



GECHS

GLOBAL ENVIRONMENTAL CHANGE
AND HUMAN SECURITY

ANNUAL REPORT 2004/2005

ACKNOWLEDGEMENTS

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GLOBAL ENVIRONMENTAL CHANGE & HUMAN SECURITY PROJECT
REPORT FOR 2004-2005

A. INTRODUCTION

This annual report provides information about the activities of the GECHS project and the individual contributions of the Scientific Steering Committee. During the past year and a half GECHS has been in a period of transition. Dr. Michael Brklacich's term as Chair of GECHS finished in June 2005; Dr. Karen O'Brien of the University of Oslo was nominated as Research Director by the GECHS SSC at its October 2004 meeting and approved by the IHDP SC at the March 2005 meeting. The GECHS IPO at Carleton University in Ottawa, Canada closed the end of June 2005 the new IPO opened in July 2005 in the Department of Sociology and Human Geography at the University of Oslo in Norway.

In addition, IHDP is entering a period of transition changing from establishing research projects into a stocktaking and synthesis process. This shift in IHDP in many ways mirrors GECHS efforts, which build upon the research endeavors started earlier in its mandate. During the last year, GECHS also made a concerted effort towards capacity building within the global environmental change and human security community. The IPO and the SSC have maintained existing links with other projects, but have also consolidated its network of contacts through individual involvement with related research activities such as a strong participation in the 2004 Open meeting in Montreal, Canada and the 2005 meeting in Bonn, Germany.

Prior to the IPO move the GECHS Project Office at Carleton University consolidated its efforts. In addition, to core funding from IHDP and its funding from Procter & Gamble the Project was able to raise significant funds to advance research in two broad areas that comprise its research mandate:

- Social vulnerability to global environmental change, and
- Environment, conflict and cooperation.

At the inaugural meeting in Oslo the new GECHS SSC added three foci of research – peace, gender and health – within the broad GECHS areas. These foci evolve from the work of the GECHS offices in Canada both in Victoria and Ottawa. The GECHS SSC committed to moving the GECHS research activity forward by placing an activity in each of the foci over the next three years. An SSC joint publication is planned in the area of Peace, a workshop on gender and human security will be held in the fall of 2006 and a research proposal will be submitted in the area of health and human security. This report reviews the research program, conferences and workshop activities, links with other projects, publication activities and the contribution of the IPO.

B. Research Activities

Signature Projects

Southern Africa Vulnerability Initiative (SAVI)

Initiated by Global Environmental Change and Human Security (GECHS) project and funded by the International Council for Science (ICSU) and the International Human Dimensions Programme (IHDP), the Southern Africa Vulnerability Initiative (SAVI) began in 2003 as a pilot project. The overall vision was to enhance human security amongst populations most vulnerable to social, economic and environmental stresses within the southern Africa region. The specific goals are

- to develop an integrated framework for understanding vulnerability
- to multiple stressors in southern Africa,
- to develop a proposal for a longer-term applied research initiative, and to build partnerships between practitioners and scientists in the region in order to implement a comprehensive vulnerability research program.

In 2003-04, the project brought diverse practitioner and academic communities together for two international workshops: SAVI-1 in Maputo, Mozambique (June 19-21, 2003) and SAVI-2 in Cape Town, South Africa (Oct 11-12, 2004).

The Cape Town workshop (SAVI-2) assembled practitioners, policy-makers and scientists from different fields to discuss the framework and to identify niches and ways forward for SAVI. The workshop included presentations in which a number of researchers and practitioners involved in vulnerability assessment in the region outlined their current initiatives and gave their perspectives on the preliminary SAVI framework. These presentations then provided a basis for critical group dialogue, individual reflections, and recommendations for turning the preliminary framework into a longer-term research plan. Several key conceptual issues were discussed and potential roles for SAVI highlighted:

- First, the group agreed that there is value in bringing together academics and practitioners with different backgrounds to promote research and dialogue on how multiple processes of change interact to generate vulnerability, and in applying this research to interventions that will enhance human security.
- Second, as a facilitator of this dialogue, one of the strengths of SAVI is that it can challenge traditional conceptualizations of vulnerability in a variety of ways. SAVI can inform ongoing attempts to shift vulnerability assessment away from mapping vulnerability toward understanding why vulnerabilities are generated. SAVI can also contribute to understanding inter-scale linkages, or how global-scale processes interact with national and local conditions and institutions to generate vulnerabilities. In addition, SAVI recognizes vulnerability as intertwined with processes of change, and may therefore provide insights into how the *rates* of these transitions impact on human security. This may require re-thinking some institutions and social units of analysis; for example, some participants called into question the “household” as an effective unit of analysis in southern Africa where migration has become the norm.
- Third, participants emphasized that a key goal for SAVI should be to build capacity within the region, both within institutions and within communities. At the institutional level, in addition to partnership building, a potential role for SAVI is in curriculum development and training. SAVI should also involve those who are most vulnerable in assessment processes; that is, SAVI should support participatory vulnerability assessment initiatives. Participants

further suggested that SAVI extend beyond academic research to include creative outreach and dissemination of findings.

