

## **Notes from Living Beyond Our Means**

Introduction extracts: "At the heart of this assessment is a stark warning. Human activity is putting such strain on the natural functions of Earth that the ability of the planet's ecosystems to sustain future generations can no longer be taken for granted."... "Nearly two thirds of the services provided by nature to humankind are found to be in decline worldwide."

### **Services of Nature**

Here is described how ecosystems provide food, water, energy, regulation, recreation, heritage and so on which constitute human well-being. It then compares the economic values attributed to those services, for example grazing and timber and the non-marketed values of them. It shows that sustainable management practices provide much more value, when both economic value and not measured value are taken into account.

### **Pressures and changes**

Specially since the second part of the 20<sup>th</sup> century, human has changed the natural systems, by cultivating more land (nearly a quarter of all land) thus changing landscapes and ecosystems, by applying fertilizer (see the Nitrogen cycle issue <http://wildclarisse.wordpress.com/2011/05/07/nitrogen-cycle/>) , taking more water, moving species both voluntarily or not, and changing the climate by releasing large quantities of carbon into the atmosphere. Consequences are a reduced diversity with an increasing species extinction rate, and reduced capacity of nature to provide for our growing needs of nature services, e.g. we need more food but depleted soils are less able to provide them ; the state of marine stocks is alarming. Nature is resilient but there are some "tipping points" which can lead to abrupt changes.

### **Natural assets and human development**

In the new millenium, governments worldwide have committed to address poverty and ensure basic rights or a decent life to all people, which includes adequate food and clean water, health education and freedom. But these cannot be met if natural environments are not protected. Furthermore, there is inequality of impact when for example consumption by a richer population destroys the environment of poorer people in a different part of the world. Yet wealthy parts of the world cannot shield themselves entirely from these impacts (pollution, increase price of food, extreme weather events, disaster relief and regional conflict pressure, migration)

### **Options for the future**

The Millenium Ecosystem assessment devised scenarios and key steps to improve the future. First of all, the economic background to decision-making must change to take ecosystem services into account. Policy planning and management must integrate the protection of ecosystems. Public education and access to information must influence individual behaviour. Environment-friendly technologies must develop to improve agriculture with minimal harmful trade-offs, restore degraded ecosystems and increase low carbon energies. We need to learn to get more from less, to restore local involvement and ownership and to place nature at the centre.

It concludes: "The warning signs are there for all of us to see. The future lies in our hands"