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Economic and Development Dimensions of Environmental Risk Factors to Human Health

Executive Summary

Against a backdrop of high disease burden, much of it environment-related, and rising economic costs of environmental degradation, Africa has to contend with rapid urbanization and modernization. For too long, the health and environment sectors have sought to cope with the downstream consequences of poorly conceived economic development policies, while having little influence on the more upstream development decisions that profoundly shape the continent's natural environment. Environmental risks arise largely from unsustainable development policies related to the use of water and land resources, transportation and energy. The health impacts of environmental pollution and ecosystem degradation disproportionately affect the disadvantaged and vulnerable socioeconomic groups, such as children, the rural and urban poor, and informal-sector workers. Economic, institutional, political and social factors present barriers to more sustainable environment and health policies; macroeconomic considerations tend to be the major drivers of policy-making on the continent. Health ministry policies are generally focused on health care services and may not systematically address the related broader environment and development agendas. Environment ministries are often newer entities, and lack the power or resources to steer government investments towards sustainable development. African countries need to be able to monitor, prevent or mitigate risks that might develop into full-scale environmental and health crises. Specifically, governments should strengthen their national institutes of health and environment, to *inter alia* assess the effects of development projects, and ensure the integration of objectives related to health and the environment into national poverty reduction strategies and development plans.

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Acronyms and abbreviations

AU	African Union
DFID	Department for International Development, UK
EC	European Commission
EU	European Union
GEO	Global Environment Outlook
HELI	Health and Environment Linkages Initiative
MDG	Millennium Development Goals
OECD	Organization for Economic Cooperation and Development
PRSP	Poverty Reduction Strategy Paper
UNEP	United Nations Environment Programme

1. Background

1. African countries are experiencing heavy disease burdens, growing economic and health impacts of environmental degradation, and rapid urbanization and modernization. Some of the most pressing environmental and health problems on the continent may be alleviated through careful development choices or exacerbated by poorly designed policies.

2. The health and environment sectors have had to cope with the consequences of poorly-conceived economic development policies, while having little influence on national development agendas, which profoundly shape the natural environment.

3. Industrial and agricultural production has intensified in most African countries, accompanied by the use of chemical inputs. The OECD (2001) has estimated that the global output of chemicals in 2020 will be 85% higher than it was in 1995; by that time nearly one-third of the world's chemical production will be taking place in nonOECD countries, compared to about one-fifth in 1995. The shift of chemical production from more affluent to poorer settings could increase the overall health and environment risks arising from the production and use of chemicals. In many African countries, chemicals that are banned in developed countries are still in use. A range of toxic effluents are emitted directly into the soil, air and water from agriculture and industrial processes, often at levels well in excess of global maximum permissible limits. Along with the problem of acute poisonings, cumulative exposure to various chemicals and toxins contributes towards a range of chronic illnesses in humans.

4. Over the next 30 years, most of the world's population growth will occur in the urban areas of poor countries. Rapid, unplanned and unsustainable urban development is turning developing-country cities into hotspots of emerging environmental and health hazards. These hazards include urban poverty, lack of access to clean water and sanitation, air pollution and traffic fatalities.

5. Environmental risks are largely the result of unsustainable policies related to water resources, agriculture, land use (urban and rural), transport and energy. The health impacts from environmental pollution and ecosystem degradation are borne to the largest extent by disadvantaged and vulnerable populations, including children and the poor.

6. Most of the world's poor depend on solid fuels for cooking and heating, increasing their risk of respiratory illnesses from indoor smoke. Similarly, poor populations are more likely to be exposed to diseases associated with unsafe water and unsanitary environments.

7. Agricultural and industrial workers who are often part of the informal labor market, work under substandard occupational health conditions, and are at great risk of acute

poisoning and chronic illnesses from exposure to toxic substances, including pesticides and industrial chemicals.

8. The health impacts of climate change are likely to be borne disproportionately by the poor, many of whom also live in areas that are more vulnerable to the effects of a warmer and more variable climate and natural disasters such as floods and droughts.

9. Environment-related diseases not only impact the poor and vulnerable the most, but also contribute to perpetuating poverty. Environment-linked illnesses have a direct impact on economic productivity, at both the household and national levels. Poor farm families affected by high rates of disease may shift to growing less laborintensive crops, but these may have a lower nutritional and/or cash value. Even after controlling for other factors, the GDP growth rates in countries with intense malaria transmission were 1.3% lower than in less malarious countries, and countries with more than half of the population living at risk of malaria had average income levels that were one-third of those in countries with less intense malaria transmission (Gallup and Sachs, 2001).

