

**Society for Economic Anthropology**  
**The Political Economy of Hazards and Disasters**  
Program for 2007 Annual Meeting (12-14 April)  
Sheraton Hotel Four Seasons  
Greensboro, North Carolina

**THURSDAY, 12 APRIL**

|                       |                            |
|-----------------------|----------------------------|
| 5:00 p.m. – 8:00 p.m. | Registration and Reception |
| 6:30 p.m. – 7:30 p.m. | Editorial Board Meeting    |
| 7:30 p.m. – 9:00 p.m. | Executive Board Meeting    |

**FRIDAY, 13 APRIL**

|                        |  |
|------------------------|--|
| 8:00 – 9:00 a.m.       | Registration (and all day)   |
| 9:00 a.m. – 12:00 p.m. | <b><u>Session I: Disasters and the Construction of Vulnerability</u></b> |

**If the Pyroclastic Flows Don't Kill You, The Recovery Will**, Linda M. Whiteford, Department of Anthropology, and Graham A. Tobin, Department of Geography, University of South Florida

**The Invisible Toll of Katrina: How Social and Economic Capital is Altering the Recovery Experience among Katrina Evacuees in Colorado** - Megan Underhill, Department of Anthropology, Colorado State University

**Mutualism vs. Neo-Liberalism: A Tale of Two Cities and the Shape-shifting Economics of Disaster Capitalism** – Steve Kroll-Smith and Shelly Brown, Department of Sociology, University of North Carolina at Greensboro

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| 12:00 p.m. – 2:00 p.m. | Business Lunch (included in registration fee; includes presentation by graduate Schneider prize winner Dave Himmelfarb, University of Georgia) |
| 2:00 p.m. – 5:00 p.m.  | <b><u>Session II: Hazards, Risk and Decision Making</u></b>  |

**Madagascar's Cyclone Vulnerability and the Global Vanilla Economy**, Margaret Brown, Department of Anthropology, Washington University in St. Louis

**Weak Rains: Dynamic Decision-Making in the Face of Extended Drought in Ceará, Northeast Brazil** - Donald R. Nelson, Tyndall Centre for Climate Change Research, University of East; and Timothy J. Finan, Bureau of Applied Research in Anthropology, University of Arizona

**When the Lights Go Out: Understanding Natural Hazard and Merchant "Brownout" Behavior in the Provincial Philippines** - Ty Matejowsky, Department of Anthropology, University of Central Florida

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|-----------------------|---|
| 5:00 p.m. – 6:30 p.m. | Plenary Poster Session (titles below) with Reception (refreshments and cash bar)    |
| 6:30 p.m. – 7:30 p.m. | Showing of Kate Browne's documentary film on Katrina refugees: "Finding A Way Back" |

## SATURDAY, 14 APRIL

8:00 a.m. – 9:00 a.m. Registration

9:00 a.m. – 12:00 p.m. **Session III: Institutional Responses to Disasters**

**The Rude Realities of Civil Society: Anatomy of Disaster Management in the Mumbai Flood of 2005** - Judy Whitehead, Department of Anthropology, University of Lethbridge

**“The Stores that Roared”: Earthquakes, Commerce, Community and the Social Fault Lines of Disaster Relief in Modern Japan** – Gavin Whitelaw, Department of Anthropology, Yale University

**Learning from disaster? Mad cows, squatter fires and temporality in repeated crises** - Alan Smart and Josephine Smart, Department of Anthropology, University of Calgary

12:00 p.m. – 1:30 p.m. Lunch (on your own)

1:30 p.m. – 2:30 p.m. Keynote Address, Anthony Oliver-Smith: The Political Economy of Disaster

2:30 p.m. – 5:30 p.m. **Session IV: Disasters and Resilience**

**Where others fear to *Trade*: Modeling adaptive resilience in ethnic trading networks to famines, maritime warfare and imperial stability in the growing Indian Ocean economy, ca. 1500-1700 CE** - Rahul Oka, Chapurukha M. Kusimba and Vishwas D. Gogte, Field Museum and University of Illinois-Chicago

**The impact of Volcanic hazards on the ancient Olmec and Epi-Olmec economies in Los Tuxtlas region, Veracruz, Mexico**, Olaf Jaime-Riveron and Christopher Pool, Department of Anthropology, University of Kentucky

**From the Phoenix Effect to Punctuated Entropy: The Culture of Response as a Unifying Paradigm of Disaster Mitigation and Recovery** – Christopher L. Dyer, Department of Anthropology, Mount Olive College

6:30 p.m. – 9:30 p.m. Banquet (optional) – Ham’s on the Lake (North Carolina barbecue, veggie option, cash bar)

Room names and times of coffee breaks within sessions will be added later. Each paper will have up to 30 minutes for presentation, and at least 20 minutes for questions and discussion. Poster session abstracts below.

