories beyond a century. I suggest that Revkin’s category of “disaster memory” limits our understanding of why processes of memory work as they do because, as outlined by Maschner, it describes the process of forgetting more than it does the process of remembering. Communities that perpetuate themselves through time via memory do not define themselves based on what they have forgotten. Such definitions can only come from without the community.

When I began this research in earnest I had very definite expectations for finding certain types of memories about storm and flood, expectations shaped by Sumathi Ramaswamy’s compelling exploration of the politics of loss in Tamil south India. As recently as 1996, the historian N. Subramanian wrote that he was under constant pressure from the forces of “anti-history,” opining that a social tradition had helped to stabilize the legend of a lost Tamil continent in the “native intellect” of the Tamils so tenaciously that even modern education could not dislodge it.⁴⁸³ Certainly at least until the end of the 1950s, primary school textbooks taught the loss of Lemuria as history (Sivasailam Pillai, 1951; Kalyanasundaram, 1959),⁴⁸⁴ and I had expectations of finding old men who recalled these stories, even if they did not use them to frame their own imaginaries. In this, as is so often the case once an ethnologist enters the field, I was confounded. But other narratives *did* shape what I have called the “flood imaginary.”

In order to delineate this imaginary I began by exploring its mythic dimensions, rooted as they are in the literature of the Tamil Sangam. It is these stories that were

⁴⁸³ S. Ramaswamy, *Lost Land of Lemuria*, 151.

⁴⁸⁴ Sivasailam Pillai, *Putumuraik Kalakat Tamilppatam* [New Kazhakam Tamil reader for class six]. Tirunelveli: The South India Saiva Siddhanta Works Publishing Society, 1951; T.V. Kalyanasundaram, “Tamiḷ Nāṭu,” in *Centamiḷ Polil: Onṇpatām Vakuppu*, ed. P. Celvarajan (Madras: Aciriyar Nurpatippu Kazhagam, 1959).

identified by Ramswamy as the foundations of Tamil “labors of loss,” or those “disciplinary practices, interpretive acts, and narrative moves that declare something as lost, only to ‘find’ them again through modernity’s knowledge protocols.”⁴⁸⁵ These lost places do not exist as such in our lifeworlds but are called into being: they do not precede labors of loss but rather are their outcome. But where Ramaswamy identified labors of loss as a modern phenomenon, I suggested that they were in fact foundational to Pandyan commentaries on the “lost” Tamilakam in the last half of the first millennium of the Common Era.

From the mythic dimension to the historic, I then moved to examine cyclone and flood response in colonial Pondicherry. Much groundwork was laid by Alfred Martineau, an amateur historian and governor of Pondicherry for the better part of a decade in the early 20th century, but I firmly believe that his material was worth re-examining in the light of much more recent historiography on colonial hydrology and disaster management – work like Rohan D’Souza’s *Drowned and Damned*,⁴⁸⁶ Praveen Singh’s exploration of the politics of flood control in northern Bihar,⁴⁸⁷ and Tirthankar Roy’s survey of disaster response and economic recovery in British India.⁴⁸⁸ Taken together with other work completed in the last five years by such scholars as Bernard Barraqué,⁴⁸⁹ Maurits

⁴⁸⁵ S. Ramaswamy, *Lost Land of Lemuria*, 7.

⁴⁸⁶ Rohan D’Souza, *Drowned and Damned: Colonial Capitalism and Flood Control in Eastern India* (Oxford: Oxford University Press, 2006).

⁴⁸⁷ Praveen Singh, “The colonial state, zamindars and the politics of flood control in north Bihar,” *Indian Economic and Social History Review* 45, no.2 (2008): 239-259.

⁴⁸⁸ Roy, Tirthankar. “State, society and market in the aftermath of natural disasters in colonial India: a preliminary study,” *Indian Economic and Social History Review* 45, no.2 (2008): 261-294.

⁴⁸⁹ Bernard Barraqué, “Génie rural et droit des cours d’eau: Benjamin Nadault de Buffon (1804-1880)” (presentation, Colloque SHF - Hydraulique des millénaires, Grenoble, France, October 22-24, 2002).

Ertsen,⁴⁹⁰ and Matthew Bender,⁴⁹¹ it is clear that there is an abiding interest in coming to terms with how European powers strove to control water and mitigate flood.

This current work – if you’ll forgive me an intentional pun at the end of a long and weary road – is but a ripple on the surface of these deep waters, one that was never intended to examine in depth the history of hydro-engineering in the French colonies of India. And while this was not the main thrust of this work, I think these pages give the skeleton for what was to come in French-controlled Pondicherry in the last half of the nineteenth century. Though unable to recover contemporary labors of loss in 21st century Union Territory of Pondicherry – that is to say none of my informants drew from the legacy of lost Tamilakam in the ways so compellingly outlined by Ramaswamy in shaping their own flood imaginaries – I have been able to identify the very real ways in which French colonial policies shaped later Indian policies. Even more importantly, I think, I identified the ways in which *beliefs* about French mechanisms of response in the nineteenth and early twentieth centuries shaped how policies in the post-merger Union Territory were understood and projected into the future. These beliefs “summoned into existence”⁴⁹² a narrative of colonial flood response to which today’s officials point as a paragon of effectiveness and efficiency, though this was not necessarily ever the case.

