

Abstract of Resilience Seminar in FY2008

The 22nd Resilience Seminar

Date and time: 15:00-16:15, April 11th, 2008

Place: RIHN Lecture Hall

Title: Socio-ecological Resilience in an Arena of Rapid Environmental Change: Climate Variability and Adaptation in the Upper Zambezi Valley Floodplain

Speaker: Dr. Lawrence Flint (RIHN Visiting Fellow and ENDA)

Language: English

[Abstract]

People have made unprecedented demands on ecosystems in recent decades to meet growing demands for food, water, fibre and energy. These demands have placed pressure on ecosystem balances, depleted the ability of the natural environment to replace biocapacity consumed and weakened the capacity to deliver ecosystem services such as purification of air and water, waste disposal and aesthetically pleasing environments. There is an apparent tension between the aspirations of social and economic development and environmental sustainability.

Direct drivers of change that engender a reduction in ecosystem goods and services include habitat change, invasive species, over exploitation, pollution and, climate variability and change. These processes threaten to diminish socio-ecological resilience and heighten sensitivity to both environmental and socio-economic change.

This paper seeks to discuss the scientific ways in which socio-ecological vulnerability and resilience can be examined, in particular the inter disciplinary of approach necessary to address these wide ranging issues.

It will also analyse the nature of socio-ecological resilience and adaptation to vulnerability. This is contextualised in a discussion covering the historical and contemporary production of politico-economic and socio-cultural networks and dynamics affecting resilience.

The study considers floodplain ecosystems, the sites of human settlement, economic activities and the appearance of 'hydraulic civilisations'. An example discussed here is the Bulozhi 'natural' floodplain of the Upper Zambezi Valley in western Zambia, currently exhibiting biophysical and socio-economic change.

This floodplain was populated by the ancestors of the present Lozi peoples who, using the ecological goods and services offered by the plain, produced a strong and vibrant politico-economy that became dominant in the region, using surplus food with which to specialise, raise an army and take advantage of economic opportunities.

Today Bulozhi is an arena of relative underdevelopment and this condition may become exacerbated by increasing climate dynamics, but these act only as additional stressors to

socially created vulnerabilities that became entrenched over time. The paper discusses the production of vulnerability in Bulozhi and the adaptive capacity required to increase resilience.

The paper concludes that people's capacity to adapt to exogenous and endogenous pressures and maintain the cohesion of the socio-ecological system (SES) depends much on their ability to deal with stressors from a position of autochthonous (indigenous) 'ownership'. It depends also on their ability to adapt current practices and diversify productive activities so that society can regain a sense of momentum, control and motivation to enhance living standards whilst conserving the integrity of the SES.

The 23rd Resilience Seminar

Date and time: 15:00-16:15, June 18th, 2008

Place: RIHN Lecture Hall

Title: Resilience of Rural Households and Communities to HIV/AIDS and Recurrent Droughts: Case of People around Mwami Adventist Hospital, Chipata, Zambia

Lecture: Chileshe L. Mulenga (Institute of Economic and Social Research, University of Zambia)

Language: English

Key Words: Rural, Households, Communities, HIV/AIDS, Recurrent Drought, Poverty, Elderly, Young People and Socialization

[Abstract]

Rural communities respond to socio-economic and ecological shocks primarily at the household and community levels. The household and community level responses aim at ensuring integrity of households and preservation of communities as social and cultural entities. High prevalence of HIV/AIDS in Zambia, however, poses serious challenges to the survival of households and communities. The situation has been worsened by recurrent droughts, which have caused crop failure, food shortages and losses of assets. Households and communities confronted by HIV/AIDS and recurrent droughts have therefore become poorer and more vulnerable.

Deep socio-cultural changes are required for households and communities around Mwami Adventist Hospital to endure the HIV/AIDS scourge and recurrent droughts. Appropriate socialization of young people and a shift to agricultural livelihood systems capable of withstanding recurrent droughts are essential to resilience of rural households and communities.

Socialization of orphans is, however, problematic, as most orphans are looked after by elderly female guardians, who equally need support. The female guardians moreover cannot provide adequate socialization to young men, due to the division of labour between women and men. Elderly guardians cannot also effectively provide knowledge of "essential" edible wild leaves, fruits, tubers, insects and small animals that are part of the rural livelihoods, as

they may not walk long distances. Changing agricultural livelihood systems is equally difficult, due to lack of knowledge and experience of alternative agricultural livelihood systems. Entrenched poverty also precludes unsubsidized technological solutions on account of cost.

