

Sustainable Development Update

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“We can not stop extreme natural phenomena from occurring, but we can prevent them from causing natural disasters by focusing on underlying social and environmental factors that contribute to vulnerability”

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Marine reserves more useful than expected



Large parrotfishes that are key to reef-health thrive in marine reserves. This is good news for the millions of people that depend on coral reefs for protein and income.

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While the world focuses on the bird flu the poor suffer from neglected diseases.

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“I went to the woods because I wished to live deliberately,” wrote Henry David Thoreau. He has inspired generations of environmentalists to cast off possessions, or at least aspire to – but simple living doesn’t look so appealing when it’s the only choice you have.”

Quote from “The Grist Magazine”:
www.grist.org/comments/soapbox/2006/03/01/chin

China and the environment

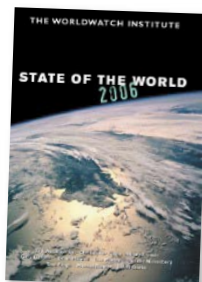
How can China’s leap into the free market economic system coincide with environmentally sustainable development? Part of the answer might lie in sustainable energy and the diverse ecological knowledge held by China’s marginalised ethnic minorities.

More below and in the feature article, page 3-4



Rise of China and India: threat or opportunity?

When India and China are heading towards a western standard of life it is a wake-up call showing that such way of life is unsustainable. This was the common view when the *State of the World 2006* was recently presented and debated in Stockholm.



The choices China and India make in the coming years will be crucial. They will lead the world either to emergent ecological and political instability or towards a future built on eco-efficient technologies and better stewardship of ecosystems and their resources, according to the *State of the World 2006* report.

In 2005 China alone used 26 percent of the world’s steel, 32 percent of the rice, and 47 percent of the cement. If Chinese per-capita grain consumption were to double to roughly European levels, China alone would require the equivalent of nearly 40 percent of today’s global grain harvest. Though their per-capita resource consumption is still low, with their huge populations China and India are joining the United States and Europe as ecological superpowers whose demands on the world’s ecosystems will vastly outstrip those of other countries, according to the report.

However, the report also highlights many ef-

orts to employ new sustainable approaches, for example: China’s world-leading solar industry provides water heating for 35 million buildings, and India’s pioneering use of rainwater harvesting brings clean water to tens of thousands of homes.

– China and India are positioned to leapfrog today’s industrial powers and become world leaders in sustainable energy and agriculture within a decade, says Worldwatch’s President Christopher Flavin.

India will seek to increase renewable energy’s share of its power from 5 percent to 20-25 percent, while China’s ambitious renewable energy law stands a good chance of jumpstarting wind power, biofuels, and other new energy options. These are very important steps as China is already the world’s second largest emitter of climate-altering carbon dioxide, while India ranks fourth.

But it is of great importance not only to focus on India and China. For example, the USA still consumes three times more grain per person than China and five times more than India. Moreover, the per-capita carbon dioxide emissions of the USA are six times the Chinese level and 20 times the Indian level. Hence, it is morally necessary for the developed countries to lead the path for a more sustainable and less resource-intensive model for economic development.

/Louise Hård af Segerstad

More at:
www.worldwatch.org

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SUSTAINABILITY SCHOOL

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Will China leapfrog or become just another boiled frog?

Everybody talks about China these days. Even though their per-capita resource consumption is still relatively low, its demands on the world's ecosystems and natural resources represent one of the most growing threats facing the world today. In its newly-released *State of the World 2006* report Worldwatch Institute put it this way: "If China and India were to consume resources and produce pollution at the current U.S. per-capital level, it would require two planet Earths just to sustain their two economies."

Hence, many have pinpointed the critical need for these countries to "leapfrog" the unsustainable technologies and policies that prevailed in the earlier development stages (and still do to a large extent) in western countries. Others fear that these expanding economies will rather become "boiled frogs", referring to the old parable saying that if a frog is placed in boiling water, it will jump out, but if it is placed in cold water that is slowly heated, it will never jump out. Even though its biological basis is questionable most people agree that the parable is a good way to illustrate that humans have to be careful to watch gradually changing trends (like climate change), not just the sudden environmental changes.

