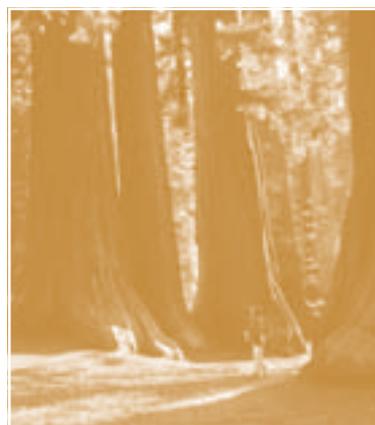
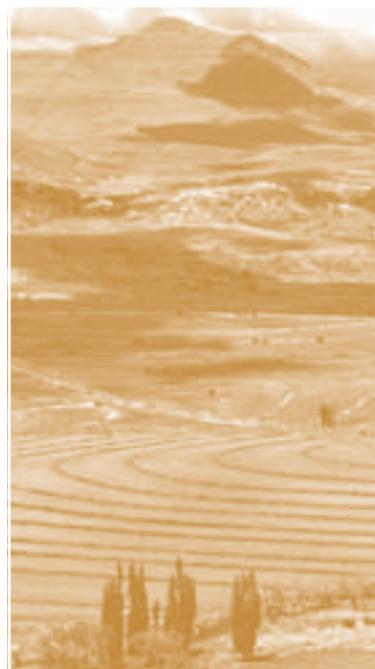




INVESTING IN OUR FUTURE

At the turn of the millennium, the international community committed itself to achieving, as soon as possible, the human and sustainable development goals that were identified in the 1990s. The Millennium Declaration (2000) and the Johannesburg Plan of Implementation (2002) emphasized the need to accelerate progress towards poverty eradication, universal access to basic services (e.g. education, health, water and sanitation) and sustainable use of natural resources. The United Nations-supported Millennium Development Goals (MDGs) urge governments to develop policies that make it possible to achieve these goals by 2015.

Watershed management has an important role in the process of meeting international sustainable development goals. Sound watershed management is essential for achieving MDG 7, ensuring



Top: A watershed landscape in South Africa
Bottom: Primary forest in the Sequoia National Park, California, United States of America
Left: Upland farming in the Andes, Bolivia

Opposite page: Tree planting in Ecuador



environmental sustainability, particularly its two targets of reversing the loss of environmental resources and halving (by 2015) the proportion of people without sustainable access to safe water. In addition, by enhancing the availability and use of land and water resources for food security and economic development, watershed management can contribute significantly to MDG 1, the eradication of extreme poverty and hunger.

The benefits from watersheds cannot be obtained for free. Watershed management has a financial cost, which society has to bear. Governments should make funds available for watershed work and programmes, and citizens should accept appropriate taxes and

WATERSHED MANAGEMENT AND THE "ADAPTING MOSAIC" SCENARIO



In 2005, the Millennium Ecosystem Assessment (MEA) study analysed the long-term and global impact of an "adapting mosaic" development scenario. In this scenario regional, watershed-scale ecosystems are the focus of political and economic activity. This scenario sees the rise of local ecosystem management strategies and the strengthening of local institutions. Investments in human and social capital are geared towards improving knowledge about ecosystem functioning and management, which results in a better understanding of the resilience, fragility and local flexibility of ecosystems. There is optimism that we can learn, but humility about preparing for

surprises and about our ability to know everything about managing ecosystems.

There is also great variation among nations and regions in style of governance, including management of ecosystem services, focused on small, watershed-based initiatives, undertaken by decentralized institutions, supported by the public sector and embedded in broader economic and political processes (...). Eventually, the focus on local governance leads to failures in managing the global commons. Problems related to climate change, marine fisheries and pollution grow worse and global environmental problems intensify. Communities slowly realize that they cannot manage their local areas because global and regional problems are infringing on them, and they begin to develop networks among communities, regions and even nations

to manage better the global commons. Solutions that were effective locally are adopted among networks.

These networks are expected to be especially common where there are mutually beneficial opportunities for coordination, such as along river basins. Sharing good solutions and discarding poor ones eventually improves approaches to a variety of social and environmental problems. Compared with other development scenarios considered by the same study, the watershed-based adapting mosaic scenario is expected to perform better in the long term in controlling key current ecosystem problems, such as water availability and quality, soil erosion, conservation of genetic resources, pest control, storm protection and human adaptation.

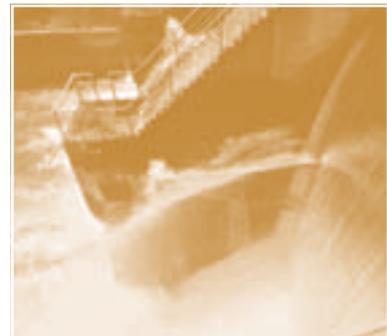
Source: Based on Millennium Ecosystem Assessment. 2005. Ecosystems and human well-being. Washington DC, Island Press.

tariffs as “payment for environmental services”. Nurturing watersheds so that humanity can continue to benefit from their services is a collective responsibility.

Some economists believe that watershed management programmes are financially viable when they facilitate the production and marketing of commodities, such as drinking-water, crops and food, timber and tourism. It is more difficult for economists to demonstrate the financial viability of watershed benefits and services that are not included in market exchanges. Given this situation, is it financially worthwhile for a national or local government to invest in watersheds? Will today’s costs be recovered in the medium and long terms? And will there be any short- or medium-term profits?

Ten years ago the answers to all these questions would have been negative. Investments in watershed management, and in natural resource management in general, were basically envisaged as non-remunerative. The carbon sequestration and global environmental goods markets are creating new financial prospects for ecosystem conservation as a whole. Some municipalities have already issued watershed management bonds, and the development of stronger linkages between watershed services and financial markets is to be expected in the future.

Whatever economists invent to make sure that environmental services are recognized and traded by the market, healthy and balanced watersheds will continue to have existence value, which can never be fully captured by financial transactions. Today, therefore, investments in watershed management should primarily aim to ensure that watersheds’ existence value will also be available for coming generations. Investing in watersheds is primarily investing in the future of earth and humankind.



Top: Upland tropical forest in Eastern Bolivia

Centre: Hydropower dam, Republic of Korea

Bottom: Mountain trekking, Tibet

Opposite page: A protected water source in the Middle Hills of Nepal

By providing high-quality freshwater, regulating discharge and runoff, and hosting fertile arable land and huge forest resources, watersheds play a pivotal role in the ecology of our planet and contribute significantly to the wealth and welfare of human societies. This booklet summarizes state-of-the-art information on environmental services provided by watersheds, risks and threats currently affecting watershed ecosystems, watershed economics, watershed management policies, watershed governance institutions and programmes.

The booklet was produced in the wake of the 2002-2003 inter-regional watershed management review conducted by the Food and Agriculture Organization of the United Nations. The publication addresses primarily those policy- and decision-makers who are responsible for finding a balance between socio-economic development and environmental conservation thrusts. Based on recent research, the booklet suggests that investing in watershed management can significantly contribute to solving these often diverging concerns.

