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ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

## **Terminal Evaluation of the project ‘Improved Health Outcomes through Community-based Ecosystem Management: Building Capacity and Creating Local Knowledge in Community Health and Sustainable Development’**

**Project Number MT/2010-01-16**

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## ACRONYMS AND ABBREVIATIONS

CAC	Central America and the Caribbean
CASSAD	Centre for African Settlements Studies And Development
CBOs	Community based Organizations
CIDA	Canadian International Development Agency
CoP	Community of Practice
COPEH	Community of Practice in Ecohealth
CSOs	Civil Society Organizations
ECOHEALTH	Ecosystem Approaches to Human Health
FF	Ford Foundation
IDRC	International Development Research Centre
INRA	Institut National de Recherche Agronomique
M&E	Monitoring and Evaluation
MENA	Middle East and North Africa
MDGs	Millennium Development Goals
MoH	Ministry of Health
NGO	Non-governmental organization
NRM	Natural Resources Management
PAHO	Pan-American Health Organization
PI	Program Initiative
PRA	Participatory rural appraisal
PSC	Project Steering Committee
RF	Regional Fund
UNF	United Nations Foundation
UNEP	United Nations Environment Program
UNEP DPDL	UNEP (Division of Policy Development and Law)
WA	West Africa
WHO	World Health Organization

## **PREAMBLE**

The Ecohealth project and its many and varied sub projects were born out of the global debate linking up human health determinants to sustainable ecosystem management from the community level to policy influence and change. Reasonably, the project would not be evaluated independently from this context.

Many strengths and achievements are evidenced in this evaluation report and do make this collective global exercise a success. However, shortcomings are reported too and could be categorized into two types. Those related to strategic decisions taken at the design stage of the project, particularly about institutionalization of the Ecohealth framework, and policy impact of the research projects. But also those due to the adaptive management approach adopted by the project.

The project prospects depend on further engagement of the national and international stakeholders. Overall, linkages of the country projects to national health and environment agenda was not sufficient to ensure projects outcomes sustainability. However, synergies and alignment with global initiatives in environment and health, climate change, MDGs are among the strategic exits to sustain the project benefits.

Without the excellent leadership provided by UNEP and its partners, the high quality implementation and management ensured by IDRC and the commitment of the nine countries' teams, the outcome would have been significantly lower than that actually achieved. The momentum generated by the Ecohealth projects is as high as the demand for more technical and financial support. The emerging regional networks are adequate frameworks to scale out and help sustain the project impact.

## EXECUTIVE SUMMARY

### Background

1. The present report is a compilation of the findings of an independent evaluation carried out on behalf of UNEP for the three-year project (November 2001-November 2004) further extended to April 2006.
2. The project referred to in this report as Ecohealth project, “Improved Health Outcomes through Community-based Ecosystem Management: Building Capacity and Creating Local Knowledge in Community Health and Sustainable Development” is a large undertaking that benefited 17 developing countries in three regions i.e. West Africa (WA), Middle East and North Africa (MENA) and Central America and the Caribbean (CAC). Secondary locations and focal points supporting the project were situated in Nairobi, Ottawa and Geneva.
3. The collaborative project supported by UNEP, IDRC and WHO had a US\$950,000 budget and the executing agency was the Canada International Development Research Centre in Ottawa through regional funds respectively in West Africa, MENA and CAC. Financial resources were leveraged by IDRC to support consolidating activities particularly Ecohealth’ regional communities of practice and Ecohealth’ institutionalisation and mainstreaming endeavours. Ford Foundation and Canadian CIDA were strategic partners that provided support to consolidating activities.
4. The project has leveraged over USD7.5 Million – over ten times the original budget - in direct (second-phase projects) and indirect (Communities of Practice projects) investments from an expanding pool of donors.

### Major findings

#### a. Institutional framework and Project design

5. The multi-donor institutional framework set between UNEP-IDRC and WHO and later Ford Foundation and Canadian International Development Agency was a strong asset in the design, implementation, monitoring and evaluation of the project.
6. The multi-stakeholders framework at country level ensured inclusiveness, community participation and a certain anchorage of the project in local institutional settings.
7. UNEP, to some extent, played a hands-off role and relegated the in-house management to IDRC. This had two implications: a) Country Ecohealth teams and IDRC were able to independently manage (in a two-way capacitating process as teams were learning together) uncertainties faced as the project unfolded. However, b) Stronger leadership from UNEP and WHO could have facilitated up-scaling of the project findings.
8. The project benefited from excellent implementation set up. The project management done through the Regional funds was reasonably proactive and highly

responsive in providing adequate support and technical backstopping to the teams as requested.

9. The project's activities were well designed and packaged and were implemented in iterative sequences and not in parallel processes.
10. Regional Funds and Project Steering Committee were proven to be adequate organizational and governance structures to manage the project in a decentralized way.

**b. Main achievements and outputs**

11. The project outputs (tangible and intangible) met the expectations in scope, quantity and quality. Thus, the project ranks very highly in that regard.
  - Interdisciplinary teams (18) were trained to a high level of integration of Eco-health principles and tools. The project set the foundation for future cutting-edge Eco-health knowledge in nine countries but yet needs to be consolidated.
  - Results of nine case studies were compiled into thorough reports delivered timely with a few articles published in peer-reviewed journals and International conferences.
  - The successful capacity building efforts contributed significantly to create a critical mass of Ecohealth experts, researchers, practitioners and to a lesser extent to more informed local decision and policymakers to sustain Eco-health framework in the three regions.
  - Viable regional Eco-health networks were established and have a great potential for further impact on the target regions and probably beyond.
  - In 2003 in Montreal, 350 participants attended the Global Eco-health Forum. It was an unprecedented event where Eco-health paradigm and case studies were shared and debated between researchers, development practitioners, CSOs, "difficult to reach groups", decision and policymakers. The second Global Ecohealth forum planned for in 2008 will provide an excellent opportunity to further expand and deepen the adoption of Ecohealth paradigm by the global health, environment and development communities research community in both developed and developing countries.
  - Institutionalisation of the Ecohealth framework is a process the project succeeded to kick-start in the three regions but needs to be consolidated.
  - The cost-benefit analysis shows the worthwhile use of funds.
  - The project contributed to institutional capacity strengthening both in terms of research capacity and in international grants' financial administration and management in multi-institutional projects with different managerial procedures.
  - Sustainability of the project outcome is high with regard to capacity building, but external inputs are required to further sustain research activities. Some teams succeeded in leveraging substantial funding from other donors to implement further Ecohealth research. A success story in Cameroun where the research team was granted 936,000 Euro by the European Water Facility.
  - Some of the team members were invited to evaluate proposals related to health and environment (National and International) and may contribute to donor

policy influence through the quality assessment of the proposals using the Ecohealth thinking.

- The project contributed to inform local decision-making process in several countries in CAC, MENA and WA.

### **c. Shortcomings**

12. The project succeeded in targeting knowledge generation, capacity building but was over-ambitious to aim at national policy influence under the constraints of limited resources and time. A focus on soft policy-making would have been more readily achievable and realistic. In fact, the project experience evidenced that municipalities and local governments were more receptive and open to Ecohealth results and knowledge up-take in CAC, WA and MENA.
13. In contrast to the excellent monitoring, the evaluation framework was not set at the outset. Peer review workshops provided exchange opportunities and were highly appreciated by the country teams. An excellent practice though was the external evaluation of a field project by the team in Burkina Faso. Ideally, a mid term evaluation would have helped address the shortcomings in a timely manner.
14. Despite the decentralized and participatory design and implementation through Regional Funds, some country field projects had few links to ongoing national programs in the field of environment and health throughout the project. An outstanding exception was the Honduras team that built strategic partnerships with local, national and international agencies and ministries. The Project was even integrated into the national strategic plan of Chagas' disease control and in a sub-regional control program.
15. At the design stage, the project document did not outline a vision of how to sustain the benefits and outcomes to be generated at the project completion. However, the mechanisms developed as the project unfolded particularly the regional networks of Ecohealth knowledge sharing, community interventions and the capacitated teams and institutions are definitely viable outcomes.
16. The level of engagement of WHO throughout the process was not comparable to IDRC-UNEP beyond the steering committees. This has limited the potential of the project to benefit from WHO experience in communicating Ecohealth research findings properly to health policy makers at local and national levels.

### **Recommendations and the way forward**

17. Ideally, UNEP and WHO using their established links to health and environment authorities at country levels could lead a second phase of the project investigating mechanisms for policy influence. This would complement the excellent job done by IDRC as an implementing organization throughout this phase to generate tremendous amount of results that can potentially be translated into policy measures.
18. Alternatively, UNEP project management could support short capacity building programs in communicating Environment and health scientific evidence to different target audiences. This is likely to benefit not only the project but also the ability of

the applied research expert, NGOs and institutions to sustain applied research' impact on development and community well-being and ecosystems health.

19. IDRC and UNEP have a role to play in facilitating the re-orientation of the regional EcoHealth communities of practice to better involve and target decision makers with key information derived from the project. A particular support to the CoPEH in West Africa that is well engaged and making good progress in Ecohealth institutionalization and mainstreaming would add value to the project.
20. Re-orientation of the COPEH could also the need to look at other health concerns beyond the communicable diseases where the approach could face new challenges and bring in new relevant knowledge that could inform communities and policy response to emerging diseases, zoonoses and other diseases associated to urban ecosystem's health degradation such as slums areas.
21. The project's institutional framework within UNEP-IDRC-WHO has an excellent niche and a comparative advantage within several regional and global initiatives where the nexus between Human Health and Community Based Ecosystem Management is a core issue, such as Adaptation to Climate Change in Africa.
22. In medium-term, UNEP, IDRC and WHO could build on the emerging expertise to establish regional focal points and centres of excellence in community-based Health and Environment management in WA, CAC and MENA. Such centres could expand their interest to upcoming issues of climatic changes preparedness policies and globalisation' implication on community based ecosystems management in relation to health outcomes.

## **Lessons learned**

23. In multi-donor iterative projects led by UNEP, mid term evaluation needs to be systematic to provide timely operational guidance to mitigate risks in project performance.
24. In similar applied research project with multi-stakeholder processes strong emphasis should be put on needs assessment investigation. It provides the direction and can draw the attention of UNEP management team and implementing agencies to potential uncertainties to be considered at the design stage. Thus, it should be systematic to make the project demand driven, relevant to the communities and other expected end users and to sustain its outcomes.
25. In large-scale regional projects, the role of UNEP should be pursued through partnership and not a mere oversight. Delegating the monitoring of the project activities to competent agencies increases the chances of project success. However, playing a hands-off role could undermine the potential impact of the project as the capacity of UNEP in disseminating the findings at government level is higher compared to executing agencies.

26. In order to understand mechanisms and channels to better bring the knowledge into policy, similar projects could consider involving policy specialists and/or political scientists among the teams if the aim is to influence policy.
27. For future UNEP-led initiatives using this management model, a more active role is required to institutionalize and mainstream Ecohealth approach in UNEP programs linked to community ecosystem based management at national level. This would ensure a better reach and a lasting impact within the same institutional set up and resources.
28. In this type of project where behavioural change, social learning and organizational practices are subject to the project intervention and influence, Outcome mapping would be an excellent tool to use at the planning, monitoring and evaluation of the project outcomes.
29. Proper training and capacity building of the teams on knowledge and tools need to be paralleled or in sequence with communication and outreach techniques and strategies to ensure project results sharing, utilization and impact.
30. Any follow up to the present Ecohealth project should capitalize on all the strengths and excellent performance of this phase. If this comes to fruition, a few lessons need to be considered:
  - i. The project needs to focus in terms of scale, health-environment thematic and partnership.
  - ii. Establish linkages with ongoing country policy reform and country strategic programs with potential entry points to community health and community based ecosystem management not only in health and environment sectors but also with overall development projects.
  - iii. Map out the 'boundary partners' (Outcome mapping <http://www.idrc.ca/booktique>) to capture whom the Ecohealth project wants to influence and how it is intended to do so and set graduated indicators of changed behaviours.
  - iv. Proper training and capacity building should also cover team's capacity in communication and outreach.

## I. INTRODUCTION

### Project identification

**Project Title:** Improved Health Outcomes Through Community-based Ecosystem Management: Building Capacity and Creating Local Knowledge in Community Health and Sustainable Development

**UNEP Project Number:** MT/2010-01-16 **UNF Project Number:** UNE-INT-01-207

**Responsible Office:** UNEP DPDL (Division of Policy Development and Law)

**Coordinating Agency / Supporting Organization:** International Development Research Centre (IDRC), Canada with UNEP and World Health Organization

**Project Starting Date:** November 2001

**Project Completion Date:** April 2006

**Reporting Period:** November 2001 – December 2006

**Total Budget (\$US) and UNF Contribution:** 950K and 750K

**Relevant UNEP Programme of Work Component Number:** 2.1

### Project aim

The project aimed at introducing and ground testing the Ecohealth innovative paradigm linking human health determinants and community-based ecosystem management to three different regions, CAC, MENA and WA.

*Ecosystem approaches to Human Health referred to in the present report as the ECOHEALTH FRAMEWORK are about an iterative development research framework/process where communities, stakeholders, research teams and policy and decision-makers work together for better understanding of concerted options for improved health promotion, disease control and prevention through sustainable ecosystem management.*

To contribute to this vision, the project set a ‘three pillars’ vision aiming at:

- a. Harnessing cutting-edge science and appropriate capacity building to generate knowledge generation and repackaging,
- b. Use the research outputs to design adequate sustainable environment management/interventions for community health betterment
- c. Generate Ecohealth knowledge base and intelligence to support informed policy- and decision-making processes at local, national and global levels.

#### 1. Project objectives

1. To create and/or reinforce the capacities of multi-sectoral country teams<sup>1</sup> to implement applied field projects using an Ecohealth framework
2. To actively involve various levels of policy- and decision-makers in order to ensure that the knowledge gained is replicated, scaled-up and institutionalized, through workshops and the flagship event called Global Forum 2003

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<sup>1</sup> A team refers to interdisciplinary group of individual researchers or practitioners with different backgrounds and belonging to one or more grant recipient’ institutions.

## Executing arrangements and institutional framework

- The project “Improved Health Outcomes through Community-based Ecosystem Management: Building Capacity and Creating Local Knowledge in Community Health and Sustainable Development” is a large undertaking implemented in 17 developing countries in three regions i.e. WA, MENA and CAC. Secondary locations and focal points supporting the project were located in Ottawa, Nairobi and Geneva respectively.
- The project is a follow up on a collaboration process started in 1999 when UNEP and IDRC jointly convened a Seminar in Rio de Janeiro on an Ecosystem Approach to Human Health on Communicable and emerging diseases.
- This collaborative project supported by UNEP-IDRC-WHO had a 950,000 US\$ budget. The executing agency was the Canadian International Development Research Centre in Ottawa and through its regional funds in West Africa, MENA and CAC respectively. Subsequent resources were leveraged by IDRC (particularly with Ford Foundation and CIDA) to support consolidating activities particularly ‘Ecohealth regional communities of practice and Ecohealth institutionalization and mainstreaming endeavours.
- Joint Project Steering Committees (PSCs) were the supervising authority comprising of representatives from UNEP, WHO and IDRC and operated at the regional level. Basically, the role of the PSCs consisted of overseeing the broader management of the project, while IDRC was the implementing agency. The PSCs’ mandate was to monitor and provide guidance in the implementation of the project.
- Regional funds were extremely suitable organizational structures that implemented and monitored the project in close collaboration with teams and provided timely technical backstopping as stated by the four teams visited:

*“The activities were implemented through the Regional funds. This decentralized organizational and managerial framework has ensured flexibility in implementation, relevance to the specific features of regional environment and health interfaces in their geographical and socio-cultural dimensions and an adaptive monitoring system for adequate responsiveness to teams’ specific needs” (IDRC Ecohealth team, teleconference April 2007)*

## Evaluation purpose and objectives

This final evaluation aims at assessing whether and to what extent the goal and objectives set for the project under review were achieved in an effective and efficient manner guided by the following questions set in the ToRs (Annex 1):

1. Was the Eco-health project successful in developing local research capacity and promoting research into the links between human health and the environment?

2. How successful was the project in generating up-take, replication, up-scaling and institutionalisation of the knowledge generated by the field projects?
3. What is the extent of the applicability and relevance of the Ecohealth approach in promoting human health?
4. To what extent have the specific needs of the target groups of stakeholders been considered and what is the relevance of the approach to the target stakeholders?
5. To what extent was the project successful in generating interventions and solutions for improving human health and is there any evidence that such interventions have been translated into policy/decision making?

## Methodological issues

### 1. Context and settings

Originally, the project did not set an evaluation framework with clearly defined outputs and verifiable indicators to be used for monitoring and evaluation. The lack of markers against which achievements and shortcomings of the project can be evaluated makes the final evaluation rather open to subjective interpretations. The lack of baseline data is the biggest challenge facing the effort to identify the project attribution and contribution to the intended and unintended outcomes.

However, as stated by IDRC team, this was due to the nature of this project. It was engineered as an iterative framework, innovative in a stepwise process based on adaptive learning. Thus, the design, implementation and monitoring was in sequence rather than in parallel.

To overcome this methodological limitation, this evaluation is designed as a *summative* participatory review guided by a mix of 'impact pathway' and "Outcome mapping" concepts. Selected progress markers have been extracted from the narrative/intentional design of the original proposal to capture the intended changes anticipated and the process that led to such changes.