**Poster Session:**

**“The Dam is Becoming Dangerous and May Possibly Go”:** The Paleodemography and Political Economy of the Johnstown Flood - Leslie Lea Williams, Department of Anthropology, The Ohio State University

**Why welfare reform fails: A micro-ethnographic study of low-income African-American women in Prince George’s county, Maryland** - Lexine M Trask and Jeffrey H Cohen, Department of Anthropology, The Ohio State University

**Digging for the Dead, Defining the Deserving: The Political Economy of Disaster Relief in the Wake of Hurricane Stan** - Sarah Lyon, Department of Anthropology, University of Kentucky

**Macro-economic policies and their micro-economic fallouts: Perceptions, Adaptations and Resistances to tourism and foreign investment in Bocas del Toro, Panama** - Gayatri Thampy and Jeffrey H Cohen, Department of Anthropology, The Ohio State University

**Informal Economies as Economies of Risk: Considering the Hazards of Everyday Life and Labor on a Brazilian Garbage Dump** - Kathleen Millar, Department of Anthropology, Brown University

**Change in Income and Trade Patterns among Rubber Tapper Households in the Chico Mendes Extractive Reserve in Acre, Brazil: 1996 to 2006** - Richard H Wallace, Tropical Conservation and Development Program, University of Florida

**“Hurricanes did not just start happening”:** Framing Hurricanes’ Impact on the Mississippi Gulf Coast Casino Industry – Jennifer Trivedi, Department of Anthropology, University of Iowa

**Volcanic Processes, Agriculture, and Ecotourism: The Case of Penipe, Ecuador** – Kelly O’Connor, Department of Anthropology, University of Kentucky

**Climate and other unknowns: implications for farm decisions and risk management in the rural South** - Todd Crane, Carla Roncoli, Joel Paz and Gerrit Hoogenboom, University of Georgia; Norman Breuer and Kenny Broad, University of Miami

**Preventing Disasters: The Development Conundrum** - Zohra Ismail, Department of Anthropology, Indiana University Bloomington

**Managing change: Reducing vulnerabilities through strategies and networks** - Nicole D Peterson, Center for Research on Environmental Decisions, Columbia University

**Marginalized coastal communities and the challenges of the Tsunami disaster in Nagapattinam District, Tamil Nadu** – Raja Harish Swamy, Department of Anthropology, University of Texas at Austin

**Moving On: Aeta Household Responses to Mt. Pinatubo Eruption** - Ma. Teresa Guanzon De Guzman, De La Salle University, Philippines; Aurora Bautista, Department of Sociology, Bunker Hill Community College

**Change in Income and Trade Patterns among Rubber Tapper Households in the Chico Mendes Extractive Reserve in Acre, Brazil: 1996 to 2006**, Richard H. Wallace, Tropical Conservation and Development Program, University of Florida

**Environmental and Social Impact of Natural Disasters: The Eruption and Aftermath of the Soufriere Hills Volcano** – Tess Holder, Department of Anthropology, UNC-Greensboro

**Challenges to Humanitarian Relief Operations in Darfur** – Amy Morse, Department of Anthropology, UNC-Greensboro

**Latino avoidance, adoption and adaptation of food in the South** – Courtney Hill, Department of Anthropology, UNC-Greensboro

*Abstracts for Plenary Presentation at the 2007 Society for Economic Anthropology Meeting*

**If the Pyroclastic Flows Don't Kill You, The Recovery Will**, Linda Whiteford, Department of Anthropology; Graham Tobin, Department of Geography, University of South Florida

The August 2006 eruption of the Tungurahua volcano in Ecuador shocked the country. Few humans were killed during the eight hours that the volcano pored out molten lava, emitted several pyroclastic flows, and threw out large volcanic boulders, but four villages had been destroyed, roads and bridges damaged and rivers blocked by volcanic debris. When the active eruption was over, it was followed by 36 hours of heavy ash fall that suffocated small animals, destroyed crops, sickened and killed the large animals that were forced to eat hay and grass covered with the ash. The authors observed the explosion, conducted interviews in shelters in the 24 hours following the eruption, and using both 2006-07 data as well as data gathered in the field between 2000-2005, this paper will discuss the vulnerability, recovery and the political and economy consequences of disasters and hazards.

Natural disasters invariably have long-term debilitating impacts on society which may be manifested in compromised health status. There is a growing literature in this area, which shows that exposure to disasters assaults individuals' sense of well-being, challenges their security, and often leads to poor health. Ameliorating such impacts, and hence reducing human vulnerability, are various social, economic and political characteristics, such as personal relationships, social contacts, shared interest groups, and other community-building activities. In addition, individuals' attitudes towards disasters can also play an important role in recovery and community resilience. This picture is confounded by chronic hazards, situations where the ongoing nature of geophysical events can create multiple health impacts.

Based on previous research, we developed a Cascade of Effects Model (CEM) to explain differential responses to ongoing risk. This model needs to be tested and refined, but we believe it can be valuable to other researchers and will be presented in this paper.

