



# **ECO-HEALTH IN THE AMERICAS LEGAL WORKING PAPER SERIES**

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## **ECO-HEALTH APPROACHES TO AMERICAS IMPACT ASSESSMENT LAWS AND PRACTICES**

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# ECO-HEALTH APPROACHES TO AMERICAS IMPACT ASSESSMENT LAWS AND PRACTICES

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*Underweight and nutrient deficiencies together represent the leading risk factors in developing countries contributing to deaths and the burden of disease (World Health Report: Reducing risks, promoting healthy life, WHO, 2002).*

## Introduction

Human health and well-being are dependent upon various factors, ranging from economic aspects of a society to the quality of the environment. Agricultural practices, in particular, play an important role in creating supportive conditions for human health as many aspects of farming practices influence both rural and urban populations' health.

Currently, in many developing countries, agro-ecosystem management practices are in a process of transformation due to increasing population pressure, decreasing availability of agricultural lands, environmental constraints (such as climate change), contamination from industrial and agricultural activities, increasing urban market demands and globalization processes. Agricultural transformations, especially when coupled with economic and environmental degradation, can adversely impact the relationships between people and the ecosystems on which they depend for their livelihood, affecting patterns of human health, disease and nutritional status. For example, a shift away from subsistence agriculture and an increasing orientation to markets for both income and food purchase are major changes that affect local systems of production. While more intensive (commercial) agriculture can offer economic benefits to rural populations and reduced food costs for consumers, it has mixed impacts on nutritional status, in part because of the erosion of local crops and varieties that underpin traditional dietary diversity. Changes in land use, including disturbance, deforestation and appropriation of natural areas, diminish opportunities for hunting and gathering the essential wild components of many traditional food systems. In addition, some niches or farming practices such as home-gardens assume less importance even though they provide complementary resources for diet and medicine and also serve as repositories of biodiversity. Common detrimental health effects of these changes include insufficient food and impoverished diets, leading to malnutrition, weakened immune systems and more frequent infections, often of higher severity and longer duration, as well as an increase in diabetes, heart disease and obesity.

In developing countries, agricultural programs and subsidies have generally focused on food security, attempting to increase food availability for populations showing overall calorific uptakes deficit. These efforts often led to a simplification of diets to a limited number of high-energy foods. While this issue is indeed important, research demonstrates that it is equally critical to address dietary diversity, non-cultivated foods, micro-nutrient

research with food-based & non-food based approaches, as well as protein-malnutrition which may also have considerable impacts on human health in both developed and developing countries. Moreover, there are multiple socio-ecological determinants that influence the nutritional quality and quantity of individual needs, which should also be considered in research projects on nutrition and human health. Access to quality food is often an issue of affordability rather than availability that emphasizes the importance of poverty reduction considerations. The challenge is how to address a problem whose causes and consequences span culture, health, agriculture, markets, and environment.

The aim of this year's Ecosystem Approaches to Human Health Awards Program is to deepen our understanding of the relationships between agricultural transformation and human health with a specific emphasis on food security, dietary diversity and their implications on nutrition. Relationships between local food production practices and household nutrition are multiple and addressing them represents a pertinent strategy for enhancing the health of disadvantaged populations in developing countries. Interested applicants for this year's Ecohealth Awards Program are encouraged to submit proposals on two particular aspects of nutrition research: food security and dietary diversity.

## **1. Food security**

For the last 50 years, food security has been a key issue of concern for international agencies striving to support programs for better health of the poor populations of Africa, Asia, and Latin America as food availability is considered to be one of the principal determinants of health status. Even though numerous programs have been designed and implemented to increase food security in the world, meeting the dietary needs of vulnerable populations still remains a challenge in 2005.

The concept of food security goes beyond the simple consideration of food quantity; achieving food security implies the availability of sufficient food of good quality for every individual of a given population. The complex nature of food security indicates that in order to achieve a food secure status in a population, a range of aspects need to be assessed, such as equitable sharing among household members, sufficient household production dedicated towards subsistence, use of soil, water and biodiversity conservation techniques, and the sanitary aspects of cooking. The study of food security requires a careful exploration of socio-ecological determinants that modulate individual and community access to food for optimal health for all members of a community.

## **2. Dietary diversity**

Dietary diversity is commonly recognized as a key component of high quality diets. Its relevance to disadvantaged populations in developing countries stems from the propensity for persistent nutrient deficient diets and the importance of increasing both food and food group variety to ensure nutrient adequacy. Beyond this, there is increasing recognition on

the value of variety in food functionality (non-nutrient properties of food). Many of the benefits of non-nutrients are very important and have longstanding traditional reputations and use in many parts of the world. Examples of this include fiber, fat and phytochemicals (e.g. antioxidants, anti-inflammatory constituents, immunostimulants, and others).

It is important to consider the social and ecological determinants of dietary diversity because a diversifying diet may take different forms depending on the particular context. In some cases, introducing or reintroducing different meat products in the diet can enhance protein and iron uptake, often scarce in cereal-based diets. In other cases, vegetables and fruit uptake should be promoted in order to provide supplemental sources of micro-nutrients. Diet diversification may be linked to hunting and gathering or to the cultivation and domestication of wild foods (plants and animals), depending on the local specificities. Traditional knowledge is an important resource to assess the value of food that was once part of the diet.

