Brazil’s Nuclear Future?

CARTSS’ initiative Human Survival in a New Nuclear Age will collaborate with scholars in the newly forming, Brazil-US Network for Environment, Society and Governance. Together we will explore Brazil as a case study for potential joint interdisciplinary research. The following essay provides a brief summary of the context of the Brazilian case.

By Donna M. Goldstein

Nuclear Ambitions

Brazil’s interest in nuclear technology dates back to the early 1930s when President Getúlio Vargas encouraged the development of independent Brazilian nuclear capabilities. By 1955, Brazil had entered into a nuclear cooperation agreement with the United States that eventually led to the formation of CNEN (Comissão Nacional de Energia Nuclear), the Brazilian National Nuclear Energy Commission. This agreement, under the United States’ Atoms for Peace program, enabled Brazil to purchase several nuclear reactors. In 1971, Brazil obtained its first power reactor from the U.S. corporation.

(Continued - Brazil Nuclear, Page 3)
Fall Funding: Call for Proposals

We are now accepting applications for our Fall Funding programs through November 1.

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Our Scholar Award program is a competitive grant program to support research activities of tenure-track faculty in social science departments. We are particularly interested in projects involving the participation of graduate and/or undergraduate students in collaborative research roles.

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Grant requests for each of the programs may be up to $4000. Proposals are due by November 1, 2013.

CARTSS Initiative 2013: Community Impacts of Energy Resources

CARTSS initiated two interdisciplinary projects in 2013 that are aimed at using the core strength of the social sciences at CU to form an interdisciplinary network of scholars interested in using their combined talents to address local and global environmental issues. With these two main projects, CARTSS is creating new partnerships between scholars in the social sciences and with others:

Human Survival in a New Nuclear Age

The Human Survival in a New Nuclear Age initiative is forging a collaborative relationship between a broad range of scholars in the sciences (e.g., Physics, Chemistry, Environmental Science) and social sciences at CU Boulder and is being coordinated by Ph.D. candidate Magda Stowkowski.

Additionally, CARTSS is partnering with and helping to organize the Brazil - U.S. Network for Environment, Society and Governance. This new organization is a network of US and Brazil based scholars working together on environmental governance issues, including water conservation, sustainable agriculture, and nuclear energy. As a founding member, CARTSS participated in the formation of the Brazil-US Network at CU Boulder in March of 2012 and then again in São Luis do Maranhão, Brazil in June of 2013.

Collaborative research with our Brazilian counterparts is in the planning stages. We will be leading the nuclear energy research project in Brazil and hope to begin field research in the summer of 2014.

Effects of Hydraulic Fracturing on Communities

The Effects of Hydraulic Fracturing on Communities initiative is exploring possibilities for collaborations with The Center for the American West and with faculty in the Department of Geological Sciences at CU Boulder and with University of Colorado’s School of Public Health in Denver. This effort is being coordinated by Master’s student Lindsay Ofrias.

2012 - 2013 Awards Highlights

In the fall of 2012 through spring 2013 CARTSS awarded CU faculty and graduate students more than $33,000 in small grants for social science research. Following are some highlights of those awards.

Broadcasting Indigeneity: Aboriginal Media and Multiculturalism in Australia

Willi Lempert, Ph.D. Candidate, Department of Anthropology

Based on three summer pilot trips, my upcoming 18 months of dissertation research will compare commercial and publicly funded models of Indigenous media in the town of Broome and the remote community of Yungngora in the Kimberley region of Northwestern Australia. Through participation on media teams, interviews, surveys, and archival research, I will analyze how media practices, products, and their reception come to shape local discourse on multiculturalism and indigeneity, or what it means to be Aboriginal. The ethnically mixed Kimberley region provides a bellwether for understanding national trends regarding the interplay between public dialogues on multiculturalism and indigeneity, and Indigenous mass media representations and organizational structures. As the influence of neoliberal multiculturalism discourse expands globally, it is vital to increase social science understandings of its local manifestations; these have tangible impacts on the lives of Aboriginal people, pressuring them to conform to stereotypically “traditional” Indigenous identities in both their everyday lives and in legal battles for sovereignty, especially for the increasing number of ethnically mixed and urban Indigenous people that too often continue to be rendered invisible by both national and academic dialogues. Engaging media, the most powerful tool for shaping this discourse, I seek to understand how two effective, yet distinct, Aboriginal organizational models foster the production of a strong Indigenous identity and politics that does not depend on rejecting capitalism, technology, or a multiethnic heritage, but rather welcomes their inclusion.

