

Sustainable Development Update

– Keeps you updated on the interactions between ecological issues and social and economic development

www.albaeco.com/sdu/newsletter.htm

Issue 6, Volume 2, December 2002

“ We can continue to overshoot the earth’s capacity by living on overdraft—or by liquidating the natural capital to use finance language—but this situation cannot continue indefinitely.”

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Coral reefs important to the poor



Coral reefs are mainly found in developing countries. They are a significant source of protein and livelihood for millions of poor people. Often the poorest of the poor turn to the coastal resources when nothing else is available.

Two new reports on the status of the world’s coral reefs were launched recently. Both are a mix of good and bad news. The rate of damage to coral reefs is increasing, but is counteracted by an increase in conservation efforts. Such efforts must include the poor.

More in the feature article on page 2-3

Editorial:

Sustainability, rock’n’roll and Indian wisdom

Lead singer Bono of the legendary Irish rock band U2 wants to save the world. Don’t laugh. U2’s lyrics, benefit concerts and public campaigning have focused public attention on world problems like environmental degradation, violence in Northern Ireland and the Balkans, and famine in Africa.

It all started when Bono went to Ethiopia in 1985 and saw things there that in his words “...reorganised the way I saw the world...I’m a spoiled-rotten rock star. In return, [I] use this spotlight to shine on bigger problems.” Recently, Bono has teamed with Harvard economics professor Jeffrey Sachs to persuade rich nations to offer debt relief to poor countries so that they can afford health care and education.

Bono is now making people finally listen to what has been said so many times before about the misery in Africa. He speaks poetically and from the heart. Even President Bush seems to listen. Together with US Treasury Secretary Paul O’Neill, Bono recently travelled in Africa to raise awareness about the severity of problems there (an event called “Odd Couple Tour of Africa”).

Recently, I had the great pleasure of meeting another inspiring man, Oren Lyons. Lyons is a professor of Native American History, an artist, and Chief of the Turtle Clan of the Onondaga Nation. “The environment isn’t over here. The environment isn’t over there. We are the environment,” says Chief Lyons. In his famous address to the UN in 1977 he spoke on behalf of Nature and indigenous peoples;

“I do not see a delegation for the four-footed. I see no seat for the eagle. We forget and we consider ourselves superior, but we are after all a mere part of the creation... We stand between the mountain and the ant, somewhere and only there, as part and parcel of the creation... Biodiversity is a clinical, technical term for this intricate interweaving of life that sustains us. We the Indigenous Peoples say that we are related to this life; thus your ‘resources’ are our relations.”

When Bono and Oren speak about sustainability, world leaders, business representatives and NGO’s listen. I hope that this newsletter can inform them about sustainability science as effectively. Merry Christmas!

/Dr. Fredrik Moberg, Editor

Buy biodiversity”

Donors have invested billions of dollars to protect biodiversity in developing countries, but the loss continues. Instead conservationists should pay those who protect the ecosystems, suggests a new controversial study.

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“The most serious environmental threat is collective denial and global arrogance. We believe that we are superior cultural creatures that are completely independent of Nature. I am interested in Nature from a human-centred perspective – as the ultimate basis for human welfare, but without viewing humanity as superior.”

Source: Carl Folke, Professor of Natural Resource Management at Stockholm University, Sweden, translated from an interview in the Swedish magazine *Dagens Forskning*.

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Two new reports on the status of the world's coral reefs contain a mix of good and bad news. The rate of damage to coral reefs is increasing, but is counteracted by an increase in conservation efforts. Such efforts must include the millions of poor to whom coral reefs are a significant source of protein. The poorest of the poor often rely on coastal resources when nothing else is available.

"For many of us the reefs are a tourist resort, but for many poor people they are the last resort when land has been degraded", said Australian researcher Clive Wilkinson when presenting *Status of Coral Reefs of the World: 2002*.

Dr. Wilkinson is the editor of the 400-page report, which also highlights activities aimed at arresting reef decline. It was one of two reports on the status of coral reefs that were announced December 6 at Sida in Stockholm. *Coral Reef Degradation in the Indian Ocean, Status Report 2001-2002* focuses on countries in and around the Indian Ocean devastated by coral bleaching in 1998 (see box). It was presented by two of the editors, Olof Lindén and Dan Wilhelmsson.

