

Rain forest

Man and rain forest

Drugs from the forest

Approximately 10% of today's drugs derive from tropical medicinal plants, including quinine, curare and a number of steroids. Three thousand plants have anti-cancer properties and 70% of these are to be found in tropical forests. The medicinal plants living in wet forests include the Samambaia (*Polypodium lepidopteris* and the *Polypodium decumanum*), a fern that grows in the rainy forests of South-America and whose therapeutic properties reside in the rhizome and roots. In Amazonia, the Boras people use its leaves to treat cough, while others use the steeped rhizome to treat fever and root infusions to treat some kidney conditions. Traditional Brazilian medicine recognises the sudorific, antirheumatic, tonic, expectorant properties of Samambaia; it is used to treat bronchitis, cough and other respiratory conditions, while in Peru it is also used to treat infections of the urinary tract and many skin conditions. The Amazonian Guarni and Tupi peoples call a plant, known as *Pau d'Arco*, "Tajy", which means "to have strength and vigour", used to treat malaria, anaemia, respiratory diseases, fever, infections, arteries and rheumatism and even snake bites. The Pau d'Arco is a large tree living in South-American rainforests which, from a botanical point of view, is called *Tabebuia* spp..

Wood trade

One of the most important trades related to the forest is timber. The most commonly used woods include teak, mahogany and ebony.

Forests are generally located in poor countries, where straitened circumstances make people sell this wood, of which there is plenty, at extremely low prices. The intense exploitation of this resource because of its low cost and abundance is putting a strain on the survival of all the living beings that inhabit this ecosystem. Ancient trees are felled for timber, or to make furniture or paper. Italy for instance is the second largest importer of wood from the Congo basin and imports 60% of all ayous trunks felled in that area.

The illegal trade of timber makes up approximately 20% of the world's market and, hard to control, further threatens the survival of this ecosystem.

Deforestation has reached impressive proportions, especially in Africa. Between 1990 and 2000, Africa has lost over 55 million hectares of forest, a destruction rate that is +25% higher than in 1992. The countries of the African forest region have increased their timber production by 58% since the mid-Nineties. Over the same period, the protected forest areas have not significantly increased; actually over this period several million hectares of uncontaminated forest have been sold to timber companies for the industrial production of trunks. Indonesia and New Guinea have lost between 60 and 72 % of their forests, while in that region the production of timber has increased by 25% between 1996 and 1998 compared with the previous decade. It has been estimated that, in Indonesia, 70% of the raw timber sold to local sawmills is illegally produced.

Peoples of Asian forests

Many are the peoples that live in the Asian rainforests: the Yumbri in Thailand, the negritos Pygmies and the Sarawak in Malaysia, the Tasaday in the Philippines, the Gajo, Mentawai, Badui, Tenggerese in Indonesia, etc. All these peoples have been forced to retreat in the forests with time because of the arrival of more developed peoples that settled in the arable areas. Since then, they have developed a number of survival strategies. Hunting is their main activity: the tips of their arrows are soaked in natural poisons that can kill their preys. They are good hunters and with a blowpipe they can kill animals from a distance of over 50 metres. In New Guinea, the pig is a staple of the economy of these communities since it is the main source of proteins. Having a pig is a sign of wealth and prestige and killing one requires a ceremony that attracts tribes from everywhere.

Since the forest environment is extremely rich in vegetation, these communities supplement their diets with fruits and

plants. They also make drugs with plants, by making use of the thorough knowledge they have acquired over the centuries, and attract botanists and agronomists from all over the world.

Peoples of African forests

For centuries, the European have thought the Tropical forests were inhospitable and dangerous. In fact in the heart of the forest, in Zambia, Cameroon, Gabon, Congo and the Central African Republic, live peoples who regard the forest as a protective and generous home. They are tribes of hunters and gatherers, who are short and not too muscular to adapt to the environment. Recent studies showed that their diets are better than those of other sub-Saharan African people. They generally live in groups of 15 - 60 people, hunting and gathering vegetables and honey. They perfectly know the forest and its inhabitants, both animals and plants. In particular, they know how to make use of the specific properties of thousands of plants they use as food, to make poison, relieve pain, treat wounds and fevers. The products of the forest are collected in baskets, carried on the back especially by women, who can bear loads weighing one half of their body weight. The most valuable gift of the forest, also called "liquid gold", is honey, which is collected even at 30 metres above ground by people climbing with lianas and strings. Men take along some embers wrapped up in large leaves, with whose smoke they stun the bees. The honey is then collected by women and children.

