

Strengthening Resilience by thinking of Knowledge as a Nutrient that connects the personal to global thinking

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INTRODUCTION: In April 2009, we held an international conference at York University, Toronto, Canada. Activists and academics who work with NGOs from the Global South and North came together to discuss adaptation to climate change. Most significantly, the Canadian perspective was entirely presented by First Nations and Inuit, which was and is highly unusual at conferences of this kind that are held in the south of Canada.

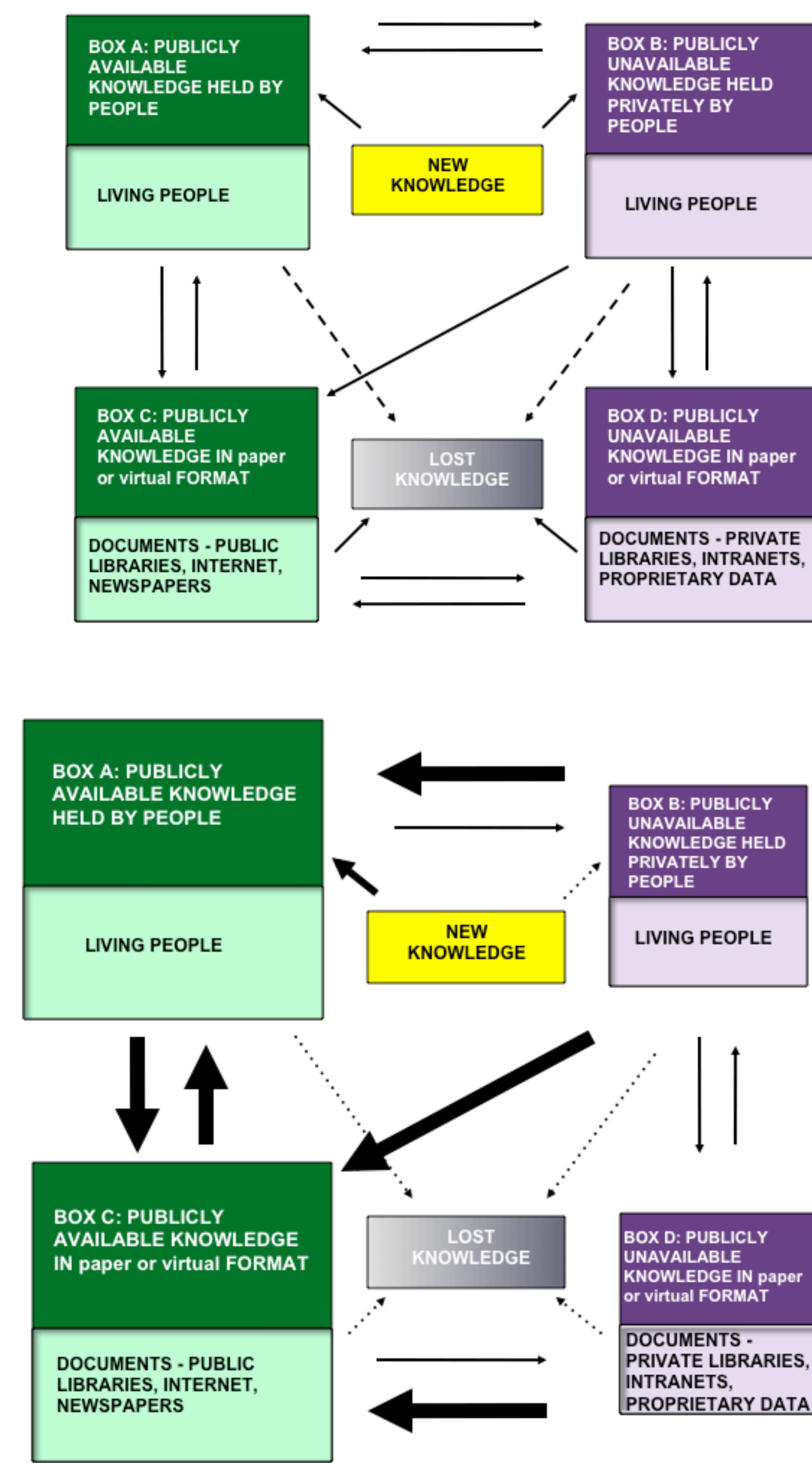
This conference triggered and reinforced a cascade of diverse activities and research that has followed many intertwining pathways, that diverged, crossed and reconnected over time. Several key factors have emerged from both the field experiences shared at the conference, and the related research, indicating that the adaptive capacity of disenfranchised peoples in Brazil, India, South Africa, Canada and beyond, is enhanced by diverse kinds of shared knowledge.