### 2. The approach, tools and methods

The methodological tools used for this summative and informative evaluation are a combination/mix of qualitative tools. To capture the results and understand the process leading to changes the review focused on three elements emerging from the project objectives. The quality of Ecohealth expertise, the knowledge generated and applied and the policy implication (if any) of such knowledge. The following sets of activities were conducted between March 15<sup>th</sup> and May 27<sup>th</sup>, 2007:

- a. In-depth desk review of the project input and output documents as well as three independent thematic evaluation reports carried out on communicable diseases commissioned by IDRC in 2007 on three communicable diseases Dengue, Chagas' disease and Malaria in Latin America and Caribbean. The documents reviewed are listed in Annex 2.
- b. Country field visits to Egypt, Morocco Burkina Faso and Nigeria. Face to face semi- structured interviews, and informal discussions were carried out with project boundary partners the project aims to influence, (researchers and practitioners as well as the multi-stakeholders framework the country teams developed).

- c. Email exchange with project team members, IDRC team, partners and members of Ecohealth communities of practice
- d. Teleconference with UNEP (Dr Segbedzi Norgbey and Mrs. Cristina Battaglino) that provided insights on the evaluation process, objectives, expected outputs and further with IDRC staff
- e. Informal discussions with potential end users of the project outputs in Burkina Faso, Nigeria and Morocco

Team members and stakeholders interviewed are listed in Annex 3 except those that requested anonymity.

The overall report presentation follows (as much as possible) the frame suggested by UNEP-EOU in the ToRs.

## II. MAJOR FINDINGS

### A. Fulfillment of Needs and attainment of planned results

The project's goal was "to meet the essential needs of the world's poor, proper attention should be paid to links between health of the vulnerable community sub-groups and the sustainable management of the ecosystem' (biophysical and socio-economical) health determinants" (*The project document*)

Although this seems more of a long-term vision statement, the Ecohealth Project was highly relevant and contributed effectively and efficiently (and is likely to continue to do so) to bring to the fore (among the 9 country field project teams and their 'boundary partners') the comprehensive system-based research and intervention to promote linkages between community health and community-based ecosystem management. Two key concepts did contribute significantly to this "development goal". Firstly, the Ecohealth framework as presented in the project document by UNEP-IDRC-WHO (and to a large extent as executed by the country-teams) introduced for the first time (particularly in MENA and WA) participatory approaches in health and environment research and the inclusive vision towards health concerns of the vulnerable groups. The second element was transdisciplinary research that involved different disciplines and stakeholders and the way they work together towards a shared vision, a common objective with continuous interaction between researchers, practitioners, CBOs and/or NGOs and local decision-makers. Thus, it introduced an integrated cross-sectoral approach to environment-health challenges.

Overall, the project achieved the anticipated results, as clearly demonstrated by the following interrelated elements: The project successfully generated a wealth of evidence about benefits of linking up community health determinants to community-based ecosystem management for a spectrum of health promotion and disease control issues. In CAC for instance, the project in Guatemala and Southern Mexico provided evidence that community participation and local decision-maker involvement in environment management of the dengue mosquito vector and diarrhea led to risk factor reduction. Community-based environmental management also led to significant reductions of risk of Gastro-intestinal infection in marginalized communities in Ibadan, Nigeria that benefited merely from interventions implemented within the Ecohealth project.

The project was clearly effective in building interest, generating new knowledge and repackaging the Ecohealth knowledge base. Capacity-building workshops held by IDRC at the early stage of the project were consolidated through training after the field projects started. This effort yielded into a critical mass of local and regional expertise (9 expert-teams in CAC, WA and MENA) with proven capacity to carry out authoritative and credible research addressing health challenges within the Ecohealth framework. INRA in Morocco, Ecole Inter Etats d'Ingenieurs et de Techniciens de l'Equipement Rural in Burkina Faso and CASSAD-NGO in Nigeria are all working with local government and providing technical advice on issues related to wastewater re-use in agriculture, small dams water contamination and integrated solid waste management respectively. A good example of the quantitative impact of the project is reflected in the development of Ecohealth research capacity in Burkina Faso where the project involved 17 Students, 18 field

practitioners and 30 community representatives and the platform of stakeholders from seven research and development centers and universities, Development Agencies, Local authorities and ministries representatives interested in the impact of small dams on community health and well being.

Despite the complex realities (institution mandates are often mono-disciplinary; lack of partnership between academia and development organizations; the dominant sectoral approach to health and environment in most of the institutions involved in the projects; and lack of participatory tradition in research development within most of the institutions) and the “cumbersome” new set up (transdisciplinary teams involving communities and decision/policy-makers), the project showed that the Ecohealth ‘paradigm’ can be put into practice and could further influence policy. Dengue and Chagas’ disease control studies in LAC are clear examples that the Ecohealth approach has a comparative advantage and is more comprehensive compared to conventional vertical biomedical approaches. Community participation in environmental management efforts (vector breeding sites reduction in dengue and Chagas disease control, solid waste management in Nigeria and Burkina Faso), and the municipalities’ support helped the research teams to achieve better results in control and prevention of vector borne diseases more efficiently.

The needs assessment surveys carried out across the three target regions at the earlier stage of this project identified appropriate partner teams/institutions in 17 countries. The process was demand-driven and participatory and ensured institutional relevance of the Ecohealth framework. This was further consolidated through the pilot 18 projects (see details in Annex 4) and the regional competitions. Therefore, the fundamentals concepts of Ecohealth were first introduced before the first hand research experience came through the nine field projects.

The integrated strategy of capacity-building particularly the tailor-made Ecohealth training material, tools and methods were highly appreciated by the teams visited and facilitated the flow and exchange of knowledge between the IDRC team and the country teams.

To a large extent, teams were multi-sectoral (involving mainly health and environment authorities, local development government agencies, elected councils, researchers and decision-makers). Particular attention is paid to the promotion of gender and equity, participation of community subgroups, CBOs or NGOs to give voice to the marginalized groups’ perspective on ecosystem-related health concerns. Examples of the inclusiveness and gender sensitive approaches are reflected in team composition in Honduras and Nigeria where community representative including men and women were influent in the decision making on the interventions implemented respectively in vector control and water, sanitation and solid waste management.

As stated by Prof. Samuel Yonkeu, a field project’ team leader from Burkina Faso, “Research investigating linkages between human Health and Ecosystems is for the first time led by non-health institutions and professionals, this is a proxy indicator of profound behavioural change taking place in our environment. This project is contributing to get the Ecohealth conceptual framework moving beyond the former polarized and dichotomized *Environment plus Health* approach.”

There is a fairly broad consensus, among the ‘boundary partners’ (research teams and their stakeholders) that this project contributed by creating a wealth of information about Ecohealth. This can be verified by reference to the tangible outputs delivered such as the scientific database, publications and reports as well as the contribution at national and international meetings by the country teams (Annexe 3).

The strength and suitability of the Ecohealth framework in addressing health concerns was brought by the project from the research to community and to local decision-making spheres (with various levels of success). The 9 final reports and field visits support the statement made by all the teams that Ecohealth projects informed and influenced “soft policy” referring to the local, municipal and district level rather than national health or environment policy-making.

Several examples of teams informing decision-making in:

- municipalities - Honduras, Cuba, Guatemala: vector control strategies and practices recommended and adopted.
- provincial and governorate authorities - in Morocco: types of crops to be irrigated by wastewater to prevent health risks; in Egypt attention to linkages between ecosystem degradation and health risks among the vulnerable groups such as working children,
- and-Ibadan state government in Nigeria, evidence on role of community based solid waste management and collective water supply and sanitation in control of Gastro-intestinal infections.

Evidence of such achievements reported by the field teams was consistent with the findings of the four field visits to Egypt, Burkina Faso, Nigeria and Morocco. The added value of these studies consisted in the evidence that health risks associated to environment degradation are mitigated in sustainable ways through community engagement.

The global Ecohealth forum in Montreal in May 2003 was a real landmark event for this project process. It created an unparalleled platform for exchange of information about Ecohealth, between scientists from North and South, as well as between the research community and the policy- and decision-makers. Some of the activities identified at the forum resulted in networking as a strategy to sustain the project outcomes. Indeed the global forum provided an opportunity for the different field teams to present Ecohealth case studies to “difficult to reach” groups and key change agents. Another strategic output of the forum that will likely sustain the long-term impact of the present project is the support provided to the Ecohealth communities of practice. Those Ecohealth regional networks provide an opportunity for Ecohealth professionals to organize activities to sustain knowledge sharing and stewarding. The financial support provided by IDRC to kick-start “these communities of practices” is indeed highly valued by both MENA and WA teams visited.

A second international Ecohealth forum is being planned for in 2008 is likely to build on strengths of the first forum and that it will represent the culmination of the project and the Ecohealth experience.

### **Weaknesses**

To some extent, the Ecohealth project design was based on teams and research institutions’ perspective rather than relevance to the countries’ health and environment strategies and

programs. As a result, the Ecohealth project anchorage, linkage and eventually influence on policy were limited as the needs addressed by the project do not strictly relate to the ongoing national health and environment programs. In other words, the Ecohealth approach was relevant to both health and environment programs, but not clearly linked to the government's priority focus in each sector.

The Global Ecohealth platform was an icebreaking event that should have led to multilateral actionable initiatives to promote sustainable human health in its linkages to the ecosystem health. The forum in that sense was not sufficiently policy prescriptive; the effectiveness in terms of strategies and the way forward was not firmly set. The anticipated impact on institutionalization of the Ecohealth thinking and practice (i.e. broad uptake of the concept) and the linkage to policy processes at the regional and global scale did not build on the high momentum generated by the forum to set further direction and move. As stated by IDRC Ecohealth team:

*“ ..At the outset, Ecohealth’ institutionalisation was not clearly set but depended on how far the project would move into that dimension. The process was rather about learning and progressing as the project unfolded...”*

A shortcoming that could undermine the effectiveness of the project lies within the relatively limited policy implication of the knowledge generated and prospects for institutionalisation of the Ecohealth. In fact none of the 9 field-projects has strong evidence, communicated adequately to the appropriate policy influent network that could internalize the findings in the process of policy formulation at the national level. This could be related to the insufficient understanding of the policy environment surrounding the projects, to the communication capability of the research teams that would have been a strategic element in the project design or simply to the fact that the themes researched are not a priority for the policy community (i.e. lack of demand).

Another concern about the project outcomes is about the “viability” of the critical mass of researchers and practitioners exposed and capacitated throughout this tremendous effort after the project completion. Indeed, some of the teams built around the Ecohealth projects are likely to be disaggregated after the project end.

Nevertheless, a quite reasonably optimistic analysis would consider the desegregation of teams as a way to disseminate the principles of Ecohealth to new teams and to different institutions. This may require further follow up from IDRC Ecohealth team to map out what has happened to the teams a year (or more) after project completion.

## **B. Achievement of outputs and activities**

Different categories of outputs were anticipated in the project proposal including: pre-proposals, pilot projects and field projects proposals; training and capacity building workshops; a global forum held and an Ecohealth network established. The documented outputs defined at the outset consisted of 9 field project reports, the proceedings of the Global Ecohealth Forum and the survey on researchers and potential partner institutions in WA, CAC and MENA.

In effect, the overall assessment of the project outputs and activities within the Ecohealth program initiative exceeded the expectations both in scope quality and quantity. The capacity building endeavour and regional networks established are a success story replicated beyond the project. The Ecohealth principles and methods have been included in the training curricula in several faculties (Engineering school in Burkina Faso 2iE, The faculty of Medicine in Ibadan in Nigeria, The Faculty of Sciences in Settat in Morocco) and training centres. Some NGOs (as CASSAD in Nigeria) also included them in their capacity development programmes.

However, the field projects final reports that are the core repositories of the knowledge and lessons learned from the project have not been presented in a way to make them utilizable at wider scales as resource documents to share Ecohealth wisdom gathered in the 9 country studies. Part of the data was published but this remains insufficient as every single case study counts to bring in more evidence on how Ecohealth is put into practice in different settings around the world; what challenges the teams have faced; and how did they address them. The lessons learnt are of great value at this very stage for further dissemination of Ecohealth principles, methods and values.

The tremendous amount of knowledge and innovation generated in 17 projects in 9 countries within three continents needs more incisive dissemination and knowledge sharing effort with a clear strategy and progress markers to promote uptake of the findings from the case studies among national, regional and global audiences and decision spheres. Normally, the initiative would come from the teams themselves but, in this case, it needs to be backstopped/facilitated by the institutional framework provided by UNEP, IDRC and WHO.

The main challenge lies within the limited dissemination of the outputs and not so much in their quality, quantity and usefulness. A reasonable minimum would be a couple of policy briefs per project to be shared with properly targeted policy influent groups to inform decision at local and national level depending on the country project settings. A motivation mechanism is needed to encourage the teams to publish and share their knowledge at the national level with key stakeholders. Small funds to organize national platforms to that end may be an option to consider by UNEP IDRC and WHO in partnership with country teams.

### **1. Project activities**

The activities were properly, timely and adequately implemented as planned in sequence and not in parallel. Each activity was building on lessons learned from the strength and experience as the project unfolded.

The project activities were composite, coherent and well managed and configured based on needs assessment. The regional needs and human and institutional resources available were mapped out through the three “regional surveys” in CAC, MENA and WA. This has logically led to the conceptualization and design of the capacity-building strategy through regional training workshops and small research grants. The pilot projects provided the opportunity for “ground-truthing” and hands-on testing of the applicability of the Ecohealth ‘pillars’ with a focus on: interdisciplinarity, participation and gender and social equity in environment and community health and community ecosystem management. As the teams involved in capacity building and pilot projects became fairly competitive compared to other teams, regional competition was launched. The field projects were a showcase to

visualise how far the project paradigm and adaptive knowledge had been put into practice around local health issues with a focus on research projects that lead to community interventions.

The activities were implemented through the Regional funds. This decentralized organizational and managerial framework has ensured flexibility in implementation and relevance to the specific features of regional environment and health interfaces in their geographical and socio-cultural dimensions. Indeed, all teams have introduced significant improvement to the original proposals based on monitoring visits at inception phases.

The implementation of the different activities in sequence and not in parallel was adequate as the whole process was iterative. This ensured cumulative learning and standardized organizational practices among the project management and the country teams and institutions. In fact, this design was extremely appreciated by the all boundary partners involved in this evaluation exercise. *Faniran Adetoye, Professor Emeritus at University of Ibadan stressed* " this process was as important as the results generated at the end of the project. It ensured the strong engagement of the teams, the project relevance and anchorage in diverse realities and of course project ownership by all stakeholders."

Peer review workshops provided opportunities for exchanging information and expertise and were highly appreciated by the teams. Each country team presented the results at a regional workshop where discussions and feedback was given by the Ecohealth facilitators from IDRC and other projects teams in the region. These peer review workshops were also considered as the main evaluation activity event throughout the process.

## **2. Documentary outputs**

All the anticipated outputs were delivered. Further outputs were generated by the project which had not been initially planned, reflecting the ability of interdisciplinary Ecohealth teams to innovate and work independently. Three examples are hereby presented (further information on these is given in Annex 3):

- a. The major documentary (progress and final reports) outputs of the field projects and pilot projects
- b. Among other, the papers that came out of the global forum that consisted of 17 articles including the editorial of a special issue of Ecohealth Journal and 12 case studies.
- c. The output generated by a single interdisciplinary field project in Egypt consisted in 14 publications in peer-reviewed journals and four theses.

This list is likely to grow longer as the teams visited were all planning to submit a few more articles for publication. Dr Kettani from Ministry of Health in Morocco, member of the INRA team received the approval for two articles submitted after the project completion.

The reports are comprehensive compilation of rich data, reflecting the strength and limitations of case studies. The interpretation and data analysis stressed the technical results and too much emphasis was placed on context-specific analysis with little synthesis towards a message of regional or even global importance.

The reports and the peer-reviewed articles are, rather presented from a single discipline perspective where the shared vision, the common language and the interdisciplinary analysis are compromised.

Most of the reports do reflect a fair level of community participation and a certain awareness of the role of equity and gender components as social determinants of Human health. This was also observed during the four country visits undertaken for this evaluation. The implementation of community interventions was facilitated by this set up in Honduras, Cuba, and Nigeria where both men and women were involved in the decision making process about the type and location of the interventions and their timing. In Burkina Faso Interventions related to sanitation, and solid waste management to protect surface and ground water and reduce health risks associated with water contamination were led by community members themselves.

Few outputs highlighted the process of Ecohealth implementation (and its constraints) per se as a learning experience and a critical output beyond the technical results. The multi-language newsletter issued by the Ecohealth team in Ottawa however, did an exceptionally good job in that sense. There is room to make these technical reports excellent end products combining presentation of the findings and the process that produced them with a focus on ‘what next?’ from the team point of view, with more regional and global reflection. Such an output could be widely disseminated to share the project wisdom and catalyze further research and interventions using the Ecohealth approach.

More publications (targeting local, regional and global audiences) could be synthesised from the huge amount of good quality results generated by the teams over the three regions. There is great potential for the teams to pursue the Ecohealth knowledge-sharing beyond the national level. This lies within the team’s task and responsibility but could be encouraged and guided by the IDRC management team to do so. “Knowledge sharing” strategy generally needs to continue after project completion even if it may require some further funding and technical support from IDRC-UNEP-WHO as part of the funding of the regional Ecohealth communities of practice.

### **3. Capacity building**

The project created a critical mass of researchers and practitioners through training and knowledge sharing on Ecohealth in the three regions. A strong asset of the project was the diversity of audiences and beneficiaries targeted. Scientist from different disciplines, development practitioners and NGOs benefited from training workshops. Teams have systematically reproduced formal training and disseminated the Ecohealth knowledge within their sphere of influence. Community training workshops were held in WA and CAC and graduate Student were exposed to Ecohealth principles and tools in Cameroon, Egypt and Morocco.