(More Award Highlights - Page3)
Promoting Freshwater Cooperation: Substitutability or Complementarity of International and Domestic Institutions

Jaroslav Tů, Professor, Department of Political Science; Johannes Karreth, Graduate Student, Department of Political Science

Much of international cooperation research has suggested that international institutions can resolve cooperation dilemmas between states. This research generally assumes that international institutions can substitute for the potential lack or weakness of domestic institutional capacity to implement cooperative policies. Yet, this assumption has recently been called into question, as scholars have started to find that sufficient domestic capacity is required to complement the cooperation-inducing effect of international institutions. In this project, we address this debate by examining the interaction between international and domestic institutions in the critical area of interstate cooperation over transboundary rivers. Given dire predictions about looming water wars, this issue area presents a particularly apt case for advancing the complements versus substitutes debate. Utilizing freshwater-related events data, information on the institutionalization of river treaties and several dimensions of domestic institutional capacity, we analyze interstate cooperation and conflict over shared water resources between 1984 and 2008. Our findings reveal that institutionalized river treaties need higher-quality domestic institutions, in particular bureaucracies, to help steer interstate interactions over freshwater toward cooperative behavior. This leads to the important insights that in the context of international water politics international and domestic institutions function as complements; without functioning domestic institutions, even highly institutionalized river treaties are potentially ineffective promoters of interstate cooperation over shared water resources.

The Ends of Coffee: State, Work, and Identity in Post-CAFTA Costa Rica

Kate Fischer, Ph.D. Student, Department of Anthropology

CARTSS funding allowed me to return to Costa Rica this summer to conduct the final research needed to complete my dissertation in anthropology. Costa Ricans rightly credit much of their country’s stability, democracy, and relative economic success to long-term state protection of the coffee industry, and say that Costa Rica is coffee. Yet this identity and trust in the state has become regionally fractured, mirroring larger ruptures in the post-CAFTA (Central American Free Trade Agreement) era. Broadly, my research asks, What is the welfare state without coffee, and what is Costa Rica without the welfare state? I analyze the historical and contemporary importance of coffee both as national symbol and key export crop, and CARTSS funds allowed me to conduct this analysis in two additional regions that I had not previously been able to visit.

This summer, I found that coffee’s economic and social importance is quite different in each of the three regions where I worked, but that this importance cannot be separated from other variations, such as job opportunities and proximity to the resources and attention of the capital. Some of this variability can be attributed to the country’s geographically uneven development, but much of it is also due to the geographical determinism of the coffee industry, where a higher altitude correlates almost exactly with higher prices and thus a greater likelihood that locals will continue to grow coffee. This variability even in such a small country indicates that certification programs such as Fair Trade should rethink their universal approaches to aid and activism.

(More Award Highlights - Page 4)
Power Ambitions: What Allows U.S. States to Adopt Innovative Energy Policies

Xi Wang, Graduate Student, Environmental Studies Program

In recent years, the problems with nuclear and fossil fuels—environmental damage, climate change, unequal distribution of resources, nuclear accidents and radioactive waste, price instability, and resource depletion—have led to a reexamination of their use. One policy mechanism that encourages more widespread use of renewables is the Renewable Portfolio Standard (RPS), which requires electric utilities to supply a target percentage of their electricity from designated renewables. Though multiple federal RPS proposals have failed in Congress, states have acted: 29 U.S. states and the District of Columbia have mandated RPS requirements.

The variation in state target requirements creates an experimental environment not only for understanding what allows states to adopt RPSs, but also what allows certain ones to set ambitious renewable energy goals. A predictive model will show which states should have adopted the RPS based on economic, political, and resource potential characteristics. These predictions will be compared against what actually happened to elicit outliers—those states we expected to adopt but didn’t, or those we didn’t expect to adopt but did. I will conduct case studies of several outliers to understand the mix of conditions that prevented or allowed states to adopt the RPS.

The most interesting states are those that not only adopted the RPS when we don’t expect them to, but also set very ambitious targets. Figuring out the conditions that allowed this to happen will provide valuable insight to how we can motivate states to adopt future innovative energy legislation.