- Finally, SAVI could contribute to the scientific development of methodologies and approaches to vulnerability assessment. It was recommended that SAVI should support efforts to quantify and to understand qualitative perceptions of vulnerability, and should aim to mainstream gender into vulnerability assessments. SAVI could inform research, monitoring and evaluation of vulnerability over the longer term; a key role is in extending the current time scale of vulnerability assessment, looking at how current responses impact future vulnerabilities, and collecting longitudinal data. Two further methodological roles for SAVI were identified: SAVI could determine the availability of existing data and facilitate more full analyses of these data sets; and SAVI could evaluate current assessment tools with respect to emerging questions around multiple stressors and work with practitioners to develop new methodologies where necessary.

Human Security, Conflict and Cooperation

1) Resource Rights, Livelihoods and Conflict in South Asia

This US AID funded projects is a partnership between the GECHS office at the University of California at Irvine and researchers in Bangladesh, India, Pakistan and Nepal. It is a community-based project involving four sites that have experienced high levels of violent conflict and where livelihoods for a large proportion of the local community relies on direct access to natural resources. Rights to these resources are however complicated by competing legal systems, inadequate documentation, adjudication processes that are costly and/or not trusted, low levels of enforcement and official corruption. The research focuses on two central questions.

- Can violent conflict in these communities be explained as a result of inadequate legal protection for those whose livelihoods depend on direct access to resources?
- Are there viable strategies for improving legal protection?

The research builds on the 2002 Matthew, Halle and Switzer book *Conserving the Peace: Resources, Livelihoods and Security*. Results of the research summarized above will be presented at the IUCN World Congress (Thailand 2004) and published in an edited volume by Matthew and Najam.

For additional information, contact Richard Matthew

2) Environmental Conflicts and Regional Cooperation in the Lempa River Basin: The Role of the Trifinio Plan as a Regional Institution

Current research focuses on how the creation of a regional regime such as the Trifinio Plan – which was formulated as an answer to economic and environmental problems in the international basin of the Lempa River (embracing Guatemala, El Salvador, and Honduras) – can foster transborder cooperation and regional integration. This research also attempts to investigate how the Trifinio Plan can be conceptualized as one of the most important tools for conflict prevention in the area encompassed by the Lempa river basin. It is argued that the Trifinio Plan has contributed to change the manner in which its stakeholders interact. Coordination and communication between the three governments has increased substantially. The Plan has also resulted in a higher level of integration among the various border communities. In sum, this research provides insight into how regional arrangements can address cross-border environmental problems and reduce political tensions, while respecting national and ecological boundaries.

For more information, contact Alexander Lopez.

3) Resource Abundance and Civil Conflict

There has been considerable research on the contribution of resources to armed conflict over the past decade with much of this research focusing on how resource scarcity can either prompt war by itself or at least be another causal factor. This project expands upon this research foundation in several ways including a focus on civil rather than interstate conflict, investigating the role of resource abundance rather than scarcity as a causal factor, and is developing data sets that will facilitate quantitative evaluations of resource-conflict relationships. A recent case study has suggested abundant “lootable” resources (i.e. resources such as alluvial diamonds that are easily exploited, transported and have a high value to weight ratio) can play a central role in funding war efforts by either rebel or government forces. Future work will investigate resource-civil war conflict issues at subnational levels as well as the role of institutions in combination with resource abundance as factors contributing to conflict and peace. In addition, to developing data sets relating to resources and civil conflict, the PRIO team has also compiled and published data sets on shared rivers and interstate conflict.

For additional information, please contact Nils Petter Gleditsch.