China's spectacular economic growth over the past two decades or so has indeed improved the life for many Chinese, but it has also produced major environmental problems. Forest resources have been depleted, with a number of devastating secondary effects, such as desertification, flooding, and species loss. Levels of water and air pollution have skyrocketed. The choices China and India make in the coming years must, however, not lead to growing ecological and political

instability. It could actually also bring about more eco-efficient technologies and better management of natural resources and ecosystems, Worldwatch says.

It is really interesting to see that the Worldwatch Institute, which has often been blamed for focusing too much on problems, highlights several encouraging signs in China: their automobile industry has adopted Europe's environmental standards (which are tough by international standards); their

"The choices China makes could bring about more eco-efficient technologies and better management of natural resources and ecosystems"

new energy law "will help jumpstart wind power, biofuels, and other renewable fuels"; they have achieved status as the world leader in producing and installing compact fluorescent light bulbs and is the third largest ethanol producer in the world. The Ministry of Construction has recently declared that public transport is a national priority, Worldwatch reports.

So, let's hope that Sunita Narain, Director, Centre for Science and Environment, New Delhi, India is right when stating: "India and China have no choice but to reinvent the development trajectory". If they can lead the way and show how to leapfrog, maybe many other of the world's soon-to-be-boiled-frogs will follow. And let's hope that China doesn't leapfrog democracy and freedom of speech in the process. Sustainable development is impossible without human rights, at least in my definition. More about China in two of this issue's articles on page 1 and 3.

/Dr Fredrik Moberg, Editor

Sustainability School: Global Dimming

Air pollution shading the sun is nothing new. London became famous for its smog already in the 19th century. The new thing is that the phenomenon seems to have become a global one. Global dimming is caused by small airborne particles of soot, ash, sulphur compounds and other pollutants that prevent sunlight from reaching the Earth's surface. These pollutants are produced by e.g. cooking fires, cars and power plants and may have led scientists to underestimate the greenhouse effect as the cooling effect from dimming appears to have masked the warming from greenhouse gases. But global dimming is not only caused by direct shading, the pollutants also changes the formation of clouds so that more of the sun rays are reflected back into space.

Reduced particle pollution increased warming?

Gerry Stanhill, an English scientist, coined the phrase and was one of the first to realise the global implications of the dimming in an article published in 2001. He had compared sunlight records in Israel from the 1990s with the ones from the 1950s and found an unexpected 22% drop. According to some estimates this decline of sunlight was up to 3% globally per decade between the 1950s and the 1990s, but lately recovery seems to be occurring.

The global dimming theory was first met with a sceptical response from other scientists, but now it seems to gain recognition. The dimming effect of particle pollution was, however, discussed already by the UN climate advisory body (IPCC) in their third Assessment Report that was released 2001, but not considered in detail in their models.

A growing number of climate scientists now fear that the world will experience reduced cooling and increased heating at the same time in the future. This is because the levels of greenhouse gases in the atmosphere are projected to increase during the coming decades, whereas particle pollution is be-

lieved to be brought under control.

It is, however, important to bear in mind that this does not imply that we should halt the efforts to reduce particle pollution. A number of health studies have linked particle pollution to reduced lung function, greater use of asthma medications, and increased rates of emergency room visits, hospital admissions, and premature death.

Moreover, scientists warn that global dimming may be disrupting the pattern of rainfall. Dimming has, for example, been suggested to be behind the droughts that plagued sub-Saharan Africa in the 1970s and 1980s. Similarly, particle pollution is also responsible for the production of the famous "huge hazy brown cloud" over South Asia that seems to alter the winter monsoon and reduce rainfall over northwestern Asia. Hence, the dimming effect might be damaging agriculture and the lives of billions of poor people.

Now many await how Global Dimming will be included in the climate change models of the coming IPCC Fourth Assessment Report, due out in 2007.

