School of Communication
Simon Fraser University

CMNS 895-C Comprehensive Examination

COMMUNICATION TO MITIGATE DISASTERS

Gordon A. Gow

Approved Area of Examination Under the Supervision of

Peter S. Anderson
Associate Professor,
School of Communication
Simon Fraser University

July, 2000

CMNS 895C—Communication to Mitigate Disasters

Course Overview

The recently concluded United Nations International Decade for Natural Disaster Reduction (IDNDR) has drawn attention to the importance of disaster mitigation as part of wider efforts toward sustainable development in Canada and across the planet. Today, disasters have come to be regarded as complex socio-ecological events intimately bound to cultural, economic, political, technological, and historical factors. As such, efforts to prevent or reduce the effects of disasters are tied to numerous other social issues that must ultimately be resolved with long-term challenges of social welfare and eco-sensitive planning.

The IDNDR also called attention to the vital role that communication plays in all phases of disaster planning—from mitigation through to preparedness, response, and recovery. Over the course of the Decade (1990-1999), tremendous changes to the global communication infrastructure were taking place, including the popular uptake of the Internet, the staggering growth and plummeting costs of mobile telecommunications, and the implementation of advanced space-based remote sensing and satellite communication systems. These new technologies have begun to transform the field of disaster management with an ambitious, if not vague, promise of enhancing planning and reducing loss of life and property through improved communications.

In effect, two major developments have taken place within the last decade: a conceptual shift in disaster management toward more holistic and long-term strategies, and a communication revolution that has increased dramatically both the accessibility of information and the and functionality of information technology for disaster management.

While these shifts hold great promise for significantly reducing the impact of disasters, many issues remain to be addressed or resolved. These include risk assessment and community development, and emergency telecommunications policy. Drawing on some of these pressing issues, this course will introduce students to the widely interdisciplinary field of disaster management with an emphasis on the multiple roles that communication serves. Particular focus will be placed on disaster management in the Canadian context and the changing role of telecommunications in emergency preparedness. Students will also spend time looking at the international disaster management community, and will be introduced to the historical roots of disaster research in the social sciences.

Course Requirements

Assignments

Participation.....10%
Website reviews (5).....25%
Community Assessment/ Research Presentation.....25%
Final Assignment (2 options)
Researched Community Emergency Plan or Academic Research Paper.....40%

Website Reviews (25%)

You will be expected to do a series of five website reviews (500 words each):

- Emergency Preparedness Information Exchange..... Due Week 3
- Emergency Preparedness Canada..... Due Week 4
- BC Provincial Emergency Program..... Due Week 5
- ReliefWeb..... Due Week 6
- Student Option..... Due Week 9

You should consider organizing your reviews around the following points:

- What are your first impressions of the website?
- What kind of content is available (including external links)?
- How is the content organized?
- Who is the intended audience?
- What do you commend about this website?
- How could this website be improved?

Final Assignment (40%)

Final assignments will take the form of a written research report (3500 words maximum)

You have two options for the final assignment:

- Option A: a researched community vulnerability assessment
- Option B: an academic/policy research paper

These assignments will be due on the last day of class.

You will be encouraged to make a decision on their choice of final project as soon as possible, as these projects are to be worked upon throughout the semester.

If you choose Option B (Academic/Policy Research Paper) you are free to decide upon a topic but must have it approved by the instructor.

In-Class Presentations (25%)

Throughout the course of the semester students will present a brief overview of their ongoing research for the final assignment. Each student will be given 10 minutes to present their work in progress. Presentations are intended to help you to collect to thoughts and present your findings and concerns to the class for discussion and feedback.

Evaluation will be based on how well your presentation is organized and how effectively you communicate your points within the time constraint allowed.

Your presentation should cover the following points:

- Title of Research and a brief description
- Research Plan
- Findings to Date
- Concerns or Outstanding Issues

Participation (10%)

You will be evaluated based on your contribution to classroom discussion, apparent motivation, and weekly preparation.

Potential Exam Questions (for Comps Only)

Describe the different ways which disasters are commonly conceptualized. How does (communication) technology fit into these conceptions? How might differences in these descriptions influence or shape approaches to mitigation?

When looking at the readings in the IDNDR collection *Natural Hazard Management*, one comes across a number of repeated normative themes; that is, themes that reappear in numerous articles and suggest how disaster management should proceed in the future (e.g., *we ought to... there is a need for...* etc.). Identify

the major normative claims that seem to prevail in this collection and provide a critical appraisal of their most common assumptions.

Present a case for the link between new communications technologies and improved mitigation. Describe the major issues and obstacles that stand in the way of a successful implementation of new communications technologies.