Both reports are a mix of good and bad news. The bad news is that for many reefs severely damaged by bleaching in 1998, recovery is slow. This has affected food security as well as local and national economies that depend on reef related tourism and industry. In the many reefs that are also stressed by high levels of sediment, nutrient pollution and over-fishing, recovery is even slower or is

Box: Coral bleaching

The upper layer of a coral reef is composed of tiny polyps of stony corals living upon the remains of their dead predecessors. These polyps secrete calcium carbonate (limestone) building their skeletons and providing a habitat for thousands of other species.

Bleaching occurs when corals lose the photosynthesising microalgae (zooxanthellae) that live within the polyps' transparent tissue. When the algae (or their pigment) are lost the white skeleton becomes visible. Microalgae serve as a source of food for polyps and also speed up the growth of their skeletons. Bleaching is a general stress response when corals are exposed to extremes of temperature, UV radiation, and pollutants.

Severe and prolonged bleaching lead to mortality as reef corals can only cope without their microalgae for a limited period of time. Bleaching in 1998, caused by increased water temperatures linked to global warming and the weather phenomenon El Niño, caused extensive damage to about 16% of the world's reefs.



Photo: Louise Hård af Segerstad



Photo: Corel Corporation Ltd.

Mangrove forests (left) decrease run-off from land and trap sediments, nutrients and pollutants so that water quality remains suitable for coral reefs (right). Many coral fishes breed among the roots of mangrove trees.

actually stalled. The good news is that bleached reefs show signs of recovery at all, and that for unstressed reefs, predominately in protected areas, recovery is encouraging. A worrying sign is that even many reefs that have "recovered" now have an altered species composition; temperature-tolerant species have become more common, meaning that overall species diversity has decreased. This will most likely render reefs more vulnerable to other kinds of disturbances (more about the relationship between biodiversity and vulnerability/resilience in *SDU2/2002*).

Nevertheless, awareness is growing and many new initiatives have been initiated to save coral reefs, notes Dr. Wilkinson. For example, several reef-related "Type II partnerships" among governments, development banks, agencies and NGOs were announced at the Johannesburg World Summit.

Assets to the poor

Coral reefs are mainly found in developing countries. Coral reefs are richer in marine biodiversity than any other ecosystem in the world and provide many functions vital to poor indigenous coastal communities. For example, it has been estimated that reefs are the main source of animal protein for more than one billion poor people in Asia. Many also derive part or all of their income from reef resources. Clive Wilkinson noted that the poorest of the poor often turn to coastal resources when nothing else is available. When near-shore fisheries collapse, poor fishermen often resort to dynamite, poisons and other illegal and destructive techniques. In essence, they are forced to plunder their children's future to feed them today. Therefore, policies for sustaining coral reefs must consider their sustainable use by the poor and provide the poor alternative livelihoods while reefs recover.

Coral reefs also provide numerous other valuable goods and services that benefit the rich. The total value of goods and services provided by reefs has been estimated at US\$375 billion per year. Coral reefs maintain biodiversity and provide recreational tourism opportunities as well as protecting coastal communities

from storms, wave damage and erosion. Moreover, these "rainforests of the seas" are full of new and undiscovered biomedical resources that we've only just begun to explore. The most famous of these is AZT, an anti-AIDS drug based on chemicals from a reef sponge.

Economic valuations, however, tend to overlook the value of coral reefs to poor people and local coastal communities. This issue is addressed in the new Reef Livelihoods Assessment Project, funded by the British Government department for international development (DFID). The project uses the "Sustainable Livelihood Approach" to develop a wider definition of value, using value systems defined by the poor themselves.



Spotted morray eel

Canaries of the sea

Some call coral reefs "the canaries of the sea". When the canary fell from its perch, coal miners knew that disaster was imminent. Likewise, when reefs fail, we know that our oceans are in peril. Coral reefs are among the largest and oldest living biological communities on Earth. They have coped with natural environmental disturbances such as changes in temperature, sea-level changes, diseases and storms over millions of years. A certain degree of disturbance is even a precondition for the coral reefs' large number of species. In recent decades, however, coral reefs have been hit by more powerful, frequent and numerous disturbances as a result of Man's actions and reefs are therefore in serious decline.