The training material was used and incorporated in modules and lectures on environment and health linkages in universities and NGOs involved in the present project. The Faculty of Science and Technologies in Settat, Morocco introduced an Ecohealth module in the post-graduate curricula by the department of environment and development involved in this project. The Burkina team is also using the Ecohealth principles and methods as a compulsory module for civil engineers in ex-Ecole Inter- Etats d’Ingénieurs et Techniciens

Supérieurs de l'Équipement Rural, in Ougadougou, Burkina Faso. In Nigeria, the NGO CASSAD is formulating, recommending and using Ecohealth concepts in setting Master plans including curricula of new faculties that were approved in Nigeria.

The results of the Ecohealth capacity-building activities went beyond the teams and partner institutions and extended to government officials and non-health research institutions through other IDRC programs. In MENA, Algerian Environment and Natural Research Management institutions and academia developed and integrated training courses and modules on Ecohealth pillars in three Universities and research centres (Faculty of Medicine in Oran, The National Institute of Agronomy and the Doctoral studies School at the University of Science and Technology in Algiers).

#### **4. Ecohealth Global Forum 2003 and Ecohealth network**

The 350 participants to the Ecohealth Global Forum in 2003, are an indication of interest and support to the Ecohealth global forum in Montreal in May 2003 in its effort to bridge the divide between the environment and health sectors with a focus on the role communities in environmental management for the betterment of human health. The participants came from different backgrounds including: researchers, NGOs, decision makers and governments (details about countries and governments representatives can be obtained on request from IDRC Ecohealth Program Initiative at [www.idrc.ca](http://www.idrc.ca)). The forum was supported by IDRC, UNEP and WHO but also by the following spectrum of organizations that share a special interest in Human health and Ecosystem:

- The Ford Foundation
- Le Biodôme de Montréal
- The International Society for Ecosystem Health
- Health Canada
- Environment Canada
- The Canadian International Development Agency (CIDA)
- The Ministry of Health and Social Services for the Government of Québec, and
- The Université de Québec à Montréal (UQAM)

The forum generated a wealth of outputs (documented in Annex 4). Other visible outputs consisted in the established links and networks that are the *raison d'être* of this forum. The anticipated policy implication and options for the institutionalization of Ecohealth stressed at the meeting were initiated but are not a tangible achievement of the present project so far.

The initiative of building 'communities of practice' that are now active emerged during the forum as a strategy to strengthen the regional networks and sustain the knowledge-sharing after the project completion. Supporting these networks definitely represents a high return investment and is likely to sustain the benefits generated by the project. They could be the proponent engines for regional Ecohealth initiatives that will extend the network, develop and implement interventions that could contribute to health promotion through optimized community-based environmental management.

The forthcoming second international Ecohealth forum planned for in 2008 has an added value and significant difference in the sense that such Ecohealth benchmark meeting is not

led by IDRC alone but in collaboration with the International Association of Ecology and Health which is a consortium of scientific organizations from the US, Australia and Canada (<http://www.ecohealth.net/association.php>). This highlights the expansion of scientific players and their interest in adopting Ecohealth framework to address complex linkages between human health, environment and community centred development.

### C. Cost-effectiveness

The project had a budget of 950,000 US\$ and it was carried out following the initial project design and financial commitments of the implementing organization and partners. UNEP's in-kind contribution consisted entirely of the time that staff devoted to the project both in administration and monitoring as members of PSCs . The project cost as estimated at the commencement of the project is presented in the table 1 below,

**Table 1. Project budget**

	<b>(Expressed in US\$)</b>	<b>%</b>
<b>Cost to Project to UN Foundation</b>		
Matching contribution	250,000	26,40
UN Foundation Matching Grant	500,000	52,60
<b><i>Total cost of project</i></b>	<b><i>750,000</i></b>	
<b>UNEP, in-kind (staff time)</b>	50,000	5,25
Partner organizations, in-kind (staff time)		
IDRC	100,000	10,50
WHO	50,000	5,25
<b>Grand total cost of the project</b>	<b>950,000</b>	<b>100</b>

Considering the scale, diverse and complementary activities and outputs, it is difficult to imagine how this project could have been done less expensively. The amount of outputs (tangible and intangible) reflects a highly efficient use of financial resources.

IDRC's engagement and support led to the mobilization of strategic resources and stimulated teams and institutions in-kind contribution beyond the anticipated time allocation and logistics.

The Overall project expenditures are broken down in table 2.

**Table 2.** Actual final project' expenditures against activities (As provided by IDRC-UNEP)

Object of Expenditure	Total	2001	2002	2003	2004
	US \$	US \$	US \$	US \$	US \$
<b>IDRC Participation Component</b>					
Salaries					
IDRC Management, Technical Support and Administrative Services	93.168	59.100	23.545	10.523	
Network and Dissemination of inputs					
Network Development'	9.968		9.968		
<b>Total</b>	<b>103.136</b>	<b>59.100</b>	<b>33.513</b>	<b>10.523</b>	
UN Technical Assistance Costs to Field-based Activities in:					
1 Central America and the Caribbean	17.000		17.000		
2 Middle-East	15.000	15.000			
3 West Africa	19.000	19.000			
<b>Total</b>	<b>51.000</b>	<b>34.000</b>	<b>17.000</b>		
Travel					
Ecohealth Forum 2003 Travel of Experts to the meeting	35.000			35.000	
<b>Total</b>	<b>35.000</b>			<b>35.000</b>	
<b>4. Operating Expenses..</b>					
Eco health Forum 2003:					
Rental of Premises					
Equipment for Translations	20.000			20.000	
<b>Total</b>	<b>20.000</b>			<b>20.000</b>	
<b>5. Acquisitions</b>					
Acquisitions					
<b>Total</b>					
<b>Grants</b>					
<b>6. Grants for Field Based Activities</b>					
1.2 Central America the Caribbean	130.000		130.000		
2.1 Middle East	130.000	130.000			
3.1 West Africa	190.000	190.000			
<b>Total</b>	<b>450.000</b>	<b>320.000</b>	<b>130.000</b>		
<b>7. Training and meetings</b>					
1.1 Ad-Hoc Expert Group Meeting	15.000	15.000			
1.3 Training Workshop	25.000	25.000			
<b>Total</b>	<b>40.000</b>	<b>40.000</b>			
<b>Total available to IDRC</b>	<b>699.136</b>	<b>453.100</b>	<b>180.513</b>	<b>65.523</b>	
UNEP participation component					
<b>8. Monitoring Evaluation</b>					
Monitoring & Evaluation	15150				
<b>Total</b>	<b>15.150</b>				
<b>Total to be retained by UNEP</b>	<b>15.150</b>				<b>15.150</b>
<b>Total Project Cost</b>	<b>714.216</b>				
<b>10. Programme Support COST @ 5%</b>	<b>35.714</b>	<b>22.655</b>	<b>9.026</b>	<b>3.276</b>	<b>758</b>
<b>11. Grand Total</b>	<b>750.000</b>	<b>475.755</b>	<b>189.539</b>	<b>68.799</b>	<b>15.908</b>
<b><u>Budget Summary</u></b>					
Total Available to IDRC	699.136	453.100	180.513	65.523	
Total Available to UNEP	15.150				15.150
Programme Support Cost (5%)	35.714	22.655	9.026	3.276	758
<b>Grand Total Cost of Project</b>	<b>750.000</b>	<b>475.755</b>	<b>189.539</b>	<b>68.799</b>	<b>15.908</b>

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Indeed, many respondents stated that in-kind contribution of the teams to the project activities was underestimated at project design and inception. Community and stakeholder mobilization, team-building were extremely time-consuming exercises that have not been documented enough but have been highlighted by the project teams visited and interviewed. This reflects the interest and commitment the teams devoted to the Ecohealth framework despite all types of constraints.

Both cash and in-kind resources were leveraged by the project. Some of the funding efforts done by IDRC Ecohealth Program initiative benefited the project directly and indirectly and others were carried out in business partnership with other organizations particularly Canadian CIDA and Ford Foundation. The project's impact was consolidated through leveraging resources in two dimensions:

**1. To strengthen regional and global networks through regional Ecohealth communities of practices, institutionalisation and other consolidating activities with multiple funding mechanisms by IDRC in collaboration with other strategic partners leveraged the following resources**

- Community of Practice in Ecohealth LAC, (CAD\$1,260,000)
- MENA Regional Fund Phase II, (CAD\$331,156)
- Community of Practice in Ecohealth WA (CAD\$ 447,770)
- Institutionnalisation de l'Approche Écosystème et Santé Humaine, (CAD\$653,000)

**2. Follow-up Projects and Research Support Activities:**

- Development of Health Interventions for El-Fayoum, Egypt: a Holistic Agro-Ecosystem Approach (Phase II), (CAD\$257,200)
- Maîtrise de l'assainissement dans un écosystème urbain de Yaoundé (Phase II), (CAD\$355,300)
- Write-shop and Publications for Ecohealth, (CAD\$92,680)
- Institutionnalisation de l'Approche Écosystème et Santé Humaine; proposal development support (Dakar 2-4 mars, 2006), (CAD\$50,000)
- Knowledge Systematization on Managing Community-based Chagas Disease Prevention and Control Programs. (Control y Prevención de la Enfermedad de Chagas: Una Experiencia de Participación Comunitaria para Compartir. Supplemental funding from IDRC to the project "Control and Prevention of Chagas among the Lenca (Honduras)," (CAD\$24,100)

The project budget has been wisely used for the intended outcomes. The eighteen interdisciplinary teams from 17 countries that were trained and gained expertise in different fields are among the proxy indicators showing the excellent cost-effectiveness. At least 34 students graduated were trained within the Ecohealth projects. The budget covered capacity-building efforts, research activities and pilot interventions making this a high return investment project compared to other projects of this type and size. Another proxy indicator would be the importance of resources leveraged. The Ecohealth Cameroon team was awarded a grant with a budget comparable to the entire project under review.

Teams and institutions were not familiar with the meticulous procedures of financial management and project administration. This led to some delay with no cost implication. Teams highly appreciated the excellent grant management by the executing agency that was extremely rigorous and reasonably flexible to allow teams to face their institutional managerial shortcomings and provide evidence of transparent fund governance.

As stated by Prof. Bouzidi (Faculty des Sciences and Techniques, Settat, Morocco), this project set the basis for institutional capacity-building with regard to grants financial administration and management in multi-institutional projects with different managerial procedures. As a result, financial departments of the different institutions involved in this project are now able to manage inter-institutional international grants smoothly.

#### **D. Financial Planning**

The project management team and country teams did not mention any effect of the financial management including reporting and planning on proper decision-making or regarding timely funds transfers. The budget allocation matches the project goal and focus of creating a critical mass of researchers capable to further develop and implement Ecohealth framework research. Thus, Capacity-building activities and field project which were meant to introduce, implement and validate the Ecohealth principles and tools, were given the highest proportion (more than 70%) of the project total budget. Pilot projects that were basically between the introduction of the new paradigm and reaching a certain level of competence to carry out rigorous research were a relatively low return intervention. As the project unfolded, networking was increasingly given importance and the budget allocated to these activities amount more than half of the consolidating activities' budget. Ideally, more earmarked funding would have been allocated (but was not) to strategic dissemination, communication and outreach of project findings timely as the project generates significant new data.

No external audit was anticipated when the project was designed. However, The Auditor General of Canada audited the annual financial reports submitted to and reviewed by UNEP. Such a rigorous system ensured sound financial management with no reasonable justification for an external auditing.

#### **E. Impact**

The interviewees stressed two methodological constraints to the evaluation of the project impact. Firstly, there is no systematic way to capture what takes place later when the project is completed and when impact is likely to take place. Secondly, it is quite early to assess and capture the entire project impact. Tracing part of it is yet possible particularly in reference to the first objective of the project where a long-lasting impact is highly likely to happen. With this in mind, it is more objective to rather discuss in term of project outcomes.

##### **1. Scientific research**

The major outcome of the project was not only conceptual. The linkages between human health and ecosystem management at the community level were highlighted. The interdisciplinary teams involving multi-stakeholders to address ecosystem determinants of human health are an innovation the project introduced and put into practice. New knowledge has been produced within this participatory and inclusive framework. INRA

team in Morocco demonstrated the mutagenic risk associated with exposure to wastewater with industrial pollutant and suggested preventive measures. Similar findings were published by the Egyptian team on health risks associated with environment quality degradation that creates suitable conditions for malaria vector breeding and schistosomiasis transmission among working children that are missed in routine surveys done by the ministry of health and population in Fayoum oasis. World Vision team in Honduras showed that sustainable results could be obtained in control and prevention of Chagas' disease through community based vector control in Lencas communities in San Francisco municipality. Using Ecohealth approach, The Yaoundé University team in Cameroun brought evidence on key environment determinants of severe diarrhea among children under five of age and suggested integrated strategy to mitigate the health hazards associated to poor sanitation, polluted water sources and wastewater management.

At individual level, training, education and capacity building in Ecohealth concepts, methods and tools had and will likely continue to have an impact particularly in countries where institutionalization of Ecohealth has made a certain progress such as in WA countries and some MENA countries. An excellent example is the integration of a compulsory Ecohealth module in civil and environmental health engineering School training in Burkina Faso. Ecohealth is currently integrated in university curricula and NGOs training programs of medical schools and even at engineering faculties and colleges (see page 21).

Indeed, all interviewees stressed that the project is obviously having a snowball effect going beyond the 'boundary partners' that the project aimed to influence initially; Originally, the project aimed to influence the research teams directly involved in the capacity building effort but the impact is slowly expanding beyond the research teams to decision makers at municipality level (Cuba), health authorities, water and sanitation authorities (Cameroon), and local government in Ibadan State in Nigeria.

## **2. Communities**

In different settings, the project contributed to the community health risk reduction:

- The prevalence of Gastro-intestinal infections in vulnerable dwellers in Ibadan,
- The reduction of diarrhoeal disease among children under five in Yaoundé in Cameroon, and
- Transmission risk reduction in Chagas, dengue and malaria was thru vector control in Guatemala, Cuba and Mexico.

The attention of local government was drawn to issues of equity in health outcomes among community vulnerable sub-groups. Two illustrations among others can be reflected in El Fayoum, Egypt (highlighting the higher exposure and vulnerability of working children to bilharzias) and the higher exposure to gastro-intestinal infections among women and children in three poor urban dwellers in Ibadan, Nigeria. As a result, health authorities paid more attention to these groups through better coverage in diagnosis and treatment routine campaigns.

### 3. Decision -making and policy influence

Indeed the project had an influence on different levels of decision-making process and an obvious contribution to inform soft policy makers. Elements of evidence are presented in the following paragraph.

At the level of CSOs, although minor, the contribution of the project to community empowerment for better health and environment was:

- a. Improving the negotiating skills over environment and health issues and concerns in multi-stakeholder set up as mentioned by Burkina Faso team, communities are now organized and thus empowered to approach the local developpers.
- b. Several CBOs and NGOs in the 9 countries were empowered through training and participation in the decision making process in environment related health concerns throughout this project. An excellent example is provided by CASSAD, an NGO that was leading the project with Ibadan university partners and local government representatives. The three poor dwellers study communities are now negotiating with the local governments through the channels established by the project option for replication of the interventions in water, sanitation and particularly solid (inorganic) waste recycling.
- c. A long-term marginal unintended benefit of the local exercises experimenting Ecohealth is a potential contribution of the project to upgrade governance and accountability in environment and health management at local levels.
- d. Impact that goes beyond Ecohealth scope was sometimes initiated by the project. The local community representatives in Morocco have become development partners to the provincial and local development authorities. Other projects were successfully led by the village association supported by the project. Collective water supply and power supply and a rehabilitated truck road are all implemented in partnership with the association.

An organizational change that the project contributed to consists in Research institutions change. Universities, research centers in WA, MENA, and CAC are now open to new themes focusing on linkages between health and environment. Working in multi-stakeholder platforms is also an innovation of the project introduced with decision-makers, researchers and development practitioners working together on ecosystem determinants of human health.

Influencing policy at national level would be an unrealistic aim for the present project. However, at least four case studies demonstrated concretely that one could expect quite significant results in informing policy at the municipality and local government level which is an excellent achievement to consider in further planning and designing Ecohealth projects:

*“Some examples from project reports that reflect policy influence at the local level included: improved allocation of resources to the project areas (e.g. Infra-structure and services), giving voice to communities (improved representation), improved coordination among sector ministries to address overlapping mandates, and specific requests to project teams for guidance by government officials.” Final report, IDRC-UNEP*

The impact on policy could be better enhanced in a second phase of the present project. As more knowledge is generated, the local and national experts can further engage with policy-makers in designing and implementing a follow-up likely to provide the information needed to formulate adequate policies to link human health to eco-sociological determinants at local, municipality and regional scales.

One of the most successful projects adequately designed to influence the decision-making process at municipal level remains the Cuban team project. Tropical Medicine Institute, The National Hygiene institute with The Municipal Hygiene and Epidemiological unit were a core team of the project and successfully promoted the policy implications of the project. The health Service councils of the local government are making use and benefiting from Integrated Surveillance System for Dengue prevention as a Decision Support System elaborated within this project (Un enfoque de Ecosistema en salud humana para la prevencion de dengue a nivel local. Ciudad Habana, Cuba. (Spanish version of the report).

At the national and regional level, three regional Ecohealth networks in MENA, WA and LAC are supported and are functioning with a great potential to ultimately become self-sustained with minimum support (at this stage).