/Fredrik Moberg

More at:

http://www.bbc.co.uk/sn/tvradio/programmes/horizon/dimming_prog_summary.shtml



Air pollution shading the sun seems to have masked the effects of global warming, scientists say.

Traditional knowledge instills new hope for China's strained environment

Can China's leap into the free market economic system coincide with environmentally sustainable development? According to a recent study, part of the answer lies in the diverse ecological knowledge held by China's marginalized ethnic minorities. Their knowledge may help improve the effectiveness of today's conservation policies by increasing their flexibility and local relevance.

A new study published in the science journal *Ecology and Society* advocates a conservation policy for China that includes the indigenous knowledge and values needed to maintain the environment and the traditional cultures themselves.

Such a "pluralistic conservation approach", as the authors call it, shifts attention away from the local people as the prime causes of China's ecological crisis to the wider impacts of megadevelopment projects, monocultures in agriculture, and the consumption habits of urban people.

Cultural and environmental stress

China's economy has now witnessed three consecutive years of 10% growth, leapfrogging past countries such as Italy, the United Kingdom and France in terms of total size. This unprecedented rate of development is, however, placing great pressure on the country's environment and cultural diversity, claims the new study on traditional knowledge in the culturally varied and ecologically diverse southwest region of the country.

In modern China, ethnic minorities still generally live on the social and geographical periphery. The economic and political centre, represented by the dominant Han Chinese, has an ultimate goal of enhancing economic production and rapidly modernizing the nation. Therefore, large-scale projects have often displaced people, forcing them to abandon livelihoods based on shift-

ing cultivation and nomadic herding in favor of more sedentary lifestyles. Over several decades, the combination of a centrally planned economy, resettlement and poor land-use practices has had major socioeconomic and ecological impacts on the indigenous communities in southwest China.

"A combination of a centrally planned economy, resettlement and poor land-use practices has had major socioeconomic and ecological impacts"

Subsequently, rather than including traditional knowledge, modern environmental conservation policies in China generally assume the exclusion of people as necessary for the preservation of nature. Rifts occur, with the state bureaucracy blaming indigenous people and their traditional ways of resource use for threatening biodiversity. Meanwhile, indigenous people cry out for more space in decision making and fight for their right to continue working the land as they have for generations.

Learn from minorities

Modern conservation practices in China could have much to learn from minorities, such as the Naxi, Dai, Hani, Tibetan and Yi people in southwest China, say the authors of the new study. Generation upon generation of these communities have successfully managed forests, landscapes and water catchments through tra-



Photo: FAO

A young girl of China's most populous province of Sichuan with a basket of melons for her village market.

ditional land use and cultural practices. Many of these ethnic groups regard a variety of landscapes as sacred places that are the source of powerful energies and accumulated wisdom. Such places are cared for through a mix of religious rituals, ceremonies and sanctions within the specific group.

By including indigenous knowledge, the "pluralistic conservation approach" advocated by the authors, aims at con-

"By including indigenous knowledge conservation can become more locally relevant"

servation becoming more locally relevant. Government departments have, for example, commonly replanted mixed conifer forests in China with only a few centrally supplied species of trees. Unsurprisingly, the low diversity of these plantings has made them susceptible to devastating attacks by pests.

Along with failing to produce good timber for future use and security, these plantations are not particularly good habitats for producing other forest resources such as non-timber forest products or important ecosystem services. It seems remarkable that community involvement and the use of indigenous knowledge in forest management were not encouraged and put into practice in these areas.

Positive signs

Fortunately, there are positive signs that the government is taking steps to bolster the rights of indigenous cultures in China. For example, a law passed in 1998 granted villages the legal right to self-government and gave indigenous communities greater responsibility for

Continues>>



China used 32 percent of the world's rice in 2005. Photo azote.se

land and resource use. These could be the potential first baby steps toward a pluralistic conservation approach that is based on a system that empowers indigenous people to control and define their resource access.

