

Environment and Health

This key sheet is part of a series of awareness raising tools developed by Irish Aid to accompany its Environment Policy for Sustainable Development.



1. Introduction

This key sheet is part of a series of awareness raising tools developed by Irish Aid to accompany its Environment Policy for Sustainable Development. Key strategies for implementing the policy are:

- i) mainstreaming, where the environment is recognised as a critical part of sustainable development and is taken into account in all policies, programmes, activities and funding decisions; and
- ii) partnership, where Irish Aid works with national governments, multilateral organisations, international agencies and civil society organisations to contribute to sustainable development.

The first step in environment mainstreaming is to understand how the environment is linked to the development challenge or sector YOU are responsible for. In this key sheet, we describe how environmental governance is significant for development, and suggest sources of additional information. We will produce more detailed guidelines on mainstreaming environment and development at a later date.

Environmental governance matters to human health because:

- > Poor sanitation and unsafe water supplies lead to water-related diseases
- > Indoor and outdoor air pollution contribute to respiratory disease.
- > Changing climatic and environmental conditions will increase the incidence of malaria.
- > Environmental degradation reduces crop yields and results in malnutrition and poor health.



The Tree of Life is a sculpture made entirely of weapons reclaimed after Mozambique's long civil war.

2. How are the environment and health related?

Up to one-fifth of the total disease burden in developing countries may be associated with environmental risk factors. While the disease burden in poor countries is about twice that of richer countries, the disease burden from environmental risk is 10 times greater in developing countries. Poor people are most affected by environmental conditions such as unsafe drinking water, poor air quality and exposure to dangerous substances (e.g. pesticides, mercury from illegal mining). Research has shown that poor men and women are aware of how poor environmental conditions affects both their well-being and their ability to move out of poverty.¹

Many argue that investment in improving environmental conditions is a 'luxury' that requires a certain minimal level of economic growth. However, there is mounting evidence that interventions made now to improve environmental conditions will reduce the incidence of disease, maintain a healthy workforce and allow people to contribute to society. This approach is also likely to be more cost-effective than simply providing health care and treating the symptoms rather than the cause.

3. The role of the environment in meeting the health MDGs

The environment and human health are interlinked to such an extent that the Millennium Development Goals (MDGs) relevant to each of them are interdependent.

MDG 4 – Reduce Child Mortality – Water related diseases such as diarrhoea and cholera kill an estimated 3 million people each year in developing countries, the majority of whom are under 5.

MDG 5 – Improve Maternal Health – Indoor air pollution from cooking on stoves burning wood and dung has negative effects on the health of pregnant and lactating women. The increased incidence of malaria due to changing environmental conditions affects pregnant women in particular as their immune systems are less resilient during pregnancy.

MDG 6 – Combat HIV/AIDs, malaria and other diseases – Changes in climate are affecting the seasonality of malaria, reducing the resilience of some populations to the disease. The population at risk of malaria is increasing due to climate change with numbers at risk of malaria projected to reach 323 million by 2008. Soil erosion, declining fertility and water shortages force people to migrate, bringing with it the increased risk of HIV and AIDs.

MDG 7 – Ensure Environmental Sustainability.

Target 10 – Reduce by half the proportion of people without sustainable access to safe drinking water – safe drinking water is essential for good health. Clarifying rights of access to water and improving ease of access (thereby reducing the burden on women and children) are as critical as improving good water quality.

Target 11 – Achieve significant improvement in the lives of at least 100 million slum dwellers, by 2020 – Slums tend to be built in marginal unsafe environments susceptible to land slides, flooding and other environmental risks. Water is often unsafe and sanitation poor or non-existent contributing to the spread of water borne disease, while unpaved streets and open sewers allow water to stagnate and malaria to spread.

4. Environment as a cause of ill health

Environmental conditions are often the cause of illness and disease. This means that in order to reduce the incidence of disease more attention needs to be paid to reducing the environmental causes.

4.1 Poor air quality (indoor and outdoor) leads to respiratory disease.

2.5 to 3 billion people rely on fuels such as wood, charcoal, animal dung and crop waste for household energy needs. In Africa, 50-70% of the population cooks with solid fuels. This exposes women and children, in particular, to a large number of pollutants, in varying concentrations that pose substantial risks to human health. Exposure increases the risk of diseases such as pneumonia and chronic respiratory disease and there is emerging evidence that it may also increase the risk of TB, low birth weight and cataract (WHO).

¹ Narayan, D., Pater, R., Schafft, K. Rademacher, A. & Koch-Schulte, S. (2000). Voices of the Poor: Can anyone hear us? World Bank.