While early disaster studies suggested that hazards may have a therapeutic effect, creating community solidarity with an altruistic perspective, other literature has shown this period does not last and conflicts invariably arise. Such conflicts develop because of competition for limited resources, and those with the least resources in a social system facing a disaster are usually the hardest hit and least able to cope. Indeed, under disaster conditions, hardships could be multiplied many times over for populations facing adversity on a daily basis.

To fully address community resilience, attention must be given to the contextual conditions of society, notably to issues of vulnerability and marginalization. There is a plethora of anthropological research that examines how macro-level forces, particularly global economic systems and political structures, influence micro-level systems (political, economic, etc.), social behavior, and a community's interaction with its environment. Moreover, Farmer discusses how "structural violence" results in gender and economic inequalities. These inequalities directly impact a community's health and well-being. The poor, by the very nature of their limited resources, are exceedingly vulnerable to all types of insults, including the effects of natural disasters, technological disasters, exposure to disease, etc. Research has shown that groups that are socially, economically, or politically separated from the mainstream of society tend to experience disproportionately high impacts of natural hazards. Vulnerability, therefore, depends upon pre-existing conditions of material and social life, not merely the geo-physical event itself. In light of these comments, we believe that the cascade model deserves our attention.

**The Invisible Toll of Katrina: How Social and Economic Capital is Altering the Recovery Experience among Katrina Evacuees in Colorado**, Megan Underhill, Department of Anthropology, Colorado State University

This paper explores the relationship of the social and economic capital of New Orleans residents before and after Katrina to demonstrate how such resources have differentially affected their recovery in Colorado.

In this research, I examined the different ways that evacuees have tried to reconstitute their lives in Colorado specifically focusing on how a person's class, race, and degree of social connectivity pre and post Katrina affected their ability to recover from the economic loss that ensued from the disaster and their subsequent relocation. I wanted to understand how individuals used kin and friendship networks as an economic strategy with which to access assistance, information, or opportunities in both Louisiana and Colorado. I relied on social capital literature to help me develop several objectives for gathering data: 1) What type of occupation or income earning strategies did people have in Louisiana? 2) What was the size, composition, and function of people's social networks in Louisiana and how did these compare to those they brought with them or accessed in Colorado? 3) How have people maintained and created new economic and social capital over time in Colorado? To pursue these questions, I used a variety of ethnographic methods including: participant observation, informal interviews, in-depth semi-structured interviews, and structured interviews with a sample of thirty African American and white evacuees who relocated to Colorado following Hurricane Katrina.

All of the evacuee's I interviewed were adversely affected by the storm and experienced varying degrees of economic loss; however; the individuals who had the least degree of difficulty recovering after the disaster were typically white, middle class, non-natives, who had small family and friend networks in Louisiana whom they relied upon for little if any economic assistance. Most of these evacuees described themselves as being economically "self sufficient" and independent of friends or family for economic support. Their ability to reestablish economic capital in Colorado was facilitated by their possession of economic savings, nationally recognized educational and occupational credentials, and weak ties to individuals or businesses that could help them with employment or financial assistance.

In contrast, Hurricane Katrina proved most devastating for native New Orleanians who possessed few economic resources in Louisiana but who were able to transcend the realities of low wage work through membership in dense and highly cooperative kin and friend networks. Predominantly African American, these individuals had social networks in Louisiana that consisted of as many as fifty to two hundred people whom they relied upon for a wealth of instrumental services. Many were deeply embedded within the local economy of New Orleans and depended upon extensive network ties to help them negotiate an assortment of income earning opportunities in both the formal and informal economy. The rupture of important social networks made resettlement in Colorado a particularly trying experience for this population because many lacked the social connections or educational and occupational qualifications to attain an equivalent employment position in Colorado. Individuals who relocated with extended as well as immediate kin fared better than those who arrived in the state knowing no one; however, the presence of kin networks was not enough to assure the successful economic integration of individuals in Colorado. Evacuees who were most successful at attaining a modicum of economic security were those who had one "strong" and well connected network member in Colorado who could introduce them to people or opportunities that were largely unknown or inaccessible.

**Madagascar's Cyclone Vulnerability and the Global Vanilla Economy**, Margaret L. Brown,  
Department of Anthropology, Washington University in St. Louis