If the first two chapters of my dissertation lay the foundation for understanding disaster management in the Union Territory at the end of the 20th century, The next three chapters illuminated the frame. When speaking about emergency response, the constant

⁴⁹⁰ Maurits Ertsen, *Locales of Happiness: Colonial Irrigation in the Netherlands East Indies and its Remains, 1830-1980* (VSSD: Delft, The Netherlands, 2010).

⁴⁹¹ Matthew Bender, “From Abundance to Scarcity: Colonial Challenges to Local Water Management on Kilimanjaro, 1930-1960” (presentation, Water History Conference, Delft, The Netherlands, June 16-20, 2010).

⁴⁹² S. Ramaswamy, *Lost Land of Lemuria*, 7.

refrain among officials and NGOs in the Union Territory was the need to “build back better.” Among government officials in particular, this “better” was often framed in relation to how they imagined the French administration to have planned against crises; among local NGOs like PMSSS, CEE, ORSED, and other groups with international affiliations, on the other hand, “better” was often intimately tied to notions of development promulgated by the World Bank, the United Nation Development Program, and similar organizations. Both of these perspectives favor a cosmopolitan, westernized approach to development that ignore or even reject on-the-ground realities in areas affected by their programs. Even where local NGOs were more attuned to local realities – or the perceptions of these realities – the ultimate, sometimes unspoken, aim remained modernization along western models.

It is interesting then that among officials in Pondicherry the exemplar for flood mitigation – the French syndicat agricole – was built atop an existing system of canals, dykes, and man-made ponds that in adjacent areas of Tamil Nadu date to the same period in which Tamil commentators on Sangam texts were laboring to imagine Kumarikandam, the lost continent of Tamilakam, into existence. Later additions in the region around Pondicherry – Ousteri, for example – originate with the Vijayanagaras, but their association with French water works is now a firmly entrenched “fact” in local policy circles. The result is a tacit understanding that best practice for flood mitigation and water control has come to Pondicherry from outside.

Anthropological research on development has shown this to be a common enough assumption. Tania Li, Anna Tsing, and Henrietta Moore and Megan Vaughn have all shown how colonial knowledge has shaped ideas about development in the post-colonies

while L'Estoile, Scott and many others have highlighted how the development imperative itself often runs along a track parallel to the late-colonial imperative to improve colonial subjects not through force but through conviction, what Albert Sarraut called in 1932 “our scientific and moral superiority [and] the deep humanity of our intentions.” That such privileging remains common is evidenced by the critique of the international aid regimes of seeing either “development or deficiency.”⁴⁹³ Organizations that define disasters less by their local and/or material consequences than by the need for external relief only serve to underscore this impression: developing nations like Haiti, Pakistan and India often make the news for *requiring* foreign assistance in the face of natural calamities while developed nations like Japan, Australia, and the United States make the news for *declining* such offers – even when such offers are ultimately accepted (and with much less fanfare).

On the other side of this equation stand those people and communities most directly affected by both development and environmental risks. Existing parallel to the various governmental strategies to mitigate flood are indigenous mechanisms for coping with environmental hazards. People living near to natural hazards are not as purposefully unaware of dangers as Robert Paine’s “no-risk” thesis and Maschner’s Aleutian anecdote both seem to suggest. Where Maschner – or rather, Revkin’s own memory of him – suggests a repeating sequence in which communities living under threat of natural hazard suffer negative consequences, adapt, subsequently forget then reprise the entire cycle every century or so, evidence from Japan, Simueleu, Grand Bayou, and the Coromandel Coast all refute the notion. Where Paine argues that communities consciously construct

⁴⁹³ Sheldon Pollack, in discussion with the author, November 2009.

risk as something over which they have little control, I have shown that Pattanavars construct their life worlds – their flood imaginary – in ways that tightly circumscribe what gets defined as risk. Instead of denying risk as something uncontrollable, the reality of hazard is actively minimized by building villages in elevated soil locations that drain quickly, by using a style of fishing craft that is easier to control in rough waters, and by supplicating god for protection. Simultaneously, Pattanavars shape their self-images with attributes of strength, independence, resilience, and devotion. As Veerarappan boasted in the introduction, “I have two arms. They have always brought me back. I am a man, and there is god. This is all I need.” Among the Pattanavars, hazards are not only consciously recognized but controlled for.