4) Modeling Environmental Change and Conflict

This research project builds upon the environment and conflict research where most conceptual models include a set of mediating social variables such as governance and ethnic structure, arguing that environmental factors have seriously negative social effects under certain fairly common social conditions. This work extends the time frame of previous assessments which typically covered less than a decade to 60 years or longer (depending on data availability). These longer timelines revealed an environment-conflict linkage is usually evident for only a brief period within a longer process of social adaptation to environmental change, suggesting that policies and programs for addressing immediate security concerns need to be cognizant of a broader context in order to either bolster or undermine larger adaptive processes. “The Elusive Quest: Linking Environmental Change and Conflict.” by Matthew, Gaulin and McDonald in 2003 in the *Canadian Journal of Political Science* summarizes findings from this research activity.

For additional information, contact Richard Matthew

Human Security and Hazards

This APN funded project explores *how to effectively shape human institutional responses* to flood hazards in 4 Asian countries (Thailand, Russia, Vietnam and Japan). Floods account for more than half of Asia’s population that is adversely impacted by natural hazards and the number of impacted by floods has almost doubled over the past decade. The impacts are far-reaching and include the loss of crops and animals, livelihood declines and loss of human lives. Clearly existing domestic and regional institutions (including legislation, administration, flood response programmes) do not provide adequate flood protection and the poorer communities are most vulnerable. Climatic change is expected to increase future flood risk in Asia. It is in this context this research explores:

- What current flood risk reduction institutions and policies are currently in place at regional and national scales?
- Why do existing institutions and policies not always protect human security?
- How can institutional capacity in each of the four selected countries make local communities more resilient to hazards in the coming year?
- How to shift from conventional hazard protection to disaster risk management?

For additional information contact Elena Nikitina

Human Security, Global Environmental Change and Economic Globalization

This research focuses on human vulnerability and climate change, particularly how it is changing as a result of economic globalization. A collaborative research project on agricultural vulnerability in India maps indicators of exposure, sensitivity, and adaptive capacity to identify the districts that are highly vulnerable to both climate change and trade liberalization. Qualitative case studies carried out in "double exposed" districts provide an understanding of how the two processes interact to influence vulnerability. The results show that trade liberalization is making it more difficult for many farmers to adapt to climate variability, just as climate variability limits the ability of farmers to adapt to changing market conditions in a globalizing Indian economy. In the cases where globalization opens up new opportunities, for example through the production of gherkins for export to European markets, there are questions concerning long-term production sustainability under conditions of increasing water scarcity. The interactions between global environmental change and globalization are being explored in more detail in a book titled *Double Exposure: Global Environmental Change in an Era of Globalization* (R. Leichenko and K. O'Brien, forthcoming, Oxford University Press).

For more information, contact Karen O'Brien.

Human Security and vulnerability in Coastal Communities

The goal of this project is to build an understanding about human security, the vulnerabilities and adaptations within Canada's rural coastal communities, draw lessons from best adaptive practices and develop guidelines for coastal community-based approaches to achieve future sustainability. During the 2004–2005 year efforts continue to further the understanding of vulnerabilities in Canada's coastal communities. As a co-investigator with the Linking Science and Local Knowledge node of the Ocean Management Research Network hosted by Simon Fraser University, Maureen Woodrow representing GECHS participated in several activities of the node including chairing a plenary session at Coastal Zone Canada in June 2004 and organized a special session with Dr. Patricia Gallagher on *The Future of Coastal communities in Canada: Some Case Studies*. She also participated in a November 2004 workshop in Bouctouche, New Brunswick on *Climate Change & Coastal Communities: Concerns and challenges for today and beyond*. Both GECHS and LOICZ were represented at a policy conference called *Changing Currents: Charting a Course of Action for the Future of Oceans* in Vancouver organized by the Coastal Studies Centre at Simon Fraser University in February 2005. Promoting collaboration and exchange several members of the node presented papers at the LOICZ 11 Inaugural Open Science Meeting held at Egmond aan Zee, Netherlands in June 2005 Coasts and Coastal People: Scenarios of Change and Responses.

For more information contact Maureen Woodrow or Patricia Gallagher. For key findings from the workshops visit <http://www.sfu.ca/coastalstudies/linking>

C. Conferences, Workshops, Meetings

GECHS Workshop - Human Security and Climate Change

The workshop on Human Security and Climate Change took place on the 21-23 June in Oslo. Approximately 80 participants presented and/or discussed aspects of human security and climate change. The workshop served as a forum to formulate a research agenda related to human security and climate change. Human security was defined as having the capacity to avoid violent conflict, overcome vulnerability, and respond positively to environmental change. The general aim of this

workshop is to reposition the climate change debate within the context of human security. While there has been substantial research into the impact of climate variability and change on society, most of this work has focused on climate as the driving force, rather than on how it interacts with the complex and rapidly changing socio-political environments that ultimately determine the security of individuals, communities, or nations.