The island nation of Madagascar has been prone to “natural” disasters throughout its history. In this paper, I address one specific category of disaster, cyclones, and the political economy of Madagascar’s cyclone vulnerability. In particular, I examine the question of who is most at risk and who most benefits when cyclones destroy substantial portions of Madagascar’s highly lucrative vanilla crop. Examining the issue of cyclone vulnerability through the lens of the vanilla market opens the possibility of a multi-sited approach to the study of the effects of natural disasters. Specifically, I am able to examine how an apparently local shock such as a cyclone can have repercussions that extend over many years and across multiple continents and economic classes. Furthermore, by examining how the effects of cyclones differ from year to year and place to place, I illustrate that vulnerability is not necessarily a fixed state, but instead can change over time based on non-local political and economic forces. For purposes of this paper, I limit the period examined to post-1996, when Madagascar’s vanilla market was liberalized. To develop the arguments for this paper, I rely on data collected through ethnographic research in Madagascar, participation in an international conference on vanilla, interviews with vanilla exporters and growers (both in Madagascar and in other countries), interviews with spice company representatives, and textual analysis of company websites and spice catalogues. To examine differences internal to Madagascar, in addition to my own ethnographic and survey data, I draw on published maps depicting cyclone activity, and regional and national demographic data from a variety of published sources. I explore the following three components of the causes and effects of cyclone vulnerability.

First, it is possible to attend to differential experiences within Madagascar. It is clear that Malagasy farmers whose crops are destroyed stand to lose a great deal, while those who are fortunate enough to be unaffected by a destructive cyclone stand to gain from the higher prices they can demand for their crop. Can we identify patterns in the categories of people (based on gender, ethnicity, region) who tend to be most often negatively affected by cyclones? If so, what explains the existence of these patterns?

Second, because there is a powerful global market for vanilla, it is important to examine not only how farmers, traders, and exporters within Madagascar are affected by cyclones, but also the global effects. How are participants in vanilla production and sale in other parts of the world affected when a cyclone hits one or more of Madagascar’s vanilla-producing regions? For example, poor farmers in many developing nations were lured into the vanilla market in the late 1990s and early 2000s due to shortages in Madagascar’s production, shortages that were partially due to cyclones. National campaigns were launched and incentives were provided by international agencies to promote vanilla production as a way out of poverty, and for many farmers, it did offer gains. While many Malagasy farmers suffered during that period, farmers elsewhere saw their fortunes soar. Yet, later stability in Madagascar’s production, due to a relatively cyclone-free few years, led to a sharp decline in demand for vanilla from those emerging regions. Thus, and perversely, good weather in Madagascar can be understood as the “natural disaster” for farmers in other poor countries attempting to establish themselves in the global vanilla market.

A third component of this question is how the most influential participants in the vanilla market, namely exporters and spice companies, attempt to reduce uncertainty and stabilize prices, partially through marketing strategies. I argue that their strategies and counter-strategies cannot be fully understood without examining the political and economic context of the vanilla market, and central to that context is the uncertainty that are created by Madagascar’s vulnerability to cyclones. The success or failure of these marketing strategies, in turn, has an effect on the vulnerability of farmers in each producing region.

**Weak Rains: Dynamic Decision-Making in the Face of Extended Drought in Ceará, Northeast Brazil**, Donald R. Nelson, Tyndall Centre for Climate Change Research, University of East Anglia; Timothy J. Finan, Bureau of Applied Research in Anthropology, University of Arizona

This paper focuses on how household livelihood strategies were mobilized and modified in the face of a prolonged drought event in Ceará, Brazil. Using a longitudinal dataset comprised of 52 households, it examines management decisions and decision outcomes before, during, and after the severe 1998 drought event. The households analyzed are small-scale farming units, most of which are dependent on rainfall for agricultural production. However, few of the households depend entirely on agriculture for their livelihoods, and diversify income through formal and informal employment, extractivism, and migration. In addition to these private activities, the government injects significant financial resources into the region through pensions and public works projects.

In Ceará, extreme climate variability is the norm. Even in years when farmers are not faced with the prospect of large-scale drought, they must try to second-guess the unpredictable beginning of the agricultural season and accommodate spatial and temporal variation in the rainfall patterns. As a result, households have devised a variety of strategies to spread risk and to respond to drought when it occurs. Our analysis measures the success of these strategies using a quantitative metric that considers the estimated value of agricultural production, the value of earned income, and the value of government transfers—both permanent and relief-based. Each of these values is classified as being climate sensitive or climate neutral. The analysis then traces the varying impacts of extended drought on households with different climate sensitive/neutral ratios. Over a three year span, it is possible to identify the strategies of households as they seek out climate neutral alternatives. The socio-economic data is supplemented with qualitative information that provides rationales to the strategies pursued. It allows for an analysis of why decisions were made, the trade-offs involved, and the consequences of the decisions.

Analyzing shifts in resource flows however, only provides a quantitative understanding of the impacts of drought. We can, for example, make comparisons of relative and absolute changes in income. To provide a more visceral understanding of what these resource shifts mean we analyze household sensitivity to drought. This is done by analyzing household recourse to consumption-based coping strategies such as skipping meals or reducing the quality or quantity of food intake. We also examine the long-term prospects of households in consideration of their ability to recover and their preparedness for the next drought event.