Socialization of young people that prevents HIV infections and livelihood systems capable of withstanding recurrent droughts are critical to resilience of rural households and communities.

The 24th Resilience Seminar

Date and time: 15:00-17:00, July 17th, 2008

Place: RIHN Lecture hall

Title: Modeling Household-Level Deforestation and Reforestation with Agent-Based

Approaches: Case Studies from Laos PDR, United States and Zambia

Speaker: Tom Evans (Department of Geography, Indiana University (RIHN invited researcher))

[Abstract]

Social-ecological systems are inherently complex and composed of dynamics at multiple spatial scales that govern their behavior. An important part of these systems is how humans interact with each other, how these interactions change their behaviors and how their actions affect the biophysical environment. Agent-based models are one tool that can be used to examine these types of system dynamics. This seminar will discuss past research employing agent-based models (ABMs) to study household level behavior in social-ecological systems with an emphasis on land cover change, especially deforestation and reforestation. These ABMs are used to examine how households make land-use decisions and how these decisions lead to macro-level outcomes at a regional scale of analysis. Agent-based approaches are useful for this type of research because they are designed to identify the interactions between actors and the heterogeneity of actors.

To demonstrate this research, examples will be discussed from the following set of studies: 1) the process of reforestation in the Midwest United States, 2) the transition from slash and burn agriculture to rubber plantations in Laos PDR, 2) and a prototype of a model to study adaptation to climate change in Zambia. The seminar will also discuss different methods of linking actors to the physical environment using geographic information systems (GIS), and the scale- dependence of social-ecological systems. The overall objective of this presentation is to discuss the advantages and disadvantages of these types of local-level approaches, and new emerging directions of household-based research on the human-dimensions of global change.

The 25th Resilience Seminar

Date and time: 16:00-17:15, December 5th, 2008

Place: RIHN Lecture Hall

Title: Combating Drought in South Africa, and Southern Africa

Speaker: Mitsuru Tsubo (Associate Professor, Arid Land Research Center, Tottori University)

[Abstract]

In Africa drought is the most devastating natural event, and severe drought causes people to be starved to death. The Sahel drought disaster in 1974-1975 resulted in a total of 325,000 casualties. In 1984 the worst drought event occurred in Ethiopia and Sudan; approximately 450,000 people were died. In 1992 southern African countries dealt with the most severe drought disaster of the century in the region. Zimbabwean faced food shortage due to insufficient rainfall during the crop season. This crisis was escalated by the misconduct of the government; their policy failed and they were blamed for the damage. The lesson learned from the crisis is that pre- and post-disaster management for drought is critical for prevention and mitigation of the disaster. South Africa is one of the countries which are at the cutting edge of drought management, as the National Disaster Management Centre has been formed to promote an integrated, coordinated system of disaster management by national, provincial and municipal governments. Their drought management has been strengthened in connection with the Weather Service which releases seasonal rainfall outlooks, but an operational system to alleviate drought disasters is not yet formulated. A drought early warning system thus needs to be developed for the country and then the Southern African Development Community (SADC) region.

The 26th Resilience Seminar

Date and time: 15:00-16:30, February 10th, 2009

Place: RIHN Lecture Hall

Co-organized with Ecosopy Program

Title: Human Security in Africa: Between Normalcy and Emergency

Speaker: Yoichi Mine (Associate Professor)

Osaka Univ. Global Collaboration Center (GLOCOL)

[Abstract]

The concept of human security was first propounded in UNDP's Human Development Report 1994 and further expanded in the Final Report of the Commission on Human Security published in 2003. Placing national security in a relative perspective, human security tries to empower people and communities from below, and assigns the special role of protecting vulnerable people to multi-lateral organizations. Human insecurities are caused by the manifestation of risks, sudden serious downturns, including the outbreak of violent conflicts,

economic crises and natural disasters, as well as the spread of infectious diseases. Many African societies have historically been prepared for such calamities as famine disasters, but the situations are becoming increasingly complex. A noticeable trend is that the structural, long-term poverty and the conjunctural, acute poverty are converging in the continent. The main part of the talk will not be about empirical case study but rather directed to a policy framework for international cooperation, African history, and a reevaluation of Amartya Sen's entitlement theory in the light of human security approach in the African context.