Specific topics that were considered at this workshop include:

- How does climate change affect vulnerability, and hence human security?
- What role does climate change play in the array of factors affecting human security?
- How might climate change directly or indirectly influence conflict or cooperation?

For more information on the workshop see <http://www.cicero.uio.no/humsec/> or www.gechs.org

Measuring Human Security: GECHS Endorsed Workshop

The workshop was hosted by the Mesoamerican Center for Sustainable Development of the Dry Tropic (CEMEDE) in Nicoya, Costa Rica and the Netherlands Environmental Assessment Agency (MNP-RIVM) in the Netherlands. It was organized in close cooperation with, and support of UNEP's Division of Early Warning and Assessment (DEWA)¹, and endorsed by the Global Environmental Change and Human Security project. The meeting took place from the 31st of January till the 2nd of February 2005 and was held in Nicoya, Costa Rica.

The purpose of the meeting was to explore the vulnerability framework for the analysis of cross-cutting issues within the context of GEO-4. The workshop looked in depth at:

- the various concepts and frameworks that currently exist in the field of vulnerability research
- the relation between vulnerability and human well-being
- the applicability of using the vulnerability framework for the analysis of the selected cross-cutting issues.

The final aim of the meeting was to come up with a consistent approach to assess the cross-cutting issues, to be used in GEO-4. Points of attention were the quantitative assessment of vulnerability, regional analysis and implications for the global scale, and assessment of past and future trends.

A draft copy of the Nicoya Report is available on the GECHS website www.gechs.org

D. Links to Other Projects

In order to meet the objectives outlined in the GECHS Science Plan, the SSC members continue their involvement with other GEC organisations and initiatives. The contributions to those projects directly related to GECHS' science themes and research objectives are outlined below. Individual SSC members are involved with other projects and initiatives that contribute to and support the objectives of GECHS. They range from chairing sessions at conferences to meetings with potential funders. These activities are outlined in Appendix C.

¹ <http://www.unep.org/dewa/>

GECAFS

Mike Brklacich continues as vice-chair of GECAFS and remains a central part of GECHS-related activities. GECAFS has now identified its science themes and objectives. Funding has been secured for the next two years. Planned activities include workshops and a review of issues of vulnerability to food systems

Water

In the past GECHS has been intermittently involved with this theme. However, at the SSC meeting in Montreal this year GECHS decided to play a more proactive role by appointing Nils Petter Gleditsch as its representative on the water project. Both Fred Langeweg and Alexander Lopez will support his efforts. GECHS will reassess the GWSP planning process at the end of this year.

Urbanisation

At the IHDW workshop held in March 2002 in Bonn, there was agreement that urbanization should be on the IHDP agenda, but it is not certain yet whether it will be pursued as a joint project or just take a more predominant position for all of the core projects. The SSC agreed that it is desirable to support the development of this theme, whether it is as a core project or as a joint ESSP project. Both Chris Cocklin and Kwasi Nsiah-Gyabaah represent GECHS. The SSC however noted that the absence of an individual taking on the role of project champion was a concern.

LOICZ and coastal Communities

Part of the GECHS agenda is to increase the understanding of human security and vulnerability in coastal communities. It coordinates its activities with LOICZ and Maureen Woodrow, the Executive Officer for GECHS actively participated in the LOICZ11 inaugural open meeting in June 2005 presenting a paper and acting as discussant to promote both the GECHS approach to the study of human security and potential joint projects.

START - IHDW (Young Scientists Workshop)

The International Human Dimensions Workshops for Young Scientists took place 24 October to 6 November 2004 in San Jose, Costa Rica. Karen O'Brien (GECHS Project Director) and Alexander Lopez (member of GECHS SSC) were the lead researchers at a 4th International Human Dimensions Workshop entitled *Globalization, Global Environmental Change and Food Systems: Intersections and Interactions*. Sponsored by IHDP and Global Change Systems for Analysis Research and Training or START the purpose of these workshops is to bring together young scientists from developing countries to enhance their capacity to address the complex process of environmental change and degradations. Workshops such as these play a key role in the development of the next generation of researchers interested in the human dimensions of global environmental change.

For additional information on this workshop contact: Maarit Thiem, Email: thiem.ihdp@uni-bonn.de

HEALTH

GECHS has a strong interest in the development of this scoping activity. To retain a strong human dimension to this developing project GECHS encouraged moving beyond the epidemiological perspective to a greater emphasis on the social aspects of health. Hans Bohle is the SSC representative for this project.

