

Table 1. Relationship of the Millennium Development Goals to the impact of climate variability, the role of interventions and the use of climate in planning

	Impacts of Climate	Climate Smart Practice	Climate Smart Development Planning
<p>1 Eradicate extreme poverty and hunger</p>	<p>Drought and flooding cause acute hunger from loss of agricultural production.</p> <p>Extreme weather, storms and floods destroy infrastructure and productive assets.</p> <p>Losses and uncertainty diminish availability of credit and are a disincentive to investment, intensification, and high value agricultural enterprises.</p> <p>Repeated disasters stagnate economic growth.</p> <p>The poor are trapped in a cycle of poverty and asset loss, never fully recovering from climate shocks.</p>	<p>Food-insecurity warnings improve lead-time and targeting of relief efforts, diminishing overall impacts.</p> <p>Manage grain stocks with advance information stabilize prices and availability, and adjust supply of credit and production inputs to farmers.</p> <p>Climate information allows farmers to better manage risk and exploit favorable years.</p> <p>Weather indexed insurance facilitates credit for small farmers and provides a safety net for the poor during climate shocks.</p> <p>Improved disaster risk reduction strategies for hydro-climatic extremes.</p>	<p>Build capacity to recognize and respond rapidly to disaster, crisis and pre-crisis conditions.</p> <p>Develop agricultural practices and strategies that better manage climate risks, e.g., resilient irrigation, land use, cropping and trade policies.</p> <p>Create macroeconomic and investment strategies that minimize recessive impacts. Development to be adaptive to changes in climate conditions.</p> <p>Planning for improved productivity and economic growth with climate information.</p> <p>Building climate resilient infrastructure.</p>
<p>4 Reduce child mortality</p>	<p>Poor sanitation caused by water shortages and flooding contribute to morbidity and mortality from diarrhoeal diseases.</p> <p>Infant mortality risk increases if mother contracts malaria during pregnancy. Malaria's endemicity and epidemicity are impacted by climate.</p>	<p>Climate monitoring and forecasts help identify high-risk areas prone to water contamination based on water shortages or flooding.</p> <p>Climate forecasts can prompt malaria early warning, increasing lead-time for mobilization and distribution of resources to remote areas.</p>	<p>Plan for robust water storage and delivery implementation, investment, design and maintenance.</p> <p>Develop national/regional capacity to plan for and react to epidemics.</p> <p>Understand long term implications of climate change on disease distribution and socioeconomic vulnerability.</p>
<p>5 Improve maternal health</p>	<p>Climate variability impact food production and nutrition, affecting pregnant women and the fetal development.</p> <p>Pregnant women are more likely to contract and die from malaria, a disease whose endemicity and epidemicity are impacted by climate.</p>	<p>Climate-based food insecurity early warning increases lead-time for organizing interventions.</p> <p>Climate prediction provides advance information for activating relevant aid and raising awareness on the ground, e.g., maternal education programs.</p>	<p>Develop resilience in food production, storage, and markets by taking into account comprehensive climate sensitive socioeconomic data.</p> <p>Prioritize, design, and resource long term health, training and capacity building programs with awareness of climate sensitivity.</p> <p>Develop understanding of dynamic health distribution, socioeconomic impacts, capacity and resource needs in the face of changing climate conditions. Develop understanding of climate impacts on health distribution.</p>
<p>6 Combat HIV/ AIDS, malaria and other diseases</p>	<p>Climate variability influences endemicity and epidemicity of malaria and other infectious diseases transmitted by insects.</p> <p>Climate variability impacts food production and nutrition, affecting susceptibility to HIV/AIDS, and other diseases.</p> <p>People infected with HIV are more likely to develop AIDS and die of it if they contract malaria or if they are malnourished.</p>	<p>Climate monitoring supports targeting high-risk areas.</p> <p>Climate-based early warning increases lead-time of epidemic detection, prevention, and control of climate sensitive diseases, e.g., malaria early warning can facilitate activation of funds for preventive measures (ITNs and insecticides) and medicines and their distribution to remote areas.</p>	<p>Combined understanding of climate history, climate impacts and affected socioeconomic factors to be used in prioritizing, designing, implementing and maintaining health care investments.</p> <p>Develop and maintain communication and response networks that use the best applied climate information.</p> <p>Understand dynamic health distribution, socioeconomic and climate impacts, capacity and resource needs under changing climate conditions.</p>
<p>7 Ensure environmental sustainability</p>	<p>Climate can constrain both quality/quantity of water supply.</p> <p>Resource management regimes fail because they ignore the impact of climate e.g. for water for pastures or agriculture.</p> <p>Resource degradation is blamed on people who are actually responding to climatic stress.</p> <p>Floods overwhelm water and sanitation infrastructure, management and operations.</p>	<p>Reservoirs can be managed more effectively for multiple purposes under both scarcity and surplus, using reliable climate forecasts.</p> <p>Managing rangelands based on understanding of climate-human-livestock interactions enhances sustained productivity.</p> <p>Appropriate choice of water management systems (i.e. infrastructure, markets) using decision support systems based on climate, development and environmental information.</p>	<p>Sustainable development initiatives to be informed by climate regime and resource allocation demands.</p> <p>Long term sustainability and/or impact mitigation through adaptation to climate change policies, designs and applications.</p> <p>Biodiversity conservation takes into account climate variability/change.</p> <p>Climate information to enable design of sustainable resource management regimes that account for variability and climate-human interactions.</p>

Modified from "A Gap Analysis for the Implementation of the Global Climate Observing Programme in Africa" (IRI)