What too often has been missed in well-meaning efforts to catalog and create databases of indigenous knowledge has been the attempt to understand the social imaginary in which such knowledges are typically deployed. It is entirely possible, for example, to adapt and improve Pattanavar flood coping mechanisms within the context of the development process in the Union Territory. But this is not what has been done. Instead officials have adopted rehabilitation measures that ignore the ways in which local fishers understand and conceptualize the risks they face on a daily basis. Before even considering the critiques of collecting and redeploying indigenous knowledge – critiques that problematize the very mechanics of particularization and validation that go into making highly localized knowledge more broadly practical⁴⁹⁴ – on-the-ground personnel would be better served by attempts to understand the ways in which local communities comprehend their needs (or their peril) in the first place. This is not simply asking

⁴⁹⁴ Arun Agrawal, “Indigenous Knowledge and the Politics of Classification,” *International Social Science Journal* 54, no. 173 (2002), 287-297. Accessed June 2, 2010. DOI: 10.1111/1468-2451.00382

recipients what they want or need. In the case of urbanized fisher populations in Pondicherry and semi-urban fishers in Karaikal, officials working on the rehabilitation sought to address risks that the fishers themselves did not recognize. How are local communities under government development to relate to issues when those issues are defined outside of the lexicon of their own lifeworlds?

The remnants of French disaster protocol have remained as part of the colonial legacies of Pondicherry, but we not should accept them, or even the term ‘legacy’, unreservedly. As Nelia Dias is right to point out, the very notion of a “colonial legacy” is problematic.⁴⁹⁵ In the first place, the colonial past of a place is not always recognized as a heritage. Post-colonies often resist and regularly reject colonial history as “theirs.” Even more importantly, it validates the colonizer as the ancestor who bequeaths his legacy, almost as an act of noblesse oblige. But whatever is passed down to the post-colonial present had been given without condition. It is there to be used or discarded. As Jean Deloche suggested to me, perhaps mid-twentieth century Tamils rejected the French legacy out of hand, burning reams of documents without regard to their contents.⁴⁹⁶ Perhaps they only forgot about them. We know this last to be true. It is strange, then, that by the turn of the millennium the works of the colonial administration had been elevated to something enviable through the constitution of policy legends.

In order to develop against future risk, it is first necessary to understand how affected populations understand present hazards. It should never be enough to develop

⁴⁹⁵ Nelia Dias, “Double erasures: Rewriting the Apst at the Musée du quai Brandy,” *Social Anthropology* 16, no.3 (2008): 300-311.

⁴⁹⁶ Jean Deloche, in discussion with the author, October 2008.

up to some predetermined “western” standard when this is neither economically sustainable in the developing world nor desired by recipients. If, as Kathleen Tierney has so forcefully argued,⁴⁹⁷ the perception of risk is a result of organizational efforts to present risks particular ways, that is to say that risk can essentially be understood as a social construction, we must ask ourselves why it is that post-disaster rehabilitation and future risk mitigation in the global south insists upon importing risk paradigms from the global north?

As I completed my dissertation in June 2011, at the Nansen Conference on Climate Change and Displaced People in Oslo, United Nations High Commissioner for Refugees Antonio Guterres said, “we must now reconsider our approach” to environmental refugees, what he considers to be “the defining challenge of our times.” He urged the UNHCR to adopt language that would distinguish refugees of climate related disasters from those seeking protection from persecution and armed conflict, and while he suggested a “global guiding framework” to set procedural standards, he noted that – contrary to definitions of disaster supported by CRED and other international bodies – “primary responsibility for the protection and well-being of affected populations will...rest with the states concerned.”⁴⁹⁸ Elisabeth Rasmusson, Secretary General of the Norwegian Refugee Council, echoed Guterres statement, citing a report also publicized at the conference that 42 million people were displaced by natural disasters last year, more than double the numbers in 2009. “This report provides us with evidence of the extent and urgency of the problem that we cannot ignore,” she said, adding that “we must

⁴⁹⁷ Kathleen Tierney, “Toward a Critical Sociology of Risk,” *Sociological Forum* 14, no. 2 (1999): 215-242.

⁴⁹⁸ Alister Doyle, “World needs refugee re-think for climate victims: U.N>,” Reuters, accessed June 6, 2010, <http://www.reuters.com/article/2011/06/06/us-climate-refugees-idUSTRE7553UG20110606>.

increase collaborative efforts to prevent displacement by natural disasters, and do a better job of protecting those displaced."⁴⁹⁹

This reconsidered approach, I contend, will only be possible with more research of the kind I offer here: ethnographic work that balances the imaginaries of affected populations – those social constructions that, in the words of Charles Taylor, “enable, through the making sense of, the practices of a society” – against the narratives that state administrations use to make sense their own genealogies of policy.

⁴⁹⁹ Bjoern Amland, “42 million displaced by natural disasters in 2010,” salon.com, accessed June 6, 2010, http://www.salon.com/news/global_warming/index.html?story=/news/feature/2011/06/06/natural_disasters.

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