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**Tools and Approaches for Policy Making in Environmental
Management and Public Health**

Executive Summary

Over the years a number of technologies for the management of environmental risks to human health have been developed. These include plans and technologies for water safety, household water treatment, safe sanitation, vector control (including environmental management), solid and medical waste management, and improved cooking technologies for rural settings. Their successful application relies on a country's capacity to assess risks and potential impacts; develop and implement policies that take into account potential health impacts in addition to costs–benefit considerations; monitor and evaluate the effectiveness of policies and interventions; and engage and communicate with stakeholders. The main challenges seen in most African countries to the broad application of the various technologies revolve around access to relevant tools and the capacity to deliver vital evidence-based knowledge on environment–health linkages. The lack of capacity to efficiently collect, synthesize and interpret technical health and environment data, attitudes towards new technologies, weak impact assessment processes, and unfamiliarity with tools for quantifying health costs and benefits in human and economic terms present additional obstacles. The translation of evidence into policies and programmes is often a complex issue, and legal and regulatory frameworks in Africa remain largely limited or ineffective. It is proposed that governments integrate health and environmental impact considerations into economic development processes; support integrated policy assessment of the health and environment linkages using qualitative and quantitative valuation methodologies; define priorities based on such assessments; identify knowledge gaps; refine normative health and environment standards and guidelines; support local applied research to build technical capacity; and strengthen cooperation among key actors to answer practical policy questions.

Contents

1. Background

2. Issues and Challenges 3.

Proposed Actions 4.

References

Acronyms and Abbreviations

EBD	Environmental burden of disease
EIA	Environmental impact assessment
HELI	Health and Environment Linkages Initiative
HIA	Health impact assessment
HWTS	Household water treatment and storage
SEA	Strategic environment assessment

1. Background

1. Over the years, technologies for the management of environmental risks to human health have been developed and disseminated. Examples are cost-effective water safety plans and strategies for household water treatment (WHO, 2006a); safe sanitation technologies that can be deployed efficiently and effectively (The HWTS Network, 2008); vector control interventions, including environmental management, that is effective in reducing disease transmission when properly deployed (WHO, 2006b); procedures for waste management; and improved cooking technologies for rural areas. The “healthy settings” approach has been embraced in many African countries as a sound way to deliver health and environment interventions in an integrated manner.
2. The effective use of the above proven methods relies on country capacities to understand when, where and how these interventions can be deployed, either as part of the broader environmental management programme or as part of public health programmes. Such understanding requires the application of analytical approaches that will provide policy makers with the necessary evidence to support their decisions.
3. Over the past decade, scientists have made significant progress in measuring the impacts of environmental hazards on human health, by combining the best available monitoring data on levels of exposure to environmental risk factors with the results of epidemiological studies of their effects on various diseases.
4. These environment–health linkages and impacts can be viewed through two main lenses, which are complementary: the lens of environmental risk factors i.e. asking how much disease is caused by a specific environmental hazard, and that of disease outcome, by assessing the proportion of a particular disease that is caused by single or interacting environmental risk factors. However they are viewed, the overall impacts of environment on health are striking.
5. Interactions between environmental conditions and health impacts are characterized by multiple pathways of cause and effect. Policy actors and sectors tend to look at these multiple linkages through a variety of other lenses which include the following:
 - (a) *Human settings and economic sectors*. Addressing problems in terms of human settings (e.g. urban, rural, or occupational) can often allow interventions to be better targeted to their beneficiaries, and can stimulate participatory action at the grass roots, for even greater effect.
 - (b) *Ecosystems approaches*. The “Ecohealth Framework,” also known as the “Ecosystems Approach to Human Health,” uses a broad and integrated conceptualization of ecosystems and human health. Ecohealth refers not only to the physical environment or physical disease conditions, but also health and environment linkages in a social, political, and economic context. It particularly promotes social and gender equity and stakeholder participation,

and focuses on policy as well as personal and collective behavior. The approach recognizes the heterogeneity of communities, and is especially attentive to vulnerable groups such as women, children, the elderly and other groups that may be socially, politically and economically disadvantaged.

