Multidisciplinary angles in ecohealth research: A perspective from literature

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• Conceptual clarity
• Multidisciplinary angles in eco-health research: A perspective from literature (internationally & nationally)
• The IMD model for a local context
• A few last notes
Conceptual clarity
The ‘Eco’ en “Ecology”

In 2001 Nancy Krieger wrote:
Ecology, after all, is a science devoted to study of evolving interactions between living organisms and inanimate matter and energy over time and space. Core to an ecological approach are concerns with:

• Scale;
• Level of organisation;
• Dynamic states:
• Mathematical modelling;
• Understanding unique phenomena in relation to general processes

Transdisciplinarity [was] the ‘spirit’ behind the journal... other arguments, ideas and challenges relevant to our transdisciplinary mission at the intersection between the ecological and health sciences [that ] were expressed in the opening editorial [are]...health is a central criterion for sustainability and that understanding the connection requires integrative nd cross-disciplinary approaches... moreover this understanding must include that of ‘the effects of global change on ecosystem sustainability and on human health; the emergence and effects of pathogens, parasites and pollutants within human, non-human animal and plant communities; the interaction between environment, development, and human health; and the management of these challenges across local, regional and global scales.
Ecohealth is an emerging field of research to focus on how changes in the earth’s ecosystem affect human health. It has many prospects. Ecohealth examines changes in the biological, physical, social and economic environments and relates these changes to human health. Ecohealth practitioners strive to provide innovative, practical solutions to reduce or reverse the negative health effects of ecosystem change.
RESEARCH METHODOLOGIES
Multidisciplinary angles in ecohealth research: A perspective from literature (internationally & nationally)
ON ECOHEALTH THEMES AND MULTIDISCIPLINARY RESEARCH HISTORY INFORMS US:

While the medical profession has long recognized that human health depends on a combination of physical, social, cultural and economic factors, only since the 1980’s have social scientists come to play a major role in research on health problems and programs…

• The physician Sir William Petty’s role as non-medical practitioner in the 17th Century to progress towards theory and knowledge application related to the present day field of human ecology.

**THUS, THE ABSENCE OF INTEGRATED STUDIES IN ECOHEALTH WITH THE SOCIAL SCIENCES AND HUMANITIES** AS PART OF IT
A pioneering local history health project of the 1930’s by Sidney & Emily Clark


Dr John Casel examining a child at the Springfield Health Centre, Durban, South Africa, 1948 *(Courtesy by Margaret Cassel)*
OTHER HISTORICAL MILESTONES IN RESEARCH PROCESSES TOWARDS INTEGRATIVE MULTIDISCIPLINARY RESEARCH IN ECOHEALTH RELATED THEMES
The **International Development Research Centre** (IDRC), founded in CANADA also focus on BASIC research; TRANSNATIONAL research to eventually focus on APPLIED ecohealth systems research with the intention to do INTERVENTION research.

- developed a theoretical approach for the systematic reviewing of research on built (physical and social) environments and the health of the public.
- The development of a consensus of the hierarchy of “strength” of evidence has been an important part of this work.
- By 2002 most evidence hierarchies derived from the Canadian Task Force on the periodic Health Examination. It continues to become more sophisticated as they are adapted for different purposes.
Reflects a literature review to clarify all the concepts as indicated in the article title based on internet and MEDLINE research from 1982-2006. The author’s opinion were that these concepts are “relatively new, poorly differentiated, confusing and often used interchangeably...
The association regards themselves as a transdisciplinary association that accommodates a range of disciplines. Also runs the Ecohealth Journal

Examples of themes/papers (49 papers) at the 2010 association conference:

- Urban environmental health equities in Europe;
- Environment and health in the Cameroonian urban zones: a holistic approach for sustainable solutions;
- Green cities: Health co-benefits from green urban energy scenarios;
- Current scenarios of human exposure to metals in mining in the western Brazilian Amazon;
- Linking nature and human well being to drive climate action: The view of California.
Hong Kong Advanced Institute for Cross-Disciplinary Studies (HKAICS)

- **KEY Focus:** Mental health across disciplines
- **Description:** HKAICS focuses on Health and Well-Being as an important aspect of global and local engagement.
- **The HKAICS workshop took place during 23-24 June 2011**

Institute for Integrative research in the Humanities and Social Sciences

- **Motivated for in July 2009 by the University of Chicago**
In the eighties, nineties and the early 21st Century research all over the world, expressing more interdisciplinary, transdisciplinary (Nicolescu and Klein) and other integrative research methodologies...
Ken Wilber and the Integral Theory
Wilber...

• According to Wilber the Integral theory weaves together the significant insights from the major human disciplines of knowledge, including the natural and social sciences as well as the arts and the humanities;

• The Integral theory provides individuals and organisations with a powerful framework that is suitable to virtually any context and can be used at any scale because it organises all existing approaches to, and disciplines of analysis and action, and it allows a practitioner to select the most relevant and important tools, techniques and insights...