In fact, though the follow-up was clearly stipulated in the original proposal, there was no systematic framework to help capture the possible impacts occurring beyond the project lifespan. If impact is to be traced, there must be some mechanisms of follow up on major events and achievement after the field project completion. Two interesting examples can be mentioned from West Africa. The Nigerian NGO team is pursuing the informal and formal advocacy “Ecohealth evangelism” through National Radio programs broadcasting targeting the general public and local decision makers. The Cameroon team was awarded a substantive grant from EU- Spanish government to follow up on the Ecohealth project funded within the present project on participatory urban sanitation and health. As stated by an IDRC team member:

*“As for what happens after a field project is closed whether we follow-up activities or not, depends on whether we are still in touch with the teams or not. IDRC is just rolling out its electronic institutional repository, in that context we are planning to be more pro-active with our follow-up, i.e. do a mail out to our past Ecohealth partners, but as you can imagine this is a huge task, it is unfortunate that we cannot depend more on the pro-activity of past partners...” (Excerpt from an e-mail exchange with IDRC team member, Ottawa).*

Three elements suggest an influence of the Ecohealth project on the donor community:

1. There are teams that succeeded in resource mobilization using Ecohealth approach and managed to leverage substantial funding from other donors.
2. Improving organizational practices as IDRC Ecohealth team was gaining from the learning process of interaction with country teams and partners.
3. Some of the team members were invited to panels to evaluate proposals and concept notes related to health and environment (National and International) and may contribute to donor policy influence through the quality assessment of the proposals using the Ecohealth thinking (Prof. S. Yonkeu from 2iE in Burkina Faso set in panels of concept notes and proposals review).

The Ecohealth Framework has gained tremendously in terms of credibility and notoriety, among broader audiences, as a new framework that has an added value in addressing community health issues in holistic way considering eco-sociological determinants and is more visible as a paradigm at local national and regional level.

Institutional impact is much stronger, as:

1. The project strengthened the research capability of the partner institutions notably research centres and universities
2. Interaction between research and development organizations increased
3. Institutions are more open to work on new areas that are outside their traditional domain.
4. New inclusive and interdisciplinary vision for partnerships with local decision-makers in a mutual learning process where both researchers, development practitioners, communities and local-decision makers learn from each others experience.
5. Facilitating partnership and networking between researchers of different disciplines and across institutions. Communities of practice are likely to sustain the project impact on knowledge sharing and regional institutional partnership. Thus, the medium and long-term impact of the entire project hinges on the way in which the network will further grow and develop after the project. Supporting them will definitely optimize the long term impact of the project.

## **F. Sustainability**

Training and capacity building outcomes are definitely the most positive achievements of the project. Moreover, Ecohealth' concepts, tools and methods are integrated in the curricula in several universities or NGO capacity development programs as mentioned earlier. This is a reason to sustain the efforts of COPEH West Africa to institutionalize the Ecohealth framework.

Physical facilities that were identified in a participatory process led to community interventions with a high level of ownership and are likely sustainable. Latrines and solid waste compost facilities in Burkina and water supply and solid waste recycling facility in Nigeria visited one year after the project completion are still used, maintained and generated more demand from the communities. The ecological/health sustainability of these benefits is likely to be sustained as the health risks associated to poor sanitation and poor drinking water quality were significantly reduced.

Some activities are likely to be sustained, as they are part of the routine activities transferred to the responsibility of municipal authorities. Such is the case of Chagas and dengue monitoring following the completion of the project in the CAC project countries.

The framework set for this project between universities, research institutions, NGOs, CBOs and local government agencies is likely to be sustainable in several specific settings in the three regions. As stated by Dr Laamari from INRA (Morocco) the MoU signed between INRA-Faculty of Science and Technologies and Provincial Health Delegation of MoH are still valid and have paved the way to further collaboration.

Although the several teams proved that there are real prospects for financially sustainable funding, sustainability of the present project outcomes and benefits can be better seen from socio-political and institutional perspectives rather than financial and economic.

### **1. Socio-political**

In some cases, community organizations and associations were supported, worked with the project teams and were empowered through training and capacity building to engage in addressing other development issues apart from health. An outstanding example is reported from Settat in Morocco where the Mzamza Association created and supported by the project has now become a “real change agent and development interlocutor” as stated by Dr. Laamari from INRAA Moroccan team.

### **2. Financial and economic sustainability**

In terms of financial sustainability of the project outcomes, there are three categories to be considered in the way forward. There is no doubt that some project outcomes are self sustained particularly those institutionalized such as training modules on Ecohealth in the three regions. Other activities may require a minimum external support for instance, the communities of practice through regional exchange activities to build self-sustained networks. However, a third category of outcomes related to the large research and intervention undertakings will depend on the teams’ engagement and competitiveness to drain funds from other resources to build on, scale out and consolidate this project achievement and pursue the objective of policy influence. A success story is reflected by the team of Ecole Superieure Polytechnique de Yaoundé in Cameroon that built up on the experience gained in the project and received significant funding from EU to scale out access to water and sanitation and scale out the Ecohealth findings Water facility and Associao Catalana d’Enginyeria Sense Fronteres (Spain) and Environnement Recherche Action Cameroon was an exception in terms of replication and catalyst effect.

Networks established and CSOs supported could be an engine to sustain and scale out the project outcomes. An NGO founded by former field research team members based at the University of Ibadan has developed a Program called ‘Clean and Green’ which is now leading training and education activities, awareness-raising to promote the Ecohealth paradigm among different audiences and social categories.

## **G. Stakeholder participation**

Consultations were carried out during project design. UNEP and IDRC started collaborating to promote Ecohealth in international meetings in Rio de Janeiro 1992, Ottawa in 1999 and in Shizuoka 2001.

Based on that, the leading international stakeholders board was extended to WHO. This institutional framework designed a multi-stakeholder consultation process before the project was designed. This partnership provided adequate leadership, funds, technical support, managerial assistance and ensured quality control, monitoring and evaluation from the design stage.

The global multi-stakeholder process was critical in leveraging technical and financial resources from organizations such as Ford Foundation and CIDA. Their contribution provided support to consolidating activities that were not planned for at the original design stage but had an extremely important impact on the project performance outcomes.

Three regional extensive consultancies (capacity and needs survey) were commissioned in 1999-2001 and constituted a key step in the multi-stakeholders process. They mapped out the relevant individuals from key institutions and the relevant research themes that contributed later to the design of project activities and played a key role in directions and decisions about the project design:

1. *“Ecohealth and the missing links in the Middle East: Strengthening the Ecosystem Approaches to Human Health in the Middle East.” Kamal Montasser, 1999.*
2. *“Renforcement de l'écosystème et Santé humaine en Afrique de l'Ouest” Ofoumon David 2000.*
3. *“Ecosystem Approach to human Health and Tropical diseases in Central America. Report on Regional Survey of Institutions and researchers”. Rodriguez, Mario Henry, 2001.*

The capacity and needs survey output was instrumental in promoting broad institutional endorsement to the project. The inclusive approach initiated at this stage was sustained throughout the project.

Recognizing the need to engage a broader range of stakeholders (government agencies, civil society, local government and local policy makers, indigenous organizations, universities and research centres), the project set clear requirements and conditions for participation in the different project activities to ensure that the team composition was multi-stakeholder. This was sometimes *“forced and supply driven”*, but did help to change and facilitated the transition. The pilot project and field project reflected a gradual process of change.

The quality and soundness of the project's outcomes has surely benefited from its inclusive framework as multi-stakeholder were involved timely and all the way throughout the process. Two outstanding experiences are reported by World Vision in Honduras and Cameroon team. Seven to eight stakeholders ranging from the households to international organization with clear roles were involved and had a say on the project's direction.

*“In Honduras, a multi-stakeholder Round Table was set up for the continued monitoring of Chagas at the municipal level, consisting of members of the municipal association (corporacion municipal), traditional elders (Vara Alta) and the local research committee and vigilance committee members” World Vision Honduras team report.*

The leading project 'boundary partners' were mainly research and training institutions with a defined mandate and vision in applied research. Institutional “sclerosis” and resistance to change does not often encourage flexibility and openness of the research teams to new themes and new partners (decision-makers, civil society and communities). The project influenced the institutions that broadened their vision through forging multi-stakeholders platforms and links.

*“Being a multi-stakeholder and multi-institutional team is an advantage that creates the suitable conditions to consider trade-offs and options and ensure more accountability. But it is also a burden as each institution has its own mandate, vision and policy. Finding a common ground, language and vision was a permanent challenge to the team”. Prof. F. Kishk Alexandria University, Egypt March 2007. (Translation from Arabic)*

Some NGO members, researchers and even local decision makers (municipality councillors) were involved as individuals but their institutions were not engaged. In fact, the project benefited from their expertise.

All project outputs highlighted the added value of stakeholder participation in decision-making in environment-related health issues. The interventions shaped in the three regions within this platform were relevant, sustained and reached the vulnerable sub-groups that are mostly exposed to the health risks associated to environment degradation.

The stakeholder analysis done by the management team and the field projects was not documented adequately as a process. However, the reports did reflect well the spectrum of stakeholders involved at different stages of the project.

Local partners capable of effective engagement in policy processes were probably not identified with sufficient clarity and the mechanisms to engage them for further up-take and replication of the project findings were not explored thoroughly. In fact the stakeholders’ platforms were planned for and implemented in several projects (Cuba, Ecuador, Guatemala, Nigeria, Egypt) on informal basis. As a consequence, key strategic partners important for enhancing the project’s impact and sustainability were slightly engaged sometimes at latest stage of the project. This requires a certain expertise that is yet to be reflected in the field project team’s composition. Looking at the teams’ composition of the nine field projects, no single team had a policy specialist/political scientist. However, the teams did realize the real need to include this kind of expertise in a future consolidation phase.

There is a need to further formulate and package the project findings in a way a policy maker would understand. No policy briefs were produced up to the end of the project. CoPEH-MENA is producing a summary of six case studies that could become a good experience to share with the two other regions’ respective networks.

*“The chances of this kind of program to be institutionalized and influence health policy are limited on the short term. This is due to the fact the health component of Ecohealth project is “diluted” in the package of socio-ecological components. Health authorities do hardly see how important are the health concerns in the integrated vision...Indeed it is a new culture the project is introducing; we are learning daily how to do better. We need to consolidate our progress by thorough of impact evaluation. We recently got a relatively small grant to apply the Ecohealth approach to hydatidosis in Morocco (Hydatid cyst disease. We have an opportunity to perform better in applying Ecohealth approach” Dr S. Kettani (Physician Ministry of Health and Health Researcher, INRA team Morocco)*

Participation of different stakeholders in decision-making processes was widely attempted at small scales and used by the teams in addressing community health concerns from an eco-sociological perspective. One example provided by this project is the field project

research led by Centre for African Settlement Studies and Development, a Nigerian NGO. Communities played a leading role in needs assessment and setting the framework for the adaptive knowledge generated by the project team. Interventions subsequently identified and implemented around water supply, sanitation and solid waste recycling had positive implications on community health (Gastro-intestinal tract infections) and well-being in three urban poor settlements in Ibadan in Nigeria.

## **H. Country ownership**

The relevance of the project to national strategic plans for poverty reduction and sustainable development policy documents that stress the human health implications of environment degradation are explicitly evidenced in most of the project proposals and reports.

An outstanding successful example was reported from Honduras. The control and prevention of Chagas disease among the Lenca population was exceptionally successful in weaving strategic partnership and entrenching country ownership through national ministries and agencies. The spectrum of alliances involved ministries of health, education, the national plan for the elimination of Chagas disease, the Honduras social fund (FHIS), the Foundation for Rural Housing (FUNDEVI) and Japan Cooperation Agency (JICA).

During the country field visit, two concrete situations from Burkina Faso deserve special attention. They do reflect the indirect use of Ecohealth knowledge and know how to inform national agenda setting:

*a.* Prof S. Yonkeu, the Ecohealth project team leader in Burkina Faso is chairing a national inter-departmental commission formulating the national law on Environment Impact Assessment (EIA) and “provides insights and reflection gained throughout the Ecohealth project to set the frame for national code on EIA.

*b.* Dr. Ph. Compaore of the same team was nominated as a national head of maternal health considers that the program offers a huge room to apply the interdisciplinary approach, participation of the end users of the health services and the fundamental of equity in access to services. He stressed that his team is introducing the principles in a stepwise process in planning and implementation of the national program.

At the project level, the reports do highlight the relevance of their undertaking to national health and environment development and promotion. Nevertheless, the results adoption and up-take is quite limited as no study concretely reported the utilization of the findings for agenda setting in linking community based ecosystem management and community health.

## **I. Implementation approach**

### **1. Origins**

The current project is a follow-up to a collaborative process that started in 1999 when UNEP and IDRC jointly convened a Seminar on Ecosystem Approaches to Human Health on Communicable and emerging diseases in Rio de Janeiro. The proceedings were jointly published. Later the same year, an International Consultation on Ecosystem Disruption and

Human Health was jointly organized at the Canadian Conference on International Health in Ottawa. Thereafter, IDRC and UNEP presented their Ecohealth results at the 8<sup>th</sup> International Conference on Environment of Mutagens in Shizoka, Japan in 2001.

The management team deserves considerable credit for managing a complex multi-scale, multi-stakeholder and multi-country project, undertaking and sustaining momentum, as well as addressing the challenges of numerous demands throughout the project life cycle.

The project was developed as collaboration between UNEP, IDRC, WHO and, later, the Ford Foundation, which provided financial and/or technical support.

The governance, institutional and legal arrangements ensured proper implementation and were executed in compliance with the mechanisms stipulated in the original project proposal.

The implementation of the project activities without mishaps is a managerial and logistical achievement in itself.

## **2. Strength**

Regional funds were extremely suitable organizational structures that implemented and monitored the project in close collaboration with teams and providing timely technical backstopping. Such organizational structures could be documented and disseminated as a stand-alone part of this project for dissemination and knowledge-sharing.

*The project activities were implemented through the Regional funds. This decentralized organizational and managerial framework has ensured flexibility in implementation, relevance to the specific features of regional environment and health interfaces in their geographical and socio-cultural dimensions. The RFs provided also an adaptive monitoring system with adequate responsiveness to teams' specific needs (IDRC Ecohealth team, teleconference April 2007)*

Three key governing and organizational bodies were envisioned to ensure successful implementation of the process:

- a. UNEP provided overall coordination (technical, administrative and financial) and monitoring. IDRC was working on the day-to-day management of the project including implementation of activities and M&E. This applies for both the RfP and the forum (Forum Task force, Steering committee, TRP)
- b. The Regional Joint Project Steering Committee (PSC). Its composition included a representative of each of the organisations in the regions (CAC, MENA and WA). Their mandate was to provide guidance and support to optimize the implementation. They were supposed to communicate intensively online and meet face-to-face once a year but this did not work in all regions as expected for reasons related mainly to staff turnover.

- c. The proposals underwent a thorough review by the Technical Review Panel (UNEP, IDRC, WHO and local experts in NRM, health, Social Sciences and policy development) to ensure their quality.

### **3. Challenges**

A few unanticipated difficulties were met and addressed successfully by the implementing team, which did not undermine the creative administration of this project.

- d. There was a slight delay in project commencement due to country clearance requirements and contracting that could not be anticipated. This did not have any repercussions on the entire implementation process.
- e. The multi-stakeholder approach was cumbersome but handled successfully by the implementing team.
- f. Given the fact that teams in WA and MENA were less familiar with Ecohealth concepts and tools compared to CAC, more coaching was requested by those teams after the first exposure through workshops and pilot projects.

### **4. Weaknesses**

Though the implementation process was highly effective, a few shortcomings were however noticed. Indeed, as the IDRC team itself noted:

*“In practice, this framework did not work as well as it was anticipated particularly because of the high staff turnover of officers involved in the project. However, there was an exception in MENA Regional fund, where the PSC held annual progressive meetings; there were very little such formal activities in other regions”. IDRC team Ottawa, 2007.*

Despite the decentralized and participatory design and implementation through Regional Funds, some countries’ field projects were “islands of Ecohealth country-specific knowledge”. Not many links to ongoing national programs in the field of environment and health were established or facilitated throughout the project. Health and Environment authorities had a rather symbolic presence and responsiveness to the attempts of the teams to involve them in the results up-take. Again the outstanding experience was the Honduras team that weaved real strategic partnerships with local and international agencies and ministries.

Overall the implementation process was successful and dealt with unanticipated issues with the required adjustment timely and judiciously.

## **J. Replicability**

Three elements could be thought about in prospects for replication, scaling out or extending the Ecohealth project with more or less potential for a multiplier factor:

- 1. The design of the entire process, from planning implementation, monitoring and evaluation
- 2. The environmental interventions tested and validated and the knowledge produced

### 3. The institutional set up, management and policy framework

The excellent design and implementation process of the present project with the capacity building, pilot project and field project is definitely an innovation that ensured effectiveness efficiency and relevance and has great room for replication elsewhere. The implementation in sequence through Rfs is a success that can be tested for other regions, other diseases with strong socio-ecological underlying causes.

The multi-component design and the stepwise process could be replicated and would be of value for other pandemics with a clear policy demand for applied research such as avian flu where holistic applied research is a key missing link particularly in MENA and WA. Likewise some tools tested within Ecohealth projects can be up-scaled to other sub regions or within the country.

The institutional framework between UNEP-IDRC and WHO has a fabulous potential for intervening in broader and deeper Ecohealth initiatives in and outside the three continents. Nevertheless, the management of development research by IDRC and the particular linkages UN organisations have to the governments, and their policy guidance and expertise were not used to their full potential to bring Ecohealth approach to higher decision-making levels.

However, there is great potential for expansion of the interventions identified within a participatory forum as these were tested and proved effective. Dengue and Chagas disease control and prevention in CAC, water, sanitation and health risks alleviation in North and West Africa are all replicable experiences.