The analysis demonstrates that all households display some level of vulnerability to drought and most suffer negative consequences as a result. The limited range of livelihood alternatives makes it difficult for most households to create the wealth necessary to see themselves through drought events or to invest all their energy into climate neutral pursuits. The range of alternatives becomes even more restricted during drought events. As a result, most households are exceedingly drought sensitive and even minor adjustments to production or income have major consequences for food security. These conclusions underscore the critical role government subsidies play in terms of preventing wholesale disaster during drought events. More importantly, the analysis identifies pathways to reinforce livelihood strategies, thereby reducing vulnerability to drought and the need for large-scale emergency relief.

**When the Lights Go Out: Understanding Natural Hazard and Merchant “Brownout” Behavior in the Provincial Philippines**, Ty Matejowsky, Department of Anthropology, University of Central Florida

Like populations in other less developed countries (LDCs), Filipinos have grown accustomed to dealing with recurrent breakdowns in public infrastructure. Years of mismanagement and under-investment in essential services like electricity, water, and transportation have left the Philippines with an infrastructural base that is in many ways fragmented and overburdened. At no time are these structural deficiencies more starkly exposed than in the aftermath of natural catastrophes.

The Philippines is widely regarded as a “culture of disaster” because of its vulnerable position along the “Ring of Fire” and “Typhoon Alley.” As such, Filipinos are subject to a wide range of extreme seismic and meteorological activity that frequently disrupts the rhythms of workaday life. The state’s ability to provide basic services in the face of typhoons, floods, mudslides, earthquakes, volcanic eruptions, and other natural hazards falls woefully short given their often overwhelming and unpredictable nature. For local merchants, the uncertainties generated by this flawed system and slow disaster response are so prevalent that they have gradually become integrated into the fabric of daily commercial operations. Significantly, traders have developed an impressive array of coping mechanisms, business strategies, and risk management techniques to mitigate the disruptions caused by infrastructural failures and natural disasters.

To better understand the socioeconomic implications of an undercapitalized infrastructure on local populations, particularly merchants and shopkeepers in the post-disaster context, this paper focuses on a sub-sector of the country’s utilities system with a long history of patchy service – the electricity industry. Problems affecting power delivery in the Philippines are pervasive and long-standing. So fractious is electrical service in the Philippines, in fact, that rather than being viewed as anomalous, power outages or “brownouts” have emerged as normative aspects of local living. Their frequency and persistent threat play a surprisingly influential role in shaping the political, economic, and cultural sensibilities of contemporary Filipinos. Since local shop owners frequently serve as the lifeblood of provincial communities in post-disaster recoveries, they are particularly susceptible to the risks and disruptions posed by brownouts and limited disaster response. Consequently, traders are compelled to pursue various coping strategies, the specifics of which reveal an underlying economic rationality aimed at minimizing potential losses.

Essentially, this paper provides a descriptive micro-level account of (1) how weak infrastructural support, exacerbated by the deprivations brought on by natural disasters, affects workaday life for store owners and merchants in LDC towns and cities; and (2) what strategies affected traders employ to lessen their vulnerability to the economic disruptions arising from such structural deficiencies. The risk management strategies that merchants utilize to counter the immediate and lingering effects of natural hazards highlight the kind of ingenuity that is essential for negotiating the complexities of LDC commerce. Ethnographic data collected in Dagupan City, Pangasinan, which suffered a major earthquake in 1990 and dozens of typhoons over the past two decades, adds empirical depth to a process that affects merchant communities across the Third World.

**“The Stores that Roared”: Earthquakes, Commerce, Community and the Social Fault Lines of Disaster Relief in Modern Japan**, Gavin Whitelaw, Department of Anthropology, Yale University

Early in the evening of October 23, 2004 the mountainous interior of northwestern Japan shuddered as a massive earthquake shook the rural prefecture of Niigata. The magnitude of the initial quake and subsequent aftershocks were of intensity equal to those of the earthquake that devastated the city of Kobe nearly a decade earlier. The Niigata disaster left 67 dead, nearly 5,000 people injured and entire mountain hamlets seeking warmth and shelter only weeks before heavy winter snows began to fall. In the aftermath of the quake, an unlikely modern retail icon—the convenience store—put itself forward as an unflagging source of support for disaster victims. Rivaling the relief efforts of national and local governments, convenience store chains rushed to assist their Niigata franchisees in getting back on their feet while at the same time donating billions of yen in food and supplies to emergency shelters. Almost as quickly, the same chains established donation boxes throughout their national network of stores, channeling millions more yen into the disaster relief effort.

In the following paper I examine the roles of and relationship between local institutions and corporate capitalism in the social construction of disaster in late modern Japan. In his recent book, historian Gregory Clancey argues that since the Meiji period earthquakes have been a constant albeit unpredictable “agent in Japan’s self-fashioning” (Clancey 2005). For centuries, Japan’s violent tectonic activity has exposed weaknesses in the state’s western-influenced infrastructure while also revealing indigenous sources of strength capable of surviving seismic calamity. Building on Clancey’s argument and drawing from sixteen months of ethnographic fieldwork that spanned both the Niigata earthquake and the tenth year anniversary of the Kobe disaster, I examine how, in a contemporary neo-liberal context, disasters become part of corporate “refashioning” projects. Through analyses of newspaper reports, personal accounts, and industry campaigns I argue that projects seeking to seamlessly package disaster relief, brand recognition, and the corporate bottom line rarely stand on stable ground.

