

Bethel College Mennonite Church Creation Care Committee Creation Stewardship Notes # 13, April 2005

The Millenium Ecosystem Assessment

The first report from the Millenium Ecosystem Assessment (MA) was released on March 30, 2005. This global study revealed that 60 percent of the ecosystem services that support life on earth are being degraded or used unsustainably, services such as fresh water supply, capture fisheries, air and water regulation, and the regulation of climate, natural hazards and pests. Scientists involved in the study warn that the harmful consequences of this degradation could grow significantly worse in the next 50 years. This report is the first in a series of seven synthesis and summary reports and four technical volumes that will come out of the study.

The Millenium Ecosystem Assessment (MA) was launched by U.N. Secretary-General Kofi Annan in June 2001 and was a four-year study. It is anticipated that an assessment process modeled on the MA will be repeated every 5-10 years. The MA study focused on ecosystem services (the benefits people obtain from ecosystems), how changes in ecosystem services have affected human well-being, how ecosystem changes may affect people in future decades, and response options that might be adopted at local, national, or global scales to improve ecosystem management.. The MA synthesizes information from the scientific literature, datasets, and scientific models, and makes use of knowledge held by the private sector, practitioners, local communities and indigenous people. All of the MA findings underwent rigorous peer review.

The Millenium Ecosystem Assessment (MA) was designed by a partnership of UN agencies, international scientific organizations and development agencies, with guidance from the private sector and civil society groups. It is overseen by a 45-member Board co-chaired by Dr. Robert Watson, chief scientist of the World Bank, and Dr. A. H. Zakri, Director of the United Nations University's Institute of Advanced Studies. A 13-member Assessment Panel of leading social and natural scientists, co-chaired by Angela Cropper of the Cropper Foundation and Dr. Harold Mooney of Stanford University, oversees the technical work of the assessment supported by a secretariat with offices in Europe, North America, Asia, and Africa coordinated by the United Nations Environment Programme. More than 1,350 experts from 95 countries were involved in four expert working groups to prepare the global assessment and hundreds more are undertaking more than 30 subglobal assessments. It is supported by 22 of the world's leading scientific bodies.

The Millenium Ecosystem Assessment (MA) was designed as a multi-scale assessment with interlinked assessments undertaken at local, watershed, national, regional, and global scales. The sub-global assessments directly meet needs of decision-makers at the scale at which they are undertaken and strengthen the global findings with on-the-ground reality. The local findings are strengthened with global perspectives, data, and models. More than 30 subglobal assessments are linked to the MA.

"The over-riding conclusion of this assessment is that it lies within the power of human societies to ease the strains we are putting on the nature services of the planet, while continuing to use them to bring better living standards to all," said the MA Board in a statement *Living beyond our Means: Natural Assets and Human Well-being*. "Achieving this, however, will require radical changes in the way nature is treated at

every level of decision-making and new ways of cooperation between government, business and civil society. The warning signs are there for all of us to see. The future now lies in our hands."

Although evidence is incomplete, there is enough for the experts to warn that the ongoing degradation of 15 of the 24 ecosystem services examined is increasing the likelihood of abrupt changes that will seriously affect human well-being. This includes the emergence of new diseases, sudden changes in water quality, creation of "dead zones" along the coasts, the collapse of fisheries, and shifts in regional climate.

The MA report highlights four main findings:

1. Humans have changed ecosystems more rapidly and extensively in the last 50 years than in any other period. For example, more land was converted to agriculture since 1945 than in the 18th and 19th centuries combined. More than half of all the synthetic nitrogen fertilizer ever used on the planet has been used since 1985. Experts say that this resulted in a substantial and largely irreversible loss in diversity of life on Earth, with some 10 to 30 percent of the mammal, bird and amphibian species currently threatened with extinction.
2. Ecosystem changes that have contributed substantial net gains in human well-being and economic development have been achieved at growing costs in the form of degradation of other services. Experts say that these problems will substantially diminish the benefits for future generations. Only four ecosystem services have been enhanced in the last 50 years: increases in crop, livestock and aquaculture production, and increased carbon sequestration for global climate regulation. Two services - capture fisheries and fresh water - are now well beyond levels that can sustain current, much less future, demands.
3. The degradation of ecosystem services could grow significantly worse during the first half of this century and is a barrier to achieving the UN Millennium Development Goals. In all the four plausible futures explored by the scientists, they project progress in eliminating hunger, but at far slower rates than needed to halve the number of people suffering from hunger by 2015 (the UN goal). Experts warn that changes to ecosystems such as deforestation influence the abundance of human pathogens such as malaria and cholera, as well as the risk of emergence of new diseases.
4. The challenge of reversing the degradation of ecosystems while meeting increasing demands can be met under some scenarios involving significant policy and institutional changes. However, these changes will be large and are not currently under way.

The Millennium Ecosystem Assessment also reveals that it is the world's poorest people who suffer most from ecosystem change. The regions facing significant problems of ecosystem degradation - Sub-Saharan Africa, Central Asia, some regions in Latin America, and parts of South and Southeast Asia -are also facing the greatest challenges in achieving the UN Millennium Development Goals.

This is a significant report and the need for change must be taken seriously. The difficulties come when the changes begin to be spelled out. Can we meet such a challenge?