Regional initiative within the COPEHs are expanding the lessons learned and could involve countries that were not involved so far. Three interesting examples in MENA (Algeria) WA (Cote d'Ivoire and Benin) and CAC (Salvador) clearly demonstrate that the project has contributed to spill-over the benefits to other countries as the Ecohealth principles benefited directly from the pool of expertise existing without being direct recipient of the project at the design stage.

The Multi-stakeholder framework involving researchers, development practitioners, communities and decision-makers was suitable to address environment-related health issues and intervention.

## **K. Monitoring and Evaluation**

In relation to M&E, key elements were engineered at the project configuration which includes:

- The Project Steering Committee members with Regional offices of UNEP, WHO and IDRC program officers were supposed to oversee the onsite monitoring and evaluation mechanisms but this was in effect left to IDRC.
- A systematic reporting system (quarterly, half-yearly and annual) combined with annual monitoring and evaluation meetings based on field visits carried out by IDRC team.

Evaluation was explicitly defined as internal/self-evaluation except for the “institutionalisation of the Ecohealth framework” for which a budget line was created for external evaluation. IDRC Ecohealth PI commissioned external evaluations for communicable diseases in CAC on three health issues i.e. Chagas, Dengue and Malaria carried out to capture the outcome of three projects co-funded through this initiative.

The M&E package of activities laid out in the project document was effectively implemented. There is a broad consensus that the monitoring mechanism was perfectly designed and implemented. The visits were regular and the feedback reasonably sufficient to ensure the project progression be executed as planned. The visits supported the teams in designing, implementing and reflecting on project activities adequately and timely.

In addition, regional workshops (mid-term and end of project) were organized including peer-review workshops that were highly appreciated by the teams. A side benefit of these workshops is that they provided guidance and constituted capacity building in M&E for the Ecohealth teams.

Three *post-facto* thematic evaluations were commissioned by IDRC Ecohealth PI on communicable diseases (Malaria, Dengue and Chagas). These are excellent balance sheets that capture the main outputs, achievements, the outcomes of the Ecohealth projects.

As the project had no logframe, it relied on self-evaluation with no pre-set indicators with which to gauge the quality of outputs as they were generated and extent to which they matched the project vision. In fact, an external mid-term evaluation would have provided directions for better performance particularly with regard to the project’s second objective (policy influence) where the project performance was relatively modest.

Indeed, a lesson to consider for future action: This project clearly demonstrates that a perfect monitoring system cannot substitute for a reasonably focused evaluation. A timely mid-term evaluation exercise would have captured the asymmetrical performance of the project on the two fronts, knowledge and capacity building that was efficiently achieved and policy impact that was relatively limited.

Furthermore, the final evaluation that was supposed to be carried out earlier was delayed for reasons related to staff turnover at UNEP and IDRC all led to difficulties in initiating the terminal evaluation.

As designed, the reporting mechanism was thorough and regular in time. For the same reporting period (half yearly, yearly and end of project), two types of reports have to be generated. IDRC reports to UNEP that in turn reports to UNF/UNFIP.

*“This arrangement resulted in duplication of efforts and in some cases creating redundancy particularly during the annual reporting. If IDRC was recognized not only as an executing agency, but a key donor partner that had provided significant funds for the project and other related activities, a much more efficient reporting structure could have been designed that would still have satisfied the accountability requirement of every partner.” Project final report (draft provided by UNEP).*

The teams visited stressed the importance of the regular monitoring to ensure the project smooth progress and address the challenges timely. However, one team mentioned the recurrence of such visits was quite demanding and costly in terms of time and resources. A few mentioned that feedback was not sufficient on technical issues as it was for administrative and financial issues.

In this type of project where behavioural change, social learning and organizational practices are subject to the project intervention and influence, Outcome mapping would have been an excellent tool to use at the planning, monitoring and evaluation of the project outcomes.

### **III. CONCLUSIONS, RECOMMENDATIONS AND LESSONS**

The present Ecohealth project is championing the challenge of testing the implementation of Community Ecosystem-based management to improve and promote community health in a sustainable and equitable way. It is part of a follow-up process preceded and born out of the global debate on Health, environment and sustainable development. The successes and shortcomings of this project cannot be evaluated in isolation from this context.

The project was a complex undertaking engineered in an innovative institutional and legal framework with multi-donor, multi-country and multi-stakeholder partnership. The aim of the project was to introduce, experiment and institutionalize an ecosystem approach to human health that assumes that improved community health outcomes (mostly communicable diseases) can be achieved effectively, efficiently and in a sustainable way through better community ecosystem management. The project focused on local capacity building, generating new primary knowledge with local, national or regional policy implications. The project targeted partner institutions and communities in WA, MENA, CAC and facilitated a platform for global interactions and synergy-building through the flagship event of the Global Ecohealth Forum 2003.

#### **A. Main findings**

##### **1. Project set up and design**

The project was led and coordinated by UNEP in partnership with WHO and IDRC being the executing agency. Other donors provided significant support to consolidate activities that were added to the original design notably Ford Foundation and CIDA. The project was designed after intensive consultation at regional and country level to map out national boundary partners including research institutions, civil society, communities and other donor agencies. This process paralleled a needs assessment scoping survey in the three regions that provided a project roadmap. The project activities set three core elements: a. Ecohealth training and capacity building, b. Ecohealth research to generate primary new knowledge c. Networking and sharing of information at national and international level through a Global Ecohealth Forum held in Montreal in 2003.

##### **2. Implementation process and mechanisms**

The project management through The Regional funds involving UNEP, WHO and IDRC regional representations was an innovative implementing set up that ensured decentralized management and flexibility in efficiency monitoring. The excellent implementation of the project activities without mishaps is a managerial and logistical achievement itself.

##### **3. Results and Outputs**

- 18 teams trained and exposed to the concepts and tools of Ecohealth
- More than 34 students graduated (MSc, PhD) in different disciplines and specialities in 9 countries were exposed thoroughly to the Ecohealth concepts and used the tools and methods. Coaching and mentorship provided to young scientists and development practitioner was highly appreciated by the field research teams.

- Local expertise with proven capability to undertake Ecohealth research is increasing in a 'snowball effect' as the number of young students and practitioners are exposed to the principles of Ecohealth approach.
- The Ecohealth global forum in 2003 generated numerous high quality outputs contributed efficiently to kick-start a global dialogue and a suitable frame for future partnership to mainstream Ecohealth at national and regional level. A second forum set for 2008 is an opportunity to collate and capitalize on achievement of the first forum and the global experience gathered since the project and the Ecohealth program initiative started.
- Three Regional networks established through Ecohealth communities of practice COPEH WA, COPEH MENA and COPEH-LAC.
- The institutionalisation of Ecohealth is an ongoing process with significant progress achieved in West Africa.
- Ecohealth project facilitated the good performance of multi-stakeholder frameworks in the three regions. This is a new exit to upgrade the governance on ecosystem management for health betterment and community well being.
- The sustainability of the project outcomes can be assessed at different levels. Capacity building and knowledge networking are self-sustained. Research activities may need external recurrent funding. However, demonstrated teams have their ability to leverage new resources.
- The institutional anchorage of the teams in the local settings is an asset that will further replicate and disseminate the Ecohealth knowledge and expertise. Some teams in CAC are a step ahead in implementing and integrating Ecohealth approach at the community and municipality levels. A similar trend was kick started in WA and MENA.
- Packaging a spectrum of activities (in harmony) made the project highly cost effective. The implementation design in sequences and not in parallel processes was a key element in the project success.

#### **4. Monitoring and evaluation**

- Regular reporting (Half yearly, annually), annual field visits undertaken by IDRC and regular follow up through Rfs ensured a robust monitoring system.
- No logframe was developed during project design
- The peer review workshops were part of the capacitating process that provided insights on field projects performance and capture an objective analysis of the project performance.
- A mid term evaluation would have been extremely beneficial to the project to revisit the way it performed and would have allowed for adjustments where needed.

#### **5. Weaknesses**

- The project was over-ambitious in targeting knowledge generation, capacity building and policy influence under conditions of limited resources and time constraints. However, at different levels and in different countries including, Nigeria, Cuba, Morocco, Honduras, Burkina Faso and Egypt, the field project teams informed decision-makers on health risk management through environmental interventions.

- Efforts to achieve the two objectives were unbalanced. The team expertise in policy understanding and influence was in general modest. Lack of a comprehensive communication and outreach strategy limited the knowledge up-take.
- Limited ties to the national programs and therefore limited opportunities to rely on national programs to further integrate and sustain the project.
- The vision on what happens next was not systematically defined at the outset because of the nature of the project based on adaptive learning. The project did not tap on the potential role UNEP and WHO could provide in integrating the findings and use their connection to country programs and to health and environment authorities to promote the Ecohealth approach using locally and nationally generated evidence.
- **Overall assessment**

Criterion	Evaluator's Summary Comments	Evaluator's Rating	EOU Comments
<b>Attainment of objectives and planned results (overall rating)</b> <b>Sub criteria (below)</b>	Innovative Ecohealth paradigm successfully implemented and validated at the global scale. Policy implications of the new knowledge generated are yet to be achieved (though the process was started at the local level).	<b>Satisfactory</b> <b>5</b>	<b>The report is not able to produce enough CLEAR evidence to justify a satisfactory outcome. The weaknesses presented are quite important. Policies needed to be influenced and this part of the project seems to have failed. Articles do not represent the inter-institutional aspect of ecohealth which should have been promoted and not clear if it has (4)</b>
Effectiveness (project objectives)	<ol style="list-style-type: none"> <li>1. Viable teams of competent researchers and practitioners created at global scale</li> <li>2. Institutionalization of Ecohealth capacity building programs in process though requires further support</li> <li>3. Policy influence depends highly on what happens next</li> </ol>		
Effectiveness (expected outcomes)	High quality useful outcomes (global goods) delivered timely Dissemination and outreach are yet to be optimized to reach the intended policy sphere and large public.		

Criterion	Evaluator's Summary Comments	Evaluator's Rating	EOU Comments
Relevance	Bridging the divide between ecosystem management - human health and sustainable development was achieved Socio-ecological determinants of community health addressed in multi-stakeholder framework by interdisciplinary teams Health outcomes at local level improved		
Efficiency	Outputs highly commensurable with resources Excellent ratio time-resources-outcomes		
<b>Achievement of outputs and activities</b>	1. Intangible outputs: Regional expertise in Ecohealth with clear project attribution. 2. Tangible outputs including: a. Sound and useful documentary global goods b. Successful, well packaged capacity building process c. Unprecedented Ecohealth Global Forum d. Three viable Regional Ecohealth networks: communities of practices	<b>Satisfactory 5</b>	<b>Part of the activities planned also included governmental inclusion with the hope of policy influence and this does not seem to have happened (4)</b>
<b>Cost-effectiveness</b>	1. The prodigious amount of outputs is highly commensurate with the financial and technical inputs though too a lesser extent for the pilot project activity. 2. No redundant activities 3. Most of the budget allocated to the core activities of the project with little personnel and salary costs 4. No external funding required to achieve the project activities set at the inception	<b>Highly Satisfactory 6</b>	<b>It appears the project might have been cost effective, but the report is not clearly describing the outcomes achieved. (5)</b>
<b>Impact</b>	1. Research and innovation in knowledge 2. Introducing participatory frameworks in community based ecosystem management and health 3. Organizational capacity building in research and management of grants in multi-institutional set-up 4. Ecohealth institutionalization and mainstreaming which was kick-started is still in process 5. Depends highly on what happens next 6. Set a viable framework to facilitate knowledge exchange: Communities of practice in EcoHealth 7. Policy influence limited to soft policy achieved in different countries as it takes time and further efforts to see the project contribution at national policy influence.	<b>Moderately satisfactory 4</b>	<b>EOU agrees with the consultant</b>
<b>Sustainability (overall rating)</b>		<b>Moderately satisfactory 4</b>	<b>EOU agrees with the consultant:</b>

Criterion	Evaluator's Summary Comments	Evaluator's Rating	EOU Comments
<b>Sub criteria (below)</b>			<b>There are several negative aspects presented and to be considered when rating i.e. lack of country ownership (governments), at the moment it is totally dependant on donor money and network is sometimes mentioned to be weak. (4)</b>
Financial	<ol style="list-style-type: none"> <li>1. Recurrent intervention with external support might be required for research activities but capacity building is financially self-sustained and integrated in institution's activities</li> <li>2. Project leveraged to date of USD7.5 Million (ten times the initial funding amount of this project) to sustain project benefits and outcomes</li> </ol>		
Socio Political	At community level: empowerment, kick-started an effective environment-health effective governance		
Institutional framework and governance	<ol style="list-style-type: none"> <li>1. Multi-donor partnership ensured entirely financial and technical support. No endogenous mechanisms.</li> <li>2. Linkages to local development' programs and initiatives at the national level local are not evidenced: Implication on the way forward.</li> <li>3. Viability of the framework is not sufficiently ensured.</li> </ol>		
Ecological/Health	At small scale interventions are likely to be sustained in Cuba, Honduras, Burkina Faso and Nigeria External support may be needed to foster the project health outcomes in other countries.		
<b>Stakeholders participation</b>	<ol style="list-style-type: none"> <li>1. Extensive consultation processes before project design from global to local level.</li> <li>2. Three needs assessments mapped out key stakeholders, institutions and individuals.</li> <li>3. Multi-stakeholder Framework introduced successfully</li> <li>4. Insufficient involvement of policy makers throughout the project design and implementation</li> <li>5. The added value of Ecohealth, inclusive and integrated approach evidenced</li> <li>6. Community-NGOs-research-decision</li> </ol>	<b>Satisfactory 5</b>	<b>The fact that policy makers were left out very negatively affects the interdisciplinary and the multistakeholder factor which you many times positively comment on throughout the</b>

Criterion	Evaluator's Summary Comments	Evaluator's Rating	EOU Comments
	makers are new alliances for further Ecosystem and community health action 7. Local institutional changes in practice and policy		<b>report.</b> <b>This has affected the project outcomes and impact (4)</b>
<b>Country ownership</b>	1. Local decision makers involvement particularly high in CAC 2. Overall insufficient linkage to/influence on national agenda and strategies in environment and health programs	<b>Moderately satisfactory 4</b>	<b>Governments seem to have been left out from project execution (3)</b>
<b>Implementation approach</b>	1. Excellent implementation framework 2. High quality management throughout implementation 3. High competency in responsiveness to the teams and partners demand 4. Relatively lower engagement of WHO beyond the participation to The PSC meetings and guidance provided at the regional workshops 5. Delays in financial disbursement and duplication in reporting did not affect the project progress and performance	<b>Highly satisfactory 6</b>	<b>WHO did not seem to be very active and present during project execution. Elsewhere in the report you mention delays in financial disbursement and duplication of efforts (4)</b>
<b>Financial planning</b>	1. Excellent financial management and many activities are now self sustained 2. Successful financial resources leveraging strategy 3. Budget allocation to project activities highly efficient 4. Rigorous financial Management and internal systematic audit by the General auditor of Canada ensured the project excellent cost- effectiveness	<b>Highly satisfactory 6</b>	<b>EOU agrees with consultant</b>
<b>Replicability</b>	1. The teams that get funding from other donors replicate the project design and implementation. 2. Uptake of findings is not foreseen beyond the local level so far 3. To some extent potential horizons for spill over beyond recipient countries 4. The communities of practice are likely to further replicate the process, knowledge and outcomes of the project.	<b>Moderately satisfactory 4</b>	<b>EOU agrees with consultant</b>
<b>Monitoring and Evaluation (overall rating) Sub criteria (below)</b>	1. Excellent monitoring mechanisms 2. Self-evaluation and peer review meetings were not sufficient to provide timely direction on policy impact but strengthened the project achievement on all other activities	<b>Moderately satisfactory 4</b>	<b>EOU agrees with consultant</b>
Effective M&E system in place (Indicators, baselines, etc.)	1. Post-facto evaluations would have been more effective if scheduled at mid way 2. Evaluation frame did not set the baseline, and the progress markers as the project was iterative in nature		

Criterion	Evaluator's Summary Comments	Evaluator's Rating	EOU Comments
Information used for adaptive management	1. Robust reporting system contributed to successful implementation 2. Mid term evaluation was not planned for. 3. The project self-evaluation did not capture the shortcomings timely. However issues of networking identified as the project unfolded and considered.		
<b>Overall Rating</b>	Successfully designed and implemented. Overambitious in targeting policy influence under time and financial constraints Further impact of the project is likely to take place as continuous efforts are still invested to consolidate the Ecohealth project achievements.	<b>4.8</b>	<b>4.2</b>

## B. Recommendations

- Ideally, UNEP and WHO using their established links to health and environment authorities at country levels could lead to a second phase of the project investigating mechanisms for policy influence. This would complement the excellent job done by IDRC as an implementing organization throughout this phase which has generated tremendous amount of results that can potentially be translated into policy measures.
- Alternatively, in the short term UNEP-IDRC project management could support short capacity building programs in communicating Environment and health scientific evidence to **different target audiences**. This is likely to benefit not only the project but also the ability of the applied research expert, NGOs and institutions to sustain applied research impact on overall development, community well-being and ecosystems health.
- IDRC and UNEP have a role to play in facilitating the re-orientation of the regional EcoHealth communities of practice to better involve and target decision makers with key information derived from the project. A particular support to the CoPEH in West Africa that is well engaged and making good progress in Ecohealth institutionalization and mainstreaming would add value to the project.
- Re-orientation of the COPEH could also look at other health concerns beyond the communicable diseases where the approach could face new challenges and bring in new relevant knowledge that could inform communities and policy response to emerging diseases, zoonoses and other diseases associated to urban ecosystem's health degradation such as the slums areas.
- The project's institutional framework within UNEP-IDRC-WHO has an excellent niche and a comparative advantage within regional and global initiatives where the nexus between Human Health and Community Based Ecosystem Management is a core issue, such as MDGs and Adaptation to Climate Change.