Understanding how nutrient cycles and networks drive ecosystem functioning, and influence stability, diversity and resilience have long been key areas of research in ecology. The adoption and evolution of the ecological concepts of resilience in the social sciences has, most recently led to its widespread use in the climate adaptation field.

Based on our 2009 conference, we have reflected on how ecological theory and thinking may contribute further to producing solutions to diverse sustainability issues, including that of how communities, particularly those with disenfranchised peoples, may be empowered to adapt to climate change.

By considering *KNOWLEDGE as a nutrient*, these adapted biogeochemical flow charts illustrate how, by increased flows and connections, more knowledge may be brought into the public sphere, and also be prevented from disappearing.

We hypothesize that through this, resilience and capacity for adaptation should increase and also, that the flow & circulation of knowledge will be strengthened by increased network connections and connectivity.



Observer status for York University at UNFCCC

The United Nations Framework Convention on Climate Change allows civil society, including universities, to apply for observer status at its various Conferences of the Parties (COPs). Since COP15, Copenhagen 2009, many student, staff and faculty delegates have attended UNFCCC meetings in Cancún (Mexico), Durban (South Africa), Doha (Qatar) and Warsaw (Poland).

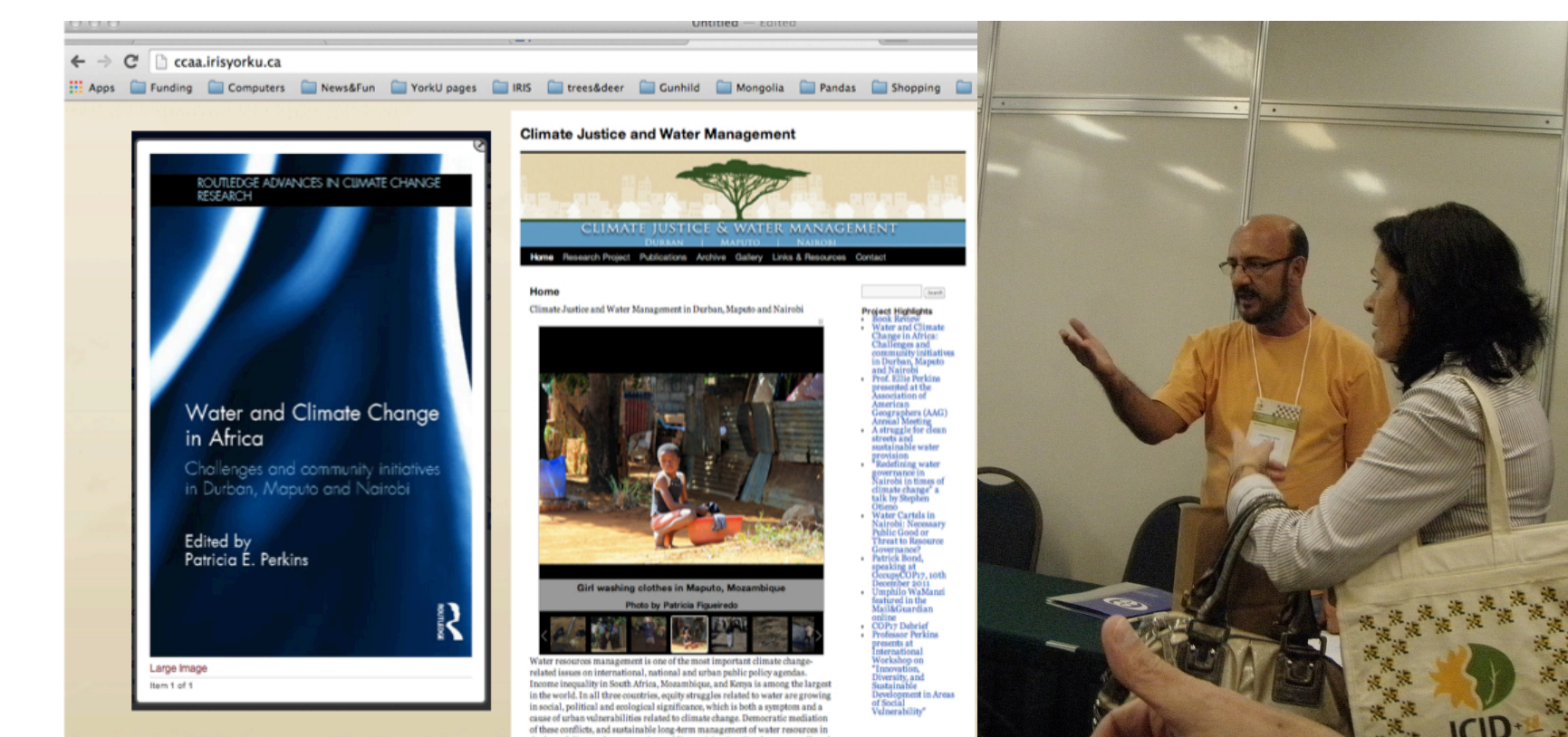
These and other international meetings such as ICID+18 (Fortaleza: 2010), *Climate, Sustainability & Development in Semi-arid regions*, have created and reinforced interdisciplinary connections.