Dr. Wilkinson explained that prior to 1998, direct stresses caused by human activities, such as land-based pollution and destructive fishing practices, were considered to be the primary dangers to coral reefs. Since then, scientists have added climate change to the list of hazards to coral reefs as increased seawater temperatures increase the incidence and severity of coral bleaching.

Coral reefs cont.

One common symptom of reef degradation is that algae take over and become dominant. Even reefs free from human interference can swing between several alternative states of equilibrium, including an algae dominated state. However, due to a number of disturbances algae dominance is becoming ever more common. Algae dominated reefs produce less fish and other goods and services, and are often more or less locked in this undesirable state that is difficult, expensive or impossible to reverse.

Pale prospects for the future?

If coral reefs are to produce goods and services in the future their resilience (capacity to deal with disturbance) must be preserved. Such efforts must also include protecting the resilience of surrounding systems such as mangrove forests, seagrass beds, the open sea and, not the least, on land.

For instance, logging of coastal forests can cause sediment and excess nutrients to pour over the reefs. Resulting reef degradation might lead to tourism and fishery losses among other things. These losses

are not included in logging companies' profit calculations, even though the external costs to society are often much higher than the net profits from logging.

It is also common practice to clear mangrove forests to make room for shrimp ponds, which destroys important nursery and breeding grounds for many coral reef fishes. Intact mangroves also filter away excess nutrients, sediment and pollutants and provide suitable conditions for coral reefs. Most cultured shrimps are exported to luxury markets abroad, and the shrimp farming industries do not bear the large external costs of environmental degradation to both mangroves and coral reefs.

The world's richest countries are responsible for most emissions of greenhouse gases and hence for global warming. Coral reef ecosystems are especially susceptible to climate change and are found mostly in developing countries. So, to save the world's coral reefs, rich countries must not only provide foreign aid, but also reduce the release of greenhouse gases in their own countries.

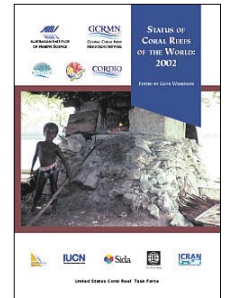
There is now widespread understanding of the major causes of coral reef decline and there have been many management successes to learn from. For example, Integrated Coastal Zone Management is a

cross-sectoral strategy that considers the connections between reefs and adjacent systems as well as the interactions between global and local threats. Coral reefs are at a crossroad, Dr. Wilkinson warns. They can be saved provided there is sufficient political will and financial support.

More at:

Status of Coral Reefs of the World:

2002 can be downloaded at:
www.aims.gov.au/pages/research/coral-bleaching/scr2002/scr-00.html



Clive Wilkinson works for the Global Coral Reef Monitoring Network:
www.coral.noaa.gov/gcrmn/

The Reef Livelihoods Assessment Project, funded by DFID:
www.ex.ac.uk/imm/rla.htm

The Reefs at Risk report from World resources Institute:
www.wri.org/wri/reefsatrisk/reefrisk.html

New Water Poverty Index

A new Water Poverty Index (WPI) draws attention to the links between poverty, social deprivation, environmental integrity, water availability, and health.

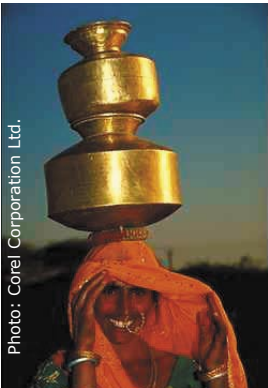


Photo: Corel Corporation Ltd.

The index is modelled after the Consumer Price Index and demonstrates that it is not only the amount of water available that affects the incidence of poverty, but also how water is used. Researchers at Britain's Centre for Ecology and Hydrology have developed the index together with experts from the World Water Council. The WPI was made public December 11 in advance of the International Year of Freshwater 2003. The index is comprised of five major

components: resource availability, access, how water is used, human and financial capacity to manage water, and an evaluation of ecological integrity related to water

Finland has the highest WPI value, followed by Canada, Iceland, Norway and Guyana. Haiti is at the bottom of the list after Niger, Ethiopia, Eritrea and Malawi. The researchers behind the index have hopes that it will enable more accurate assessments of how much water stress exists for particular communities and how changes in availability and provision of water can contribute to poverty alleviation.

