

## **Applied ethnobotany and the People and Plants Initiative**

Alan Hamilton MA, PhD, ScD, FLS  
Honorary Professor of Botany, Kunming Institute of Botany, Chinese Academy of  
Sciences  
alanchamilton@btinternet.com

*To be published in: Proceedings of the 5th National Symposium on Ethnobotany and the Asia-Pacific Forum on Ethnobotany. Beijing: Minzu University of China, Beijing. 2010.*

### **Abstract**

Ethnobotany is the science concerned with the relationships between people and plants, and applied ethnobotany the application of ethnobotany to the sustainable use of plant resources and conservation of biodiversity. Applied ethnobotany is a useful discipline for engaging local communities in conservation, because it allows access to their knowledge, management practices and wisdom relating to plants for application to modern conservation problems. The People and Plants Initiative (PPI) was a programme of WWF, UNESCO and the Royal Botanic Gardens, Kew, designed to raise international capacity for the involvement of communities in conservation through capacity-building in applied ethnobotany. Its achievements include the training of 86 young professionals in applied ethnobotany (typically involving 2 years of individual field work on real-life conservation issues), assistance with the development of 25 courses on ethnobotany in 23 universities and colleges in 8 countries, assistance with the development of 10 new ethnobotanical NGOs or networks, and production of several series of publications on ethnobotany with information on methodologies and containing many case studies (several in Spanish and Chinese, as well as English). The work of PPI is being taken forward at the international level by a newly established non-profit group, People and Plants International.

### **What is ethnobotany?**

Ethnobotany is the science concerned with the relationships between people and plants. Although sometimes considered applicable especially to more traditional communities, in fact it is a discipline useful for exploring people/plant relationships in all types of societies.

Ethnobotany can be used for many purposes. For instance, ethnobotanical techniques can be used to document the great store of knowledge about plants contained in long-established local societies around the world. The sum-total of this knowledge is one of the great cultural heritages of mankind. In many places, there is urgency about this documentation, given the frequently corrosive influence of the forces of globalization on the cultures of indigenous societies.

There are many aspects of people's knowledge of plants, including their material uses (as for food, medicine, building materials, etc) and the practical methods by which they can be managed. Also of interest to the ethnobotanist are the beliefs and cultural practices that underpin people's practical activities. It has been found that many long established local societies have religious or philosophical beliefs, and related cultural practices, which tend to result in the conservation of the vital natural resources upon which the people depend. Knowledge about such beliefs and practices can make a major contribution to modern conservation.

### What is applied ethnobotany?

The term 'applied ethnobotany' is used here to refer to the application of ethnobotany to the sustainable use of plant resources and the conservation of biodiversity. Personally, I am not a trained ethnobotanist, but rather have come to realize the great potential value of applied ethnobotany for conservation and sustainable development through experience gained over the years.

One reason why applied ethnobotany is an important tool in conservation is because of the great interest that local residents commonly have in the plant resources of those places in which biodiversity is concentrated. The attraction of a site to nationally or internationally-orientated conservationists may be the presence of charismatic animals, such as gorillas or pandas, but to local people the interest is likely to particularly in the plants. Knowledge of local people's interests in plants is therefore an essential aspect of devising robust systems of managing natural resources, balancing biodiversity conservation against local needs.

Another reason why applied ethnobotany can be an important tool in conservation is because the methodology of applied ethnobotany involves local people in helping to set the research questions, gather the data and interpret the information collected. Applied ethnobotany is a collaborative exercise, drawing on the knowledge, values and practical skills of local people, as well as the knowledge and skills associated with science (for instance, scientific information about the plants, and scientific approaches to investigating problems). The special knowledge of local people is likely to include much detail about the local flora (types of species present, where they are found, their degrees of local endangerment) and about who has access to, or other influences over the plants. If new methods of managing the plants are desirable, then local people will be informed about the sorts of institutional arrangement that will be workable locally.

### Origin of the People and Plants Initiative

I became employed as the Plants Conservation Officer of WWF in 1989 and, soon after, realized that it would be useful, to be effective, if I concentrated my energies on specific aspects of plant conservation. Becoming aware of the need for local people to be involved globally in conservation on a much larger scale than was currently the case, and that plants were a major aspect of the natural environment engaging the attention of local people, I decided to focus on building international capacity in applied ethnobotany.