The most representative African forest peoples are the Mbuti, the Twa, the Baka and the Aka. In particular, the Mbuti have invented a peculiar hunting method: all the men of the tribe, standing one beside the other, lift their nets in a sort of semicircular trap, that can reach many metres long. The women, with the help of dogs, shake the shrubs and make noise to push the animals towards the net. The men stand and wait, ready to hit the animals that get trapped. The Baka and the Aka use, instead, bows and arrows, more advanced than the old crossbows. The arrows are soaked in a substance that paralyses the prey without poisoning it

Peoples of Latin American forests

The Latin American rainforests and the thickly wooded banks of the rivers crossing the near-by elevated savannahs are inhabited by approximately one million Indians divided into 300 ethnic and tribal groups. Even if the forest spontaneously offers all sorts of fruits, almost all foods are grown by the Indians, whose economy exclusively depends on farming. They turn to hunting and gathering only to supplement their crops. Gardens located near houses or small secluded plantations produce tea, tobacco, vegetables and herbs as well as cassavas and potatoes that are grown in small plots of land made in the forest by "cutting and burning".

Indigenous groups are always on the move during the year: they can be organised in small isolated units or large groups, but they always move according to strictly settled habits in order to respect a sort of "right to the land".

Comparatively small groups still resist the penetration of the developed world and successfully defend the boundaries of their lands and remain comparatively isolated also because they are very brave and ready to fight hand-to-hand. Other groups are involved, instead, in fierce disputes to defend their rights to the land against the claims of all sorts of industries and dealers, that they often lose.

Vegetal ivory

Vegetal ivory (*Phytalephas* sp.) is a substance that can be used to replace animal ivory that for years has seriously endangered elephants and threatened them with extinction. Vegetal ivory nuts are extremely hard and can be carved to produce a number of items as well as powerful abrasives and phytochemicals. In addition, this substance, before being hardened, has a creamy texture and is quite tasty. The leaves of this plant are also used to make packaging straw. This substance was most commonly used in 1929 and Ecuador was the greatest exporter. In 1941 the trade of this substance slumped and exports dropped to one quarter. Today, however, the trade of vegetal ivory has recovered thanks to the increased "ecological awareness", even if it is very expensive: a button of vegetal ivory costs 25% more than a plastic one. Today, Ecuador produces approximately 2,300 kg which are mostly exported to Italy, Japan and Germany.

Agriculture for the whole world!

Amidst the wealth and diversification of the tropical forests, man has found many plants to exploit.

Two thirds of the plants grown for food all over the world come from the Tropics. 99% of the natural rubber produced all

over the world comes from one single Amazonian tree, the *Hevea brasiliensis*; cotton (*Gossypium* spp.), vanilla (*Vanilla planifolia*), pepper (*Capsicum* spp.), cocoa (*Theobroma cacao*, Central America), potato (*Solanum tuberosum*), coffee (*Coffea arabica*, Africa), tomato (*Lycopersicon esculentum*), rice (*Oryza sativa*, Asia), maize (*Zea mays*, Latin America), sugarcane (*Saccharum officinalum*, New Guinea) are just some examples of products now used all over the world. Very many are also the delicious fruits exported all over the world and now grown in the West as well. They include oranges, tangerines, grapefruits and other citrus fruits (*Citrus* spp., Indo-Malaya), watermelons (*Cucurbita* spp., India), bananas (*Musa paradisiaca*, perhaps from the Afro-Asian Tropics), pineapples (*Ananas comosus*, central and Southern America), coconuts (*Cocos nucifera*, south-east of Asia and Asian-Pacific area), papayas (*Carica papaya*, Mexico and Costa Rica), mangoes (*Mangifera indica*, India and Indochina).