The WPI and the world development target to halve the number of people without access to clean water and sanitation by 2015 will be discussed further at the Third Water Forum in Kyoto, March 2003.

More at:

www.lboro.ac.uk/well/resources/waterdome-fact-sheets/nature2.pdf

Safe drinking water declared a human right

Safe and secure drinking water has for the first time been formally declared a human right.

A UN committee recently released a "General Comment" stating that: "Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a pre-requisite to the realization of all other human rights."

This is an interpretation of the provisions of the International Covenant on Economic, Social and Cultural Rights ratified by 145 countries. According to the World Health Organisation, the General Comment provides a tool for civil society to hold governments accountable for ensuring equitable access to water.

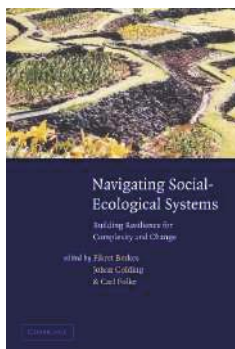
More at:

www.who.int/mediacentre/releases/pr91/en/



Water collection in Nigeria. Photo: Corel Corporation Ltd.

How do human societies deal with change, renewal and variation in social-ecological systems? Drawing on complex systems theory, a new book presents compelling and even provocative ideas about the new world view needed to achieve sustainable development. For example, what could natural resource managers possibly learn from pop artist Madonna?



The recently published book is titled *Navigating social-ecological systems: building resilience for complexity and change*, (Fikret Berkes, Johan Colding and Carl Folke, eds.). Prominent international researchers from the natural and social sciences and the humanities analyse case studies in both poor and wealthy countries from a cross-sectoral perspective with a focus on periods of change (see box).

The concept of resilience is central to the book. Resilience is the capacity of an ecological or social system (or their

combination) to incorporate change and cope with disturbance. The editors argue that resilience is a precondition for the sustainable use of natural resources. We humans must learn to live with - not block out - disturbances such as drought, pests, storms, fires and resulting fluctuations in food and fish supply.

But how should societies deal with, adapt to and learn from the change that result from the inevitable dynamic and uncertainties of ecosystems? The editors answer these questions in the final chapter by summarizing key lessons of the case studies. The authors also provide concrete recommendations, for example that ecosystem managers seek to synthesize different types of knowledge, and to match the ecosystem scales with those of governance institutions.

Thanks to the use of vivid metaphors, complex theories of how to "navigate towards sustainability" are expressed in engaging text aimed at all those actively involved in natural resource management, ranging from managers and decision-

Box: Cases covered in the book

The book presents both theoretical discussions about new insights into sustainability and examples from several geographic areas, cultures and resource types:

- Traditional management practices in the agricultural lands of Northern Tanzania
- Use of ecological and social strategies for coping with disturbances in Samoa, Bangladesh, and arid parts of Africa
- Role of local ecological knowledge in Sweden, Canada and India
- Multiple knowledge systems in co-management of caribou herds in arctic and sub-arctic North America
- Cross-scale institutional responses in a lagoon fishery in Brazil
- Ecological resilience and social renewal in Indonesia
- Suppression of change in the US forest sector
- Management systems in Swedish boreal forest
- Adaptive responses by resource practitioners in Minnesota

makers to researchers and students. For instance, the editors use the success story of the popstar Madonna as a metaphor to illustrate some of the components needed for resilience. Her capacity to not only adapt to rapid change, but also to create and shape change may serve as an example to conventional, short-term managers who cling to the belief that nature is predictable.

/Cecilia Holmlund

Source:

Navigating social-ecological systems: building resilience for complexity and change. 2002. Edited by Berkes, F., Colding, J., Folke, C. Cambridge University Press.
<http://titles.cambridge.org/>

Organic farms less vulnerable to hurricanes

Organic farms were less affected by Hurricane Mitch in 1998 than conventional farms, according to a new study.