...so ecohealth research from a broad perspective could/should also benefit...
THE WILBER INTEGRAL (IMP) THEORY

- **Interior**
  - **Collective**
    - Zone 1: phenomenology
  - **Individual**
    - Zone 2: structuralism

- **Exterior**
  - **Collective**
    - Zone 5: autopoiesis (e.g., cognitive sciences)
  - **Individual**
    - Zone 6: empiricism

Additionally:
- Zone 3: hermeneutics
- Zone 4: ethomethodology
- Zone 7: social autopoiesis
- Zone 8: systems theory
Wilber and Integral methodological pluralism (IMP)

The IMP model operates according to three principles namely *inclusion* (consult multiple perspectives and methods impartially), *enfoldment* (prioritize the importance of findings generated from these perspectives), and *enactment* (recognize that phenomena are disclosed to subjects through their activity of knowing it).

Examples of the Integral theory in action
Other voices in literature pleading for forms of integrative studies

Crescentia Y Dakubo

Ecosystems and human health, A critical approach to ecohealth research
Crescentia Y Dakubo writes:

- ...social theory research, with a few exceptions do not feature in ecohealth research.

She refers to critical theoretical developments such as poststructuralist political ecology, discourse theory, the sociology of science and the politics of environmental and public health knowledge claims. By using them allows for a comprehensive and critical understanding of the underlying and “real” causes of ecosystem degradation and the forces shaping poor health.
• “As a research framework the ecohealth approach emphasises the use of transdisciplinary, participatory and inclusive processes. The goal is to work with all relevant stakeholders to better understand how human activities transform the ecosystem and adversely impact our health. It also seeks interventions that aim to improve both human health and ecosystem health with the increasing recognition that an unhealthy environment cannot sustain a healthy population” [p. 51 of Dakubo]
Ecohealth is an emerging, multidisciplinary, and expanding field of research, practice, and policymaking around the world. Features case studies from around the world with synthetic analysis of the research. Demonstrates how ecohealth research has led to sustained improvements in both human and ecosystem health. Nearly two decades after the United Nations Conference on Environment and Development (commonly called the Rio Summit), the world is still facing a profound need for development to alleviate poverty and improve human lives through more equitable access and use of resources and healthier environments. Understanding that human health depends on quality ecosystems, researchers are cutting a new path toward a more sustainable future. An ecosystem approach to health, integrating research and practice from such fields as environmental management, public health, biodiversity, and economic development, is based on an understanding that people are part of complex socio-ecological systems.
• Veterinarians without Borders, **Building capacity for research and practice in ecosystem approaches to health in Southeast Asia (BECA)**, *1st International One Health Congress Melbourne, Australia – Feb. 15th, 2011*

• VI NGUYEN, **UNDERSTANDING THE CONCEPT AND PRACTICE OF ECOSYSTEM APPROACHES TO HEALTH IN THE CONTEXT OF PUBLIC HEALTH**, A thesis Presented to The Faculty of Graduate Studies of The University of Guelph (MSc, April, 2011).
Back in South Africa…and sources reflecting health concerns…and methodology?
Michael Edmeston, IMPLICATIONS OF ENVIRONMENTAL RISK IN A DIVIDED SOCIETY: The Case of Acid Mine Drainage on the West Rand, South Africa, as an Example of a Risk Society, Masters of Arts in Development Studies, Faculty of Humanities, University of the Witwatersrand, Feb. 2010

- Environmental Risk and Modern Society
- Institutions and Environmental Risk
- Environmental Risk and Late-modernity
  - Technical Approach to risk construction
  - Constructivist Approach to risk construction
A GUIDE TO
Conducting and Reporting Interdisciplinary Research in Water Resources Management

PLAYING THE WATER DANCE

LEWIS JONKER & EMMANUEL MANZUNGU

In view of the fact that U-pollution of stream water is still ongoing and likely to continue for some time into the future intervention should preferably target the habits, economic and living conditions of the most vulnerable groups. This should be based on an updated, sufficiently detailed and comprehensive survey of people currently using polluted water in the catchment. It is believed that this would be more effective in terms of health protection than currently [2008] suggested attempts of isolated clean-up operations involving removal of polluted sediments from a few selected sites along the WFS...
Environmental Health Research Network-
A network to share knowledge and ideas about environmental health

EHRN SEMINAR of 25 November 2011
at the CSIR
Theory, environment and health
Prof Brendon Barnes
Wits
The IMD model for a local context
ECOHEALTH AS THEME IN INTEGRATED MULTISDICIPLINARY (IMD) RESEARCH

- Pilot study Bekkersdal (2012-2014)
- BROAD ECOHEALTH FOCUS:
  - To determine the ecohealth status of people in:
    - their built environment (eg. services, housing, service delivery, local management, security, etc.);
    - their immediate/natural environment (eg. environmental capacity, issues and concerns);
    - their well-being environment (eg. financial, physical, social, emotional; psychological etc).
Some last notes
• Theoretical models to be applied to research that’s integrative and all inclusive of frame, are limited but useable and adaptable;
• Most published work for integrative research models appeared after 2000;
• Current ecohealth studies could integrate the human and social sciences more in projects;
• Step-by-step approaches to work through integrative models do not exist yet;
• Several case studies world-wide exist that claim to support the Ken Wilber model or the IDRC (Canadian) research model etcetera;
• Africa form part of IDRC research ventures but its personal contributions to methodological frameworks for integrative research is limited;

• Historically South Africa has missed a golden opportunity to theoretically pioneer its knowledge in the TD methodology (the heart of integrative research) during the 1940’s;

• The world could learn from South African researchers yet again in future if the IMD model (with the Bekkersdal Pilot Study) for integrative research could be successfully recorded, refined and be applied to serve as a contribution in sustainable ecohealth studies.