However, the central government must further push for the development of localized government structures, with clearer legal rights and land tenure responsibilities. Additionally, a certain

responsibility lies within the scientific community to bridge the knowledge gap between scientists and indigenous specialists by encouraging more extensive and intensive interaction between them.

The challenge of integrating environmental and cultural management is by no means unique to China, conclude the authors.

It is imperative for the long-term viability of the environment anywhere to

involve local people in the creation of environmental policies.

/Albert Norström

Source:

Xu, J. and others. 2005. "Integrating sacred knowledge for conservation: cultures and landscapes in southwest China". *Ecology and Society* 10(2): 7. www.ecologyandsociety.org/vol10/iss2/art7/

SDU-In brief

Climate forecast information can help poor African farmers adapt to variations in rainfall

The world's climate is changing. Some of the most vulnerable people are those that depend directly on climate for their livelihood, but do not have the resources to cope with climate variability and weather extremes. Seasonal climate forecasts of rainfall might help these poor farmers adapt.

Small scale farmers in southern Africa live with a host of uncertainties. One of the major uncertainties is climate variability. In some years there is not enough rain for crops to survive and entire harvests fail. In other years, the total rainfall might be sufficient, but the timing of the rainfall can result in reduced yields. And in other years, heavy rainfall can wash away soil and damage crops. This is before accounting for the challenge of market variability, access to land and ill health that reduces labour availability.

Consequently, seasonal climate forecasts can be useful in order to enable farmers to respond to expected rainfall and adapt to climate variability on a yearly basis. Although this may help maximise production, it should be recognised that there are numerous stresses that farmers face and that climate is only one of them.

Poor farmers benefit most

Studies of smallholder farmers in Limpopo Province, South Africa, have investigated the utility of seasonal forecasts and compared them to other strategies that farmers use to deal with uncertainties. Some of these strategies can be called short-term coping strategies to cope with environmental or socio-economic factors. Other strategies are more long term and sustainable adaptation strategies that decrease the vulnerability to future impacts of a stress (see table).

In order to adopt these strategies, additional information is often needed, for example seasonal forecasts. However, the market is a key determinant in the type of strategies employed and so

How farmers in South Africa adapt to climate change and other stresses:

Strategy	Information used	Adaptation
Staggering planting of seeds	Climate information	Adaptation to climate variability
Replacing seeds that don't germinate	Observation	Coping with climate variability
Mulching (cover soil with organic material to keep soil cool and retain water)	Extension advice, possibly climate information	Adaptation to climate variability and environment
Intercropping with nitrogen-fixing crops	Extension advice	Adaptation to environment
Hiring transport to take produce to town markets	Market strategy	Adaptation to market
Growing market crops (rather than for home consumption)	Market demand	Adaptation to market
Plant vegetables during dry conditions to target high market demand	Market demand and climate information	Adaptation to climate variability
Use seasonal forecast to support decisions	Climate information	Adaptation to climate variability
Growing vegetables not widely available	Market demand	Adaptation to market

support for climate adaptation alone might not be appropriate.

Many farmers are indeed aware of the seasonal forecasts and some already use them to help determine what crops to grow and which strategies to use for reducing water requirements. It appears that poorer farmers tend to pursue more risk-averse strategies, for instance staggering planting to ensure that not all seeds would be wasted if the first planting does not germinate.

Women tend to plant crops primarily for home consumption although they are still aware of market demand. In general, poorer farmers seem to spend more time on multiple low-resource strategies and are therefore keen to include the seasonal climate forecasts as another piece of information in making their decisions. Wealthier farmers, on the other hand, pursue more market-driven strategies and seem more prone to risk planting a whole field with the same crop. Having access to funds, they can secure transport to take their produce to bigger markets which makes them less reliant on the local market. They spend more time on high input strategies and are sometimes more cautious of trusting the forecasts.