The idea of the People and Plants Initiative (PPI) as a programme on capacity building in applied ethnobotany emerged from discussions between two dynamic expert ethnobotanists (Dr Tony Cunningham and Dr Gary Martin) and myself. Soon, agreements were reached with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Royal Botanic Gardens, Kew to be partners in the programme. UNESCO was an obvious choice, because it is an international organization (like WWF) with a remit to safeguard the world's cultural and natural heritage. Dr Malcom Hadley of UNESCO's Division of Ecological Sciences proved a dynamic force driving the work forward within UNESCO. Kew was identified as a suitable third partner because, unlike WWF and UNESCO, it is a botanical institute. Kew is a well established institution, with strong international connections, and a commitment towards the conservation of plants.

The programme has been supported financially by WWF, and by external grants received by WWF and UNESCO. External funders have included the European Union, Royal Ministry of Foreign Affairs of Norway, Danish International Development Agency (DANIDA), Department of International Development (DfID, UK), Darwin Initiative (UK), MacArthur Foundation, and the United States Department of Agriculture.

#### Purpose of PPI, its capacity-building elements and its achievements

The purpose of PPI was to raise international capacity for the involvement of communities in conservation through capacity-building in applied ethnobotany. Capacity-building took the following forms: (1) the training of selected young professionals, typically involving two years of field research related to real-life conservation problems within their own countries; (2) short courses and workshops, typically field-based and in total involving a much larger of people; (3) the development of ethnobotanical curricula in colleges and universities; (4) support for the development of non-governmental organizations or networks dealing with applied ethnobotany; (5) provision of technical information on applied ethnobotany, including mounting a website (containing much detailed information), the production and distribution of a series of publications, and the production of training videos. Further details and achievements against each form of capacity building are given in Table 1.

#### Structure of PPI and geographical engagement

Structurally, PPI consisted of several national or regional programmes and a linking international element. The selection of countries or regions for engagement of PPI was based on requests from the national or regional offices of WWF or UNESCO, and orientated towards parts of the world where local people depend on local wild plants for their livelihoods.

There were seven countries or regions in which relatively substantial programmes were run – that is, Kenya, Nepal, Pakistan, Southeast Asia (mainly Sabah, Malaysia), South Pacific, Uganda and Zimbabwe. Each of these programmes involved integrated packages

of projects covering fieldwork, individual and group training, awareness-raising, and often policy promotion. These national or regional programmes were organized by a number of regional coordinators associated with WWF or UNESCO: for Africa – Dr Tony Cunningham and Dr Robert Höft; for the Himalayas – Professor Pei Shengji and Dr Yildiz Aumeeruddy; for Southeast Asia and the South Pacific – Dr Gary Martin. Other countries or regions with significant levels of activity included Bolivia (Beni Biosphere Reserve), Cameroon (sustainability of *Prunus africana* collection), the Caribbean (medicinal plant collection, ethnobotanical curricula), China (curriculum development), Mexico (Sierra Norte, Oaxaca), Mozambique (individual training) and Tanzania (individual training).

The international element of PPI was responsible for coordinating the whole programme, raising funds, encouraging lessons-learning between the countries and regions, and publishing and distributing information about applied ethnobotany. Several ways of distributing information were used, including mounting a website, publishing conservation books (in four languages), publishing a series of working papers dealing with specific topics in applied ethnobotany, and publishing a handbook series. Additionally, several training videos on applied ethnobotany were produced. Most of the publications of PPI were distributed free of charge to interested individuals in developing countries (usually about 600 copies so distributed), which entailed the creation and administration of a substantial database.