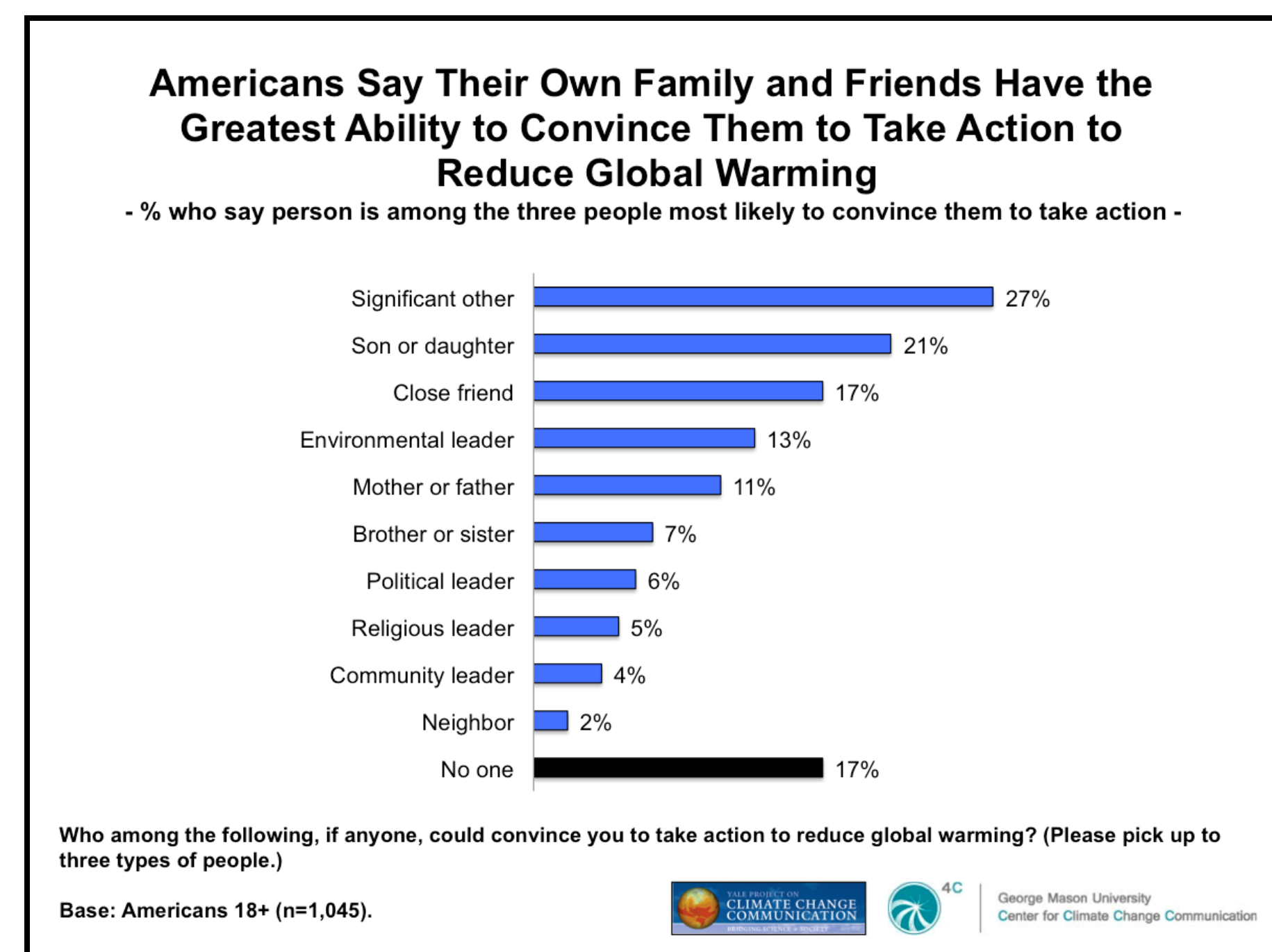
Above: Nicole Klenk with Dawn Bazely & Jacquie Modalye (3rd, 4th, 5th from left) York University and the Climate Wise Women of the United Nations.