/Gina Ziervogel & Sukaina Bharwani

More at:

The Risk and Vulnerability Programme of The Stockholm Environment Institute (SEI): <http://www.sei.se>



Photo: the authors

Mountain gorilla ecotourism and environmental education provide important revenue to poor villagers in Uganda

The Mutanda Ecological Community Center (MECC) is situated just outside Kisoro, a village in southwestern Uganda, on the border to Congo and Rwanda. It is an environmental education center, with an integrated ecotourism campground that was planned and initiated by the local villagers.



Photo: WWF

The campground is intended both for the local villagers and for students, researchers and tourists. Here they have somewhere to stay and get new insights into local environmental problems and their solutions.

It started in 1991 with the decision from the Government of Uganda to found the Gorilla National Park of Mgahinga. As a result, most of the villagers in the area had to move out of the National Park. Some compensation was given, but the long-term effects were more severe than first thought. Now difficulties in finding an acceptable livelihood makes young people move to the cities in hope of jobs. The lack of arable land, water and fuel wood, due to the national park, is also a problem in a country with high birthrates and widespread poverty. Moreover, there are difficulties finding herbal medicine that is so important for people outside more densely populated cities. Today the locals have, however, largely accepted the National Park, much because of the income from tourists.

Environmental education

The Mutanda Ecological Community Center was initiated as another way to counteract the problems associated with the establishment of the National Park. To prevent a possible expansion of the National Park, MECC are situated on the shores of Lake Mutanda, nearer Kisoro town.

The center will get its revenues from sales of local handicraft, income from campground and contributions from various associations and national authority if possible.

The center's main objective is ecological education, but also other needs are considered, e.g. access to medical herbs on the site, swimming lessons and the creation of a meeting- and trading point for students and tourists.

The buildings of the campground have been constructed in an environmentally sustainable manner, with sewage and water treatment facilities, and aiming at using and producing energy efficiently. I have in my thesis suggested the use of wind power for producing electricity. This is a low-tech solution and therefore more reliable regarding spare parts, operation and maintenance. Today, many campground sites are powered by solar panels, which are relative costly and difficult to repair. Moreover, the winds in the area of Kisoro make small wind towers suitable.

Agriculture in Uganda is mostly situated on slopes due to the lack of space. Contour farming, where crops are grown along the side of a hill, is the most common way to farm. An environmental problem associated with this is erosion of soils to water and a loss of fish production in lakes and streams. Erosion has already washed away entire hillsides due to a combination of heavy rains, deforestation and poor management of land.