Convenience store chains temporarily sought to distance their endeavors from associations with the market by framing their humanitarian efforts in the cultural rhetoric of cooperation, reciprocity, and neighborly responsibility. However my research suggests that local understandings of corporate social concern are more nuanced, even critical. I explore how the ambivalence that local franchisees felt toward profit making during times of community distress resulted in claims, foot dragging, and public acts of resistance. I also investigate the unintended consequences of “altruistic” corporate behavior when chain rivalries erupted into competitive food donation wars. The resulting surfeit of perishable food products overwhelmed local relief groups and resulted in a mountain of wasted meals. That which was intended as a gift became poison when public blame focused not at the relief agencies but the corporate donors themselves. The paper concludes by drawing parallels between the Niigata case and Wal-mart’s response to Hurricane Katrina, theorizing the limits of “for-profit” disaster response in the new economy.

**Learning from disaster? Mad cows, squatter fires and temporality in repeated crises,**  
Alan Smart and Josephine Smart, Department of Anthropology, University of Calgary

Research suggests that while communities generally recover from a single disaster, repeated crises within a short period can deplete resources used for coping. A rapid succession of similar disasters, such as the fires in Hong Kong squatter settlements that left about 200,000 people homeless during the 1950s, may also create a sense that "something has to be done" and facilitate a "learning curve" where policy makers can learn from mistakes. In other cases, vulnerable populations may experience disaster again and again without effective responses.

In this paper, we will use our empirical research on two sets of crises, squatter fires and outbreaks of mad cow disease, to consider how temporal patterning of repetitive disasters influences institutional learning. The economic consequences of more effective response can be immense. In the case of BSE in Canada, if domestic beef consumption had dropped by 30% as it did in Germany instead of staying almost unchanged, the estimated \$7 billion impact on the industry would have been increased by at least another \$900,000 per year, more if price drops were included. For the US industry, less dependent on exports, a heavy loss of domestic consumer confidence would have changed the impact from marginal to massive, with a 30% drop in sales potentially producing losses of at least \$11 billion per year. Canada's government adopted risk communication strategies that benefited from not repeating previous errors made by other countries. However, the structure of the industry, increasingly intensive and globalized, is highly vulnerable to trade politics and transmission of bovine diseases.

In the case of Hong Kong's squatter fires, early responses used government resources without ending the risk of fire, resolving the squatter problem, or improving the lives of squatters. The learning process initiated by repeated crises prompted the adoption of an initially very inexpensive, high-density multi-storey Resettlement Program. This ultimately was transformed into a higher-quality public housing program that accommodates half of Hong Kong's population. Manuel Castells et al. (1990) and others have attributed Hong Kong's economic miracle in large part to this public subsidization of labor power. In any case, the economic, social and cultural impacts of this transformation of housing practices have been immense. Just one year's current expenditures of the Housing Authority total US\$2.07 billion. Examining only a single incident in either BSE or Hong Kong fires, as is common in research, would result in a failure to understand the cumulative outcomes, as one incident leads to responses which either preserve the vulnerability or modify its probability or the nature of its effects. In terms of methodology, we argue that it is important to see any disaster in its historical context. The Hong Kong case is based on archival research on every squatter fire that was documented between 1950 and 1963, but concentrates on those fires that resulted in shifts in government policy and expenditure. The BSE case is based on ongoing research into the BSE crisis in Canada that builds on a comparative examination of previous BSE outbreaks in other countries.

**Where others fear to Trade: Modeling adaptive resilience in ethnic trading networks to famines, maritime warfare and imperial stability in the growing Indian Ocean economy, ca. 1500-1700 CE**, Rahul Oka, Chapurukha M. Kusimba and Vishwas D. Gogte, Field Museum/University of Illinois-Chicago

As one of the most resilient interactional systems of human activity, trader networks operate sustainable, profitable and growing commercial ventures in both adverse and beneficial conditions and throughout history, show continuous adaptation to natural and intentional disasters such as famines and/or warfare. In this paper, we re-evaluate the changing political economy of the Indian Ocean coastal polities during the so-called “decline” period ca. 1500-1700 CE. More than 70% of the coastal settlements of the Indian Ocean littoral declined and/or were abandoned. During this period, Portuguese and other European groups aggressively entered the Indian Ocean trading world (intentional disaster), and the global climate changes brought about by the Little Ice Age gave rise to frequent droughts and famines (natural disaster).

