

# Change Your World(view): A Setting for Interdisciplinary Research and Action

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## 1. *Interdisciplinarity and Environmental Studies*

At a time when punch cards were the dominant mode of data input and storage, the Faculty of Environmental Studies at York University in Toronto, Canada was building a model of interdisciplinary research and teaching. The purpose was to integrate knowledge across disciplines to respond to a growing set of environmental and societal problems that were (and are) resistant to traditional disciplinary approaches. Now, in the era of multimedia, global positioning systems and virtual communities, our work has transcended boundaries and built bridges across many disciplines, while guiding action to inform change in our world.

Effective integration of knowledge requires a certain fluency in multiple academic disciplines, and an ability to bridge them. Beyond this, relevant application of knowledge to real world problems and issues requires the ability to reach beyond the purely academic realm to mobilize and engage with communities, governmental actors, non-governmental organizations and others. Frodeman and Mitcham (2007) point out that environmental studies is one of only very few fields that are at once; sensitive to questions of knowledge, values and their implications for society; that bridge the sciences and humanities; and that involve the general public in an interdisciplinary approach to developing an understanding of societal issues and problems. This approach, that Frodeman and Mitcham refer to as “critical interdisciplinarity,” builds *deep pertinent knowledge* about issues and problems (beyond purely disciplinary knowledge) by,

...[seeking] to take the effort involved in mastering or going deep in any one discipline and spread it over a number of disciplines, going just as deep in a discipline as is necessary or appropriate to grasp the essentials.

They continue by stating that,

Interdisciplinarity must be given a scope as wide knowledge itself, spanning the entire space from the natural sciences to the humanities. Although its breadth will, of course, include the social

sciences, the insistent focus needs to be on the fundamentally humanistic question of what counts as *pertinent* knowledge. Knowledge for what? We need not merely to describe the role of values within science and society – the role of the social sciences – but also to assess these values, working with society as it struggles to address questions of social and environmental justice, human freedom and responsibility, and the proper roles of the public and private sectors (p. 513).

This is the sense of interdisciplinarity (encompassing a broad range of cross- trans- and inter-disciplinary definitions) that pervades the Faculty of Environmental Studies at York University. With this in mind, the Faculty of Environmental Studies at York (FES) has since its inception in 1968, mandated that students and faculty pursue an interdisciplinary approach to their studies so as to be able to express their academic creativity and discover new ways of synthesizing information. This reflects an understanding that many of the problems of our time, both local and global – from fighting global epidemics to preparing for natural disasters, from mediating forced human migrations to resolving ethno-political conflict, from revitalizing cities to revolutionizing women’s roles – cannot be comprehended or solved by insulated thinking. Student and faculty research at FES has used and integrated conceptual and methodological tools of many disciplines to understand these complex and pressing issues and to contribute to their resolution.

In undertaking such work, the concept of ‘environment’ is a vehicle to position and explore issues and problems. As presented on the FES website ([www.fes.yorku.ca](http://www.fes.yorku.ca)) we define “environment” as everything that surrounds us. Environmental studies “is not only about natural environments, but also about built, social, cultural, political and organizational environments as well as all of the relationships between them.”

This book showcases and celebrates the breadth and depth of the collaborative interdisciplinary research efforts of students and faculty as they address many issues that are relevant to our society. Given the quantity and quality of research at FES in the last forty years, it is not surprising that there exists a large variety of

excellent collaborative research between students and faculty. The work takes on a wide variety of forms: peer-reviewed journal papers, books and book chapters, action research projects, research reports to international development organizations, governments, consultancies and more. Not all of this work can be represented and we acknowledge that some of the salient and stellar efforts in which faculty and students have independently engaged will remain outside the scope of this book. Given our emphasis on collaborative work, this book will highlight student-faculty co-publication as well as demonstrate the breadth of research at FES. In this we were fortunate; as editors we had the difficult choice of picking which work would go in the book and which would not, as there is no shortage of published research done jointly by faculty *and* students.

We invited faculty at FES, current and retired, to submit published work that has been co-authored with their students. While many co-authors are now no longer students and have their own professional or academic standing, the papers were written while the co-authors were students at FES. This was done to highlight the collaborative nature of research across the usual faculty-student divide, as well as across the disciplines.

Selections of papers that will appear in this book will be limited by the space allocated to us. Hence many excellent papers will fall by the wayside. So as to make the scope of this task manageable we established several criteria for inclusion in this volume. Papers included here: (1) were previously published having been subjected to an external process of peer review, (2) the papers as a group demonstrate the breadth of our achievements at FES, (3) they represent the interdisciplinary nature of our endeavors at FES, and (4) were published as a collaboration between a faculty member and a student at FES. We have one caveat: no one faculty member is represented more than once, although many had multiple papers done in collaboration with students.

We chose to divide the book into three sections: local, regional and global. We chose papers to highlight research done in each of these three geographical dimensions. As FES is located in Toronto, Ontario, Canada, our first set of papers deals with issues and problems related to Toronto and its environs. The next set of papers broadens our domain of inquiry and considers environmental and related issues in the Canadian and North American context. Finally, we chose a set of papers whose focus is international and global, hence spreading our nets further ashore to examine issues from a global perspective.