Participation in ICID+18 allowed Ellie Perkins to connect with colleagues & NGOs from Africa. A book has been published from the project.



Left: Perkins. 2013. Right: Jobo Otavio (left) AMAVIDA NGO with Miriam Duailibi ECOAR NGO (right) at ICID+18, Fortaleza, Brazil 2010. <http://www.icid18.org>



The value of sharing knowledge amongst family and friends illustrated by the 2013 Yale Climate Consortium report: *How Americans Communicate About Global Warming*

<http://environment.yale.edu/climatecommunication/article/how-americans-communicate-about-global-warming-april-2013>

Building Networks 2009: Sharing stories of a changing climate from Global North to South

Canada



Joe Linklater, Aaju Peter, Andy Norwegian

Brazil



Paulo Cunha, Miriam Duailibi, Eduardo Quartim

South Africa



Bettina Koelle, Adele Arendse, Rhoda Malgas

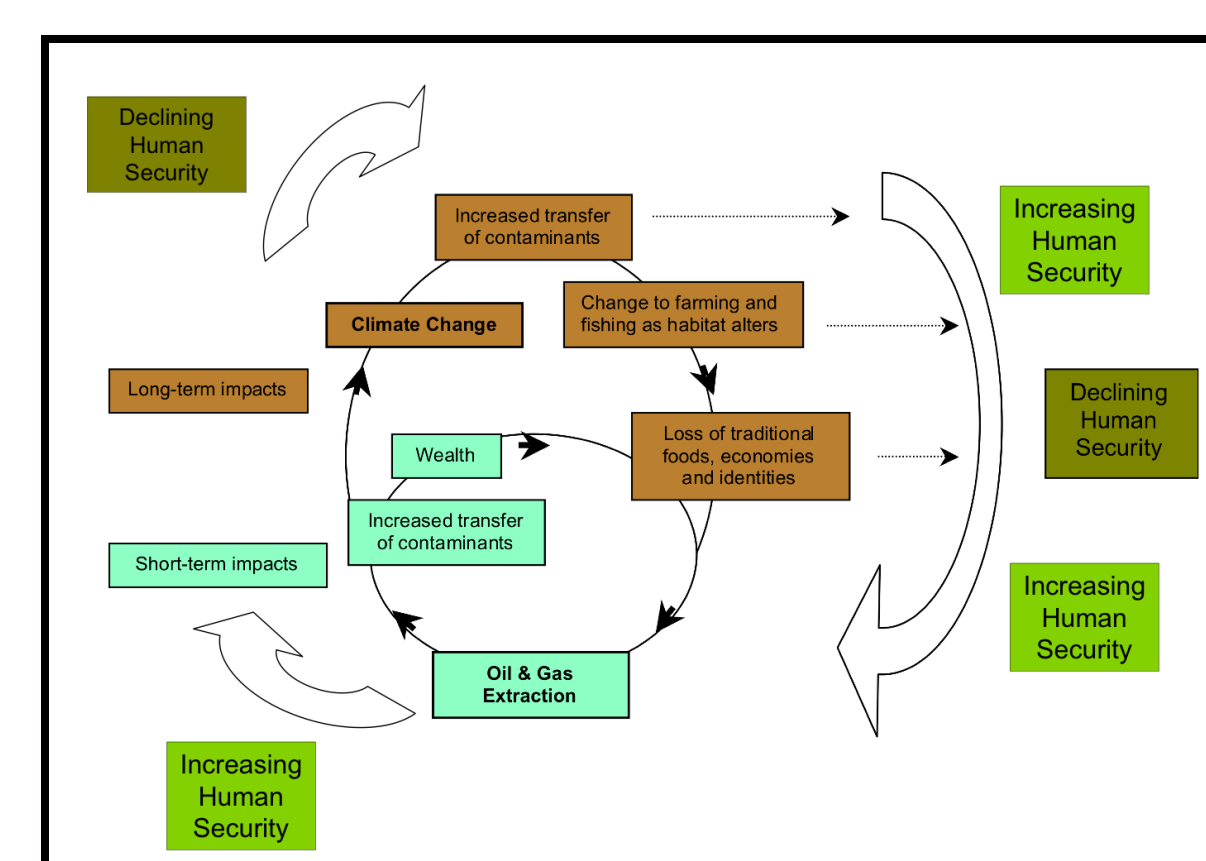
India