10. Despite being the least urbanized region in the world, Africa currently has the highest urbanization rate, with the continent's urban population doubling every 20 years (UNEP, 2007). Urban dwellers face a range of environmental hazards, including those related to unplanned and unsustainable transport-sector developments (Montgomery at al., 2004; HealthEffects.org, 2004). Urban air pollution, much of it generated by vehicles, is estimated to kill some 800,000 people annually around the world, 40,000 of them in Africa (WHO, 2007). Road traffic injuries cause another estimated 1.2 million deaths p.a. In addition, motorization promotes a more sedentary lifestyle, which itself is associated with diseases that cause some 1.9 million deaths each year (WHO, 2002).

11. Over the past decade, major international economic investments in Africa have focused on the transport sector, particularly the expansion and improvement of road networks with the aim of improving mobility and spurring economic growth. However, evidence from urban settings now indicates that road improvements undertaken alone may generate severe environmental and health problems, as well as exacerbate poverty gaps when public transport and non-motorized transport infrastructure are neglected (World Bank, 2004; Dora and Phillips, 2000). Thus, because of the cross-cutting nature of both its benefits and negative impacts, the development of the transport sector must be addressed in an inter-sectoral manner, with contributions from the health and environment sectors.

12. Trade, environmental health and poverty reduction are closely interlinked. Trade fosters the economic growth needed by African nations to reduce poverty. The EUAU Economic Partnership Agreements (EPAs) coming into force in 2008 underline this point. Furthermore, the international development landscape (both public and private) is changing dramatically; these changes will have major ramifications for African development. For example, new and powerful donors like China and Brazil

are emerging, who may not necessarily subscribe to European, OECD, and other traditional aid framework agreements.

13. The private sector development landscape is also changing, as are patterns and sources of foreign direct investment. This sector is beginning to fill key gaps in public-sector services in a growing number of African countries, e.g. transport infrastructure, and public transportation, power and energy infrastructure, telecommunication, water and sanitation, and even the provision of health care services.

2. Issues and challenges

14. A review by the Health and Environment Linkages Project (HELI) of environment and health decision-making in a developing country context concluded that the primary barriers to effective environmental and health policies are neither the lack of evidence nor lack of knowledge, but are rather, economic, institutional, political and social.

15. Macroeconomic factors such as the globalization of trade and market liberalization, national debt burdens and structural adjustment policies are among the most powerful drivers of national political agendas, including those related to health and the environment.

16. The goods and services provided by bio-diverse ecosystems, upon which particularly the poor may rely for a healthy livelihood, are not meaningfully taken into account in market-driven development processes. This leads to continued degradation of these natural resources, and negative health impacts (DFID/EC/UNDP/The World Bank, 2002).

17. Inequitable distribution of natural resources leaves the poor with few alternatives but to exploit the ecosystem in their surroundings whenever the opportunity is available. This exacerbates resource degradation problems, and promotes certain forms of pollution.

18. Population pressure in poor countries is worsening the stress on natural resources and the environment. The urban environment and health infrastructure have not kept pace with the rapid population growth in developing-world cities, thus increasing the health hazards related to inadequate housing, sanitation and transportation.

19. A paucity of institutional resources, human capacity and enabling frameworks impedes the adequate assessment of the complex links between health, environment, poverty and development. For instance, irrigation schemes may yield benefits in terms of food security and health, but when irrigation and dam design is not sensitive to the surrounding ecosystem, the development may provide optimum conditions for the proliferation of disease vectors, and thereby create new, negative health impacts. Agricultural chemicals can be used constructively to increase yields, but when

regulation and community education is inadequate they also can kill or disable farm workers and children, and infiltrate water sources, (WHO/UNEP, 2004). The costs vs. benefits of development strategies, in terms of their impacts on health and environment, must therefore be fully analyzed.

20. Health ministries have traditionally focused on health care policies and service provision, without systematically addressing broader environmental and development agendas. Environment ministries for their part are often newer entities and lack the clout to influence sustainable development policies by their governments, instead remaining focused more on sectoral concerns such as nature conservation and pollution control. This institutional context generates barriers to coordinating action and mutually reinforcing strategies. Thus governments continue to make crucial policy and economic development decisions without substantive perspectives from the health or environment sectors.

3. Proposed Actions

21. Very often, governments and society act only when a long-standing environmental risk erupts into a health, economic or political crisis. African countries need to take urgent steps to move from reactive to proactive policy-making. Governments need to be able to monitor, prevent or mitigate risks that might develop into full-scale environmental and health emergencies, including those risks brought on by economic development. Specifically, governments may wish to

a) Establish and strengthen national institutes or centers for health and environment, to *inter alia* assess the risks entailed by economic and development processes and provide advice on the management of such risks.

b) Ensure that ministries of planning and similar ministries are integrated into frameworks established to coordinate intersectoral policies on health and environment.

c) Ensure that integrated impact assessments are fully incorporated into development projects.

d) Encourage the integration of health and environment objectives with poverty reduction strategies and development plans, including investments related to sectoral economic activities.

e) Support professional capacity building and intersectoral forums that allow and encourage decision-makers, professionals from various sectors, and stakeholders, to share their knowledge and best practices.

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