

Preface

Robert E. Kenward
Anatrack Ltd, UK.

This project, which was contracted to design a Transactional Environmental Support System (TESS) under the European Commission's Framework Programme 7, is deeply rooted in the Convention on Biological Diversity (CBD). This international convention, which stems from the "Earth Summit" in Rio de Janeiro in 1992, has three pillars: the conservation of biodiversity, its sustainable use, and the equitable sharing of the benefits of its genetic resources. The second pillar, sustainable use, is defined as "the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity", in other words as "use that conserves". CBD calls for sustainable use in 12 of its articles (5-8, 10-13, 16-18, 21). CBD calls for conservation by protection in one article (8), yet far more attention has been paid to conservation by protection than to conservation by sustainable use.

The use of biodiversity lies behind the myriad decisions made by individuals at local level, on what to remove or plant, and how and when to manage each species. Decisions that are made for farm fields and gardens are small-scale individually, but they summate to change the environment. Even if 17% of the land surface is protected by 2020, as recommended at the 10th CBD conference in Nagoya in 2012, most land will lie outside protected areas, but influence them through pollution, hydrology and fragmentation.

The International Union for the Conservation of Nature (IUCN), founded in 1948 and now with more than a thousand government and non-government organisations as members, was the initiator of CBD and many subsequent documents. These included the Ecosystem Approach, which stressed that humans too are a part of natural systems and was adopted at CBD's 6th conference in 2002. The previous year (2001), IUCN had also started work on a document which, at CBD's 7th conference in 2004, became the Addis Ababa Principles and Guidelines for Sustainable use of Biodiversity. Both documents stressed the engagement of local people for conservation, through applying local knowledge, monitoring and empowerment, with appropriate governance at all levels for adaptive management of wild resources.

Also in 2001, IUCN's European Sustainable Use Specialist Group delivered to the Council of Europe a paper on agri-environment innovation for the Kiev Inter-Ministerial Conference on the Environment. The paper concluded: "Optimising the enhancement of biodiversity through sustainable use will require integration of ecological, economic and social factors in complex models. Although such models must be developed centrally, the Internet can be used to disseminate knowledge in expert systems, so management decisions can be made locally, and to retrieve local knowledge to improve the models. Thus, modern technology can enable local communities to regain motivation and responsibility for managing their environment."

A third project also beginning in 2001, and which helped plan for TESS, was a survey in the UK Natural Environment Research Council (NERC) of opportunities for technology transfer. The survey revealed 41 software applications among 115 products with commercial potential in NERC's Centre for Ecology and Hydrology, with much software available outside CEH too. Discussion with government officers encouraged a mapping of this supply to the requirements of stakeholders. This led to a review of information needs of local council and landowners in Purbeck, UK, which later informed a similar process across Europe for the TESS project.

In 2005 members of European Sustainable Use Specialist Group won a bid in the EU's Framework Programme 6 for a project on Governance and Ecosystem Management for Conservation of Biodiversity (GEMCONBIO). The GEMCONBIO project gathered data that showed not only the importance of adaptive management, but also that annual private spending in Europe on fishing, hunting and watching wildlife in the EU was at least €40 billion. The evidence that local biodiversity-dependent recreation had so much value, combined with increasing recognition of the CBD concepts developing in IUCN and elsewhere around 2001, gave renewed impetus for the successful 2008 bid to design a TESS.