**Comment [b1]:** It be useful to know what other kind of audiences eco-health projects could target

- In the medium-term, UNEP, IDRC and WHO could continue their effort to build on the emerging expertise to establish regional focal points and centres of excellence in community-based Health and Environment management in WA, CAC and MENA. Such centres could expand their interest to upcoming issues of climatic changes, preparedness policies and globalisation' implication on community based ecosystems management in relation to health outcomes.

### **Follow up activities**

- Adequate mechanisms of knowledge packaging and sharing are yet to be worked out by the teams in partnership with IDRC-UNEP and WHO framework.
- Encourage regional health thematic teams' collaboration with WHO and UNEP regional offices similar to the successful workshop on Chagas where teams from Honduras, Guatemala and El Salvador participated.
- A first effort to be facilitated by IDRC would consist in developing and implementing a comprehensive dissemination strategy to bring the project outputs to the decision-making and policy communities at national level. Adequate mechanisms of knowledge packaging and sharing are yet to be worked out by the teams in partnership with IDRC-UNEP and WHO framework. Ecohealth team at IDRC can carry out this task properly.
- UNEP-IDRC could continue technical support and guidance as requested to the communities of practice. Assist the national teams to immediately identify activities that will sustain the network and identify further direction based on expertise built throughout the Ecohealth project.
- Ecohealth team at IDRC could use informal links with project leaders to capture the forthcoming outcomes of the project and follow up on significant events and achievement after the field project completion.
- IDRC-UNEP could encourage the regional networks and country teams to tap into new funding opportunities from major donors and development partners to sustain the project expertise generated to address global pandemics such avian flu, Dengue, and Malaria with strong policy elements. The following considerations seem to be crucial:
  - a. The policy influence network has to be mapped properly
  - b. An evaluation framework properly set
  - c. Link up to national programs to ensure sustainability after the project completion

## C. Lessons Learned

- For future UNEP-led initiatives using this management model, a more active role in institutionalization and mainstreaming of Ecohealth approach in UNEP programs. This would ensure a better reach within the same institutional set up, time and resources.
- In large scale, regional applied research projects, the role of UNEP is better ensured through partnership and not a mere oversight. Delegating the monitoring to competent agencies as done in this experience increases the chances of project success.
- In iterative projects that require adaptive management like the one under evaluation, UNEP-IDRC and WHO need to consider two elements required in terms of M & E: an excellent monitoring system combined with a mid term evaluation that provides operational guidance and mitigates the risk of project low performance on some of the objectives.
- As shown in this project linkage to national programs and strategies in environment and health need to be considered at the design stage as they could augment the project ownership and sustainability and possible far reaching impact.
- RFs and PSC are strong organizational and governance structures to manage the project in a decentralized way. The constraint is sometimes linked to staff turnover. Mitigating measures to reduce the risks associated to staff turnover need to be envisioned at the design stage in regional undertaking.
- In terms of strategy, scale matters when projects like Ecohealth are exploring new horizons. Within the same framework UNEP-IDRC-WHO a pilot test at a region is likely to be more comprehensive and process oriented. One region and one health theme per region would have provided outcomes strong enough to inform policy.
- In similar applied research project with multi-stakeholder processes proper needs assessment is instrumental. It provides the direction for complex undertakings and it can draw the attention of UNEP management team to potential important uncertainties to be considered at the design stage. It should be systematic in iterative projects of this type to make the project demand driven and relevant to the communities and other expected end users.
- In order to understand mechanisms and channels to better bring the knowledge into policy, similar projects could consider involving policy specialists and/or political scientists among the teams if the aim is to influence policy.
- In this type of project where behavioural change, social learning and organizational practices are subject to the project intervention and influence, Outcome mapping would be an excellent tool to use at the planning, monitoring and evaluation of the project outcomes.

- The policy- and decision-makers need to be involved at the design stage, during the preparation and organisation of the global Ecohealth forum and particularly further in national and regional networks to ensure relevance, country ownership and institutional anchorage of the Ecohealth knowledge base and intelligence.
- Any follow up to the present Ecohealth project should capitalize on all the strengths and excellent performance of this phase. If this comes to fruition, a few elements need to be considered at the design stage:
  - Establish linkages with ongoing country policy reform and country strategic programs with potential entry points to community health and community based ecosystem management not only in health and environment sectors but also with overall development projects.
  - Map out the ‘boundary partners’ to capture whom the Ecohealth project wants to influence and how it is intended to do so and set graduated indicators of changed behaviours.
  - Proper training and capacity building of the teams on knowledge and tools need to be paralleled or in sequence with communication and outreach techniques and strategies to ensure project results sharing, utilization and impact.

## **IV. ANNEXES**

1. Evaluation Terms of References
2. List of documents consulted
3. List of formal participants
4. Set of some project outputs
5. Co-financing statement and leveraged resources

## Annex 1: Terms of Reference

### Final Evaluation of the UNEP project

“Improved Health Outcomes Through Community-based Ecosystem Management:  
Building Capacity and Creating Local Knowledge in Community Health and Sustainable  
Development”  
MT/2010-01-16

#### 1. BACKGROUND

##### Project Rationale

Upto 25 per cent of the global burden of disease is attributed to environmental causes. This burden falls most heavily on children. Children account for upto 66 per cent of the victims of environment induced illnesses. Much of this is largely preventable through better management of the environment. The concept of ecosystem approach to human health (Ecohealth) offers a unique opportunity to promote human health through a more judicious management of the ecosystems in which people live and work. Ecohealth introduces the notion that the human being is an integral part of the ecosystem, instead of being in conflict with it (ecosystem), or outside of it. The ecological approach to health highlights the complexity of the links between the different determinants of health, arising 'not only from the behaviour of the individual, but also, from the quality of their living and working conditions. One important advantage of the Ecohealth approach is that it encourages a much broader concept of disease prevention. It also focuses on developing solutions based on an alternative form of management involving a range of development sectors - rather than conventional health sector interventions. The Ecohealth approach, in sum, attempts to bridge the tensions that have been inherent in single-sector approaches to development

The First Principle of the Rio Declaration states that: *human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature*

Ecohealth approaches are dependent on a participatory and transdisciplinary methodology sensitive to the needs and aspirations of different social groups. The philosophy underlying the Ecohealth management process implies, by definition, arriving at a common agreement with communities on the objectives for measuring the health of ecosystems. Communities possess important information and perceptions about their health and about their ecosystems. They must be empowered to apply their local knowledge to action plans as well as to gain access to new knowledge on the impacts of ecosystems on human health.

The project identified the following needs:

- To create and/or reinforce the capacities of multi-sectoral teams to implement applied field projects using an Ecohealth framework

- To actively involve various levels of policy and decision-makers in order to ensure that the knowledge gained is replicated, scaled-up and institutionalized, through workshops and the flagship event called Global Forum 2003

The project was expected to stimulate and institutionalize an ecosystem approach to human health which favours improved community health outcomes, builds local capacity and generates local knowledge. The project focussed on institutions and communities in West Africa, Middle East, North Africa and Central America and the Caribbean, and provided channels for the national and global application of this knowledge through the Global Forum 2003.

### **Legislative Authority**

UNEP/GC.21/31: The Environment Fund Budgets: Proposed biennial programme and support budget for 2002-2003: The proposed project served Objective 1. Promote the development of policies and strategies at the global, regional and national levels which respond effectively to existing or emerging environmental issues, within the context of sustainable development, of Programme element: 2.1:Policy Analysis, Review and Development of Subprogramme 2 (UNEP/GC.20/22).

The proposed project also contributes to the implementation of Objective 1: To promote and support the incorporation of environmental dimensions into the analysis, review and development of policies and strategies at the regional, subregional and global levels, to address priority environmental issues, of Subprogramme 2 - Environmental Policy development and Law (UNEP/GC.21/6).

### **Executing Arrangements**

The project is executed by the International Development Research Centre (IDRC), Canada, in close cooperation with WHO and UNEP, both at the headquarters and regional office level, as appropriate. The project is governed by a Joint Project Steering Committee (PSC) comprising of UNEP, WHO and IDRC, as well as other contributing donors as appropriate. Regular electronic (weekly) and face-to-face (yearly) exchange of views and consultation between PSC members is foreseen.

IDRC, as the executing agency, is responsible for both Requests for Proposals (RfPs) and the Forum. IDRC coordinates and organizes meetings of the Steering Committee, the Forum Task Force and the Technical Review Panel (TRP). Monitoring and Evaluation of regional activities is undertaken by TRP and reported to the Steering Committee.

The Technical Review Panel (TRP) consisting of UNEP, WHO, IDRC, and one expert from each of the three regions (North Africa and the Middle East (MENA), West Africa (WA), and Central America and the Caribbean (CAC), as well as other contributing donors as appropriate, and an international expert with developing country experience, collects, evaluates and awards research grants to candidates and also provide technical inputs to project implementation. IDRC, UNEP and WHO Regional Offices are involved in the work of TRP, as necessary.

### **Project Activities**

The project agreement between UNEP, IDRC and UNF was signed on 20 November 2001 and the main project activities were completed by 30<sup>th</sup> April, 2006. The project consists of the following activities:

1. Preparation of a capacity and needs-based survey of institutions and researchers in the targeted regions (Middle East, North Africa, West Africa, Central America and the Caribbean) (covered by previous IDRC funds).
2. Training and dissemination workshops on Ecohealth approaches. Invite most promising institutions/researchers (based on 1 above) to participate in a training and dissemination workshop. To be eligible, teams have to submit a preliminary proposal on linking ecosystem management and human health improvement, indicating clearly the crosssectoral, participatory nature and gender integrative strategies of the planned project. Participation of policy- and decision-makers should be included in the proposal in order to ensure sustainable interventions resulting from the activities.
3. A 5-day training workshop for multidisciplinary teams, consisting of three specialists (one health, one environment and one socio-economic). During the workshop, each team will present its proposal. Upon completion of training, each team receives a small grant to expand their proposals, using field data and fully secure community participation (as per 4.1 this component applies only to CAC where the use of funds distributed by UNEP is concerned).
4. Development and submission of competitive Requests for Proposals (RfP) which will be peer reviewed by a Technical Review Panel (TRP) consisting of UNEP, WHO, IDRC and local experts in natural resource management, health, social sciences and policy development, for funding.
5. Implementation of field pilot projects.
6. Preparations for the 2003 International Forum on Ecosystem Approach to Human Health, Montreal, Spring 2003.
7. Conducting a Forum with maximum participation from implementing institutions/researchers, Ecohealth specialists from developing and developed countries, policy- and decision-makers and other members of the Ecohealth network (see 1 above).

#### **Budget**

The project had a budget of 950,000 US\$. The project was carried out following the initial project design and financial commitments of implementing organization and partners. UNEP's in-kind contribution consists entirely of the time that staff devoted to the project. The project cost as estimated at the commencement of the project is presented in the table below.

	<b>(Expressed in US\$)</b>	<b>%</b>
<b>Cost to Project to UN Foundation</b>		
Matching contribution	250,000	26,40
UN Foundation Matching Grant	500,000	52,60
<b>Total cost of project</b>	<b>750,000</b>	

UNEP, in-kind (staff time)	50,000	5,25
Partner organizations, in-kind (staff time)		
IDRC	100,000	10,50
WHO	50,000	5,25
<b>Grand total cost of the project</b>	<b>950,000</b>	<b>100</b>

The actual project cost has changed to a limited extent due to the variations in exchange rate, as well as the actual needs of activities.

## 2. OBJECTIVE AND SCOPE OF THE EVALUATION

### Objective

The objective of this final evaluation is to assess whether the objectives and goals of the project were achieved in an effective and efficient manner and provide recommendations and lessons from project implementation in order to assist in determining whether to continue, replicate or expand the project. The evaluation will cover the entire project period (2001-2006). The evaluation will focus on the following key questions:

2. Was the Eco-health project successful in developing local research capacity and promoting research into the links between human health and the environment?
3. How successful was the project in generating up-take, replication, up-scaling and institutionalisation of the knowledge generated by the field projects?
4. What is the extent of the applicability and relevance of the Ecohealth approach in promoting human health? To what extent have the specific needs of the target groups of stakeholders been considered and what is the relevance of the approach to the target stakeholders?
5. To what extent was the project successful in generating interventions and solutions for improving human health and is there any evidence that such interventions have been translated into policy/decision making?

**Terms:**In particular but not restricted to, the evaluator shall conduct analysis on the following parameters defined:

1. Fulfilment of needs and attainment of planned results:
  - Assess the extent to which the project's major relevant objectives were effectively and efficiently achieved or are expected to be achieved including their relevance.
2. Achievement of outputs and activities:
  - Asses the scope, quality, usefulness and timeliness of the project outputs in relation to its expected results.
  - Assess the soundness and effectiveness of the methodologies used.
  - Determine whether the Eco network has been successfully established and assess the level of participation in the network from both developing and developed countries.

- Assess the extent to which project outputs have the weight of scientific authority/credibility to influence decision making at the local (community) and municipal levels national and regional levels.
3. Cost-effectiveness:
- Assess the extent to which the project leveraged additional resources and document cash and in-kind contributions to the project.
  - Identify factors which contributed to leveraging additional resources, if any.
  - Assess whether the funds have been efficiently used by the executing agency.
4. Financial Planning
- Assess the strengths and utility of financial controls, including reporting and planning to allow the project management to make informed decisions regarding the budget and allow for a proper and timely flow of funds for the payment of satisfactory project deliverables.
  - Present the major findings from the financial audit if one has been conducted.
  - Identify and verify the sources of co-financing (in cooperation with the Executing Agency).
  - Assess whether the project has applied appropriate standards of due diligence in the management of funds and financial audits.
5. Impact:
- Evaluate the immediate impact of the project on scientific research, policy development and decision making in the participating countries.
  - As far as possible, also assess the potential longer-term impacts of setting priorities and presenting agreed actions for implementation.
6. Sustainability
- *Financial resources.* What is the likelihood that financial and economic resources will be available such as the project outcomes/benefits will be sustained after the UN/IDRC assistance ends?
  - *Socio-political:* What is the likelihood that the level of stakeholders' ownership will allow for the project outcomes/benefits to be sustained? Is there sufficient public /stakeholder awareness in support of the long term objectives of the project?
  - *Institutional framework and governance:* What is the likelihood that institutional and technical achievements, legal frameworks will allow for the project benefits to be sustained?
  - *Ecological/Health.* The analysis of ecological and health sustainability may prove challenging. What is the likelihood that project achievements will lead to sustained ecological/health benefits?
  - *Replication and catalysis.* What examples are there of replication and catalytic outcomes that suggest increased likelihood of sustainability? Replication approach in the context of UNEP projects, is defined as lessons and experiences coming out of the project that are replicated or scaled up in the design and implementation of other projects. Replication can have two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources).

7. Stakeholder participation:

- Assess the efforts undertaken by the project in identifying and engaging stakeholders and establish, in consultation with the stakeholders whether this mechanism was successful and identify its strengths and weaknesses.
- Assess the degree and effectiveness of collaboration and coordination between the various project partners and institutions during the course of implementation of the project.

8. Country ownership:

Assess the level of country ownership. Specifically, the evaluator should assess whether the project was relevant for national development and environmental/health agendas

9. Implementation approach:

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been closely followed.
- Evaluate how appropriately implementation mechanisms have been adapted to the changing needs of the project.
- Evaluate the effectiveness of project execution arrangements at all levels including (i) policy decisions; Joint Project Steering Committee; Technical Review Panel; (ii) day to day project management; and (iii) and in general, the partnerships formed for project implementation.
- Assess the effectiveness of supervision and administrative and financial support provided by UNEP.
- Identify administrative, operational and/or technical problems and constraints that influenced the effective implementation of the project.

7. Replicability:

- Assess whether the project has potential to be replicated, either in terms of expansion, extension or replication in other sub-regions and/or regions.
- Assess the extent to which the project has contributed to any spill over benefits to other countries in addition to the project partners.

8. Monitoring and Evaluation:

- Determine the effectiveness of the reporting, monitoring and evaluation mechanisms employed throughout the project's lifetime; and how effective the project responded to the challenges identified through these mechanisms. The evaluator shall include an assessment of the quality and application of project monitoring and evaluation requirements as laid out in the project document.

The evaluator shall make strategic recommendations, where appropriate, based on the findings of the evaluation which would contribute to the future direction of the project. These recommendations should be clearly stated in terms of who would do what and by when.

The evaluator will rate the overall implementation success of the project and provide individual ratings of implementation aspects as described in Section 3 of this TOR. The

ratings will be presented in the format of a table with adequate justifications based on the findings of the main analysis.

Furthermore, the evaluation should highlight lessons learned, both the positive as well as the negative, from the standpoint of the design and implementation of the project. The rating criteria can be used to categorise the lessons.

### 3. METHODS

This final evaluation will be conducted as an in-depth evaluation using a participatory approach whereby the UNEP Project Officer and other relevant staff are kept informed and regularly consulted throughout the evaluation. The evaluator will consult with UNEP/Evaluation and Oversight Unit and the UNEP Project Officer on any logistic and/or methodological issues to properly conduct the review in an independent way.

