Biodiversity for Food and Medicine

Facts
CBD Focal Area: Ecosystem integrity and ecosystem goods and services
CBD Headline Indicator: Biodiversity for food and medicine
Key Indicator Partners: TRAFFIC and IUCN/SSC Medicinal Plants Specialist Group
Data Available: Global time series (Red List Index for animals used for good and medicine: 1978 onwards), Global Baseline (Medicinal plants using the Red List), Regional and national case studies (2009/2010 data with some historical data from 2000)
Development Status: Ready for global use (Red List Index) and national use (Accessibility Index)

Reason
Many terrestrial animal and plant species are used by humans for food and medicine. These species make significant contributions to diet and healthcare, particularly in developing countries. An estimated 50,000–70,000 plant species are used in traditional and modern medicine. Many of the wild species used for food and medicine are threatened with extinction, some due to over-exploitation, or different pressures such as habitat loss, disease or a combination of factors. Regardless of the causes, the diminishing availability of these resources affects supply and demand and thus threatens those depending on wildlife resources for income, health and well-being.

Status
The Biodiversity for Food and Medicine Indicator has been developed by TRAFFIC in collaboration with the IUCN-SSC Medicinal Plant Specialist Group and with assistance from the IUCN Species Programme and BirdLife International.

Two indicators were developed to investigate the use of wildlife for food and medicine and the impacts on ecosystem integrity and ecosystem goods and services.

RED LIST INDEX (RLI)
This indicator provides a measure of change over time in the conservation status of animals used for food and medicine and a baseline for the conservation status of medicinal plants. Plants harvested for food have not been included; apart from medicinal use, collection of data on harvest for other purposes is not as advanced as for terrestrial animals.

A Red List Index (RLI) for birds, mammals and amphibians used for food and medicine has been produced. This uses data from repeated assessments of the status of each species for the IUCN Red List, and illustrates overall trends in the extinction risk over time.

ACCESSIBILITY INDEX
To complement the global approach based on the IUCN Red List, primary data from selected countries were collected to investigate how the accessibility of species used for food and medicine is changing over time for poorer people. Price data has been collected for food and medicine ‘baskets’ from markets in eight countries, representing Latin America, Africa and Asia, regions chosen for their high biodiversity. ‘Baskets’ represent commonly used wild food (animals) and medicinal (plants and animals) products, with different species selected for each country. Price data were collected from vendors at the markets for a standard unit of the goods (for example, a kilogramme, or an individual). In addition to current price for each product, vendors were asked to recall the price in 2000. Current and historical prices for locally relevant marker products (such as staple food products, for example rice, maize, domestic meat, and generic/manufactured medicines, for example aspirin) were also obtained for each country, in order to compare prices and/or affordability of these with those of the wildlife products. Other sources of published data for the selected countries were obtained for income.
Many of the wild species used for food and medicine are threatened with extinction, some due to over-exploitation, some to different pressures e.g. habitat loss, or a combination of factors. Of the 9,556 known extant bird species, 14% are thought to be used for food and or medicinal purposes. Of all bird species 12% are classified as threatened but of those used for food and medicinal purposes 23% are threatened. Similarly mammal species used for food and medicines (22% of all known mammal species) are more threatened on average than those not utilised in this way. In contrast to the birds and mammals, amphibians used for food and medicine appear overall to be less threatened than amphibians not used for these purposes. However, the conservation status of these species is declining more rapidly than that of amphibian species not used for food and medicine. Just 23% of the world’s well-documented medicinal flora has been evaluated for global conservation status. The proportion of medicinal plant flora considered to be threatened appears to have remained relatively stable (ca 40% to 45%) between 1997 and 2008. This stability however may be the artefact of a number of variables. The conservation status of medicinal plants is alarming if this pattern is maintained by assessment of a larger and more representative sample of medicinal plant species."

ACCESSIBILITY INDEX.

The IUCN Red List Index (RLI) measures trends in the overall extinction risk of species-groups, as an indicator of trends in the status of biodiversity. Decreasing RLI values (a downwards sloping line) means the expected rate of extinctions (i.e. biodiversity loss) is increasing, i.e. that the rate of biodiversity loss is increasing. An horizontal graph line (i.e. unchanging RLI values) means that the expected rate of biodiversity loss is increasing. An upward trend in the graph line (i.e. increasing RLI values) means that there is a decrease in expected future rate of species extinctions, i.e. a reduction in the rate of biodiversity loss.

ACCESSIBILITY INDEX

This indicator provides information on “How the accessibility of species used for food and medicine to poorer people is changing through time” and looks at the relative affordability of wild sourced products compared with generic/staple products. A downward bar indicates the percentage of GDP required for a basket of goods has reduced since 2000 and an upward bar demonstrates products have become less affordable.

For the latest information on this indicator, including publications, future development and useful links visit the 2010 BIP website: www.twentyten.net/foodandmedicine.

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