# Threatened wild medicinal plants: who cares?

The erosion of plant biodiversity is a matter of global concern. One by one, the building blocks of entire ecosystems are disappearing. The 2008 IUCN Red List shows that the number of threatened plant species is increasing gradually[1]. The number of threatened plants is 8457, out of which 247 plants are found at different biodiversity hotspots in India. Many of them serve as sources of food, fuel, fibre, timber, medicine, etc. and function as integral parts of local agricultural production systems.

The resurgence of public interest in plant-based medicine coupled with rapid expansion of pharmaceutical industries necessitated an increased demand of medicinal plants, leading to over-exploitation that threatened the survival of many medicinal plants. Further, the degree of threat to natural populations of medicinal plants has increased because more than 90% of the plant raw material for herbal industries in India is drawn from natural habitats. Not surprisingly, wild plant species used for medicinal purposes are receiving ever-increasing attention from the scientific community and commercial enterprises. At the same time, these species continue to support indigenous and local communities that have relied on them for centuries in their traditional medicines. But a number of factors now threaten wild medicinal plants – habitat destruction, over-harvesting and big business. In India, hundreds of medicinal plants like *Pterocarpus santalinus*, *Commiphora wightii*, *Taxus wallichiana*, *Picrorhiza kurrooa*, *Salvadora persica* and *Dioscorea deltoidea*, are at the risk of extinction due to over-collection to supply domestic and foreign medicinal markets, threatening the discovery of future cures for diseases.

Action at several levels is urgently needed to conserve the dwindling plant species. In my opinion, poverty is the root cause of biodiversity loss. Conservation programmes can never be successful if poverty plagues the country. The over-exploitation of wild medicinal plants cannot be reduced unless efforts are clearly linked to increasing food security for the large and growing low-income, food-insecure populations. Efforts should be made to mobilize local people to conserve areas of high biodiversity, and thereby improve the natural resource assets of rural populations. By engaging local people to conserve biodiversity, a broad-based, long-term strategy can be formulated for the conservation of globally threatened biodiversity.

1. IUCN Red List, 2008; http://www.iucnredlist.org

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# Science means jobs – on the necessity of planning reliability in science

Clery[1] has portrayed the development of research funding in Europe over the last years. Although such statistics are quite interesting from a historical point of view, much like the game 'Who has won the most Nobel prizes in the 1920s?' I would cast doubt on the relevance of such figures for future strategies and positioning in science. In the light of the current economic crisis and new law initiatives, fundamental risks arise from short-term objectives/strategies and tactical manoeuvring by politicians, which makes it difficult to extrapolate from the past to the future. For instance, the most important scientific fund FWF in Austria, has stopped granting any new project applications for the whole fiscal year 2009 with immediate effect[2]. This will reduce planning reliability for science projects and early careers significantly and will lead to massive brain-drain in the next few months. In Germany, a new copyright act limits the circulation of electronic documents[3], which will substantially decrease scientific communication and dissemination. Only recently, key European science nations such as Britain, France, Italy and Germany showed poor R&D investment by business[4]. Especially in times of crisis and political changes, important long-term goals such as the 'Lisbon strategy' of R&D intensity being 3% of the GDP should be followed consequently and with long wind. Science strategies should be well-planned and thoroughly followed. Only if the general conditions for science are reliable, will science be effective. In that case, science means jobs[5].

1. Clery, D., *Science*, 2009, **323**, 570.
2. http://fwf.ac.at/de/public_relations/press/brief-des-praesidenten_20090127.html, 2009; Brief des Präsidenten from http://fwf.ac.at/de/public_relations/press/brief-des-praesidenten_20090127.html
3. Carbon, C. C., *Science*, 2008, **319**, 1483.
4. European Research Area, Science, Technology and Competitiveness Key Figures Report 2008/2009, 2008.
5. Mervis, J., *Science*, 2009, **323**, 318–319.

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