#### Field issues addressed

Training during the programme was conducted principally in connection with tackling practical issues of conservation and sustainable use. The following were the main types of conservation issues addressed and the sites where field work by PPI has been conducted:

- The relationships between people and protected areas (Bwindi Impenetrable National Park, Uganda; Rwenzori Mountains National Park, Uganda; Ayubia National Park, Pakistan).
- The sustainable use of plant resources in trade (the wood carving industry, Kenya; trade in the medicinal bark of *Prunus africana* in Cameroon; medicinal plant collection for herbal industries, Kenya).
- Community resource management (forests and bee-keeping, Tanzania; woodland trees, Zimbabwe; also in Fiji, Solomon Islands and New Guinea).
- Strengthening local cultures for conservation (Tibetan medicine at Dolpa, Nepal, and elsewhere in the Himalaya; several sites in Sabah, Malaysia).
- Community inventories of plant diversity (Sierra Norte, Mexico, Beni Biosphere Reserve, Bolivia; Mt Kinabalu, Malaysia).

#### Legacy of the People and Plants Initiative

PPI was conceived from the start as a programme of limited duration, with attention being given to creating a legacy from the programme throughout its period of operation.

Today, this legacy includes: trained professionals in applied ethnobotanists, able to continue work within their own countries; new or better developed non-governmental organizations or networks involved in applied ethnobotany; new or better developed ethnobotanical courses in universities and colleges; the continuing availability of many publications given guidance on applied ethnobotany, including on practical methodologies and with numerous case studies.

Four of the conservation books produced under PPI have been produced in Chinese (in modified forms, with Chinese case studies), translated by Professor Pei Shengji and Dr Huai Huyin. Enquiries about their availability should be addressed to the Kunming Institute of Botany, Chinese Academy of Sciences (zhiwei@cbik.ac.cn). The titles (in English) are as follows: (1) *Ethnobotany* (author of English version Gary Martin); (2) *People, Plants, and Protected Areas* (John Tuxill and Gary Paul Nabhan); (3) *Applied Ethnobotany: People, Wild Plant Use and Conservation* (Tony Cunningham); (4) *Plant Conservation* (Alan and Patrick Hamilton).

Part of the work of the PPI has been carried forward by a new NGO developed with the assistance of PPI. This is People and Plants International (here abbreviated PPInt, so as not to be confused with the People and Plants Initiative). PPInt, created in 2004 through the inspiration of Dr Tony Cunningham (a key figure in PPI), is not-for-profit group consisting of a network of ethnoscientists working with local communities in several countries around the world. PPInt is based on the belief that cultural diversity is inherently linked to biological diversity and that effective stewardship of the Earth must involve local people. Its aim is to work alongside local groups to foster responses to conservation and sustainable development that build upon local skills and practices. PPInt also works at national, regional and international levels to guide policy and promote ethical and sustainable trade. The programme areas of PPInt include: (1) Conservation and Managed Habitats; (2) Cultural Landscapes and Resource Rights; (3) Health and Habitat; and (4) Knowledge Exchange.

PPInt's website contains downloadable versions of many of the working papers and handbook issues early published by PPI. PPI's series of conservation books, published by Earthscan, is also being continued. See [www.peopleandplants.org](http://www.peopleandplants.org) for more information on PPInt's purpose, programmes and available resources.

#### A note on applied ethnobotany in China

Xishuangbanna can be considered the cradle of applied ethnobotany in China. Dating back to 1982, Professor Pei Shengji and later his students have undertaken a number of pioneering studies into the ethnobotanical knowledge and related belief-systems of forest-associated minority groups living in this tropical area. This research has demonstrated that: (1) the indigenous communities of this region have a great wealth of knowledge about the uses, values and methods of management of plants; (2) the indigenous ecological knowledge of these peoples opens up new angles on the management of natural resources and on how human life is connected to the natural environment; (3) traditional conservation practices are commonly practiced in this area, such as the

preservation of biodiversity-rich forests on holy hills. These practices are related to local religious beliefs and cultural practices.

A new book entitled *Ethnobotany* by authors Professors Pei Shengji and Huai Huyin was published in 2007 by Shanghai Science and Technology Press (ISBN 978-7-5323-9104-2). This is an original work, offering an up-to-date view of the state of ethnobotany in China, set within the context of the contemporary development of the subject internationally. The book has been widely acclaimed for its original contributions to science, winning prizes at several book fairs. The applications of ethnobotany to the sustainable use of plant resources, conservation of biodiversity and rural development are all described, with case studies from China.