- (c) *Vulnerable populations.* Exposures and health risks from most environmental hazards are very unevenly distributed, often impacting most heavily on specific populations, including women, children, the poor or certain occupational groups. Information on these vulnerable populations can help target policy actions where they will have most effect in promoting health and health equity.
 - (d) *Evidence collection.* The gathering of relevant evidence is an essential component of the decision making process. This includes: environment and health monitoring frameworks, providing the data upon which evidence of problems and potential solutions may be based; environment and health standards and multilateral environmental agreements, which set baselines and goals to be achieved; tools for assessing comparative risk/ burden of disease and quantifying environmental hazards in terms of their impact on human life and health; case-study experiences describing good-practice interventions; environment and health indicators that track progress to the goal; and tools for impact assessment.
 - (e) *Impact assessment:* Whenever a policy decision is made, it can be presumed that decision-makers have made an assessment of potential impacts. Impact assessment is the process link in the chain between evidence and decisionmaking. Impact assessment provides opportunities to avert/mitigate negative impacts and enhance positive ones (e.g. co-benefits and win-win solutions). It facilitates stakeholder engagement and provides communities with a means of influencing decisions that affect them, and can also be used as an effective “upstream” measure to influence health policies and projects before they are implemented.
6. Over the past 35 years, a great number of impact assessment methodologies have been developed. UNEP and WHO have supported the refinement and application of tools for environmental impact assessment (EIA), integrated assessment (IA), health impact assessment (HIA), and strategic environment assessment (SEA). Overall, there is increased recognition of the value of impact assessment methods that link sectors and disciplines more inclusively. The assessment of linked health and environmental impacts can play a significant role in expanding the narrow focus and frequent shortcomings of sectoral assessment. It also ensures that the direct contributions of ecosystems to better health are duly captured in the decision-making process.
7. Efficiency assessments. Simply describing the health and environment linkages is often not enough to ensure that they are given the required attention when policy decisions are taken. Decision-making can be made more transparent and more responsive to stakeholders concerns when the consequences can be quantified in

terms that relate directly to people's lives. There has been important progress in this field in recent years, with the development of methods for measuring, ranking and comparing effects in two important dimensions: (a) human health; and (b) economic costs and benefits:

(a) *Quantifying population health impacts.* Environmental burden of disease (EBD) assessment is the most comprehensive approach to quantifying the health impacts of environmental risk factors. EBD combines the best available evidence on levels of exposure to an environmental risk factor, the association between the risk factor and specific health outcomes, and the level of the disease it causes in the population.

(b) *Economic evaluation tools.* Optimizing the use of limited resources is one of the biggest challenges facing any decision-maker. Economic assessment is therefore a vital tool. It can enumerate the potential costs and value the anticipated benefits of a proposed programme, policy or regulatory initiative, and reflect trade-offs inherent in alternatives. There is increasing recognition that environment and health impacts often require valuation in economic terms in order to receive adequate consideration from policy makers. An integrated economic analysis of impacts can capture the hidden costs and benefits of policy options, as well as the synergies and institutional economies of scale that may be achieved through complementary policies that support sustainable development.

8. Experiences and lessons learnt from pilot projects converge in recognizing the importance of implementing integrated approaches. The integrated approach in no way downgrades or substitutes itself for the value and relevance of the best available scientific expertise within a specific sector, such as health, the environment or economics. To the contrary, it attempts to provide a framework within which the best available specialist information can have the maximum effect in informing decision-making.
9. A multisectoral integrated assessment is, of necessity, a blend of quantitative and qualitative scientific analyses and of validation through the dynamic process of stakeholder input, participation and dialogue. These should not be handled as separate stages of activity but rather as an ongoing, interactive relationship generating, sharing and using mutually beneficial information.
10. The success or failure of a policy depends, among other factors, on consensus from and a sense of ownership among the impacted community. Local participation can improve the quality of the analysis, design and implementation of any intervention. More importantly, it leaves in place local capacity that can continue and develop the process over time. (HELI, WHO-UNEP)