Comment on the following statement:

> *We are wasting time and resources playing with fancy technology and naive notions about the power of information. More technology and more information is not what we need. It's a shame that disaster management has fallen into the same trap of techno-fetishism that so many other professional fields have.*

Week 1: Introduction to the Course

Readings

Required

'The Physical Impact of Disasters' (Zillman, 1999)
'Flood' (Parker, 1999)
'Earthquake' (Adams & Spence, 1999)
'Volcano' (Blong, 1999)
'Tsunami' (Bernard, 1999)
'Wildfire' (Goldammer, 1999)
'The growing complexities of natural hazards in the 21st Century' (Rubin, 1999)
'Communications' (Nicolet, 1999)

Optional

'Drought' in (Ingleton, 1999)
'Tornado' in (Ingleton, 1999)
'Extreme Temperature' in (Ingleton, 1999)
'Lightning' in (Ingleton, 1999)
'Landslide' in (Ingleton, 1999)
'Glacial' in (Ingleton, 1999)

Lecture: The disaster area

Overview of major natural hazards in Canada; introduction to key terms and concepts related to natural hazards; review of Quebec (1998) and Manitoba (1997); introduction to key strakeholders and concepts in the field of disaster management.

Discussion: Sensitizing Exercise

Students' experiences with natural hazards/disasters; what does mitigation mean? how is communication related to mitigation? what are the different forms of communication related to emergencies or disasters?

Week 2: Community Planning and Preparedness

Readings

Required Readings

'Disasters: Threat to Social Development' (Domeisen)
EPC Annex A, Peacetime Disasters Ratings of Community Disaster Probability

'Hazard Analysis' (Lavalla and Stoffel)

Optional Readings

Lecture: Emergency Planning Concepts and Strategies

Four phases of emergency planning; all-hazards approach; comprehensive emergency management model; community development and emergency planning; local risk assessment

Discussion

Discuss students' familiarity with their local community; are they aware of community hazards, resources, gathering points? Would they know what to do in the event of an emergency? Where can they go to get more information? What are the various factors involved in planning?

Week 3: The Historical Roots of Disaster Research in the Social Sciences

Readings

Required

'Disaster Studies: The Consequences of the Historical Use of a Sociological Approach in the Development of Research' (Quarantelli, 1994) [18pp]
'Disaster Related Social Behavior: Summary of 50 Years of Research Findings (Quarantelli, no date) [9pp]
'Converting Disaster Scholarship into Effective Disaster Planning and Managing: Possibilities and Limitations' (Quarantelli, 1993) [23pp]

Optional

Influences of Symbolic Interaction on Disaster Research' (Nigg, 1994) [13pp]

Lecture

Brief history of disaster research in the social sciences; historical motivation for doing research; major theoretical perspectives and schools of thought; major journals and publications; three types of research; key findings in the field; limitations and outstanding critical issues; problems with multidisciplinary fields; historical research and disaster planning in Canada

Discussion

Consider the following idea: Who contributed more to maritime safety: the carpenter who learned to make better boats, or the astronomer who improved celestial navigation? What is the relationship between theoretical and applied research? Characterize the two areas and discuss how they mutually benefit one another. What limitations are inherent with each? What advantages are inherent with each?

Week 4: What is a Disaster?

Readings

Required

"An Ecological Approach to Disasters" (Bates & Pelanda, 1994)
"The Social Amplification and Attenuation of Risk" (Kasperson & Kasperson, 1996)
Selections from *What is a Disaster?* (Quarantelli, 1998b)

"A Risk Management Approach to Disaster Management" (Salter, 1999)

Optional

Selection from *Ecological Communication* (Luhmann, 1989)

Lecture

The conceptual problem of disasters; three paradigms; war paradigm; social vulnerability paradigm; risk (uncertainty) paradigm; theoretical implications for communications mitigation, planning and preparedness.

Discussion

Describe the connection between disaster management and sustainable development, or eco-sensitive planning with respect to each of the three paradigms. What is the fundamental problem raised with the Bates & Pelanda's "ecological approach"? How could this be addressed?

Week 5: Canadian Policy and Legislation

Readings

Required

'The Decade for Natural Disaster Reduction in Canada' (Davenport, 2000) [8pp]
"Federal Emergency Preparedness in Canada: Legislative and Organizational Background" [2pp]
"A Federal Policy for Emergencies" [3pp]
"Highlights of the Emergencies Act" [2pp]
"Highlights of the Emergency Preparedness Act" [1pp]

Optional

"Toward the Millennium—Emergency Preparedness Planning in the 1990s" (McConnell, 1998) [18pp]

Lecture

Basic principles of emergency planning and response in Canada; major articles of legislation and policy; EPC and its major undertakings; major changes and future concerns;

Discussion

Critical discussion of the EPC website and related information;

Week 6: Local Policy and Legislation (BC)

