Ethnobotanical garden design in Ecuador's amazon region

Gestaltung eines Ethnobotanischen Gartens in der Amazonas Region Ecuadors

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Ecuador is one of the seventeen countries worldwide with the proud attribute "megadiverse" (REVELO & PALACIOS 2005). Within Ecuador the amazon region shows an incomparable diversity with 4857 registered plant species, whereas in one hectare, 260 species ≥2,5 cm DBH and 307 species ≥10 cm DBH were found (CERÓN et al., 2005).

Deforestation in the Amazon for the production of oil and gas, the construction of seismic lines, production platforms and roads which lead to new settlements and agriculture is causing the loss of biodiversity (GROTH 1998) and the loss of indigenous peoples' habitat. The consequences of habitat distruction is the loss of traditional ecological knowledge (TEK[1]).

In order to preserve the knowledge on plants held by the Kichwa[2] from the canton Loreto, documentation of plants used by locals was carried out. The results of the studies which show the relationship between people, plants and the natural environment are projected in a design of an ethnobotanical garden at the Capacity Building Centre of the town Loreto.

The construction site for the ethnobotanical garden is a 1,5 hectare secondary forest. The forest was analyzed with a local key informant and 150 different useful species were found. Trees represent the most used habitus accounting a total of 48,6%, followed by 22% of herbs and 16,6% of shrubs. The plant species recorded are mainly used for medicinal purposes, followed by edible plants

[1] TEK is a „knowledge-practice-belief complex" It is the knowledge of species and environmental phenomena of a specific group of people at a specific time.

[2] Kichwa stand for the Amazon Kichwa; Napo-Runa as they refer to themselfes.

and animal food source. In this study, 32 different plant uses were documented and categorized.

The cultural importance of different plant uses were investigated by using the informant consensus method. Open-ended interviews were conducted with the aim of identifying the most commonly used plant species among the Kichwas. The results showed that *Ilex Guayusa* ranked most popular, followed by *Myroxylon balsamum, Cedrela odorata, Banisteriopsis caapi,* and *Urera caracasana.* Freelists were carried out in order to document useful species whereas 443 different plants were collected. The species for medicinal purpose with highest Smith´S[3] (0,45) is *Maytenus krukowii,* which means that the species is of great importance. This finding is underlined by the results found when asking people for the recent medicinal plant used, where *Mytenus krukowii* again ranks first with 10 mentionings. Other highly used plants for healing are: *Uncaria guianensis, Bryophyllum pinatum, Zingiber officinale, Brunfelsia grandiflora, Urera sp.* just to name a few out of 132 species collected using freelists.

Focus groups were held and evaluations of the most important plant applications were conducted. The collected data illustrated that medicinal and ritual plants mean most to Kichwas, followed by plants used for handicraft. Edible plants rank afterwards, followed by dye plants and plants used for hunting.

The above findings serve as the backbone of the design for the ethnobotanical garden. The garden acts as a tool to preserve and promote the knowledge of plants, focusing mainly on medicinal plants.

The concept of the ethnobotanical garden communicates the holistic picture drawn from the investigation on people and plants of the Kichwas.

Resources:

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