For additional information on this scoping activity contact: Gregor Laumann. Email laumann.ihdp@uni-bonn.de

E. GECHS Scientific Steering Committee

Cape Town, SA -SSC Meeting October 2004

The GECHS SSC met in Cape Town, South Africa. Since this was the last meeting for most of the SSC members the focus of the meeting was a consolidation of the GECHS activities, transition of the IPO from Carleton University in Ottawa to the University of Oslo in Norway and recommending to the Scientific Committee of IHDP new members for the SSC so that the work of GECHS continues to grow and evolve. Dr. Coleen Vogel, the Chair of the IHDP Scientific Committee of IHDP and Professor of geography at Wits University in Johannesburg, South Africa attended on behalf of IHDP. Retiring from the SSC were its Chair Mike Brklacich (Ottawa, Canada), Chris Cocklin (Melbourne, Australia), Fred Langeweg (Amsterdam, Netherlands), Elizabeth Hartmann (Amhurst, USA), Nils Petter Gleditsch (Oslo , Norway) .

For additional information contact the GECHS IPO in Oslo at info@gechs.org

Oslo, Norway - SSC Meeting June 2005

The focus of the GECHS SSC meeting in Oslo was reviewing the achievements of GECHS, reviewing and updating the concepts on which GECHS is established, introducing new SSC members to the GECHS agenda and planning a research agenda for GECHS over the next three years. Three new foci on which to concentrate GECHS activities were chosen by the SSC –Peace, Health and Gender. Each focus would have both members of GECHS SSC and GECHS research associates working together to accomplish the following activities

- Peace – A special issue journal on how conflict affects vulnerability
- Health –submit a research project on vulnerability and health in the GECHS context
- Gender-A GECHS workshop on Gender and human security in late 2006

For additional information contact the GECHS IPO in Oslo at info@gechs.org

GECHS IPO Transition

The transition of the GECHS IPO is now complete from Carleton University in Ottawa, Canada to the University of Oslo, Norway. The focus of the GECHS project has been environmental conflict/cooperation and vulnerability. GECHS achieved much since its approval in 1999 by the IHDP SC but lack of adequate funding for the Ottawa IPO resulted in reduced level of activity and limited visibility. Supported by the Norwegian Research Council the GECHS Oslo IPO will hire an administrative assistant half time and a full time Executive Officer. Adequate staffing of the IPO is expected to improve both GECHS visibility and achieve the three year plan set out by the GECHS

SSC noted above. The new GECHS Director will focus on improving the visibility of GECHS and its associated activities.

For additional information, contact the GECHS IPO in Oslo at info@gechs.org

Publications

Selected publications from individual SSC members that advance the GECHS Science Plan are reported on in Appendix A. A summary of AVISO activities and plans for a GECHS book follow.

AVISO — May Chazan continued as coordinator of the AVISO policy bulletin in the Carleton GECHS IPO during 2004. A new issue was published in May 2004 on Vulnerability to GEC, co-authored by Karen O'Brien and Coleen Vogel. Although, the funding for the publication of AVISO is now terminated the GECHS SSC has decided to continue the activity and publish AVISOs in key areas where science and policy intersect and lessons can be learned such as the recent Hurricane Katrina.

To download visit publications on www.gechs.org for AVISO No. 14 "Hurricane Katrina Reveals Challenges to Human Security"

GECHS Book: Progress & Plans. Richard Matthew, Director of the Center for Unconventional Security Affairs (CUSA) at UCI and member of the GECHS SSC is the lead editor of the GECHS volume along with. Michael Brklacich (former Project Director of GECHS), Dina Giannikopoulos and Bryan McDonald also at CUSA. A contract has been signed with SUNY Press and the editors are currently harmonizing the chapters for submission to SUNY. Publication of the volume is expected in the fall of 2006. The proposed Table of Contents is below.

See Appendix B for proposed Table of Contents of GECHS Book

GECHS SSC Governance and Members

During the years 2004-2005 there was a renewal of the GECHS SSC which the need for a balance in gender, discipline and stage of career. To ensure an orderly transition, five new members were appointed while renewing existing members so that the research and networking agenda continues to develop.

Scientific Steering Committee for 2004

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E. Bibliography Selected Publications by GECHS SSC Members and Associates

A: Publications

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F. Appendix B - GECHS BOOK Outline

GLOBAL ENVIRONMENTAL CHANGE AND HUMAN SECURITY

Edited by: Richard A. Matthew, Mike Brklacich, Dina Giannikopoulos and Bryan McDonald

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