



Collaborative Partnership on Forests

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World Health Day 2011:

Forests Provide Untapped Resources for Human Health

Vienna/Vantaa - "It is not commonly understood how much - even in our hypermodern urban age - human health and well-being are influenced by forests and trees", said Professor Hannu Raitio, coordinator of the [IUFRO Task Force on Forests and Human Health](#) of the Vienna-based International Union of Forest Research Organizations, and Director General of the [Finnish Forest Research Institute Metla](#) in Vantaa, prior to World Health Day on 7 April. Research shows that there is a huge untapped economic and health potential in forest biodiversity. "Preserving biodiversity attains an autonomous value - independent of any uses known at the present time", said Professor Raitio.

Loss of species and decrease in biodiversity always imply a potential loss of health-related ecosystem services and genetic resources. The conservation of the earth's biological diversity, of which a large part is found in forests, is increasingly recognized as an important goal. Preserving biodiversity is rational also from an economic point of view. As noted in FAO's *State of the World's Forests 2011*, many top-selling herbal products such as goji and echinacea are derived from forests, and the collection and trade of raw materials continues to significantly affect forest economies. Probably more than half of the most prescribed medicines - also in the Western pharmacopoeia - are based on chemical compounds found in natural organisms. "Even if the drug is produced synthetically, it is

often first found in nature, or it may be a modification of some naturally occurring compound. We start to realize that every organism is a potent bioreactor with unique capabilities”, stated Professor Raitio.

Medical treasures waiting to be discovered

Currently only less than one per cent of all known plants are thoroughly analyzed for pharmaceuticals and with microbes, fungi and animals the percentage is even smaller. Only a small fraction of all existing species of organisms have been discovered and described so far. Moreover, all higher plants are hosts to one or more endophytic microbes, organisms residing in tissues between or among living plant cells. Of the estimated 500,000 plant species living on the planet, only a handful has had their endophytic microflora thoroughly studied.

“There are medical treasures waiting to be discovered in forest plants literally everywhere. For example, we recently began a study on the microflora of the root system of the common Scots Pine, *Pinus sylvestris*”, informed Professor Raitio: “We wanted to see what kind of chemical substances can be found in the microscopic fungi that are living symbiotically with the tree, and test them against the age-related eye disease (AREDS), which is a major cause of vision loss in people of advanced age all over the world. We thought that in a few years we may find a substance that could be of potential use, but only after a few months of research we already had our first candidate. We are now cooperating with medical doctors to develop a medicine of it.”

Traditional medicine also greatly relies on forest resources, for example in the treatment of malaria. Most of the hundreds of millions of cases of malaria each year are in sub-Saharan Africa, where it is the second highest cause of death from infectious disease. Poor communities have limited access to modern drugs, with the majority relying on traditional medicine in treating malaria. The World Agroforestry Centre recently published a guide entitled ‘Common Antimalarial Trees and Shrubs of East Africa’, which describes 22 species of trees and shrubs that are used as antimalarial treatments in East Africa by traditional medical practitioners and rural communities. “These species have great potential for further study and development as readily available alternative treatments for the curse of malaria,” said Najma Dharani, the main author of the book.

Sustainable management of forests to be key

Forests support the livelihoods of millions of people by providing food, water, fuel, protection against natural hazards etc., and offer a range of health-related goods and services, from medicinal compounds to the support of our psychological capacity and mental health. The key to preserve these ecosystem services is sustainable forest management (SFM), aiming at a balance between society's increasing demands for forest products and benefits, and the preservation of forest health and diversity. This balance is critical to the survival of forests and the health of people depending on forests. “These people do not only include the forest-dwelling native tribes in various corners of the world, but every one of us, wherever we live, and whatever is our industrial or economic level. This is the most important message for us all on the World Health Day and in the United Nation’s [International Year of Forests 2011](#)”, said Professor Raitio.

The international group of scientists of the interdisciplinary IUFRO Task Force recently suggested taking into account human health aspects in all forest management activities systematically. This could be done through applying the [Health Impact Assessment](#) (HIA), a program which is promoted actively by the [World Health Organization](#) (WHO) and is to date mainly being used in urban planning, to forest-related issues. For this purpose, a set of forest-related human health indicators could be developed and included in public health reports in a similar way as they are often included in reports on water, energy, mining, biodiversity and agriculture.

For more information:

Gerda Wolfrum, wolfrum(at)iufro.org, [International Union of Forest Research Organizations \(IUFRO\) IUFRO Task Force on Forests and Human Health](#)

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The Collaborative Partnership on Forests (CPF) is a voluntary arrangement among 14 international organizations and secretariats with substantial programs on forests. The CPF's mission is to promote the management, conservation and sustainable development of all types of forest and strengthen long term political commitment to this end.

CPF members:

- Center for International Forestry Research ([CIFOR](#))
- Food and Agriculture Organization of the United Nations ([FAO](#))
- International Tropical Timber Organization ([ITTO](#))
- International Union of Forest Research Organizations ([IUFRO](#))
- Convention of Biological Diversity ([CBD Secretariat](#))
- Global Environment Facility ([GEF Secretariat](#))
- United Nations Convention to Combat Desertification ([UNCCD Secretariat](#))
- United Nations Forum on Forest ([UNFF Secretariat](#))
- United Nations Framework Convention of Climate Change ([UNFCCC Secretariat](#))
- United Nations Development Programme ([UNDP](#))
- United Nations Environment Programme ([UNEP](#))
- World Agroforestry Centre ([ICRAF](#))
- World Bank ([World Bank](#))
- The International Union for Conservation of Nature ([IUCN](#))