The study used a "participatory research approach" involving 19 non-governmental organisations, 45 farmer-technician teams, and 833 farmers. The organic or "sustainable" farms in the study had 40% more topsoil on average, greater soil moisture, less erosion, and more vegetative cover. They also suffered fewer economic losses than neighbouring conventional farms.

Sustainable farm practices included soil and water conservation methods, less use of chemicals and more use of organic fertiliser. These farms also planted "cover crops", grown primarily to prevent soil erosion by wind and water, and practised agroforestry, the growing of trees and shrubs in combination with crops to diversify and sustain production. Sustainable farms also employed Integrated Pest Management, a combination of control tactics to minimise the use of pesticides and maximise the use of natural processes, such as using natural enemies of the pest.

Hurricane Mitch, one of the Caribbean's most powerful hurricanes in recent history, thrashed the region with 180 mph winds and dumped one to six feet of rains on Honduras, Nicaragua, Guatemala and El Salvador. It resulted in mudslides and landslides that washed away crops, animals and infrastructure. Over ten thousand people died and millions were displaced or left homeless. Mitch caused almost US\$ 7 billion



dollars in damage, around 13% of Central America's GNP. The magnitude of the disaster was by many observers considered to be the consequence of environmental degradation such as deforestation and non-sustainable agricultural practices that made the region exceptionally vulnerable to erosion.

Source:

Holt-Giménez, E. 2002. Measuring farmers' agroecological resistance after Hurricane Mitch in Nicaragua: a case study in participatory, sustainable land management impact monitoring. *Agriculture, Ecosystems and Environment* 93: 87-105.

More at:

www.agroecology.org/people/eric/resist.htm

Conservation efforts in poor countries would be much more effective if those who benefit from ecosystem services, including biodiversity protection, paid for them, according to a new article in the scientific journal *Science*.

Donors have invested billions of dollars to stem the loss of biodiversity in developing nations without success, the new study suggests. Instead, conservationists should focus on identifying priority areas for conservation and pay those who control these areas to protect their ecosystems from degradation. This is based on the principle that it is cheaper to pay for a desired result directly, for example funding the protection of a rainforest, than it is to subsidise something indirectly related to that result, such as ecotourism. Environmental organisations already buy logging rights in rainforests to create nature reserves. Direct payment advocates argue that this approach is also simpler to administer and more beneficial to resource users.

This idea is controversial. There is enormous resistance to the concept of trading in Nature due to ethical and practical problems. Those in favour of indirect investment argue that their approach is more effective over the long run in both

conserving biodiversity and improving the lot of the poor. They also warn that direct payments often fail to reach poorer people.

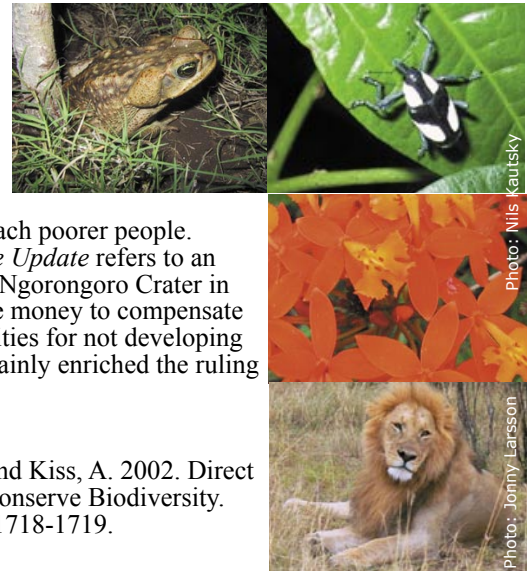
Nature Science Update refers to an example from Ngorongoro Crater in Tanzania. Here money to compensate local communities for not developing the land has mainly enriched the ruling Masai council.

Source:

Ferraro, P. J. and Kiss, A. 2002. Direct Payments to Conserve Biodiversity. *Science* 298: 1718-1719.