Ecological sanitation

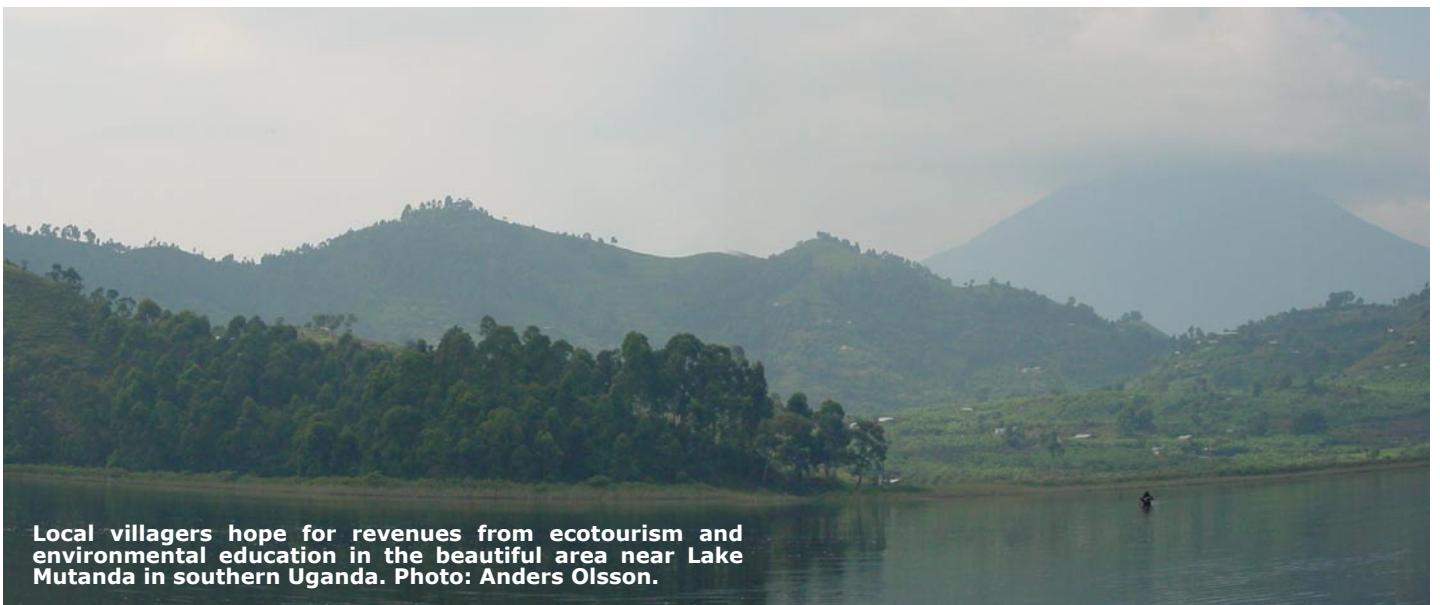
Another important problem to solve in the area is the health risks associated with poor sanitation. One possible solution is so-called ecological sanitation where human waste is separated into different fractions. This is an old but not very common technique today. With separate fractions urine can be used as fertilizer instead of expensive chemical fertilizers. People in Kisoro live more close to nature than we in Europe do, but they do not have the means or finance to build a sustainable community for the future. Taboo's regarding the handling of human "waste" are, however, a matter in almost every culture. In future, this can be an issue to consider, and to solve within the The Mutanda Ecological Community Center. It will give ideas of how to achieve a more sustainable living with just a small modification of the traditional way of life.

/Anders Olsson

Sources:

Olsson, Anders (2004). *Mutanda Ecological Community Center – avfall, avlopp och vatten på en ekocamping i Uganda*. Thesis at Miduniversity of Sweden, Östersund.

<http://www.osterlen.fhsk.se/afrika/Lake%20Mutanda/lmettan.htm>



Local villagers hope for revenues from ecotourism and environmental education in the beautiful area near Lake Mutanda in southern Uganda. Photo: Anders Olsson.

Marine reserves more useful than expected

Critical voices have labelled marine reserves as a cure-all that fails to deliver. However, a recent study shows that reserves might help not only the big fish they are designed to save, but also the corals underlying these valuable ecosystems.

More and more fisheries management agencies are adopting principles of ecosystem-based management (EBM). Here the focus is firmly placed on safeguarding the processes that enable a smooth running of the ecosystems in which fisheries exist. In Caribbean coral reefs such a process is grazing, to a large extent carried out by different species of parrotfish. These colourful fishes scour the reefs and help protect the valuable Caribbean reefs from becoming overgrown with large algae. Hence, these grazing fishes are key to reef-health and the millions of people that depend on reefs as a source of protein and tourist income.

However, there has been great controversy in the scientific community concerning the way marine reserves might influence processes such as grazing. Parrotfish are naturally hunted and eaten by predators such as the Nassau grouper, another fish species in the region. A vital question is therefore how the corals would fare in protected areas that contain large numbers of the groupers that feed on the parrotfish. Perhaps the corals would end up smothered, as in other reefs in the Caribbean, beneath a blanket of macroalgae.

Macroalgae kept in check

The Exuma Cays Land and Sea Park (ECLSP) is a large marine reserve in the Bahaman archipelago that was gazetted as a no-fishing area in 1986. After spending five years of monitoring the status of the coral community inside and outside the reserve, a research team led by Peter Mumby reports that marine reserves

might do more good than previously thought.

As expected, large predatory groupers were more abundant in the reserve compared to adjacent reef areas. Furthermore, the reserve appeared to have a negative impact on small parrotfish because of the increased predation. Surprisingly, the function of grazing was kept intact, with a much lower cover of macroalgae inside the reserve compared to outside. It seems that larger parrotfish species thrive from the absence of fishermen, and are simply too big to be eaten by the Nassau groupers.

