

Herbotechnik: A BAIF Programme for the understanding, conservation, cultivation, and utilization of medicinal herbs

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Background

The Living Traditional Roots

Traditional and folklore medicine bequeathed from generation to generation is rich in domestic recipes and communal practice. Encompassing concepts and methods for the protection and restoration of health, traditional medicine has served as a fount of alternative medicine, new pharmaceuticals, and healthcare products.

The best known examples of health systems based on traditional medicine, differing in concept and protocol, are well-developed systems such as acupuncture and ayurveda, that have been widely used to conserve human health in China and India. These ancient but formalized bodies of traditional health knowledge have drawn extensively from the folk medicine that was and has been in practice in different communities.

This folk knowledge has in turn been retained, nurtured and built upon by an extended line of unknown and unremembered traditional healers who have passed it on from generation to generation. This line exists even today, more commonly in relatively remote communities. The folk medicine thus represents a system that, on the one hand, functions as an extensive network for people-based incremental generation of knowledge about plant utilization, and on the other hand, functions as a low-cost community-based health care system. The future existence of this living knowledge system is however seriously threatened by the existing societal forces of change.

The practice of traditional medicine is widespread in China, India, Japan, Pakistan, Sri Lanka and Thailand. In China about 40% of the total medicinal consumption is attributed to traditional tribal medicines. In Thailand, herbal medicines make use of legumes encountered in the Caesalpiniaceae, the Fabaceae, and the Mimosaceae. In the mid-90s, it is estimated that receipts of more than US\$2.5 billion have resulted from the sales of herbal medicines. And, in Japan, herbal medicinal preparations are more in demand than mainstream pharmaceutical products.

The Present and the Future.

Interest in medicinal plants as a re-emerging health aid has been fuelled by the rising costs of prescription drugs in the maintenance of personal health and well being, and the bio prospecting of new plant-derived drugs. Based on current research and financial investments, medicinal plants will, seemingly, continue to play an important role as a health aid.

The industrial uses of medicinal plants are many. These range from traditional medicines, herbal teas, and health foods such as nutraceuticals to galenicals, phytopharmaceuticals and industrially produced pharmaceuticals. Furthermore, medicinal plants constitute a source of valuable foreign exchange for most developing countries, as they are a ready source of drugs such as quinine and reserpine; of

galenicals like tinctures and of intermediates (e.g. diosgenin from *Dioscorea* sp.) in the production of semi-synthetic drugs.

Developed countries, in recent times, are turning to the use of traditional medicinal systems that involve the use of herbal drugs and remedies. About 1400 herbal preparations are used widely, according to a recent survey in Member States of the European Union. Herbal preparations are popular and are of significance in primary healthcare in Belgium, France, Germany and the Netherlands. Such popularity of healthcare plant-derived products has been traced to their increasing acceptance and use in the cosmetic industry as well as to increasing public costs in the daily maintenance of personal health and well being. Examples of such beauty-oriented therapeutics are skin tissue regenerators, anti-wrinkling agents and anti-age creams.

Over exploitation of several herbs has significantly reduced their quantities and have endangered their existence. This situation calls for the conservation and culturing of these herbs in laboratories, nurseries and gardens.

In 1978, the WHO drew up a list of 240 essential medications that can be obtained only from plants. Every year nearly two hundred varieties of Indian medicinal plants are being tested in the research departments of several prestigious drug companies all over the world.

Issues concerning intellectual property rights, compensation for loss of finance-rich biodiversity resources, and the acquisition and safeguarding of traditional healthcare knowledge are no longer neglected.

The development and commercialization of medicinal plant-based bioindustries in the developing countries is dependent upon the availability of facilities and information concerning upstream and downstream bioprocessing, extraction, purification, and marketing of the industrial potential of medicinal plants. Absence of such infrastructure compounded by lack of governmental interest and financial support restricts the evolution of traditional herbal extracts into authenticated market products. Furthermore the absence of modernized socio-economic and public healthcare systems reinforces reliance of rural and lower-income urban populations on the use of traditional medicinal herbs and plants as complementary aids to routine pharmaceutical market products.

It is thus necessary to dovetail the above opportunities into a coherent program for the conservation, cultivation, and utilization of medicinal herbs. Herbotechnik is planned to be such a program.

Herbotechnik

The program has the following four cornerstones:

- To help in the continuation of the traditional knowledge systems on medicinal herbs, in a living form.
- To promote availability of medicinal herbs in all their diversity.
- To integrate use of medicinal herbs in the Community Health Program.

- To enable processing and marketing of herbal medicines with a flow-back of benefits to communities who have contributed the knowledge.

Each of the cornerstones has important program implications:

"To retain the traditional systems in a living form" will imply support for the retention, recording, validating, prospecting and practice of traditional herbal knowledge systems by the traditional healers as well as other lay-persons.

"To promote availability of diverse herbs" implies programs for conservation, cultivation, and plantation.

"To integrate the use of herbs in Community Health Programs" implies making traditional and indigenous medicinal treatments a part of the community living through integration as home-remedies, diet additives, primary cures dispensed by traditional healers / village health guides and treatment centers for specific ailments.

"To process and market with benefit to communities" implies a state-of-the-art processing technology implements through a network of 'people'-owned collection, cultivation and processing units for production of herbal medicines / extracts.

Objectives:

Herbotechnik has been launched by BAIF in selected areas as a new program direction with the following objectives:

- 1) To create a people-based program for the conservation, cultivation, growth and utilization of medicinal plants in our operational area.
- 2) To develop and promote organic cultivation of medicinal plants on wastelands.
- 3) To establish quality assurance methods for medicinal plants, semi-processed / finished herbal products.
- 4) To develop suitable products for captive use in the program area.
- 5) To establish linkages with industry for further processing.

Outcome

The program is planned to generate the following outcomes:

1. The recording, cross-referencing, and validation of use of plants for medicinal purposes.
2. Establishment of farmer-nurseries of medicinal plant species in tribal and other areas; plantation of a range of perennial trees and shrubs; cultivation of seasonals.

3. Establishment and empowerment of co-operative societies / other organizations of traditional healers / health functionaries / larger community members for the collection, cultivation of medicinal plants and other activities related to Herbotechnik.
4. Strengthened Primary Health Care Programs through Herbal Medicine.
5. Standardized Quality Assurance Systems for Herbal Medicine and Medicinal Plants and their by-products with BAIF Quality Standards.
6. Certification of Medicinal plants / Quality of Manufacturing Activities as per Schedule T of Drugs and Cosmetics Act, and guidelines of GMP, WHO GMP,
7. Empowered People's Organizations participating in National / International markets of herbal medicines / products.