4.2 Lack of sanitation or poor sanitation and impacts on water quality lead to water-related disease

Diarrhoeal disease alone amounts to an estimated 4.1% of the total DALY² global burden of disease and is responsible for the deaths of 1.8 million people every year (WHO, 2004). It is estimated that 88% of this disease burden is attributable to unsafe water supply, poor sanitation and poor hygiene. The provision of safe drinking water and sanitation are the cornerstones of development and are related to the environment in a cause and effect way. Poor environmental conditions (pollution, poor management of wells) leads to disease and poor sanitation contributes to environmental degradation.

↘ Improving water and sanitation provision in health facilities

As part of environment mainstreaming in the health sector, Irish Aid Mozambique ensures that all new health facilities funded by Irish Aid comply with the basic environmental health and waste management standards specified by the Ministry of Health. Irish Aid also engages in dialogue with Ministry and other donors to further develop guidelines on the design, construction and rehabilitation of health facilities.

Health Facilities are classified according to a set of standards corresponding to the level of care provided. For example, a health centre should have a safe source of water (rainwater cisterns are promoted) and a biosafety and waste management system including an incinerator.

4.3 Poor landscape and urban land management

Poor landscape and urban land management can contribute to increased areas of stagnant water and thereby increasing the risk of **malaria**. Poor governance and a lack of capacity to maintain basic infrastructure means that water is left to accumulate in urban areas after heavy rains, increasing the risk of malaria. In addition, agricultural policies on irrigation can contribute to the problem by increasing areas of stagnant water (irrigation channels, rainwater ponds). There are at least 300 million acute cases of malaria each year globally, resulting in more than a million deaths. Around 90% of these deaths occur in Africa, mostly in young children. Malaria is Africa's

leading cause of under-five mortality (20%) and constitutes 10% of the continent's overall disease burden. Malaria has been estimated to cost Africa more than US\$ 12 billion every year in lost GDP, even though it could be controlled for a fraction of that sum through the provision of bed nets and prophylaxis and through better environmental management.

↘ Controversy of Malaria Control

Malaria control is being carried out in Mozambique and Uganda through the use of insecticides to eliminate vectors. In Uganda the government is considering the reintroduction of Dichloro-diphenyl-trichloroethane (DDT) for Indoor Residual Spraying. The government commissioned an Environmental Impact Assessment of the spraying carried out in the 1950s and found no negative impacts 40 years later. However, there are many environmental and health concerns about reintroducing a banned chemical for malaria control and the potential impacts on the export of agricultural products. There is a need to examine the health benefits and environmental risks of spraying pesticides and to look for safe and effective alternatives.

4.4 Over-exploitation and degradation of natural resources

Over-exploitation and degradation of natural resources reduces the capacity of the land to produce crops and sustain livestock and is a key factor contributing to **food insecurity**. Food shortages result in malnutrition and, in a worst-case scenario, starvation. **Malnutrition** also reduces immunity to other diseases and affects children most severely as they become stunted and have problems developing into healthy adults. The World Health Organisation estimates that hunger affects one in seven people around the world and that malnutrition is a key factor in at least half of the 10.9 million child deaths each year.

² DALY – Disability-adjusted life year – combines the burden from death and disability in a single index and permits the comparison of the burden from water, sanitation and hygiene with the burden from other risk factors or diseases (Pruss et al. 2002)

5. The environment as a cure

The environment is not only a factor contributing to poor health. It can also contribute positively to human health through the provision of natural medicines and pharmaceuticals which come from wild plants. The World Health Organisation estimates that 25% of modern medicines are made from plants first used traditionally. The current levels of human impact on biodiversity are unprecedented (land use change, pesticides, deforestation, pollution, climate change) and are causing large-scale loss of biodiversity. If this continues we risk losing cures for everything from HIV/AIDS to cancer. Better environmental management and the implementation of international agreements such as the Convention on Biodiversity can help to stem the loss and safeguard future life saving medicines.

6. Other global environmental issues related to human health

6.1 Climate change and health

Climate change has numerous and complex interlinkages with health. These include direct impacts, such as temperature-related illness and death (as seen in France in the summer of 2004) and the impacts of extreme weather events such as the floods in Mozambique in 2000, recurrent drought in southern Africa and the Sahel and Hurricane Katrina on the Gulf Coast of the US in 2005. Climate change is also predicted to increase the incidence of water and food-borne diseases, vector-borne diseases such as malaria, and to increase food and water shortages due to changing environmental conditions (drought, intense rainfall leading to soil erosion).

Developing countries are most vulnerable to the impacts of climate change due to their low adaptive capacity. While those in developed countries have access to expensive technologies which can reduce the impacts of climate change (air conditioners, irrigation systems), developing countries will largely be unprepared and without the financial and human resources to cope.

The Key Sheet on Climate Change and Poverty Reduction provides additional information.