Biofuel Burdens: Environmental & Social Justice in Chichigalpa, Nicaragua

Tracy Kirkland, Ph.D. Student, Department of Sociology

My research investigates how the global agrofuel economy has set in motion social transformations in rural Nicaragua. Specifically, Chronic Kidney Disease (CKD), a negative health outcome associated with intensified sugarcane agriculture, is producing shifts in the local gendered economy in Northwestern Nicaragua. My research takes place in Chichigalpa, a region undergoing rapid sugarcane expansion in part to meet growing market demand for ethanol-biofuel. Chichigalpa also experiences CKD mortality at a rate 13 times higher than the national average, and male sugarcane laborers are dying as young as their 20s, leaving behind wives and young children—the community of La Isla is now known as “La Isla de las Viudas,” Island of Widows. My central research question asks: What socio-cultural changes and shifts in household livelihood strategies are occurring in Chichigalpa, Nicaragua due to pervasive CKD among sugarcane laborers?

With the support of a CARTSS Graduate Student Fellowship, I conducted 48 in-depth, household-level interviews during the summer of 2013. For my analysis, I utilize a political ecology of disease framework to explore the broader political-economic and ecological contexts in which CKD has emerged; analyze discursive representations of CKD by sugarcane laborers, organizations, and the sugar industry; understand how competing narratives facilitate or impede household livelihood strategies; and, examine how the CKD epidemic has reshaped the local gendered economy, producing a local feminism of agriculture. Thus, the CKD epidemic and related social changes provide a window into how global, macro-level trends like market environmentalism materialize at the local level.

Mobile Homes and the Precarity of Homeownership in Lincoln, Nebraska

Allison Formanack, Ph.D. student, Department of Anthropology

My work examines mobile home precarity in 21 urban mobile home courts in Lincoln, Nebraska. Mobile homes are the second-most common housing form in the United States, serving as the primary home site for 15 percent of the population. Currently, there is a nation-wide decrease in spaces set aside for mobile home use; this is especially true in urban environments, as more communities are demolished to make way for urban growth or redevelopment. The primary question my research asks is: What strategies do mobile home residents employ in the face of housing instability and cultural stigmatization in order to perform middle-class identity vis-a-vis their homeownership status?

With support from CARTSS, I was able to conduct dissertation research among 3 of Lincoln’s most vulnerable mobile home communities in the summer of 2013. My initial findings indicate that mobile home residents’ claims of homeownership have come under increased state and managerial scrutiny. Efforts are underway to currently transform these communities into renter-only spaces, so that demolition and redevelopment can be undertaken in a more efficient and cheaper manner for the landowners, to the detriment of current residents. These findings not only demonstrate the timeliness of my research project—these communities are slated for redevelopment in 10 years—but also the extent to which beliefs regarding the centrality of homeownership to the realization of middle-class identity (central to the achievement of the “American Dream”) is made unavailable to mobile-home owners due to the perception that such structures do not truly count as “homes.”
Brazil’s Nuclear Future - continued

Convention” was released and a government plan was announced to construct four additional reactors, two in Northeast Brazil and two in the Southeast region, all programmed for completion within the next decade. It is not clear yet what the new energy mix will look like after the completion of Angra III and Brazil’s other planned nuclear projects, but there seems to be government momentum at this time to scale down hydroelectric power.

By 2010 Brazil was celebrating more than two decades of democratic elections and was (since 2002) under the leadership of the popular leftist party PT (Partido dos Trabalhadores) and its historic leader, Lula, who rose through the ranks of Brazilian trade unionism. During this time, the Committee for Development of the Brazilian Nuclear Program (CDPNB) was established and 12 ministries are now participating in the review and approval of nuclear proposals. Brazil’s nuclear ambitions are factually detailed in a number of historical documents, events, and agreements that are tied to particular leaders, to development goals, and to the post Cold War consensus that presents nuclear energy as a clean energy source, as safe and viable, and as a marker of technological sophistication and modernity. But Brazil’s nuclear ambitions are also tied to its desire to be seen as a respected global player and one that refused to remain forever in a second-class track of dependency on foreign technology or goodwill. One could argue that the embrace of nuclear energy by the dictatorship allowed Brazil to pursue additional technical and engineering objectives that surpass the apparent or immediate usefulness of nuclear energy.

It is worth noting that the historical discussions that led to the expansion of Brazil’s nuclear energy program advanced without serious public input or debate. This is because nuclear energy became a serious program in the context of dictatorship and nuclear advances were made in parallel programs of secrecy. These features of nuclear energy are important to consider today, particularly as the Angra I and Angra II nuclear plants in operation in Brazil are dated from the same era as Japan’s Fukushima plant currently in a new phase of nuclear evaluation.