Readings

BC PEP: A Guide to Emergency Planning for Municipal Officials
BC PEP: A Guide to the Emergency Program Act
BC Auditor General's Report on Earthquake Preparedness in BC

Lecture

Major stakeholders at the local level; the role of BC PEP and municipalities; major articles of legislation and policy; unique circumstances in BC;

Discussion

Critical discussion of BC PEP website and related information

Week 7: International Context

Readings

'Toward an Integrated Australian Disaster Management Information System' (Anderson)
FEMA website
Asian Disaster Preparedness Center website
Emergency Management Australia website
Red Cross website
ReliefWeb

Lecture

Comparing the Canadian context to other countries; the International dimensions of disaster management (role of UN, Red Cross); international development and humanitarian assistance; complex emergencies

Discussion

Critical discussion of ReliefWeb and related information

Week 8: Advances in Communication Technology

Readings

'Future opportunities for communication for disaster reduction at community level' (Anderson, 1999)
'The use of earth observation satellites for disaster management' (Wood, Lauritson, & Moodie, 1999)
Problematic Assumptions for the Computer Revolution (Quarantelli, 1998a)
Communication in Crisis (Chapter 1) (National Research Council, 1996)

Lecture

Information needs in disaster management; Typology of new media and related issues; terrestrial versus space-based systems; hi tech versus lo tech.

Discussion

How can new media become a hazard in their own right? Has the Internet lived up to its promise? Discuss the problem of balancing the right to information versus privacy issues.

Week 9: International Emergency Telecommunications

Readings

Required

'Disaster Planning: The Need for an Integrated Approach' (Anderson)
'Communications and Earthquakes' (Lavalla and Stoffel) [Peter?]
'Telecommunications in the Service of Humanitarian Assistance' (Zimmerman, 1998) [3pp]
'Are you alright?' (Zimmerman, 1997) [2pp]
'Disaster Communications' (Cate, 1998) [1p]
ITU Press Release: Tampere Convention (International Telecommunication Union, 1998) [3pp]

Optional

'The Use of INMARSAT in Disaster Mitigation and Emergency Assistance Operations' (Staffa) [Peter?]
'Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations' (United Nations, 1998) [27pp]

WGET Terms of Reference (United Nations Office for the Coordination of Humanitarian Affairs, no date)

Lecture

Definition of international emergency telecoms; key players and stakeholders; communication technologies; major issues and concerns; highlights of Tampere Convention.

Discussion

Challenges for advanced technologies for international emergency telecommunications (technical/infrastructure; cultural; economic; national security; regulatory; other?)
Student Presentations

Week 10: Domestic Emergency Telecommunications

Readings

Required

Industry Canada Emergency Telecommunications " Responsibilities" [1p]
Industry Canada Emergency Telecommunications "Advice and Assistance" [1p]
Industry Canada Emergency Telecommunications "Emergency Broadcasting" [1p]
Industry Canada Emergency Telecommunications "Priority Access for Dialing" [5pp]
Industry Canada Emergency Telecommunications "Cellular Priority Access" [1p]
Industry Canada Emergency Telecommunications "Restoration Priorities" [1p]
Industry Canada Emergency Telecommunications "National Working Group on Use of Wireless Telecommunications in Time of Emergency" [1p]
Industry Canada Emergency Telecommunications "Draft Letter of Understanding between Industry Canada and the CWTA" [2pp]

Optional

Information briefs on American cellular priority assess services (CPAS) [9pp]
US National Communication System—programs overview [4pp]

Lecture

Industry Canada's role and various activities; the wider policy context for domestic emergency telecoms; gaps in policy; the growing role of telecoms and risk assessment; cellular/PCS technology; E-911

Discussion

Who are priority users of telecommunications in Canada? Is this changing with new technology? How/where do we determine standards of performance in the community? Who are major stakeholders related to PAD? How does the US OMNCS approach differ from Canada?
Student presentations

Week 11: Risk Assessment and Mitigation

Readings

'Science and Technology for Disaster Reduction' (Hamilton, 2000) [5pp]
"Disaster Mitigation and Preparedness in a Changing Climate" (Bruce, Burton, & Egener, 1999) [22pp]
"Federal Legislation for Disaster Mitigation" (Newton, 1996) [29pp]
"A National Mitigation Policy" (Institute for Catastrophic Loss Reduction and Emergency Preparedness Canada, 1998) [17pp]

Lecture

Various interpretations of mitigation; the social value of mitigation; challenges to a national mitigation policy in Canada;

Discussion

Revisit the question from week 1: what is the relationship between communication, mitigation, and disasters? What kinds of activities or technologies could be helpful to promote mitigation activities?

Week 12: Course Review and Summary

Comprehensive Exam
Issued: July 31
Due: August 1

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