6.2 Ecosystems and health

The Millennium Ecosystem Assessment, published in 2005, is a multi-agency initiative to examine the way in which human use of the environment and ecosystems is impacting on human well-being. The report stresses how reliant we are on ecosystem services for basic needs such as food and clean water and how our actions are diminishing the capability of the earth to continue to meet these needs. The report highlights links between ecosystem services and human health such as the ability to be well nourished, to be free from avoidable disease, to have clean drinking water, to have clean air and to have energy to keep warm and cool. The Millennium Ecosystem Assessment is providing a new framework for international debate on environment and health.

↳ Food Security as part of the health service

Maluti Adventist Hospital in Lesotho is very aware of the effects soil erosion, declining soil fertility and climate change are having on food security. Increasingly frequent food shortages and the knock-on effects on human health have prompted the hospital to start a food security programme which is supported by Irish Aid. The programme aims to improve the nutrition of the most vulnerable, including children, the disabled and those living with or affected by HIV/AIDS. A hospital garden and extension service helps people to start their own gardens and to use low cost soil improvement and irrigation systems. This has positive impacts on their nutrition, health and livelihood as well as promoting the sustainable use of natural resources.

7. Positive actions to mainstream the environment in the health sector

The **Irish Aid Environment Policy for Sustainable Development** stresses the importance of mainstreaming as a strategy to meet the policy objectives. In the past Irish Aid support was provided through projects and mainstreaming the environment largely consisted of Environmental Impact Assessments (EIA) where major investment was involved (e.g. construction of a health clinic or hospital). With the transition to new aid modalities including Budget Support and Sector Programmes, new opportunities exist for environment mainstreaming.

↘ Mainstreaming the Environment in the Uganda Health Sector Strategic Plan

Irish Aid participated in the development of the Ugandan Health Sector Strategy (HSSPII 2005/6-2009/10), which provides a common strategic framework to guide interventions by all parties at all levels of the national health system. Improved intersectoral collaboration was critical when determining responsibilities and mandates as the plan involves other Ministries as well as the Ministry of Health (e.g. Ministries of Environment, Infrastructure, Education)

The plan has a section on environmental health which outlines the relevant policies, guidelines and legislation to promote safe water and sanitation, food safety and occupational health, and health care waste management. It has specific targets to:

- > Improve safe waste disposal and increase the number of latrines to cover 70% of the population by 2010; and
- > Increase from 18% to 100% the number of districts implementing the water quality surveillance and promotion of safe water consumption directive.

In order for environment mainstreaming to be successful, those working in the health sector need to have a good understanding of environment–health linkages. In addition they need to ask themselves and their colleagues the right questions to ensure that actions in the health sector supported by Irish Aid are environmentally sustainable. Many opportunities exist to do this including participation in the development of health sector plans and budgets.

Opportunities for Irish Aid to mainstream the environment into the health sector include:

- > Engaging in dialogue with other donors and government on the importance of the environment in the health sector.
- > Prioritising the key environmental health priorities in each country context – water and sanitation and malaria are top priorities in most of Irish Aid’s programme countries.
- > Improving access to safe water and sanitation and taking action to improve hygiene.
- > Taking action to improve sanitation and waste facilities at hospitals in order to reduce the spread of disease and demonstrate good practice within the community.
- > Taking action to prevent the spread of malaria – better environmental management, improved urban planning, assessment of the impacts of irrigation infrastructure etc.

- > Taking action to improve indoor air quality such as alternative fuels or improved stoves (this can improve the health of women and children in particular).
- > Engaging with ministries responsible for transport, environment and health to find ways to reduce air pollution in urban areas.
- > Including environmental health in health programmes and in training for health care workers.
- > Emphasising the need for improved road safety to reduce the incidence of car accidents and related injuries and deaths.
- > Taking action to support national food inspection services to can reduce the spread of brucellosis, botulism, listeria, salmonella etc.

Note: these will be expanded on in guidelines to accompany this key sheet.

References

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Sustainable pathways to achieve the MDGs. Assessing the key role of water, energy and sanitation. Stockholm Environment Institute (SEI) for the UN World Summit, Sept 14, 2005, New York. See <http://www.sei.se/dload/2005/SustMDG31Auglowres.pdf>

Linking Poverty Reduction and Environmental Management. Policy Challenges and Opportunities. DFID, European Commission, UNDP and The World Bank. July 2002. Available from the Poverty Environment Partnership (PEP) web page: <http://www.povertyenvironment.net/pep>

EU Action Plan on Climate Change in the Context of development Cooperation. Online at <http://europa.eu.int/comm/development/body/theme/environment/index.htm>

Useful websites

- WHO website **www.who.int**
- Global environmental change website **www.who.int/globalchange/en**
- Millennium Ecosystem Assessment website **www.millenniumassessment.org/en/index.aspx**
- UN Convention on Biodiversity **www.biodiv.org**
- UN Framework Convention on Climate Change **www.unfccc.org**