

UNEP – Microsoft Partnership: Working Together to Help Manage Environmental Issues

Sustain more 



UNEP and Microsoft recognize the importance of using Information and Communication Technology (ICT) to help address environmental issues of the 21st Century.

The United Nations Environment Programme (UNEP) is responsible for promoting environmental understanding and increasing public knowledge about environmental factors and the problems facing future generations. Headquartered in Nairobi, Kenya, UNEP works on a global and regional level to coordinate the development of environmental policy consensus and support country-level environmental capacity building.

Today's complex environmental challenges such as climate change, biodiversity, ecosystem, and pollution increasingly require a comprehensive global response from both the public and private sectors. As part of broader efforts to build global partnerships for development, Microsoft and UNEP have joined forces to pool their respective expertise and explore how technology can help address the impact of climate change in innovative ways. Microsoft is committed to environmental responsibility and to bringing forward new technology to help key environmental actors like UNEP address environmental challenges.

Access to Environmental Information for Researchers – Research4Life

UNEP and Microsoft are partners in Research4Life which provides developing countries with a critical source of online scientific information for free or very low cost in the areas of health, agriculture and the environment.

UNEP, one of three supporting UN partners, is helping to provide more than 2000 institutions with access to over 3000 scientific peer reviewed journals, databases, and other materials on the environment via OARE (www.oaresciences.org). The platform includes journals in: environmental toxicology and pollution, zoology, botany, ecology, environmental law and policy, climatology and energy. It enables scientists, researchers, and policy makers in developing countries to train, conduct research, and make policy while referring to the latest knowledge.

This on-line mapping service relies mainly on inputs from UNEP, UNDP, IUCN, WWF and other environment data sources, creating the leading One-UN portal for access to international environment information. The first instance of collaboration will focus on mapping satellite images of freshwater assessments in Kenya.

Research4Life Quick Facts

- Access to 8,100 scientific journals, books and databases
- Provided by over 150 leading publishers
- Available in 108 countries at low or no cost
- 3 channels:
 - 1) OARE – environmental research (supported by UNEP)
 - 2) HINARI – health research (supported By the World Health Organization)
 - 3) AGORA – agriculture research (supported by the Food and Agriculture Organization)

“The way we look at our partnerships in UNEP – including our relationship with Microsoft – is to try and collaborate under the Millennium Development Goals so that the public-private partnerships are a key to delivering solutions on a scalable level. UNEP’s ability to mobilize information technology and the platforms for sharing environmental information is a precondition for working together as an international community to tackle environmental issues.”

Achim Steiner, Executive Director, UNEP



School tree planting in Kenya



ITPC based on Microsoft technology

Creating Sustainable Watersheds in Kenya

The Njoro River watershed in Kenya’s Rift Valley has come under increasing pressure from a rapidly growing human population. Local researchers at Egerton University witnessed the devastation first-hand and began to take action. Utilizing OARE’s resources, they launched the SUMAWA project in partnership with Kenyan and US universities and local authorities, to create a multi-disciplinary research effort focusing on reducing pollution in the Njoro watershed and educating the local population.

Based on information and methodologies found through OARE, Egerton University created long-term environmental projects for the valley. Among these, researchers built bio-sand filters using local materials to provide the community with access to clean water from the river. Local public health authorities credit the filters with a steep drop in water-borne illnesses among the Rift Valley’s 300,000 residents. “Bio-sand filters have really assisted the community of Njoro.

They are accessible to our people and have helped reduce the people who are coming to the hospital by at least 50%. They have cut down diarrhea diseases by at least 20%,” says Fredrick Bwire of the Njoro Divisional Public Health Office. The SUMAWA project also includes community-specific programs such as installing livestock troughs to reduce pollution by cattle and establishing a school tree nursery program, aimed at educating the local population and dedicated to the unique environmental challenges facing the watershed. “The research we have conducted is very relevant because it has a direct impact on the farmer, direct impact on that individual person who lives in that watershed,” says James K. Tuitoek, PhD,

Vice-Chancellor of Egerton University. “OARE has really transformed the knowledge base at the university and our community. Before we were relying on print, which was limited and costly.”

Showcasing Sustainable Design and Technology at Ground-Breaking UN Building in Nairobi

Microsoft has helped UNEP address the energy requirements of an IT infrastructure for the new UN HQ building in Nairobi, which houses UNEP’s own headquarters along with those of the United Nations Human Settlements Programme (UN-HABITAT), in order to achieve energy neutrality. The building

is the first energy neutral UN building in Africa, creating a sustainable 21st century work environment for the 1,200 staff in the building.