This paper argues that this process of “decline” was far more complex and cannot be attributed to any single cause or variable. The data for this paper comes from three sources: First, our ongoing ethnographic work on ethnic trading groups of Africa and Asia to understand how traders respond to disasters and/or changes in the socio-political environments and modeling the ways and means by which they maintain or change their networks. The ethnographic data is used to create a “trading systems” model using the agent-based simulation program REPAST. Second, Afrasian ivory trade data drawn from the archival collections of the late Peter Thorbahn and C.M. Kusimba. This data will give a wider picture of the changing macro-economy of the Indian Ocean between 1500-1700 CE. Third, our archaeological analyses of excavated Chinese and Middle Eastern trade ceramics from the port sites of Chaul on the Northwest Coast of India, and Mtwapa on the southern Kenyan coast. These trade ceramics were the “required” gifts exchanged between commercial and political elites to ensure smooth trade, and have been regarded as good indicators of changes in trading patterns for Indian Ocean trade.

Combining the simulation model with the cliometric data, this paper will show that the rise of politically stable and trade friendly empires in Afrasia led to changes in global commercial production and distribution that privileged commercial production and trading specialists. The newly enriched and empowered trade specialists utilized their middleman positions to benefit from the European-Afrasian elite maritime hostilities as well as the commercial opportunities created by frequent droughts and famines (disaster era commerce).

Using the archaeological data, we show how the emergent commercial trade-based economy of the 17th century consisted of highly centralized mass-production and high volume distribution of finished commodities from the East and South Asian “core” to the “peripheral” ports of East Africa and South East Asia. We argue that this transition caused the eventual “decline” of ports such as Mtwapa and Chaul in the 17th and 18th centuries even as the larger commercial economy underwent a boom in both production and distribution. We also suggest that this synergistic change in the nature and intensity of trade and commerce laid the foundations of the eventual colonial takeover of Africa and South/South East Asia and the emergence of the capitalist global economy during the 18th and 19th centuries.

**The impact of Volcanic hazards on the ancient Olmec and Epi-Olmec economies in Los Tuxtlas region, Veracruz, Mexico,** Olaf Jaime-Riveron and Christopher Pool, Department of Anthropology, University of Kentucky

Eruptions alter economies by destroying crops, burying material sources, forcing regional abandonment, and disrupting transportation routes. Conversely, the products of volcanic hazards include fertile soils and stones for a variety of utilitarian and ceremonial purposes.

One common assumption is that the volcanic eruptions in the Tuxtlas region had an effect on the transformation of Formative economies and polities on the Southern Gulf Coast of Mexico. We explore this model in depth discussing varied effects in different settings and for differing levels of complexity in the Olmec and Epi-Olmec worlds.

Using Walker et al.'s (2004) concept of resilience (the capacity of a system to absorb perturbations and to reorganize itself while there is a process of change), we examine continuity and change in basalt tool production and how economic mechanisms of exchange, in some epochs, were useful to cope with volcanic hazards.

One way to approach the impact of these natural disasters is with the analysis of quotidian artifacts. Through an examination of tools utilized for the production of foods, we will analyze the basic transformations in shape, size, and manufacture of the archaeological grinding stone tools of Tres Zapotes and other sites from Los Tuxtlas before and after volcanic events. We will compare the organization of productive sequences and how the Olmec technoeconomic subsystem coped with a volcanic hazard.

These new perspectives allow us to focus on group agency, factionalization, and corporate organization, and how the ancient populations coped with problems and tried to adapt to changing circumstances. Panarchy (Gunderson and Holling, 2002) as theoretical framework provides a link between natural science perspectives and humanistic traditions of the landscape studies in the study of ancient economies. Small-and-fast changes of stone-tools productive processes involved in subsistence can transform large-and-slow adaptive cycles that have to do with techno-economic memory such as the manufacture of both monuments and grinding tools in the Olmec area.

Resilience theory (Redman and Kinzing, 2003; Redman, 2005) is important for studying adaptive processes in the aftermath of geological hazards not only in Los Tuxtlas, but also in other Mesoamerican regions that were exposed to volcanoes. Different scales of economic changes can be better understood when we consider the number of steps of reduction of stone artifacts present in the archaeological site. There may be changes in the productive sequence in the manufacture of stone tools for coping with the scarcity of obsidian exchange and other raw materials, changes that transformed the sculpture and technology. We can provide an alternative image of previous catastrophic hypothesis and de-essentialize general assumptions of the political economic transformation of the Olmec World.

**From the Phoenix Effect to Punctuated Entropy: The Culture of Response as a Unifying Paradigm of Disaster Mitigation and Recovery**, Christopher Dyer, Department of Anthropology, Mount Olive College

This paper presents a holistic theory of human reaction to disaster as the *culture of response* – conceptualized as a complex political-ecological process of internal and external resource flow, denial, or neglect that determines if economic systems, communities, families and individuals recover or atrophy in the face of disaster. At one extreme on a “culture of response” continuum is the Phoenix Effect - a sustainable improvement in the social and economic condition of a community or organization arising from the strategic investment of capital resources after a disaster event. The other extreme - Punctuated Entropy – occurs as a permanent decline in the adaptive flexibility of a human ecosystem and its associated economies brought on by the cumulative impact of periodic and repeated disaster events. It predicts and explains the non-recovery of human social and economic systems after a disaster. The accumulation of impact means that the opportunity for recovery is compromised by repeated disruptions to the human system.

