

PI External Reviews: Summary of Report
Ecosystem Approaches to Human Health (EcoHealth)

Report to IDRC Board of Governors
March 2004

Reviewers:

Dr. Rachel Nugent
Program Director, Fogarty International Center, USA

Dr. Roberto Briceño-Léon
Director, Laboratorio de Ciencias Sociales, LASCO, Venezuela

Summary prepared by Evaluation Unit

PI Aims

1. The EcoHealth PI relies on the premise that human health is linked to the environment in which people live and improvements in both can be – and often must be – simultaneously achieved. The approach further identifies humans as a part of their own ecosystem and posits that successful interventions must take into account the symbiosis that exists across elements of the ecosystem. The purpose of the EcoHealth PI is to support research that demonstrates the achievement of sustainable human health gains through an improved understanding of ecosystem functions.
2. The PI's general objective is to improve human health through supporting trans-disciplinary research and applying knowledge resulting from interventions and formulation of policies. Its specific objectives are to:
 - 2.1. Describe, develop, and test new and improved tools and methods for research on ecosystem approaches to human health that incorporate societal needs;
 - 2.2. Describe, develop, and test the ecosystem approach for assessing causal linkages between human health and the natural and anthropogenic environments;
 - 2.3. Building on the results of objective 2.2, support the development and testing of ecosystem management approaches to human health in the context of sustainable ecosystems, with a particular emphasis on the use of participatory methods;
 - 2.4. Disseminate the concept of improving human health through better ecosystem management that respects human development imperatives.
3. EcoHealth has identified three types of ecosystems in which research is carried out: agricultural, urbanized, and mining. The rationale for selecting these is that they are places where human and environmental health are simultaneously being degraded in a way that particularly disadvantages the poor and weak and inhibits development. EcoHealth promotes stakeholder participation, transdisciplinarity, and gender awareness in research.

Review Methodology

4. Information was obtained through bibliographic review of the documents received, case study technique, in-person and telephone interviews with relevant persons, and an original survey distributed by internet to experts who have been involved with the EcoHealth program.

5. The evaluation team selected a broad range of projects underway since 2000 for the in-depth case studies. This was to allow conclusions about key elements in the current prospectus, namely the focus on three thematic areas (agriculture, urbanization and mining) and the range of project types. Because the PI is geographically focused on Africa and Latin America, five of the seven projects reviewed in-depth are in those regions. A questionnaire was distributed to 285 current and former project researchers in order to gather quantitative information on the value and importance of components of the PI strategy. This also allowed the evaluators to reach a wider and more diverse group than those reachable through the case studies.

Review Findings

6. Overall, the Program appears to be meeting its **objectives** more than adequately. In particular, the PI has effectively spread understanding and adoption of EcoHealth methods to a wide group of users. In so doing, it is developing and testing tools and methods for ecosystem management. The influence of the Program is demonstrated by the increasing numbers of adherents to the EcoHealth approach who are directly involved in testing it as well as a far larger number of people who are aware of EcoHealth and its uses.
7. Beyond the project level accomplishments that are the focus of the PI's objectives, **program-level accomplishments** include the following:

7.1. Innovative research concept

The EcoHealth Approach is widely recognized among researchers and development organizations working in health and environment. It is identified with IDRC and viewed as creative and effective. The concept of broad problem definition that includes both health and environment and a research approach that includes local communities is particularly well-suited to the needs of developing country populations who face multiple insults from environmental and health risks and must be involved in finding credible solutions. The concept also builds capacity among developing country researchers to engage in research of immediate relevance to their communities as well as with potentially significant scientific findings.

7.2. Networked researchers

In the past three years of the EcoHealth PI, roughly 300 developing country researchers have been involved in research projects, more than 100 in applying for research funds, and at least 80 in a training experience.¹ These activities have created opportunities for researchers to

¹ These numbers represent a lower bound as estimated from the project documents but exact numbers are not known by the evaluators. Figures reported in this document are generally for the 2000-2003 period of the current prospectus only.

develop collaborative teams within and outside their own institutions locally, as well as to form relationships with other researchers and trainees with similar interests globally. Long-term impact is expected from the local, regional, and international networks of researchers created through these activities and likely to be sustained through new efforts to develop a Community of Practice. These contacts and networks will enable EcoHealth researchers to expand their research impact and funding base.

7.3. *Enhanced capacity for research at southern institutions*

More than 40 southern research institutions have benefited from their researchers' activities on these projects. Institutional benefits include intangible ones such as a greater diversity of intellectual activity, inclusion in relevant networks, greater cohesion among their faculty, and improved relationships with nearby communities, and tangible benefits such as small amounts of infrastructure and overhead support and access to improved funding streams.

7.4. *Transferable techniques for community participation in research*

EcoHealth is contributing to the development of new techniques and methods for community-based participatory research. These methods have not been widely tested in poor country settings and IDRC is establishing practices that can eventually be adopted by researchers, development agencies and NGOs.

