## Keynote: „What has Nature ever done for us? Why our society and economy need to afford biodiversity"

Tony Juniper, British Campaigner, Autor und Nachhaltigkeitsberater
Vom Umweltdachverband protokolliert.

„I've been involved with this campaign for 40 years now, there are many laws to protect declining species; yet if you look at the continuing decline, the continued destruction and degradation, the still ongoing release of dangerous quantities of greenhouse gases or the news headlines (the northern section of the great barrier reef is bleached due to acidification in the oceans),…

**…it comes to a fundamental question**: why is it that we continue to do destruction?

We have all the data and all the solutions to turn it around; the fact is, that we suffer from a monumental misconception: Bird and Habitats Directive were seen in Britain as an unaffordable burden on business, although there is a broad body of evidence that the opposite is the case; **without nature the economic system cannot go on, it is 100% dependent on nature**; Looking after nature has to be balanced with industrial competitiveness;

The most complex ecosystem on earth is the **soil**: if you go into farmland and you take a tablespoon of soil, just look at it on the microscope – there will be about 6 billion microorganisms; most of them were not ever named, it is a variety of complex relationships. Microorganisms are recycling material and enabling new plant growth; **but 1/3 of soils has been damaged since the middle of the century**; the reasons for it can be found in industrial agriculture; for example soil erosion – if you look at google earth in winter time you can see: the soil is going into the sea – as a result from the way we are farming;

**The depletion of organic matter in soils is a global trend**, which interferes with another planetary function – the carbon cycle; most of the carbon is stored in soils; there is an ongoing change due to the way of farming. For example: in the Cambridge wetlands there is peatland, a massive swamp – 5 or 6 meters deep. In the Victorian times it was opened and drained for wheat production; in the meanwhile, the peat did not only shrink, but millions of tons of $CO_2$ were evaporated in the atmosphere; we have a great debate on electric mobility that could save costs of billions of dollars; **But how many policy makers are paying attention to maintain the function of soils for the $CO_2$-cycle?**

Further examples:

- There are 10 million species on earth –half of it can be found in **tropical rain forests**; but massive destruction is happening while we only described a fraction of these species yet; an area like England is cleared each year – which means huge $CO_2$ emissions! It is a simple economic equation: the Indonesian government enables depletion of rain forests and argues with tax revenues and economic growth (palm oil, etc.), and therefore is turning nature into economic wealth by destroying it; although the wild genetic diversity is our biggest insurance policy – that is what the economic experts tell you; there is no doubt that many of medicines will be derived from wild animal or plants; antibiotics that we are using today derive from soil organisms; cancer drugs from plants in the rainforest;

**The current mass extinction is caused by deforestation, pollution and climate change** which means an existential threat to us all! Biodiversity has an enormous value by the capture of $CO_2$, by its benefits for health and disease reduction or in the food production. There are **relationships between all elements** – we must be increasingly aware about that fact.

Examples:

- **2/3 of world's plant variety we eat are dependent on pollination** – a free service

- **TEEB study** showed that services about 190 billion $ per year are provided by nature; this study was based on what it might cost us to replace the services;
- **Situation in some food growing areas in China**: in the 1980ies heavy pesticides were used and killed bumblebees that pollinated the flowers – nowadays you can still see farmers climbing in the trees to pollinate blossoms by hand, because natural power has gone; **it takes 28 farmers to replace one bumblebee nest**; replacement of "free service" is expensive!
- **India**: In 1995 there were about 40 million **vulture**s in the countryside; in 2000 only some 40.000; the extinction is a result of inadvertent consequences of the use of the drug diclofenac, a cheap drug applied on large scale to help sick buffalo and cattle; the drug leaves traces on dead animals / cadavers that are eaten by vultures; vultures attract other ones and in a few moments the dead cattle is cleared; all birds which got this drug in their organisms died later of an organ failure; India's vulture population crashed, and the dog population increased by 7 million animals; now there are more dogs in the countryside, people are bitten more often; some 50.000 people died of hydrophobia compared to what would have been the case when the vultures were still there; this has implications for India's economy: the loss of vultures costs India 35 billion $, which means a huge impact on a developing country's economy;

When it comes to **fresh water**: nobody cares about the background story where it comes from; but there is a remarkable relationship **between the water cycle and biodiversity**; the light layer of the ocean is the beginning of the water cycle; photosynthetic plankton in the ocean promotes cloud formation each day; clouds are transporting water to the land; the rainforest's moisture is rising with tiny particles from trees and so generating the atmospheric moisture which is sustaining agriculture; **oceans as biotic pump**: the movement of water and clouds is driving entire atmospheric cycles; a look at the interconnections shows we are directly dependent on the supply of freshwater; the $CO_2$ in the atmosphere is changing fundamentals of the ocean; **Only a tiny proportion of the earths water is fresh and usable**; but from freshwater massive benefits derive; Oceans and ecosystems on land are supporting freshwater – and it is the soils that help runback water to springs, rivers etc.; **everything is related, nothing can be seen in isolation**; On top of that another fundamental service: free oxygen! Oceans are responsible for free oxygen in the air which is **sustaining animal life**;

Example:

- 94 million of tons of **seafood** are used each year from the oceans, this development is undermining marine livelihood and food security; we should see the fish as a mineral body to be sustained; the solar power system is leading to big fish and the ocean is also absorbing $CO_2$ - acidifying the oceans;
- **Climate change** is already on its way, for example take the hurricane in Haiti in Septemberthe destruction of mangroves is problematic; if the sea level goes up, so do the mangroves, they could so provide a great protection from flooding But if mangroves are destroyed, floods and damages will happen;

When it comes to human life, there's **another dimension** we just start to understand. It costs us hundreds of billions to replace public health services; For example the physical health dimension: Being in nature contributes to people's psychological wellbeing, so it is necessary to give people access to natural areas; That is the reason why this whole subject about the mainstreaming is so vital. It is not only about the conservation, it is also about food and water security and supply, it is about innovation in medicine in future, reducing $CO_2$ in the atmosphere and also about the **biggest issue of public health** and how we are able to sustain it.

Examples:

- Biodiversity and the health of nature – nature needs to be located at the heart of the economy; but how do we do this? One thing we can do is to start constructing baselines to the state of

nature in different countries. Nature has to be seen as a set of assets providing the welfare of the country, not been managed only in environment department but also in the finance ministry; All of these things need to be part of an economic equation; see http://naturalcapitalcoalition.org/

In green infrastructure planning: The UK has big flood problems and is therefore building up concrete defense for billions. Why would you do that if you could also restore peats and bogs only for millions? The eco dimension needs to be put alongside the engineering dimension, the integration approach shall be applied. Don't miss nature!

Furthermore it is necessary to align agriculture and forestry with biodiversity – exciting steps are being taken at many countries of the world; landscapes could involve many different interests – we can get some much more rational outcomes; the land is for wildlife, people, carbon, water, food, livelihoods – increasingly we can see that this is an achievable route and in some countries this is going to happen;

It is not complicated. It has been done in Indonesia; if they can do it, we can do it. Nature and biodiversity are central for the human wellbeing; Everyone has to reflect the simple fact that, the ethical and spiritual dimension is fundamental and need to be added in our daily lives.

My final point is we have to sort out the blind faith in the fact that destruction of nature is needed to sustain people's welfare.

How to tell the story? How to explain it to people? My simple conclusion is we need to tell stories and put data in the stories; one of the things I noticed is that most people tend to communicate with science, which doesn't reach many people; but stories do! Find somebody to write a book about what nature does for Austria and look how far you can get!"