The findings of the evaluation will be based on the following:

1. A desk review of project documents including, but not limited to:
  - (a) The project documents, meeting and workshop reports, progress reports, and relevant correspondences.
  - (b) Review of specific products including regional reviews, guidance manual, and project content based articles published in journals, and other documents produced by the project
  - (c) Notes from the Joint Project Steering Committee, Technical Review Panel.
  - (d) Other material provided by the project team in both hard and soft forms.
2. Face to face interviews or telephone interviews with project management (such as IDRC, and national and regional research institutes).
3. Interviews and telephone interviews with selected community based organisations and other intended users for the project outputs in the region. As appropriate, these interviews could be combined with an email questionnaire.
4. The consultant shall determine whether to seek additional information and opinions from representatives of donor agencies and other organisations (e.g. WHO) by e-mail or through telephone communication.
5. Interviews with the UNEP project task manager and Fund Management Officer, and other relevant staff in UNEP dealing with environment and health issues as necessary.
6. Field visit in the West and North African project regions

The success of project implementation will be rated on a six-point scale:

Highly Satisfactory = 6

Unsatisfactory = 2

Satisfactory = 5

Highly Unsatisfactory = 1

Moderately Satisfactory = 4

Unable to assess = 0.

Moderately Unsatisfactory = 3

The following items should be considered for rating purposes and adequate justification must be provided for each rating:

- Attainment of objectives and planned results
- Achievement of outputs and activities
- Implementation approach
- Stakeholders participation
- Financial planning
- Cost-effectiveness
- Country ownership
- Replicability
- Monitoring and Evaluation
- Results and Impact
- Sustainability

#### 4. EVALUATION REPORT FORMAT AND PROCEDURES

The evaluation report shall be a detailed report, written in English, of no more than 30 pages (excluding annexes) and include:

- i) **An executive summary (no more than 3 pages)** providing a brief overview of the main conclusions and recommendations of the evaluation;
- ii) Introduction and background giving a brief overview of the evaluated project, for example the objectives and status of activities
- iii) Presentation of the evaluation's purpose, scope, objective and methodology, the evaluation criteria used and questions to be addressed;
- iv) Project Performance as per above listed 11 parameters **providing factual evidence** relevant to the questions asked by the evaluator and interpretations of such evidence;
- v) Conclusions and rating of project implementation success giving the evaluator's concluding assessment and ratings of the project against given evaluation criteria and standards of performance. The conclusions should provide answers to questions about whether the project is considered good or bad, and whether the results are considered positive or negative;
- vi) Lessons learned presenting general conclusions from the standpoint of the design and implementation of the project, based on established good and bad practices. Lessons must have the potential for wider application and use, and the context in which lessons may be applied should be specified; lessons learned, should be explored mainly beyond project design and management issues and also incorporate possible technical aspects such as effectiveness of technical methodologies, scope and buy-in of stakeholders.
- vii) Recommendations suggestion actionable proposals regarding improvements of current or future projects. The evaluator shall make recommendations that may enhance the likelihood of further project impacts beyond the life of the project.
- viii) Annexes terms of reference, list of interviewees, and so on.

Examples of UNEP Final Evaluation Reports are available at [www.unep.org/eou](http://www.unep.org/eou)

#### Review of the Draft Evaluation Report

Draft reports submitted to UNEP EOU are shared with the corresponding Programme or Project Officer and his or her supervisor for initial review and consultation. The programme staff and senior Executing Agency staff (IDRC) are allowed to comment on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. UNEP EOU collates the review comments, conducts a report quality assessment (see Annex 1+2), and provides them to the evaluators for their consideration in preparing the final version of the report.

The final report shall be submitted in electronic form in MS Word format and should be sent to the following persons:

Segbedzi Norgbey  
Chief, Evaluation and Oversight Unit  
UNEP, P.O. Box 30552  
Nairobi, Kenya  
Tel.: (254-20) 7623387  
Fax: (254-20) 7623158  
Email: [segbedzi.norgbey@unep.org](mailto:segbedzi.norgbey@unep.org)

With a copy to:  
Cristina Boelcke  
OIC Division for Policy Development and Law  
UNEP, P.O. Box 30552  
Nairobi, Kenya  
Tel.: (254-20) 7624065  
Email: [cristina.boelcke@unep.org](mailto:cristina.boelcke@unep.org)

Monika Wehrle  
Programme Officer, Division for Regional Cooperation  
UNEP, P.O. Box 30552  
Nairobi, Kenya  
Tel.: (254-20) 762 3114  
Email: [heinrich.wyes@unep.org](mailto:heinrich.wyes@unep.org)

Dominique Charron  
Program Leader  
Ecosystem Approaches to Human Health  
Environment and Natural Resources Management Program  
International Development Research Centre (IDRC)  
PO Box / CP 8500, Ottawa, Ontario, Canada K1G 3H9  
Tel : +01.613.236.6163 ext 2079 Fax: +01.613.563.0815  
Email: [dcharron@idrc.ca](mailto:dcharron@idrc.ca)

The evaluation report will be printed in hard copy and published on the Evaluation and Oversight Unit’s web-site [www.unep.org/eou](http://www.unep.org/eou).

## 5. RESOURCES AND SCHEDULE OF THE EVALUATION

In accordance with UNEP policy, all projects are evaluated by an independent evaluator contracted by the EOU. The evaluator should not have been associated with the design and implementation of the project. The evaluator will work under the overall supervision of the Chief, Evaluation and Oversight Unit, UNEP. The evaluator should have the following minimum qualifications: (i) experience with project management and implementation and in particular with targeted research projects that generate policies/strategies, knowledge and information; (ii) scientific expertise in the subject matter; (iii) project evaluation and (iv) proficiency in English written and spoken and working knowledge of French. Knowledge of UNEP programmes and activities is highly desirable.

## 6. SCHEDULE OF PAYMENT

The evaluator will receive a lump sum payment payable in three parts. 30% upon signing the contract; the evaluator will receive further 30% upon submission of draft report. Final payment (40%) will be made upon satisfactory completion of work. The fee is inclusive of all expenses, including travel and per diem.

In case, the evaluator cannot provide the products in accordance with the TORs, the timeframe agreed, or his products are substandard, the payment to the evaluator could be withheld, until such a time the products are modified to meet UNEP's standard. In case the evaluator fails to submit a satisfactory final product to UNEP, the product prepared by the evaluator may not constitute the evaluation report.

### Annex 1

UNEP EOU Assessment of project ratings and performance using the Final Evaluation report for the project entitled “Improved Helath outcomes Through Community-based ecosystem Managemenet: Building Capacity and Creating Local Knowledge in Community health and Sustainbale Development”.

Criterion	Evaluator's Project Rating	UNEP EOU Project Rating	UNEP EOU Comment on rating
<b>Attainment of objectives and planned results. (sub-criteria)</b>			
Effectiveness (project objectives)			
Effectiveness (expected outcomes)			
Relevance			

Criterion	Evaluator's Project Rating	UNEP EOU Project Rating	UNEP EOU Comment on rating
Efficiency			
Achievement of outputs and activities			
Cost-effectiveness			
Impact			
Sustainability (sub-criteria) <sup>2</sup>			
Financial			
Socio Political			
Institutional framework and governance			
Ecological			
Stakeholders participation			
Country ownership			
Implementation approach			
Financial planning			
Replicability			
Monitoring and Evaluation			
Effective M&E system in place (Indicators, baselines, etc.)			
Information used for adaptive management			
<b>Overall Project Rating</b>			

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

### Review of the Draft Report

Draft reports submitted to UNEP EOU are shared with the corresponding Programme or Project Officer and his or her supervisor for initial review and discussion. The Programme or Project Officer and his or her supervisor provide comments on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The review also seeks agreement on the findings and recommendations. UNEP EOU collates the review comments and provides them to the evaluators for their consideration in preparing the final version of

<sup>2</sup> Rating scale for sustainability sub-criteria; Highly Likely = 6, Likely = 5, Moderately Likely = 4, Moderately Unlikely = 3, Unlikely = 2, Highly Unlikely = 1, and not applicable = 0

the report. General comments on the draft report with respect to compliance with these TOR are shared with the reviewer.

### Quality Assessment of the Evaluation Report

All UNEP Terminal Evaluation Reports are subject to quality assessments by UNEP EOU. The quality assessment is used as a tool for providing structured feedback to the evaluator.

The quality of the draft evaluation report is assessed and rated against the following criteria:

Report Quality Criteria	UNEP EOU Assessment notes	Rating
A. Did the report present an assessment of relevant outcomes and achievement of project objectives in the context of the focal area program indicators if applicable?		
B. Was the report consistent and the evidence complete and convincing and were the ratings substantiated when used?		
C. Did the report present a sound assessment of sustainability of results?		
D. Were the lessons and recommendations supported by the evidence presented?		
E. Did the report include the actual project costs (total and per activity) and actual co-financing used?		
F. Did the report include an assessment of the quality of the project M&E system and its use for project management?		
UNEP EOU additional Report Quality Criteria	UNEP EOU Assessment	Rating
G. Quality of the lessons: Were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
H. Quality of the recommendations: Did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?'). Can they be implemented?		
I. Was the report well written? (clear English language and grammar)		
J. Did the report structure follow EOU guidelines, were all requested Annexes included?		
K. Were all evaluation aspects specified in the TORs adequately addressed?		
L. Was the report delivered in a timely manner		

#### Rating system for quality of terminal evaluation reports

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

<p><b>Quality of the TE report = <math>0.3*(A + B) + 0.1*(C+D+E+F)</math></b>  <b>EOU assessment of TE report = <math>0.3*(G + H) + 0.1*(I+J+K+L)</math></b>  <b>Combined quality Rating = <math>(2* \text{'EOU' rating} + \text{Additional EOU rating})/3</math></b>                      The Totals are rounded and converted to the scale of HS to HU</p>
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## **Annex 2**

### **Evaluation Ethics (from the UN Evaluation Group Norms and Standards for evaluation)**

#### **Selected Norms**

Evaluators must have personal and professional integrity.

Evaluators must respect the right of institutions and individuals to provide information in confidence and ensure that sensitive data cannot be traced to its source. Evaluators must take care that those involved in evaluations have a chance to examine the statements attributed to them.

Evaluators must be sensitive to beliefs, manners and customs of the social and cultural environments in which they work.

In light of the United Nations Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender inequality.

Evaluations sometimes uncover evidence of wrongdoing. Such cases must be reported discreetly to the appropriate investigative body. Also, the evaluators are not expected to evaluate the personal performance of individuals and must balance an evaluation of management functions with due consideration for this principle.

#### **Selected Standards**

- Evaluations should be carried out in a participatory and ethical manner and the welfare of the stakeholders should be given due respect and consideration (human rights, dignity and fairness). Evaluations must be gender and culturally sensitive and respect the confidentiality, protection of source and dignity of those interviewed.
- Evaluation procedures should be conducted in a realistic, diplomatic, cost-conscious and cost-effective manner.
- Evaluations must be accurate and well-documented and deploy transparent methods that provide valid and reliable information. Evaluation team members should have an opportunity to disassociate themselves from particular judgments and recommendations. Any unresolved differences of opinion within the team should be acknowledged in the report.
- Evaluations should be conducted in a complete and balanced manner so that the different perspectives are addressed and analysed. Key findings must be substantiated through triangulation. Any conflict of interest should be addressed openly and honestly so that it does not undermine the evaluation outcome.  
Evaluators should discuss, in a contextually appropriate way, those values, assumptions, theories, methods, results, and analyses that significantly affect the interpretation of the evaluative findings. These statements apply to all aspects of the evaluation, from its initial conceptualization to the eventual use of findings.
- The rights and well-being of individuals should not be affected negatively in planning and carrying out an evaluation. This needs to be communicated to

all persons involved in an evaluation, and its foreseeable consequences for the evaluation discussed.

Full details from:

UNEG Norms and Standards. <http://www.unep.org/eou/Pdfs/Norms.doc>

## **Annex 2: List of Documents Reviewed & Leading Partner Institutions**

### **BURKINA FASO (2006)**

École inter-états d'ingénieurs de l'équipement rural (EEIR)

Élaboration des stratégies de réduction des risques de maladies diarrhéiques pour les populations humaines dus aux petits barrages en Afrique de l'Ouest : cas du barrage de Yitenga au Burkina Faso

### **CAMEROUN (2006)**

École nationale supérieure polytechnique de Yaoundé

*Maîtrise de l'assainissement dans un écosystème urbain à Yaoundé au Cameroun et impacts sur la santé des enfants ages de moins de cinq ans*

### **CUBA (2002)**

Instituto de medicina tropical "PEDRO KOURÍ"

"Un enfoque ecosistémico en Salud Humana para la Prevención y Control de la Enfermedad de Chagas, Dengue y Malaria en Centroamérica y el Caribe".

### **GUATEMALA & MEXICO (2006)**

Instituto de Nutrición de Centro América y Panamá (INCAP)

Desarrollo y Validación de una Estrategia Comunitaria para la Reducción del Riesgo de Dengue y Diarrea en Ecosistemas Urbanos de la Frontera de Guatemala con el Sur de México. Un Modelo para el Desarrollo Sostenible y Ambientes Municipales Saludables.

### **EGYPT (2006)**

Agricultural University of Alexandria

Development of Health Interventions in El-Faiyoum: A Holistic Agro-ecosystem Approach, Egypt. Final report

### **HONDURAS (2006)**

World Visión

Informe general de investigación Proyecto: enfoque ecosistémico del Chagas Municipio de San Francisco de Opalaca Departamento de Intibucá, Honduras

### **MOROCCO (2006)**

Institut National de la Recherche Agronomique (INRA): *Évaluation de l'impact de l'utilisation des eaux usées en agriculture sur l'écosystème et la santé de la population de la Chaouia : cas de la communauté Mzamza.*

### **NIGERIA (2006)**

Centre for African Settlement Studies and Development: *Ecosystem approach to the management of Gastro-intestinal infections and malnutrition in Nigeria: The impact of urbanization of housing, water and waste management.*

### **Report IDRC to UNEP, 2007**

Improved Health Outcomes Through Community-based Ecosystem Management: Building Capacity and Creating Local Knowledge in Community Health and Sustainable Development

Deliberaciones y Anexos del Taller Regional en Centroamérica y el Caribe Antigua y Guatemala 6 al 9 de febrero de 2006 (Report of the Final Workshop for the Ecohealth Regional Fund for Central America and the Caribbean, February 6-89, 2006)

Résultats pour la santé améliorés par la gestion communautaire de l'écosystème : Renforcer la capacité et développer le savoir local dans les domaines de la santé communautaire et du développement durable. Dispositions de l'atelier final des Fonds régionaux Mbodiene, Sénégal 28 Février -1 Mars, 2006 / Improved Health Outcomes through Community-based Ecosystem Management: Building Capacity and Creating Local Knowledge in Community Health and Sustainable Development. Proceedings from the Regional Funds Final Workshop, Mbodiene, Sénégal, February 28- March 1, 2006

Proceedings of Community of Practice on Eco-Health in the Middle East & North Africa: COPEH-MENA. Collaborative Planning Workshop, Mbodiene-Senegal, March 1&2, 2006

Documenting Outputs, Outcomes and Learning from Ecohealth Projects: Communicable Diseases (Dengue, Malaria, Chagas). Terms of References.

Abstracts of IDRC Projects: Support to Communities of Practice beyond the Regional Funds Project

Abstracts of Follow-up Research Projects Funded by IDRC beyond the Regional Funds Project

**Three evaluation reports on communicable diseases (2007)**

1. Héctor Gómez Dantés  
Documenting Outputs, outcomes and learning  
from Ecohealth Projects: Dengue Preliminary report 2007

2. Roberto Briceño-León  
Documenting Outputs, outcomes and learning  
from Ecohealth Projects: Chagas' disease

3. David J. Bradley  
Documenting Outputs, outcomes and learning  
from Ecohealth Projects: Malaria

**Global Ecohealth forum outputs**

## Annex 3: Some Project Outputs

### A. Documentary outputs and workshops

#### 1. Workshops and small grants per region

Table 1. Summary of Workshops and Small grants per region

Region	Workshop Date & Location	No. Participating Teams	Small Grants Awarded (up to CAD 20,000 ea)
MENA	Amman, Jordan Nov. 2000	5 teams from 4 countries	6
WA	Saly-Portudal, Senegal Nov. 2000	7 teams from 6 countries	6
CAC	Antigua, Guatemala Nov. 2001	6 teams from 7 countries	6
Total	3 Workshops	18 multi-disciplinary teams from 17 different countries	18 Grants

#### 2. List of research proposals per region

##### MENA region

1. Association for Health and Environmental Development: *Environmental Transformation of Lake Mariut and the Lives and Livelihoods of Fisher Communities: An Ecohealth Approach to One of Egypt's Aquatic Pollutant Sinks*
2. Alexandria University: *Development of Health interventions for El-Faiyoum: A holistic agro-ecosystem management approach*
3. Jordan University of Science and Technology: *Human health protection and ecosystem sustainability in North Jordan Valley*
4. American University of Beirut: *An ecological map of selected health indicators in Lebanon: a pilot study*
5. Applied Research Institute of Jerusalem: *The Barqan Israel Industrial Park and its impacts on surrounding ecosystem and health.*

##### WA + Morocco (the French speaking teams)

1. École inter-états d'ingénieurs de l'équipement rural (EEIR): *Élaboration des stratégies de réduction des risques de maladies diarrhéiques pour les populations humaines dus aux petits barrages en Afrique de l'Ouest : cas du barrage de Yitenga au Burkina Faso*
2. École nationale supérieure polytechnique de Yaoundé: *Maîtrise de l'assainissement dans un écosystème urbain à Yaoundé au Cameroun et impacts sur la santé des enfants ages de moins de cinq ans*

