

The Society for



ECONOMIC BOTANY, INC.

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Schultes Award Report – Heather McMillen

“Ethnomedicine in Conservation Perspective: Management, Market System, and Use of West Usambara and Coastal Forest Medicinal Plants of Tanga, Tanzania” 2004-2005

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Collaborative local organizations: National Herbarium of Tanzania, Sokoine University of Agriculture, Tanga Catchment Forestry Office & Mangrove Coastal Forestry Project, Tanga AIDS Working Group

The majority of people in developing countries rely on medicinal plants for primary health care, yet these plants go without protection, monitoring, or even a comprehension as to the context or extent of their collection and use. Although little is known about the specific circumstances of harvesting medicinal plants, there is concern that such harvest threatens biodiversity conservation as well as sustainable primary health care. This study investigates the circumstances of medicinal plant use, management, and sale in Tanga, Tanzania and is based on ethnographic and ethnobotanical research. After establishing a strong understanding of the local ethnomedical systems and markets, the stocks of medicinal plant vendors in Tanga were inventoried. The most popular ethnospices were identified and traced back to their source locations in the West Usambara Mountains (part of the Easter Arc Forests and included in the Afromontane Forests), and Coastal Forest Remnants (part of the East African Coastal Forests).

Collections were deposited at the National Herbarium of Tanzania (NHT) and at the Missouri Botanic Garden (MO). Nine of the most popularly harvested commercial species were investigated with harvesters, healers, and vendors in a local ecological knowledge (LEK) survey. LEK was assessed with regard to: recognition of these species (both voucher specimen and the parts used medicinally---roots and bark), their habitats, reproduction, interactions with other species, affects on availability and potency, culturally based knowledge regarding the plants' uses (i.e., other than medicinal), pre- and proscriptions related to harvest, and cultural significance. Responses were compared against existing ecological data, expert knowledge, and salient agreement among participants. Multivariate and bivariate statistics were used to analyze how knowledge differs among groups, the relationships of knowledge to sociocultural demographics of participants, and the relationship of ecologically and culturally based knowledge. Content analysis of ethnographic data expanded, verified, and contextualized these findings. Preliminary findings suggest that, contrary to trends found elsewhere, level of specialization, years of experience, and age are not correlated with level of knowledge as related to these commercially harvested species. This suggests that patterns in knowledge are affected by market demands and changing livelihoods. Findings also reveal that the habitat and ecological context of plants are highly correlated with knowledge of people from those same areas. Although specialists (i.e., healers) are most often called upon to be involved in the design and planning of conservation and management activities, the implications of these findings are that other stakeholders such as vendors and harvesters should also be involved. Finally, results show a highly significant relationship between cultural and ecological knowledge which underscores the importance of understanding and integrating and acknowledging cultural knowledge and practices into official management.

By privileging local people and their ecological knowledge, this research will contribute to the design of culturally appropriate resource management and to the sustainable use of medicinal plants. It has the potential to improve both ecological conservation and human health efforts in Tanzania and to serve as a model for other regions of the world that rely on medicinal plants for managing health.

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