2. Issues and challenges

11. Promoting better access to relevant tools and the capacity to provide policy makers with vital knowledge and evidence on environment–health linkages, as well as potential solutions, remains a formidable political, organizational and logistical challenge.
12. The translation of evidence into policies and programmes is a complex network of tasks, littered with political, institutional organizational and logistical challenges, even in the best of circumstances. In Africa, in particular, the regulatory or policy chain most often breaks down when technical capacity is weak. In addition, legal and regulatory frameworks become limited or ineffective when the impact assessment process is too expensive, too weak or politically driven.
13. The WHO-UNEP Health and Environment Linkages Initiative (HELI) conducted a review of decision makers’ needs to identify current gaps on how health and environmental knowledge can be integrated more effectively into policy making. Although the lack of capacity to efficiently collect, synthesize and interpret technical health and environment data or indicators is cited as a continuing obstacle, problems may extend beyond staff or resource shortages, as detailed below.
 - a) **Attitudes towards new technologies.** Data collected by new and unfamiliar technologies (e.g. satellite mappings) in some settings may be viewed as less reliable than traditional expert opinion, and may not be used appropriately.
 - b) **Political versus technical use of indicators.** Policy-makers may not refer to the same indicators as scientists. They may refer mostly to a few aggregate economic indicators such as GDP to track the progress of programs or projects. Some political indicators of progress may be grounded in symbols of social status or power, rather than in scientific evidence.
 - c) **Weak impact assessment processes.** In many settings, impact assessment processes are technically weak and thus ineffective as a policy lever.
 - d) **Lack of familiarity with tools for quantifying health costs and benefits in human and economic terms.** Burden-of-disease and economic assessments can be extremely effective in describing the impacts of policies, yet these tools are not used routinely in Africa.
 - e) **Policy-to-practice gaps.** Policy assessment processes may give insufficient consideration to what practical measures may be needed.

3. Proposed actions

- f) **National reports.** Technical multidisciplinary committees could facilitate the synthesis of existing country-specific evidence into national reports to support informed policy decisions. Such reports will be prerequisite to future policy review within each interested sector and across sectors. National reports will provide an opportunity to discuss gaps in data and evidence and therefore will lay down the basis for the preparation of national health and environment profiles and outlooks. Harmonization of procedures and approaches across countries will be

necessary in order to allow comparability and to assess progress regionally. Specifically, governments may wish to consider:

- (a) Promoting health and environment impacts considerations as integral to economic development processes.
- (b) Developing national technical capacities to apply the presented assessment tools and support evidence-based policy formulation and evaluations.
- (c) Supporting integrated policy assessment of health–environment linkages using qualitative and quantitative valuation methodologies.
- (d) Coordinating scientific and technical reviews by health and environment experts to define priorities and identify knowledge gaps as well as refine normative health and environment standards and guidelines.
- (e) Supporting applied research, particularly at the local level, to build technical capacity, strengthen cooperation among key actors and answer practical policy questions.

References

- WHO, 2006a. Water Safety Plan Manual. World Health Organization, Geneva.
http://www.who.int/water_sanitation_health/dwq/wsp_manual.pdf, accessed March 2008.
- WHO, 2006b. Malaria vector control and personal protection. Report of a study group. TRS 936. World Health Organization, Geneva.
- The HWTS Network, 2008. Combating water borne diseases at household level. PowerPoint presentation. http://www.who.int/household_water/en/, accessed March 2008.
- WHO/UNEP, 2008. Health and Environment linkages Initiative: Managing the linkages for sustainable development. A tool for decision makers. Synthesis report.