3. Environnement et développement du Tiers-Monde : *Écosystème et santé humaine dans la moyenne vallée du fleuve Sénégal*
4. Institut fondamental d'Afrique noire (IFAN) : *L'agriculture péri-urbaine dans les Niayes de Dakar, une contribution à la sauvegarde de la biodiversité dans les zones humides tout en préservant la santé des populations locales.*
5. Friends of the Earth – Ghana: *Mining and Ecosystem Health*
6. Centre for African Settlement Studies and Development: *Ecosystem approach to the management of Gastro-intestinal infections and malnutrition in Nigeria: The impact of urbanization of housing, water and waste management.*
7. Institut national de la recherche agronomique (INRA) : *Évaluation de l'impact de l'utilisation des eaux usées en agriculture sur l'écosystème et le santé de la population de la Chaouia : cas de la communauté Mzamza.*

### CAC region

1. Universidad de Costa Rica. Escuela de Salud Pública: *La integración de ambiente y salud para el manejo de la Malaria y el Dengue en el Area de salud de Siquirres-Costa Rica.*
2. INCAP/CIP (Guatemala/Mexico): *Socio-ecological determinants for Health and Dengue control programs at local level, in Guatemala and Southern Mexico.*
3. REISSCAC (Red Centroamericana de Investigación en Sistemas de Salud, coordinada por el CIES de Nicaragua: *Modelo de gestión del Ecosistema del Golfo de Fonseca y su impacto en la Salud Humana en Municipios costeros de Nicaragua y El Salvador.*
4. Programa de Manejo Integrado de Plagas en Centro América (PROMIPAC-Zamorano): *Estudio multidisciplinario y participativo de la epidemiología de la enfermedad de Chagas en familias de productores(as) en regiones rurales de Nicaragua, Honduras y El Salvador.*
5. Unidad de Investigación Científica de la Facultad de Ciencias Médicas: *Prevención y Control de Chagas en Comunidades Lencas de San Marcos de la Sierra y Yamaranguila, Intibuca, Honduras.*
6. Instituto Conmemorativo Gorgas de Estudios en Salud (ICGES): *Evaluación del Programa de promoción y prevención de la infección por el virus Dengue en el Area 24 de Diciembre, República de Panamá.*

### 3. Field projects proposals produced

Table 2. Field Projects funded through the Regional Funds

<b>Region</b>	<b>Project &amp; Lead Recipient Institutions</b>
MENA	Development of Health Interventions in El-Faiyoum: A Holistic Agro-ecosystem Approach. <b>University of Alexandria, Egypt</b>
MENA	Évaluation de l'impact de l'utilisation des eaux usées en agriculture sur l'écosystème et la santé de la communauté des Mzamza Settat – Maroc. <b>Institut National de la Recherche Agronomique (INRA)</b>
MENA	<i>Ecosystem Approach to Human Health Improvement in the North Jordan Valley</i> <b>Jordanian University of Science and Technology (JUST)</b>
WA	<i>Maîtrise de l'assainissement dans un écosystème urbain à Yaoundé au Cameroun et impacts sur la santé des enfants âgés de moins de cinq ans</i>

	<b>École Nationale Supérieure Polytechnique de Yaoundé, Université de Yaoundé</b>
WA	<i>Élaboration des stratégies de réduction des risques de maladie diarrhéiques pour les populations humaines des aux petits barrages en Afrique de l'Ouest : Cas du barrage de Yitenga au Burkina Faso. École inter-états d'ingénieurs de l'équipement rural, Ouagadougou, Burkina Faso</i>
WA	<i>Applying the Ecohealth Approach to the Management of Gastro-Intestinal Tract Infections in Nigeria . Centre for African Settlement Studies and Development (CASSAD)</i>
CAC	<i>An ecosystem approach to human health for the prevention of Dengue, Havana City</i> <b>Instituto de Medicina Tropical Pedro Kouri</b>
CAC	<i>Development and Validation of a Community-based Strategy for the Prevention and Control of Dengue and Diarrhea in Urban Ecosystems of the Guatemala – Mexico Border</i> <b>Instituto de Nutrición de Centro América y Panamá (INCAP)</b>
CAC	<i>Control and Prevention of Chagas Disease among the Lenca, Honduras</i> <b>World Vision</b>

## **B. International Forum on Ecosystem Approaches to Human Health, May 2003**

### **List of Outputs**

#### **Ecohealth case studies:**

- 1- From Forest to fields in Côte d'Ivoire: Improve resource management, improve health
- 2- Malaria and agriculture in Kenya: A new perspective on the links between health and ecosystems
- 3- Mercury Contamination in the Amazon: Reducing soil erosion may provide a lasting solution
- 4- Preventing pesticide poisoning in Ecuador: Integrated pest management yields economic and health benefits
- 5- Tracking health and well-being in Goa's mining belt: New tools to promote the sustainable development of mining
- 6- Breaking the cycle of poverty in Ethiopia: Agricultural and sanitary practices improve income and health
- 7- A cleaner city and better health in Kathmandu: Community solidarity helps resolve environmental and health problems
- 8- Taking control of pollution control in Mexico city: A clean air drive targets health improvements and health care savings
- 9- Fighting malaria without DDT: Better management of the environment a key to disease control
- 10- Housing and human capital in Cuba: community efforts improve health in inner-city Havana
- 11- Health, environment, and indigenous culture: Revitalizing Chile's Mapuche communities

12-Mining, contamination and health in Ecuador: Research leads to actions to improve human health

**In Focus book:**

Lebel, Jean (2003). *Health: An Ecosystem's Approach*. Ottawa: IDRC

**Le Devoir: Supplément:**

Les vrais enjeux de la mondialisation. (Saturday 17 – Sunday 18, 2003)

**Daily updates:**

Monday May 19- Friday May 23, 2003

**Webcasting:**

Webcasting of all keynotes, plenary and end of the day discussions

**EcoHealth journal supplement**

1. De Plaen, R.; Mergler, D.; Rapport D. eds (2004).

Supplementary issue: *Lessons from the International Forum on Ecosystem Approaches to Human Health – Toward a common vision*.

2. Catherine Kilelu, Renaud De Plaen, Nicolina Farella:

Contributions from the International Forum on Ecosystem Approaches to Human Health

3. David J. Rapport and Donna Mergler

Guest Editorial: Expanding the Practice of Ecosystem Health.

4. Renaud De Plaen, Catherine Kilelu

Emergence of a new paradigm: From multiple voices to a common language.

5. Ligia Noronha

Ecosystem approaches to human health and well-being: reflections from use in a mining context

6. Michael Bopp and Judie Bopp

Welcome to the swamp: Addressing Community Capacity in Ecohealth Research and Intervention

7. Lucie Sauvé and Hélène Godmaire

Environmental health education: a participatory holistic approach

8. Linda Connor, Glenn Albrecht, Nick Higginbotham, Sonia Freeman and Wayne Smith

Environmental Change and Human Health in Upper Hunter Communities of New South Wales

9. Jena Webb, Nicolas Mainville, Donna Mergler, Marc Lucotte, Oscar Betancourt and Robert Davidson

Mercury in fish-eating communities of the Andean Amazon, Napo River Valley, Ecuador

11. David Yanggen, Donald C. Cole, Charles Crissman and Steve Sherwood

Pesticide Use in Commercial Potato Production: Reflections on Research and Interventions Efforts towards Greater Ecosystems Health in Northern Ecuador

12. Fawzy M. Kishk, Hesham M. Gaber and Salwa M. Abd-Allah

Towards Enhancing Community Health in El-Fayoum, Egypt: A Holistic Agro-ecosystem Approach

13. Ziad D. Al-Ghazawi

An ecosystem approach to human health in two villages of the North Jordan Valley: scoping the problems

*Rachel Bezner Kerr, Marko Chirwa*

14. Participatory research and social dynamics that influence agricultural practices to improve child nutrition in Malawi

*15. Jerry Spiegel, Mariano Bonet, Maricel Garcia, Ana Maria Ibarra, Robert Tate and Annalee Yassi*

Building capacity in Central Havana to sustainably manage environmental health risk in an urban ecosystem

*16. Verónica Vázquez-García, Lourdes Godínez-Guevara Ana Silvia Ortiz-Gómez, Margarita Montes-Estrada*

Uncultivated Foods in Southern Veracruz, Mexico. Establishing the Links between Ecosystem Health, Food Availability and Human Nutrition

*17. Karen E. Smoyer-Tomic, Justine DA. Klaver, Colin L. Soskolne, Donald W. Spady*

The health consequences of drought on the Canadian Prairies

### **Regional Communities of Practice in Ecohealth (COPEH)**

COPEH TLAC: [www.insp.mx/copeh-tlac/](http://www.insp.mx/copeh-tlac/)

COPEH MENA: [www.copeh-mena.org/copeh/](http://www.copeh-mena.org/copeh/)

COPEH WA:

### **Health – Environment: Global Links newsletter:**

Bi annual newsletter on health and environment linkages in five languages

(English, French, Spanish, Portuguese, Arabic)

### **International Association for Ecology and Health**

[www.ecohealth.net/association.php](http://www.ecohealth.net/association.php)

## **C. Documentary outputs produced by Agricultural Faculty in Alexandria**

### **I. Peer-Reviewed Articles and International Scientific Presentations:**

1. Salwa M. Abdallah, Hesham M. Gaber, and Fawzy M. Kishk. 2001. Ecosystem Degradation, Poverty, and Poor Health as Products of Environmental Injustice: I. The Case of El-Behira Governorate. In The National Symposium on: Environmental Justice in Egypt. 11-13 November 2001. Mania, Egypt. (Invited paper).
2. Fawzy M. Kishk, Hesham M. Gaber, and Salwa M. Abdallah. 2001. Ecosystem Degradation, Poverty, and Poor Health as Products of Environmental Injustice: II. The Case of El-Fayoum Governorate. In The National Symposium on: Environmental Justice in Egypt. 11-13 November 2001. Mania, Egypt. (Invited paper).
3. Salwa M. Abdallah, Hesham M. Gaber, and Fawzy M. Kishk. 2002. Ecosystem Degradation, Poverty, and Poor Health as Products of Environmental Injustice: I. The Case of El-Behira Governorate. In Kishk, A. (Ed). Environmental Justice in Egypt. Dar Misr El-Mahrousa, Cairo.
4. Fawzy M. Kishk, Hesham M. Gaber, and Salwa M. Abdallah. 2002. Ecosystem Degradation, Poverty, and Poor Health as Products of Environmental Injustice: II.

The Case of El-Fayoum Governorate. In Kishk, A. (Ed). Environmental Justice in Egypt. Dar Misr El-Mahrousa, Cairo.

5. Kishk, F.M., H.M. Gaber, and S.M. Abd-Allah. 2003. Environmental health risks reduction in rural Egypt. In "Globalization, Health, and Environment", the Fourth Annual Global Development Conference, Sponsored by Global Development Network (GDN), Cairo, Egypt, January 19-21, 2003. (Invited paper)
6. Abd-Allah, S.M., H.M. Gaber, and F.M. Kishk. 2003. Exploring children vulnerability to pesticide exposure in El-Fayoum, Egypt. In the Fourth International Meetings "PAEMS 2003" on Child Health and Environmental Mutagens: An African Agenda for prevention Research. Organized by PAEMS "Pan African Environmental Mutagens Society". Cairo 2-7 March 2003. (Invited paper).
7. Kishk, F.M., H.M. Gaber, and S.M. Abd-Allah. 2003. Enhancing community health in El-Fayoum, Egypt: A holistic agroecosystem approach. In the International Forum on Ecosystem Approaches to Human Health, Montreal, Canada, May 18-23, 2003.
8. Gaber, H.M., S.M. Abdallah, and F.M. Kishk. 2003. Sustainable land and water resources management in Egypt: Conceptualization of a holistic agro-ecosystem approach. *Alex. J. Agric. Res.* 48(3): 201-216.
9. Abd-Allah, S.W. and H.M. Gaber. 2003. Monitoring of Pesticide Residues in Different Sources of Drinking Water in Some Rural Areas. *Alex. J. Agric. Res.* 48(3): 187-199.
10. Abd-Allah, S.M. and H.M. Gaber. 2004. The Occurrence of Disinfection by-Products in Drinking Water of Some Rural Areas. *Alex. J. Pharm. Sci.* 18(1):3-12.
11. Abd-Allah, S.M., H.M. Gaber, and F.M. Kishk. 2004. Exploring children vulnerability to pesticide exposure in El-Fayoum, Egypt. *Alex. J. Pharm. Sci.* 18(1):69-76.
12. Kishk, F.M., H.M. Gaber, and S.M. Abd-Allah. 2004. Enhancing community health in El-Fayoum, Egypt: A holistic agroecosystem approach. *J. ECOHEALTH.* 1(Suppl. 2): 97-108.
13. Kishk, F.M., H.M. Gaber, and S.M. Abd-Allah. 2004. Vulnerability of working children to environmental health risks: A case study in a village in rural Egypt. In Global Forum for Health Research (FORUM 8), Mexico City, Mexico, November 16-20, 2004.
14. Kishk, F.M., H.M. Gaber, and S.M. Abd-Allah. 2005. Linking ecosystem degradation to poverty and poor health: A case study in a village in rural Egypt. In The First International Conference on Importance of Biodiversity to Human Health (COHAB 2005). Galway, Ireland 23-25 August 2005.

#### **Papers in Review:**

1. "Health Profile of Working Adolescents in a rural area of El-Fayoum Governorate, Egypt: I. Parasitic Infections and Malnutrition." By Abdel-Ghany M. El-Masry,

Salwa M Abd-Allah, and Fawzy M. Kishk. Submitted to The Journal of the Egyptian Society of Public Health Association.

2. "Health Profile of Working Adolescences in a rural area of El-Fayoum Governorate, Egypt. II. Hepatic and Renal Affection". By Abdel-Ghany M. El-Masry, Salwa M Abd-Allah and Fawzy M. Kishk. Submitted to The Journal of the Egyptian Society of Public Health Association.

## **II. Ph.D. and M.S. Theses:**

1. Site Specific Fertility Management: A Case Study from El-Fayoum. A Ph.D. Thesis by Mrs. Nevien Omar (2005).
2. Assessment of Soil Health Bio-Indicators: The Case of El-Fayoum Province. An M.S. Thesis by Ms. Dala Heramis (2005).
3. A Holistic Agroecosystem Management Approach for Sustainable Agriculture Production in El-Fayoum Oasis. A Ph.D. by Mr. Anwar Abdel-Rahman (2006).
4. Geo-Spatial Variability and Distributions of Some Soil Health Indicators: The Multi-scale Effects. A Ph.D. Thesis by Ms. Anga Mostafa (2006).

#### **Annex 4: List of Formal Participants and Sources of Information**

##### **UNEP**

Segbedzi Norgbey  
Cristina Battaglino

##### **IDRC**

Andres Sanchez  
Ana Boischio,  
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Lamia El-Fattal,  
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Iman Nouayhed  
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Essam Koreishi  
Abdelhamid Bouzidi  
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Laamari Abdelaali  
Mohamed Lachgar  
Dr. Fatima Nassif  
Dr. Kettani Said

##### **WA**

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Prof. Faniran adetoye  
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Mr. R. O. Agunbiade  
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Mrs. V.O Akinpelu  
Niss Oyeniran Grace  
Olariyi Boscde  
Niyi Abidoye  
Seyi Akintola  
Erinfoknu Joseph  
Mr. Femi Aluko  
Alh. Abdulali Yusief

## Annex 5: Sources of Co-financing and Leveraged Resources through RFs

Table 3. Co-financing of the field project through the Regional Funds

Region	Project & Lead Recipient Institutions	Grant (CAD)	Co-Sponsors	Project Duration
MENA	Development of Health Interventions in El-Faiyoum: A Holistic Agro-ecosystem Approach. University of Alexandria, Egypt	328,000	IDRC Ford F. UNEP	Nov 01 – Apr 06
MENA	Évaluation de l'impact de l'utilisation des eaux usées en agriculture sur l'écosystème et la santé de la communauté des Mzamza Settati – Maroc. Institut National de la Recherche Agronomique (INRA)	298,000	IDRC Ford F. UNEP	Apr 02 – Apr 06
MENA	<i>Ecosystem Approach to Human Health Improvement in the North Jordan Valley</i> Jordanian University of Science and Technology (JUST)	177,000	IDRC Ford F. UNEP	Jan 04 – Apr 06
WA	<i>Maîtrise de l'assainissement dans un écosystème urbain à Yaoundé au Cameroun et impacts sur la santé des enfants âgés de moins de cinq ans</i> École Nationale Supérieure Polytechnique de Yaoundé, Université de Yaoundé	234,000	IDRC UNEP	July 02 – July 05
WA	<i>Élaboration des stratégies de réduction des risques de maladie diarrhéiques pour les populations humaines des petits barrages en Afrique de l'Ouest : Cas du barrage de Yitenga au Burkina Faso</i> École inter-états d'ingénieurs de l'équipement rural, Ouagadougou, Burkina Faso	255,000	IDRC UNEP	Sept 02 – Sept 05
WA	<i>Applying the Ecohealth Approach to the Management of Gastro-Intestinal Tract Infections in Nigeria</i> Centre for African Settlement Studies and Development (CASSAD)	305,000	IDRC UNEP	Dec 03 – Dec 05
CAC	<i>An ecosystem approach to human health for the prevention of Dengue, Havana City</i> Instituto de Medicina Tropical Pedro Kouri	228,000	IDRC UNEP	Mar 03 – Apr 06
CAC	<i>Development and Validation of a Community-based Strategy for the Prevention and Control of Dengue and Diarrhoea in Urban Ecosystems of the Guatemala – Mexico Border</i> Instituto de Nutrición de Centro América y Panamá (INCAP)	231,000	IDRC UNEP	Dec 03 – Apr 06
CAC	<i>Control and Prevention of Chagas Disease among the Lenca, Honduras</i> World Vision	467,000	CIDA, UNDP UNEP	Dec 03 – Apr 06

## **ACKNOWLEDGEMENTS**

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