8. Progress has occurred in learning how to convene and support **transdisciplinary** research teams. One of the singular achievements of EcoHealth has been to demonstrate that transdisciplinary methods can be used by researchers with little or no prior experience in such methods, and that such methods can be transformative to the researchers. Researchers have considered that the transdisciplinary perspective makes the work process more complex and more costly, but there is consensus that their view of the research problem and of the possibilities to apply the results of their investigations has been broadened. Some challenges to transdisciplinarity remain, such as a lack of incentives (e.g. a scientific community which is still notably disciplinary).
9. **Communities** that serve as sites and stakeholders in EcoHealth projects are learning a great deal about the environments they live in and effects on their health, and are active and committed participants in the research process. Projects have typically devised effective ways to build trust within communities (such as employing community members as liaisons in a project on malaria control through agro-ecosystem management in Mwea, Kenya; forming project steering committees that include community members in a project on wastewater use for irrigation in Morocco; or bringing additional grants and needed benefits into the community in a mining region in Goa).

10. The dimension of **participation** has been one of the most challenging to achieve and at the same time, one of the things that has received the greatest acceptance by researchers. Participation gave stakeholders opportunities to face differences and agreements, as in the project on manganese exposure in a mining community in Mexico, where workers, community, businessmen and the state government had to meet to discuss the problems and benefits that the mine brought. This also occurred in a meeting in the project on urban ecosystem management in Kathmandu that brought together butchers considered to be untouchable and public functionaries or businessmen of other castes.
11. **Achievements at the project level** are more variable than program level achievements. This variation is related in part to the age of projects, but there are other factors that merit attention by the PI team. Among the examples:
 - 11.1. The project on “Livestock and agro ecosystem management for community-based integrated malaria control” in Mwea, Kenya carried out surveillance and community assessment on the link between irrigation for rice production, livestock, and malaria prevalence, as a means to equip the communities with knowledge and techniques to reduce the prevalence of malaria. Project results include the implementation by communities of a variety of no- or low-cost technical solutions, leading to perceived reductions in malaria; and production of five scientific papers, three conference presentations, three papers accepted in peer-reviewed journals to date, and the completion to date of three masters theses. As well, the Systemwide Initiative on Malaria and Agriculture was launched by the CGIAR, a move clearly instigated by the project leader’s work on this project and others.
 - 11.2. In the project on “Urban ecosystem and urban health in Mexico City”, the focus on ecosystems for human health has managed to modify the view of investigators toward their work, their connection with communities, and their use of results. While the use of results has been limited by political circumstances from the change of local government, the experience of the ecosystems focus has been incorporated in the analysis of the Health Secretariat and the Institute of Public Health for the comprehension and design of policies in complex problems.
 - 11.3. The project on “Managing and monitoring ecosystems for improved health and well-being in mining regions” in Goa, India assessed the impact of large-scale mining on the health and well-being of surrounding populations. The project developed and tested a set of environmental and social performance indicators and a quality of life instrument; published two articles and made numerous presentations; worked closely with the mining industry and facilitated establishment of

its community benefit program; it also created a congenial space for dialogue between the industry and communities.

12. The application of results to **public policies**, and transformations of the behaviour of actors, have taken different forms in each project. Clear progress has been achieved in some of the late-stage EcoHealth projects, while others still search for the appropriate public policy targets. Some projects have forged close ties with policy makers at regional and national levels; for example, in Goa there is an interest in applying the methods beyond the current project site, while in Lebanon the project has directly influenced national fuel and agriculture policies. In some cases, research clarified the origin of a problem, as in Brazil which determined that the contamination of water and fish by mercury has its origin in agriculture and not in mining.
13. **Users** of the PI's outputs can be divided into those involved in EcoHealth activities – researchers, local communities and IDRC and its partners – and those who might be influenced by the results of EcoHealth -- the public, the media, and policy makers. There has been a good balance between the outputs aimed at these two sets of users as EcoHealth's success depends on being well-accepted by both.
14. Substantial tangible **outputs** have emerged for audiences such as the public, press and policymakers. The PI has been timely and opportunistic in its use of conferences, such as the World Summit on Sustainable Development in 2002, and the IDRC-sponsored Montreal Forum in 2003. The PI leadership has used these venues to elevate awareness of EcoHealth to the highest levels of government and to international decision-makers, and has demonstrated its usefulness in the policy discussions on environment and health linkages.
15. The case studies present an unequal level of **scientific publications**. In some projects, such as the one on mercury in Brazil, an important number of publications in high-quality journals have been produced. In contrast, the project on manganese is only now concluding and still has no publications. Dilemmas include the tension between the practical relevance of the research and its novel research nature in the scientific domain that is attractive to specialised journals. Several of the PI's intended outputs have not yet been fully demonstrated, such as "a series of testable natural resource management interventions to improve human health".
16. EcoHealth has been active in **disseminating** the ideas and results of program activities. Materials generated have been widely distributed, reaching a wide array of interested parties. The PI has made an important effort to disseminate results through the press, radio, and the publication of brochures, in English, French and Spanish. Participation in high-profile public

forums and publication of materials such as the Policy Briefs series and the In Focus monograph on Health: An Ecosystem Approach have expanded knowledge of the program into policy-making and NGO communities.