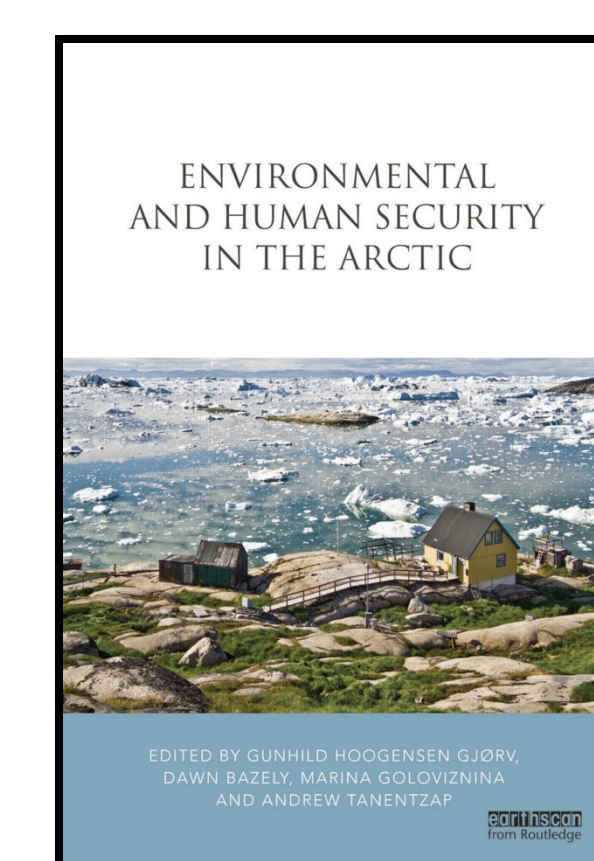
Chaitanya Kumar, Joyashree Roy, Vivek Jha

Human Security in the Arctic: IPY GAPS Project 2006-11

Dawn Bazely led the Canadian arm of the *Gas, Arctic Peoples and Security*, International Polar Year project, which examined the short- and long-term impacts of oil and gas development in the arctic. "The IPY 2007–2008 had a strong focus on collaboration, and was an opportunity for research teams from many nations to work together to cooperatively advance polar science and knowledge. This is important, because many key scientific questions remain beyond the capacity of individual nations to answer. For Environment Canada researchers, collaboration has meant building on existing partnerships while seeking new ones, such as with researchers living and working in the North and northern communities." From Environment Canada's 2010 *IPY Achievements* report.