More at:

www.nature.com/nsu/021125/021125-9.html

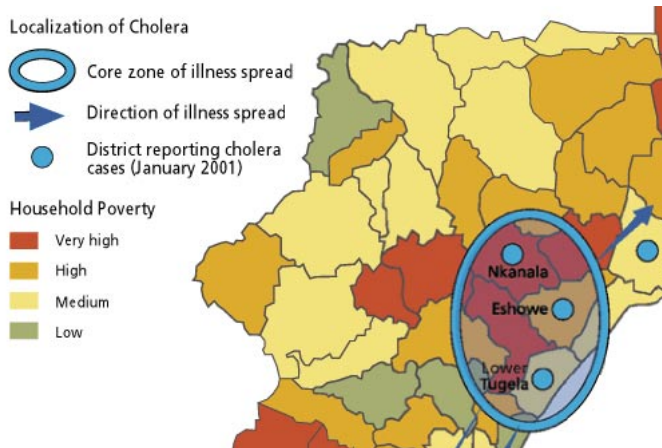


Mapping technology to fight poverty

A new report highlights the use and impact of poverty maps - the spatial representation and analysis of human well-being and poverty indicators.

In November, the World Resources Institute (WRI) and the UN Environment Programme/GRID-Arendal released a report describing the uses of poverty mapping in 14 countries from Africa, Asia, and Latin America. Maps are powerful tools for presenting information on social, economic, and environmental problems to non specialists.

WRI emphasises that poverty maps can never become a panacea for understanding or solving poverty problems. However, the new report indicates that poverty maps have helped policy makers and stakeholders promote the development of assets that are key to poverty reduction, such as agro-ecological resources and ownership. Efforts to reduce poverty in developing countries often rely on resources and services from ecosystems that are becoming degraded. Combining natural resources maps with maps of poverty distribution and population density can identify the location of vulnerable populations and suggest specific locations for policy action.



Example from the report: mapping poverty and the spread of cholera in KwaZulu Natal, South Africa, January 2001.

More at: The report *Where are the Poor? Experiences with the development and use of Poverty Maps* and additional information can be found at: <http://population.wri.org>

Sustainability School

Principle 10 of The Rio Declaration stresses the need for citizen participation in environmental issues and access to environmental information held by public authorities.

A major step in this direction was the adoption of a 1998 UN convention in the Danish city of Aarhus (Århus) that links environmental and human rights. It states that sustainable development can be achieved only by involving all stakeholders.

Principle 10 is also emphasised in Paragraph 119 of the Johannesburg World Summit Plan of Implementation. Moreover, the Johannesburg World Summit saw the launch of the **Partnership for Principle 10 (PP10)**. The partnership is defined as "Type II," meaning that it involves non-governmental stakeholders; "Type I" denotes an inter-governmental agreement. PP10 provides a way for governments, organisations, donors, and other stakeholders to work together to provide the public with access to information, thereby encouraging participation in decisions involving environmental sustainability.

The PP10 partners include the governments of Sweden and Uganda, the European Commission, the United Nations Development Program, the United Nations Environment Program, and the World Bank.

"A public participation system that integrates social and environmental concerns in economic decisions is essential to promote sustainable development," said Jonathan Lash, president of the World Resources Institute (WRI), at the launch in Johannesburg.

WRI is one of the main PP10 partners and is serving as the interim secretariat. PP10 will produce three global reports and 45 national assessments the coming decade and provide US\$25 million in aid to implement priorities identified by the assessments.

More at:

www.pp10.org

http://projects.wri.org/project_description.cfm?ProjectID=133

Closing the Gap: Information, Participation and Justice in Decision-making for the Environment is a good source for those interested in principle 10: www.accessinitiative.org/publications.html



A new report argues that there is a real opportunity for China to achieve sustainable development if they make the right choices now. Over the past two decades, economic growth has averaged 10 % per year. The number of people living in absolute poverty has been reduced by a quarter... but the environment has paid a high price.

A new report from United Nations Development Programme (UNDP) and Stockholm Environment Institute (SEI) shows that rapid development towards a market economy has improved the life for many Chinese, but has also had devastating environmental impacts. For example, the air in most Chinese cities is polluted beyond any acceptable health thresholds, causing millions of cases of chronic respiratory diseases and hundreds of thousands of premature deaths per year.