However, the authors raise a warning finger, and highlight the importance of managing marine ecosystems with a systems approach. The aim of restoring one species may have deleterious effects for other species. In this case, the grazing function was retained because large parrotfish were simply too big to be eaten by predators in the reserve. But in other cases complicated interactions such as this, could lead to deleterious effects for the ecosystem overall.

/Albert Norström

Source:

Mumby and others. 2006. "Fishing, trophic cascades and the process of grazing on coral reefs". *Science* 311: 98-100



Large parrotfishes are key to reef-health and the millions of people that depend on reefs for protein and income.

Fighting neglected diseases might kill two birds with one stone

The key to a successful fight against malaria, HIV/AIDS and tuberculosis (the "BIG three") might be launching a war against other diseases that have so far been neglected by governing bodies, researchers and the public. This is claimed in a recent article of the science journal *PLoS Medicine*.



While the world focuses on the bird flu the poor suffer from neglected diseases.

The statement above is based on emerging evidence showing that infection with one of the neglected diseases can increase humans' susceptibility for the "Big three" and make them potentially more lethal. Today there are 13 tropical illnesses considered neglected, with

little money spent on their elimination. They include infections such as leprosy, Chagas disease, hookworm and Leishmaniasis. A common theme to all of them is the fact that they usually affect the lives of the poor in developing countries. Here, they not only leave many millions of people disabled but they are also responsible for an estimated 534 000 deaths per year.

"Money should not be an issue"

Peter Hotez of the George Washington University and his colleagues stress the importance of bringing the neglected diseases into a global health focus in a recent article of the scientific journal *PLoS Medicine*. The group of authors, including Jeffrey Sachs, special advisor to United Nations Secretary-General, underline that money should not be an issue when it comes to fighting those sicknesses. Estimations have shown that US\$200

million annually are enough to cure 500 million people. That is 40 cents per person per year and a lot less money than that spent on the "Big three".

The researchers suggest a strategy based on a four-drug integrated poor package, which could get a grip on at least seven major tropical diseases in Africa and would address several of the Millennium Development goals such as child and maternal health. The approach has already been proven to be effective on a small scale and there is nothing that should stop authorities to put it into a larger perspective.

Besides tackling the neglected diseases the package could also help to control the spread of malaria, HIV/AIDS, tuberculosis, which are geographically overlapping. This doubled potential of the medical treatment is due to the fact that once people are freed from their parasitic load they are more resistant to new infections. Today, most of the patients that suffer from one of the "Big three" are co-infected with other parasites.

The pattern of infectious sicknesses is often correlated to environmental factors. Ecosystem changes such as deforestation and climate change can increase the parasitic burden upon people drastically. In the long run the strategy should therefore be expanded to address the root ecological and behavioural causes of the neglected tropical diseases, the authors say. This means putting focus on community-directed treatment such as access to clean water, improved sanitation and education.

/Nadja Neumann

Source:

Hotez PJ, and others. 2006. "Incorporating a Rapid-Impact Package for Neglected Tropical Diseases with Programs for HIV/AIDS, Tuberculosis, and Malaria." *PLoS Med* 3(5): e102 (<http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0030102>)

“We can not stop extreme natural phenomena from occurring, but we can prevent them from causing natural disasters by focusing on underlying social and environmental factors that contribute to vulnerability”, claims the newly formed Swedish network KTH DIRECT Disaster Resilience Centre.

The post-tsunami rebuilding in South East Asia has to a large extent resulted in communities being as vulnerable to natural disasters now as they were before the tsunami. To support the Swedish government and authorities in their post-tsunami development cooperation, research organisations with knowledge on how to build resilience to future natural disasters have formed a new national network – the KTH DIRECT Disaster Resilience Centre.