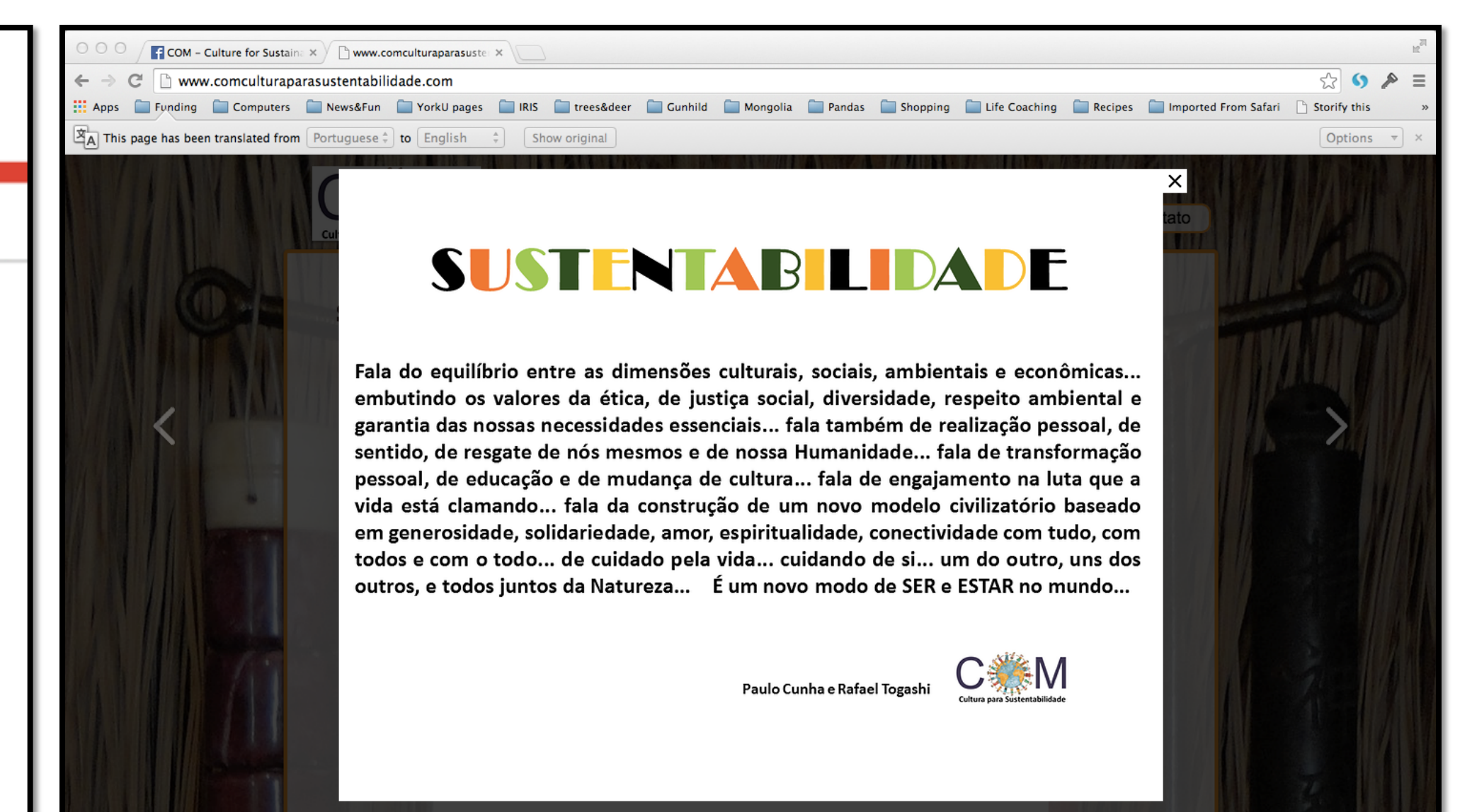


Hoogensen et al. 2009 Journal of Human Security. 5(2):1-10



Hoogensen et al. 2014 Routledge.

Increasing Total Knowledge & Its Flows & Impacts



The Open Access Movement & Institutional Repositories & Digital Archives

Increased access to diverse kinds of knowledge: from peer-reviewed research to local knowledge, rooted in peoples around the world, will be a key factor in accelerating community adaptation to climate change. Open Access to the information can be facilitated through university Institutional Repositories. Institutional Repositories are self-archiving open access collections from a university's entire community. The Churchill Community of Knowledge Digital Archive is one of many collections in YorkSpace, York University's Institutional Repository. It comprises digitized media from the diverse long-term ecological research at Churchill, Manitoba, Canada. The public can easily access via Google searches. <http://yorkspace.library.yorku.ca/xmlui/handle/10315/8089>

Simultaneously with the Open Access Churchill, Manitoba digital archive documenting long-term (>40 years) ecological research, including that on climate change impacts, Paulo Cunha has developed a sustainability education programme based in Rio de Janeiro, Brazil (above right). This emphasizes the importance of personal reflection & transformation. <http://www.comculturaraparasustentabilidade.com/>

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