## **2. Pedagogical Tools for Interdisciplinary Research**

In 1968, Gerry Carrothers, the first Dean of the Faculty of Environmental Studies at York University, arrived in Toronto from the University of Pennsylvania to set up the Faculty. Dean Carrothers and the bright and energetic group of founding faculty members that he recruited, brought with them an orientation to interdisciplinarity and individualized learning that were radical departures from the standard academic setting (a setting which still dominates today). In 1972 the Faculty graduated its first students from its new Master in Environmental Studies (MES) program. (The MES was Faculty's sole program until joined by PhD and Bachelor in Environmental Studies (BES) programs in 1991).

The MES was designed to be student-centered, individualized and interdisciplinary. The PhD program, though expressed differently, also shares these characteristics. There are two primary mechanisms to achieve this. The first is the development of a 'plan of study' for a student's post-graduate education that is developed individually by each student in the program under the guidance of faculty members. The plan of study is newly and uniquely created by each student that enters the program, so as to meet their specific circumstances and needs. It guides each student to identify several disciplinary components of their program and describe how they will integrate these into a unique and interdisciplinary area of concentration. Students identify main currents of thought and practice that inform their work, express learning objectives and develop strategies to meet those objectives (such as coursework, field experience, research, etc.). In the end, the student is examined on whether those learning objectives were achieved, with the interdisciplinary research component of their work (theses, major papers, projects, etc.) presented as supporting evidence.

Second, the Faculty adopted a system of qualitative evaluation in which an instructor or supervisor describes the work to be undertaken in a course or individualized study, and then comments in detail on the student's performance. No numeric or letter grade is assigned, though at the graduate level, a bare minimum of "good" to "very good" work is required to indicate a 'pass.' This system of qualitative evaluation has several benefits with respect to learning and training in interdisciplinary environmental studies: (1) it dampens competition among students, helping to generate collaborative and cooperative learning environments; and (2) it challenges students to risk broadening exploration and synthesis in their studies to include fields new to them, without great fear of failure – that is, it allows us to work

in a more developmental mode with our students. Our experience at FES corresponds to the research of Rohe et al. (2006) which also corroborates the findings of Robins, Fantone et al. (1995) and the conclusions of medical school Deans who “observed that with a pass-fail grading system their students are less stressed, have a greater positive mood, have greater group cohesion (less within-group competition), and performed no differently on objective measures of scholastic performance compared with students for whom the 5-interval grading system was used” (pp. 1446-1447).

Though the Faculty of Environmental Studies has adapted its programs to meet the changing needs of its students and society, and to respond to changing fiscal environments, it has stubbornly (and heroically) resisted pressures to conform to more disciplinary academic models. In particular: it has maintained a broad representation of research and learning in interdisciplinary environmental studies as opposed to declaring more specific (disciplinary) fields of study and expertise; it has maintained its system of non-graded qualitative evaluation, and; it adopted and operates a non-departmental structure in which faculty members (and students) from backgrounds as diverse as physics and English literature interact and collaborate on a daily basis. It is this organizational and learning environment that explains the rich and diverse collaborative research output that the Faculty continues to experience.

### **3. Work Presented in this Volume**

We are proud to include in this book some fine papers and note at the outset note that making this choice simply meant leaving out many worthwhile contributions.

Given the joint nature of the work between faculty and students, some of these papers have evolved from common interests that were first pursued by students in writing their master's theses, major papers or doctoral dissertations. The final product may, in some cases, have little resemblance to that work, as the process of writing continued well after students had finished their program and new ideas and trajectories were pursued. Other papers were written jointly around a faculty member's research grant, where students were involved as research assistants, and a few were written as students and faculty members pursued common interests in some other way.

Our papers start with a series of manuscripts whose research focus is related to Toronto and its environs. The first paper, by Stefan Kipfer, and his student Petrunia Jason, published this year 2009, challenges Toronto Mayor Miller's 'Third Way' politics by giving an insight-

ful analysis of the Mayor's attempt to redevelop and privatize Regent Park, Toronto's largest public housing project. The authors provide a critique to show that this redevelopment project resulted in uploading of public housing from the city to the local state, which led to a new phase of state-managed gentrification that may seem to be enlightened, but ended up being regressive. Next we include a paper written by Martin Bunch and his student Lia Gudatis that examines a multicultural initiative by the City of Toronto and demonstrates that aspects of the City's conception and representation of diversity and multicultural issues in Toronto are not aligned with cultural, social, and economic municipal interests. Ute Lehrer and her student Jennefer Laidley investigate Toronto's waterfront development proposals. They suggest that such mega-projects as urban renewal tools are less focused on collective benefits than their historical counterparts, and although touted as more diverse they tend to continue to create urban inequality and disenfranchisement. The natural environment in three prominent green spaces in Toronto is examined by Anders Sandberg and his student Jennifer Foster (now a faculty member in FES), in the next paper. They place the spotlight on the roles of invasive species, challenging popular negative assumptions. Sandberg and Foster suggest that invasive species can serve important functions both for local ecosystems and for human communities, such as furthering recreational interests and restoration of human-made wastelands.