Having identified IT infrastructure as the greatest challenge to achieving energy neutrality, Microsoft began working with UNEP to implement the first highly efficient green data center in Africa, capable of helping the organization achieve its goal of carbon and energy



neutrality. As a result, Microsoft's IT Pre-Assembled Components (ITPAC) technology, manufactured by technology partner Saiver, was recommended to help the building become a more energy efficient showcase demonstrating responsible stewardship of the environment. The expected energy savings are such that the substantial cost of purchase can be recouped in less than five years through savings in electricity bills.

Not only are green IT policies helping UNEP to achieve energy neutrality and increase efficiency in the new UN building in Nairobi, but they also provide additional benefits in terms of a more flexible IT environment. The highly scalable foundational IT infrastructure provided by the ITPAC can be useful for future ICT expansion into cloud computing at the complex, unlocking benefits in IT efficiencies and achieving further reductions in energy and carbon emissions.

Integrated Knowledge Platforms for Governments and Environmental Actors

UNEP and Microsoft are also partnering to assist governments in leveraging technology to address environmental challenges, and foster broader cooperation among environmental stakeholders.

One of these programs is Proteus, a partnership for web service automation of the World's Database on Protected Areas (WDPA). An online resource on critical coastal and inshore marine ecosystems, Proteus uses 'Wikistyle' web tools to illustrate the online database on protected areas, and prioritize recovery of environmentally damaging events, such as oil spills and mining tailings. With Microsoft support, the database is currently undergoing a major infrastructure update to enhance its effectiveness and ease of use.

Promoting Climate Neutrality

Microsoft is also participating in UNEP's Climate Neutral Network (CN Net) initiative to promote global buy-in to

climate neutrality.

As a CN Net partner, each participant sets its own climate neutrality goals and works towards a low-carbon future. CN Net participants are expected to demonstrate their progress by undertaking a greenhouse gas inventory and reporting it on the network, identifying short, medium and /or long term goals for emissions reduction and offsetting, and reporting on the website along with lessons learned and innovative ideas. As a CN NET member, Microsoft continues to be committed to reducing its carbon emissions per unit of revenue by at least 30% compared with 2007 levels by 2012.

"Today's environmental challenges such as climate change, pollution and ecosystem degradation require a comprehensive and global response from all sectors of society. If the world is to address the challenges of climate and environmental sustainability at scale, there will need to be many more partnerships between companies and non-governmental organizations. We are honored to be able to work with UNEP to help accelerate leveraging science and ICT to enable people around the globe to reduce their impact on the environment."

Rob Bernard, Chief Environmental Strategist, Microsoft



Environmental Research

Microsoft Research's Computational Science Laboratory has established a partnership with the UNEP World Conservation Monitoring Centre (WCMC) to advance environmental and ecosystem science, prioritizing areas of urgent environmental policy concerns at the intersection of climate change, biodiversity and human activity and sustainability.

WCMC is the world's authoritative institution for monitoring biodiversity and ecosystems for conservation purposes and collecting data globally on important biodiversity indicators. The Microsoft Research Computational Science Lab in Cambridge, England, is one of the world's leading research laboratories pioneering new computational approaches to tackle fundamental challenges in the science of complex natural systems.

Together with UNEP, scientists are developing an expanded and improved set of global biodiversity metrics that will combine ideas and approaches from community and ecosystem ecology to enable the international community to assess the impacts of alternative policies on biodiversity and ecosystem function.

Environmental Sustainability Management Solutions

A current challenge in measuring, monitoring and managing environmental sustainability is the lack of standardized methodologies and supporting systems within organizations to gather the data. Microsoft and UNEP are addressing this through the development of specialized software.

UNEP and Microsoft are supporting the development of UNEP Global View for the Environment which will represent visually key environment projects, statistics and policies and track progress towards

reaching the environmental objectives of the Millennium Development Goals (MDGs). UNEP and Microsoft are working to develop a global technology platform that will enable policy makers and citizens to find, visualize and act on environmental data.

UNEP and Microsoft commenced the installation of the Microsoft Search Server Express as part of their ecoMundus project. EcoMundus will provide a single search interface on all data provided by organizations such as the Food and Agriculture Organization (FAO) and the World Food Program (WFP).



The OARE research library at Egerton University

About UNEP

UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP is an advocate, educator, catalyst and facilitator, promoting the wise use of the planet's natural assets for sustainable development. With its headquarters in Nairobi, Kenya, UNEP has a first-hand understanding of the environmental issues facing developing countries. www.unep.org

About Microsoft

Founded in 1975, Microsoft (Nasdaq "MSFT") is the worldwide leader in software, services and solutions that help people and businesses realize their full potential. www.microsoft.com

Through its Unlimited Potential initiative, Microsoft is committed to making technology more affordable, relevant and accessible to help transform education, foster innovation and enable better jobs and opportunities. By working with governments, intergovernmental organizations, nongovernmental organizations and industry partners, Microsoft hopes to extend the benefits of technology to the next 1 billion people by 2015. www.microsoft.com/unlimitedpotential