17. The primary means of **dissemination to the research community** are conferences and scientific publications. Other means include asking researchers to be peer reviewers of EcoHealth proposals and serving as peer reviewers for other programs, making seminar presentations, and enlisting researchers as advisors on projects and consultants for the program. The program has participated in well-targeted professional scientific conferences across the world. The awareness of EcoHealth within scientific organisations is high.² There could be opportunities for additional dissemination, for example to bring the EcoHealth approach into the curriculum of some partner institutions.
18. Policy makers, planners, and international organisations have been **reached** by the EcoHealth program. Perhaps the best example of the broad reach of the program is the scope of organisations participating in the EcoHealth Forum in 2003 (among these, the WHO, UNEP, PAHO, CGIAR centres, global and national NGOs, and Ministers and government departments in Quebec and Canada). The PI has had an important impact on the scientific community working in the fields of health, social sciences and environment.
19. EcoHealth has effectively built **capacity** to carry out transdisciplinary team projects and to conduct research in a community setting. It has obligated the scientific community to be more aware of the application of the results of research, and to include the social dimension. EcoHealth builds capacity through workshops, training awards, and capacity-building workshops at the initiation of projects. All projects involve students and/or junior researchers, and some include community members in the research. Reinforcement of institutional capacities has occurred with varying results. The reviewers also noted some tension between the aims of scientific excellence and capacity-building.
20. The inclusion of the perspective of **gender** in the research has been more difficult to achieve across the range of projects. Interviews suggest that the gender dimension is sometimes seen as an artificial add-on to the research questions, whereas others find it provides insights that contribute to improved interventions.
21. The EcoHealth PI has established **partnerships** with a number of national and international organisations. Most are loose collaborations related to one-

² An illustrative example is that a recent meeting of the Environmental Health Sciences Roundtable of the U.S. Institute of Medicine in Washington, DC, the IDRC EcoHealth program was mentioned favorably by three different participants.

time activities such as conferences. More developed partnerships are in place with organisations providing co-funding to support EcoHealth research projects.

22. Evidence suggests that the EcoHealth approach is acceptable and viewed as valuable by other institutions and IDRC is seen as a **leader** in the field. For instance, the UN Foundation was attracted to working with EcoHealth because of the strong community participation and multi-sectoral orientation in the PI. The UN Foundation believes that EcoHealth has successfully bridged the gap between UN organisations with responsibilities for health and environment in ways that could not be done on their own.
23. The PI has broadened its search for solutions to include **non-health interventions**, allowing it to develop a unique perspective and strategy within the abundant investigation in health that is performed in the world. This is a thoughtful and strategic response to the increased attention on health problems of the developing world, and growing awareness of the need to solve problems more holistically.³
24. Precisely because EcoHealth works across different fields and sectors, it struggles to achieve the impact and recognition it deserves within each one and collectively. It has likely made greater **inroads** into the environmental and agro-ecosystem management communities to date than in the public health and disease communities. EcoHealth also has impact within the participatory research community, the gender approaches literature, and the sustainable development world. Some feeling exists that there is not enough evidence of impacts (i.e. demonstration of health and environment improvements) within the EcoHealth paradigm.
25. EcoHealth **projects** vary in length from two to four years plus renewals. Projects can have several phases. This multiple stage approach has some benefits, but a drawback is the high level of uncertainty about whether a project will come to fruition. In general, the consensus among researchers seemed to be that the PI team is extremely generous in terms of both time and resources when needed.
26. Substantial progress has been made by the PI toward addressing lessons identified from the PI's first phase and the previous external review. The goals for external funds have not been fully met, nor did collaboration with the CGIAR system and use of GIS materialise as suggested. The program has availed itself well of both project and program level **evaluations**. It has

³ For example, there has been an increase in professional societies, academic programs and journals devoted to health and environmental issues, such as Harvard Medical School's Quarterly Review of Health and Environment published since 2000, and an incipient initiative on health and environment from CIHR.

actively sought input from evaluators through reports and intensive workshops and discussions. The team has used the reports to motivate serious introspection and adaptation.

27. Areas needing additional development include extending the **reach** of EcoHealth efforts beyond a familiar group of researchers, defining **timelines** and outcomes more precisely for project researchers, **communicating** evidence-based results to policy-makers, deepening and broadening **training** opportunities, and **institutionalizing** EcoHealth in some additional academic settings, particularly in the South.

Issues for Consideration

28. Activities warranting reassessment include the approach to **co-funding** partnerships that have not materialized and moving from **research as the intervention to implementation** of development activities with sustainability, success at which implies moving IDRC from center-stage to the background of some projects. It is recommended that the three **thematic areas** be abandoned as cross-project generalizations are not being derived from these categories.