Recently, The New York Times front page (Fackler, September 4, 2013) featured an article titled, “Errors Cast Doubt on Japan’s Nuclear Cleanup.” The article explored the ongoing toxic and technical issues that are challenging cleanup efforts at Fukushima and details the serious problems that have yet to be solved two years after the tsunami and the initial damage: how to stop the leakage of contaminated water laced with radioactive strontium into the ocean; whether to extract the fuel cores from the reactors; how to prevent contamination of groundwater; what to do with 430,000 tons of contaminated water, etc. The problems are not just technical, but are, of course, social and political as well. People who were evacuated from the affected zones were promised that they could eventually move back but the soil is still considered too contaminated to allow that. Political parties in Japan are struggling to find a position vis à vis Tepco (Tokyo Electric Power Company, the private energy company that is in charge of the plant), that would be palatable to the Japanese electorate who have become wary of nuclear energy.

What appears to be in motion in 2013 in Brazil is a steady movement toward expansion of nuclear energy, in spite of the ongoing crisis at Fukushima and in spite of the global hesitation toward nuclear energy in the aftermath of Chernobyl that began more than 27 years ago and is now bookended by the events at Fukushima. Fukushima and Chernobyl together stand as historical events to reckon with because they are the two Level 7 events (the maximum nuclear disaster classification) in nuclear energy history. In the Latin American region, Brazil and Argentina stand out as the two countries that have significantly advanced their nuclear energy programs, initially in competition with one another. Most recently, however, rather than acting as competitors in the nuclear technological race, there are signs that the two countries are cooperating: both countries signed a nuclear cooperation agreement in 2008 (Arguello 2009) and in April of 2013 both attended the 9th Regional Congress on Radiation Protection and Safety held in Rio de Janeiro (Nauman 2013).

One issue that remains under review and is critical to consider at this time is whether private utilities will be allowed to build or operate nuclear power plants in Brazil. In June of 2013, for example, Russia expressed its willingness to invest in Brazil’s nuclear energy program (NucNet 2013) and there have been rumors that Tepco is eager to explore Brazil as a future site for additional nuclear energy plants. In 2004, Brazil was the subject of a serious dispute with the International Atomic Energy Agency (IAEA) because Brazilian authorities refused to give IAEA inspectors full access to the Resende uranium enrichment facility that was still under construction at the time (Morrison 2006). The Resende facility is considered a technological achievement in Brazil and a way for Brazil to become independent and self-sufficient while also selling surplus nuclear fuel on the international market (ibid). The Brazil dispute with IAEA has been used as a case study for understanding how the accords addressing the non-proliferation of nuclear weapons are potentially conflicting with the desire of states to be self-sufficient, independent, and technologically advanced. Further, the case of Brazil is often cited as a comparison with Iran, whether rightly or wrongly. Brazil’s membership in the nuclear Non-Proliferation Treaty (NPT) makes it a subject of the IAEA inspections. In turns, these inspections sometimes heighten nationalist feelings around technological and nuclear self-sufficiency.

CARTSS’ has begun the task of outlining some of the important issues relating to present and future nuclear energy initiatives in Brazil and has initiated joint grant-writing activities in the fall of 2013.

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CARTSS Steering Committee Members - 2013-2014

Lorraine Bayard de Volo
Associate Professor, Women and Gender Studies; Director, Latin American Studies Center

David Boromisz-Habashi
Assistant Professor, Department of Communication

Liam Downey
Associate Professor, Department of Sociology

Donna M. Goldstein
Associate Professor, Anthropology, Director, CARTSS

Anne-Barrie Hunter
Co-Director, Ethnography & Evaluation Research (CARTSS)

Carla Jones
Associate Professor, Department of Anthropology

Daryl J. Maeda
Associate Professor and Department Chair, Department of Ethnic Studies

Anand Sokhey
Assistant Professor, Department of Political Science

Seth Spielman
Assistant Professor of Geography

Magda Stawkowski
Graduate Student, Department of Anthropology

Bryan Taylor
Professor and Department Chair, Department of Anthropology (On Leave: Fall ’13)

Kimberly Bowman
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Graduate Student, Department of Anthropology

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Professor and Department Chair, Department of Anthropology (On Leave: Fall ’13)

Kimberly Bowman
Director of Development, University of Colorado Foundation

Contact

Director: Donna M. Goldstein - 303-492-5484 - donna.goldstein@colorado.edu

Coordinator: Jeanne Gardner - 303-735-3721 - jeanne.gardner@colorado.edu

CARTSS
University of Colorado at Boulder
UCB 481
Boulder, CO 80309-0481

http://cartss.colorado.edu