This paper develops the culture of response paradigm using case studies of natural, natural resource, and technological disaster events - specifically that of the Exxon Valdez oil spill (Punctuated Entropy) and Hurricane Andrew (the Phoenix Effect). It provides a cross-cultural assessment of different cultures of response, identifies key variables in economic recovery-non recovery, and reveals how decision making frameworks and politically-driven response priorities can help or hinder the recovery process. For the Exxon Valdez oil spill, the process of punctuated entropy on severely impacted commercial fishing and subsistence-based communities of Prince William Sound because (1) the natural resource base was compromised, (2) external economic assistance was misdirected or withheld, and (3) the post-disaster political ecology of the region hindered restoration of traditional patterns of human-environment interaction. By contrast, and in the after math of Hurricane Andrew, the Economic Development Administration provided development assistance that was key to the recovery of various civic and economic entities in the region of south Florida. Although no bias existed in the letting of grant funds, communities with already established development organizations and effective civic leadership had an advantage. Similarly, those with less effective or no leadership, such as poor neighborhoods in Florida City and Homestead, and Native American tribes, had difficulty communicating their needs and recovery goals. EDA's stated goals for recovery were to (1) re-establish viable, balanced, residential communities in South Dade; (2) protect, restore, and build upon economic strengths and strategic assets; (3) expand and improve delivery of governmental relief, assistance, and (4) rebuild support services; and (5) improve upon the built environment that was destroyed. A Development Quotient (DQ) was generated from the analysis that showed that an effective culture of response included components of (1) effective leadership; (2) effective progress; (3) generation of jobs; (4) creation of economic networks; (5) leveraging of secondary resources, and (6) empowerment of stakeholders

## **Anatomy of a Disaster: The Political Economy of Disaster Administration in Mumbai's 2005 Flood**

Judy Whitehead

This paper discusses the disaster management responses to the flood of Mumbai in July 2005. It examines the economics of disaster administration in relation to non-governmental and civil society organizations. The municipal government's inaction during and after the flood is partly attributed to a lack of coordination between diverse government agencies and between these and civil society organizations that now govern this global city and administer its services. The role of networked governance in providing timely and professionalized disaster services is more questionable, although they are cost-effective in 'ordinary' service provision. Lack of coordination between diverse units, the absence of a coordinated, contingency plan when communication services broke down, the existence of overlapping government agencies for urban development and safety, and the lack of trained disaster management staff in NGOs and CSOs all contributed to the loss of life and property during and after the flood. Comparisons with Tokyo and Shanghai, where urban services are more centralized, are highlighted to show how networked forms of governance can fail in emergency situations where the timely delivery of services is crucial. The paper uses participant-observation during the flood, plus formal and informal interviews with survivors after the event, to highlight specific lapses on the part of the state, municipal governments, and the CSO sector. It also draws upon the author's personal experiences participating in disaster relief for an NGO operating in the slums of north and central Mumbai. It relates the reliance upon CSOs and NGOs to the wider shift in economic relations, from a fordist mode of regulation to a post-fordist state. A reliance upon the voluntary sector, often couched in terms of democratic decentralization, also entails the withdrawal of basic services such as water supply, medical care, and emergency relief. The paper concludes with a discussion of short-term and long-term cost effectiveness of different forms of governance that could respond adequately to the environmental threats that face Mumbai.

## **Mutualism vs. Neo-Liberalism: A Tale of Two Cities and the Shapeshifting Economics of Disaster Capitalism** Steve Kroll-Smith and Shelly Brown

This paper examines two urban disasters that pried open, if only momentarily, the fragile web of separation and civility that work together to naturalize the social inequalities embedded in modern nation states. The San Francisco earthquake and fire occurred in 1906. Hurricane Katrina and the flooding New Orleans occurred in 2005. Unique to these extreme events is the fleeting transformation of the typically mundane reproduction of social inequality into spectacle. Nature not only bursts, explodes and fractures, creating awe-inspiring moments; it also displays in striking, almost theatrical exaggeration, the raw and crude exercise of social and cultural power that reproduce class and race privilege. The culture of mutualism that pervaded the Progressive era was tied to a form of capital accumulation that shaped the post-disaster reconstruction of San Francisco. Likewise, the culture of neo-liberalism that currently permeates the U.S. is intertwined with a quite different variant of capital accumulation--one that permits us to see the close affinity between the real politic of disaster reconstruction and the more inclusive forces of culture and economy.