Hans Lundberg, international director of IVL Swedish Environmental Research Institute, and President of the KTH DIRECT recently introduced the new centre in the Swedish newspaper Dagens Nyheter (DN debatt, January 20th). Co-writers included Johan Rockström, director of Stockholm Environment Institute and Anders Wijkman of the European Parliament.

– The Swedish contributions to the post-tsunami rebuilding and recovery process have unfortunately not yet resulted in societies that are less vulnerable to natural disasters. One of the main reasons is the fact that scientists have not been involved or consulted enough. A lot of the existing knowledge on disaster prevention has therefore not been used, comments Hans Lundberg.

– We can not stop extreme natural phenomena from occurring, but we can prevent them from causing natural disasters by focusing on underlying social and environmental factors that

contribute to vulnerability. The new scientific centre will hopefully facilitate collaboration and knowledge transfer between scientists and existing disaster preparedness organisations, says Johan Rockström.

Risk-evaluation

The KTH DIRECT Disaster Resilience Centre will evaluate risks and environmental consequences of extreme natural phenomena occurring all over the world and act as an adviser in the rebuilding processes. The centre will harbour a wide spectrum of competences, from technical planning of infrastructure, energy, water, sanitation and warning systems to environmental competence on the importance of healthy ecosystems for disaster prevention, and the need for social and institutional capacity for successful recovery after extreme events have occurred.

The centre was launched by the Royal Institute of Technology (KTH), IVL Swedish Environmental Research Institute, Stockholm Environment Institute, Stockholm University, Engineers Without Borders-Sweden, the Swedish Red Cross and Plan Sweden.

/Elika Hermansson Török

More at:

www.direct.kth.se



Photo: FAO

Forests: savings banks, safety nets or poverty traps?

What do forests and forest products really mean to the rural poor?, ask IUCN and WWF in a special issue of their joint newsletter *ArborVitae*.

Forest conservation may have a mixed record in poverty reduction, but – argues the newsletter – the rural people depending on forests tend to be locked into poverty because of institutional and political structures rather than any inherent characteristics of the forest products themselves. It is, however, important to realise that conservation and poverty reduction are not always compatible, and that win-win situations might be rarer than earlier thought. Sometimes, protected forests do improve poor people’s livelihoods but other times they restrict local people from the resources on which they rely, without providing alternative livelihoods.

The December-issue of *ArborVitae* takes a thorough look at both sides of the forests-poverty debate and discusses solutions and policy changes required to enable forest conservation to play a bigger part in poverty reduction. It is concluded that conservationists need to recognise the trade-offs between conservation and poverty alleviation and focus on practical solutions. Only this way can conservation and sustainable use of forests be mainstreamed into the international development priorities, say the editors.

<http://www.iucn.org/themes/fcp/index.htm>

75%

...is how much energy a storm or tidal wave may lose when passing through 200 meters of mangrove

forest, according to the United Nations Environment Programme (UNEP). In their new report, “In the Front Line: Shoreline Protection and other Ecosystem Services from Mangroves and Coral Reefs”, it is argued that protecting coral reefs and mangrove forests makes economic sense. This is because these unique ecosystems provide an enormous array of goods and services —from fisheries protection to erosion control to a source for medical compounds. The report estimates that the value of mangrove forests is over US\$100,000 per square kilometer in American Samoa and US\$3.5 million per square kilometer in Thailand.

It is also concluded that coral reefs are important sources of protein and employment, for some of the world’s poorest people. Of the estimated 30 million small-scale fishers in the developing world, most are dependent to a greater or lesser extent on coral reefs, says UNEP. In the Philippines, for example, more than one million small-scale fishers depend directly on coral reefs for their livelihoods.

http://www.unep.org/pdf/infrontline_06.pdf

SDU-numbers



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 Transdisciplinary Environmental Research (CTM) and the Department of Systems Ecology, both at Stockholm University; the Beijer International Institute of Ecological Economics; the Resilience Alliance; and the Stockholm Environment Institute (SEI). It is produced with support from Sida, the Swedish International Development Cooperation Agency, Environment Policy Division. **Feedback:**

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