The *China Human Development Report 2002 – Making Green Development a Choice* describes China's environmental problems as acute. The Chinese population of 1.2 billion (a fifth of the Earth's population) live in a country as large as the USA. However, over 90% of the population live on less than

a third of the total land area. Large parts of the continent are ecologically sensitive or are frequently affected by floods and droughts. Almost 600 million people in Northern China live in one of the world's most water-poor areas.

If improperly managed, environmental degradation and availability of natural resources limit the potential for economic and social development. With a deteriorating environment the pace of development may slow, or in the worst case become negative. Typically, it is the poorest people that are most vulnerable to the effects of environmental degradation, while poverty forces them to further deplete the environment to survive.

The report outlines two future scenarios for China. The first is the "avoiding choices", or business-as-usual path, where short-term interests take precedence over long-term sustainability and increased economic inequality and environmental degradation contribute to social instability. The second scenario – "taking proactive choices" – is characterised by more strategic and efficient environmental management, including market-based instruments, continued reforms towards good governance and building capacity to meet future challenges.

/Mattias Nordström

More at:

The report was published by UNDP China in collaboration with SEI. It is available for download at: www.undp.se

New Ecological footprint reports and heated debate

Human demands for resources and emissions of CO₂ are exceeding the Earth's biological capacity by 20 percent, a new ecological footprint report states. Others claim that the footprints overestimate human impact on and dependence of nature.

A new *Ecological Footprint of Nations* report summarises the ecological impact of 146 nations. It also illustrates the degree to which a nation could reproduce its consumption at a global level. The report findings show that humanity's ecological footprint exceeds the Earth's biological capacity by 20 percent.

Ecological footprints measure the land and water areas that people require to support themselves with goods (like seafood and timber) and services (for example forests needed to absorb carbon dioxide). This is a clear communication tool that has helped to communicate the science of sustainability to the general public and to decision-makers.

Now Denmark's Environmental Assessment Institute (IMV) questions the scientific validity of footprints in a new report. In particular the IMV criticises the WWF's Living Planet Report 2002 for being overly pessimistic and a "doomsday prophecy".

Jonathan Loh, editor-in-chief of the *Living Planet Report*, and Mathis Wackernagel, one of the researchers behind both the reports mentioned above, have responded, "IMV is wrong when stating that the ecological footprint is a weak tool to analyze sustainability". "We can continue to overshoot the earth's capacity by living on overdraft—or by liquidating the natural capital to use finance language—but this situation cannot continue indefinitely".

Others have questioned the validity of footprints, but on other grounds. To begin with, footprint calculations often leave out several things for which data are incomplete, such as water consumption and the release of toxic pollutants. This means that the footprints, contrary to what the IMV claims, often *underestimate* humanity's full impact and dependence on Nature. Moreover, an ecological footprint does not take into account the dynamics of Nature or the vulnerability of the natural ecosystems within the footprint (see *SDUI/02*).

More at:

Ecological Footprint of Nations report can be found at: www.RedefiningProgress.org/publications/ef1999.pdf.

More about the debate between Danish IMV and the people behind the Living Planet Report at: www.eldis.org/biodiversity/footprint.htm



Illustration: Herman Moberg



The Sustainable Development Update focuses on the links between ecology, society and the economy. It is produced by Albaeco, an independent non-profit organisation, in cooperation with the Center for Research on Natural Resources and the Environment (CNM) and the Department of Systems Ecology, both at Stockholm University; the Beijer International Institute of Ecological Economics; the Resilience

International Development Cooperation Agency, Environment Policy Division. **Feedback:** We welcome comments, questions, and article ideas. **Editor:** Fredrik Moberg, fredrik@albaeco.com **Want to subscribe?** Send an e-mail to sdu@albaeco.com with the word *subscribe* in the subject line. **Want to read the newsletter at our website with clickable links?** www.albaeco.com/sdu/newsletter.htm **Thanks to** the following individuals for their thoughtful comments and/or assistance: Christine Elias, Carl Folke, Louise Hård af Segerstad, Magnus Nyström, Amy Rader-Olsson, Maria Schultz, and Mats Segnestam. **Contributors:** Cecilia Holmlund, Department of Systems Ecology, Stockholm University; Mattias Nordström, Stockholm Environment Institute