Gene Desfor and his student Lucian Vesalon analyze the political and economic practices of the Port Industrial District in Toronto in the early decades of the twentieth century. Using historical documents from that period. They find that patterns of development reflect more the ideological preferences and economic interests of local elites than an efficient institutional design for solving a multi-dimensional 'waterfront problem'. This is followed by a paper by Gerda Wekerle and her student Shannon Logan, on the question of environmental governance on the Oak Ridges Moraine that shapes the headwaters of Toronto's watersheds. They examine the ways in which environmental policies are being enacted, noting the blurring of the line between state, private, and nonprofit sectors. This, according to the authors, challenges the dominant conceptions of environmental preservation and democratic participation.

Lewis Molot and his students study the waters of Lake Ontario to examine trends in iron and phosphorus loadings resulting from the outflow of waste water treatment plants in Toronto and nearby Hamilton. Finally, Liette Gilbert and her student Catherine Phillips examine

“conflicts and confluences” of urban and environmental rights. Drawing upon Lefebvre’s conception of ‘right to the city’, they present two case studies from Toronto to challenge conventional understanding of these rights.

The next section of papers in the volume, go beyond our immediate backyard. This section includes studies that shift the focus away from Toronto and its environs and to other locales in North America. First, in Canada, Femida Handy along with her student Nadine Brodeur examine the volunteering efforts required to sustain summer festivals in British Columbia. In the next paper Joe Sheridan and his student Dan Longboat study the Haudenosaunee/Mohawk tradition in understanding the ecology of the sacred that informs the spiritual and intellectual relationships between people, clans, and landscape. The question “Where is feminism in planning going?” is asked by Barbara Rahder (currently the Dean of the Faculty) and her student Carol Altilia (now the Executive Officer in FES). They draw on the history of the feminist and a scan of recent planning papers and publications across North America, and question whether postmodernism is undermining feminist and antiracism movements.

In their paper on “fringe explosions” Roger Keil and his student Douglas Young identify a new landscape of urbanization, neither city nor suburb. They argue that this in-between space, lacking clear spatial imagery to guide development, is characterized by splintered urban infrastructure and uses that serve adjacent and distant purposes. Next, Peter Mulvihill and his student Farah Ali-Khan explore collaborative approaches to environmental governance, finding that in the North American context a greater role for governments is needed to facilitate collaborative approaches.

The final section of our book expands our scope to encompass the global community, both spatially and in terms of issues examined. First we include a paper by Sarah Flicker and her student Christina Ricci who write about HIV infection among young people in Aboriginal communities, both locally and globally. They point to the importance of a variety of proactive steps culled from the collective body of knowledge they review. Patricia (Ellie) Perkins and her student Andrea Moraes, using eco-feminist theory, establish a methodological framework to include gender, race and class aspects in participatory water management programs in Brazil. Next, Gail Fraser and her student Lena Hussain examine the public disclosure of hydrocarbon spill data for four countries; Australia, Canada, the United Kingdom and the United States. They find that none of the countries provided full disclosure of spill data, making it difficult to compare regional differences.

Paul Wilkinson and his student Wiwik Pratiwi then shift the focus to tourism in Indonesia. Using a gender analysis approach to gender roles and relationships they uncover both positive and negative impacts of tourism – that depend on socioeconomic class, local/non-local status, and especially gender. Finally, to round out our selection on global community, from an edited volume we chose a peer reviewed chapter by Deborah Barndt and Christine McKenzie. Barndt returns to Nicaragua with her student, 20 years after the Sandinista Revolution, to facilitate communication in a natural resources management project. Their contribution explores different contexts that shaped this work over time, different regions of the country, and generational perspectives.

#### 4. Conclusion

As is seen in the brief summary of the articles included in this text, there is great breadth in research at FES, but also, each of the papers demonstrates pertinent depth in an interdisciplinary approach to exploring complex environmental issues. Our research methodologies vary widely as do the issues that concern us. Together with our students, we continually create strong examples of interdisciplinarity in researching pressing issues of concern, not just in Toronto and its environs but globally. The research presented here is a thin slice of the research that takes place at FES. It is a brief glimpse at the published research done collaboratively by faculty and students. There are, however, many books and thousands of research papers that have been produced by members of the Faculty of Environmental Studies at York University since its inception. The current body of research can be found on the FES website. We invite the reader to peruse these research endeavors to get a more full picture of the research that has made FES a vibrant setting for interdisciplinary research and action over the last forty years.

#### References

- Frodeman, R. and C. Mitcham (2007). “New Directions in Interdisciplinarity: Broad, Deep, and Critical.” *Bulletin of Science, Technology & Society* 27(6): 506-514.
- Robins, L. S., J. C. Fantone, et al. (1995). “The effect of pass/fail Grading and weekly quizzes on first-year students’ performances and satisfaction.” *Academic Medicine* 70: 327-329.
- Rohe, D. E., P. A. Barrier, et al. (2006). “The Benefits of Pass-Fail Grading on Stress, Mood, and Group Cohesion in Medical Students.” *Mayo Clinic Proceedings* 81(11): 1443-1448.