### **3. Ecosystem approaches to human health (Ecohealth)**

Ecosystem approaches in this Awards competition can be seen as useful processes to deepen our understanding of the linkages between human health, nutrition and agricultural transformations. The approaches recognise that there are inextricable links between humans and their biophysical, social, and economic environments that are reflected in individual/communities' health. They focus on understanding (i) the interactions between social and ecological systems in defining key determinants of human health in particular settings, and (ii) the impact of human activities on the sustainability of these processes. They also seek to identify ecosystem management strategies that contribute to improving the health and living conditions of human populations and the sustainability of the ecosystem in which they live. Ecohealth represents a process-oriented and dynamic way of understanding and solving problems, which can be constructed in various contexts, with varying scales, and different intended outcomes. "Ecosystems" in this approach are defined relative to the research problem and refer to the social and ecological contexts, both on a temporal and a spatial scale, of human lives. Human activities (or stressors) alter these contexts and have positive and negative effects on individuals and communities involved.

The Ecohealth approach currently has three core elements or pillars: i) transdisciplinarity; ii) social justice and gender equity; and iii) multi-stakeholder participation. These elements are key to improving health and well-being as they allow for an understanding of change that explicitly link social and ecological systems. Applications for this year's Awards should clearly detail how the proposed research will integrate the three core elements of Ecosystem approaches to human health.

#### ***Transdisciplinarity***

Ecohealth research projects have taken the premise that local food production systems, food availability and food diversity are intrinsically linked and influence the health status of human population. They should, therefore, be addressed together in a research project from a human health perspective in order to elaborate strategies that can improve the health and well-being of disadvantaged populations in developing countries and the sustainability of the ecosystem on which they depend for their livelihood. The complexity of relations between these processes clearly stresses the need for transdisciplinarity in project design and implementation.

Transdisciplinarity is a process through which researchers from different disciplines and stakeholders involved in a research project (policy makers, community members, civil society organizations) transcend the limits of their own disciplinary background and knowledge to contribute to the development of new concepts, hypothesis and knowledge in order to jointly develop and implement potential intervention strategies. In a research project transdisciplinarity implies that all stakeholders contribute to the conception of the project, the identification of the research questions and collaborate in the realization of the research. Stakeholders must meet regularly throughout the project to discuss their work, its implication for the research and, if necessary, to reassess the research questions, hypothesis or activities.

For an academic research supported through the Ecohealth Awards Program, it is clear that students cannot cover the different disciplines relevant within their own research. Applicants should contextualize their research project and clearly explain how it contributes to the better understanding of the complex linkages between socio-economic and environmental factors and their influence on human health. Strategies on accessing expertise outside the student's own capabilities should be a critical part of a proposal submitted for the Ecohealth Awards Program.

### ***Stakeholder participation***

The involvement of multiple stakeholders is fundamental for the success of a project using an ecosystem approach to human health. The approach emphasizes the need to consider two levels of participation: the participation of local communities and the participation of other stakeholders such as policy makers, health care providers, agricultural extension workers and civil society organizations. Aiming to improve nutrition and human health in relation to local food production practices clearly requires the involvement of community members but the sustainability and scaling up of potential interventions are conditional on the involvement of several other stakeholders. It is essential to maximize a sense of ownership for the project and to involve stakeholders at all stages of the research.

### ***Gender and equity***

The Ecohealth approach also emphasizes the need to consider social and gender equity in the quest for new knowledge and interventions to improve human health and wellbeing through better natural resources management. Gender is especially relevant for research targeting health and nutrition

issues since men and women assume different responsibilities within a household, have different levels of influences on decisions and control over resources. The distribution of roles and responsibilities between selected members in a household can influence their health and nutritional status, vulnerability and capacity to react to health and nutritional problems. Gender requires going beyond sex disaggregation (the description of how men and women may be affected differently by specific problems) to consider how power relations and differential access to, or control over resources influence the vulnerability of men and women to health problems.

Men and women, however, are not homogenous groups. Gender is one among several social divides influencing the vulnerability of specific groups in a community that must be addressed by the research proposals submitted to the Ecohealth Award Program in order to identify the most vulnerable groups. It is essential to understand the impact of gender and social relations on health and nutritional issues to identify potential entry point for intervention.

## **Centre for International Sustainable Development Law (CISDL)**

The Centre for International Sustainable Development Law (CISDL) is an independent legal research institute that aims to promote sustainable societies and the protection of ecosystems by advancing the understanding, development and implementation of international sustainable development law.

As a charitable foundation with an international Board of Governors, CISDL is led by 2 Directors, and 9 Lead Counsel guiding cutting-edge legal research programs in a fellowship of 120 legal researchers from over 60 developing and developed countries. As a result of its ongoing legal scholarship and research, the CISDL publishes books, articles, working papers and legal briefs in English, Spanish and French. The CISDL hosts academic symposia, workshops, dialogues, and seminar series, including legal expert panels parallel to international treaty negotiations, to further its legal research agenda. It provides instructors, lecturers and capacity-building materials for developed and developing country governments, universities, legal communities and international organisations on national and international law in the field of sustainable development. CISDL members include learned judges, jurists and scholars from all regions of the world and a diversity of legal traditions.

With the International Law Association (ILA) and the International Development Law Organization (IDLO), under the auspices of the United Nations Commission on Sustainable Development (UN CSD), CISDL chairs a Partnership on 'International Law for Sustainable Development' that was launched in Johannesburg, South Africa at the 2002 World Summit for Sustainable Development to build knowledge, analysis and capacity about international law on sustainable development. Leading CISDL members also serve as expert delegates on the International Law Association Committee on International Law on Sustainable Development. For further details see [www.cisdl.org](http://www.cisdl.org).