Bioprospecting for herbal medicine in Kenya: a case of Kakamega forest and it's environs

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Abstract:

Until recently bioprospecting has received little attention in Kenya. However, a new flurry of interest and enthusiasm in biodiversity prospecting in the country is growing rapidly. If properly done, biodiversity prospecting can yield environmental conservation and benefits to the custodians of genetic resources. If not done properly, it could have adverse effects on conservation and the environment. This study assessed the influence of household head characteristics on the number of medicinal trees onfarm and the diversity of medicinal trees being bioprospected in Kakamega forest and its environs. The study also investigated tree harvesting methods and assessed farmers perception of conservation of medicinal trees. A sample of 180 farmers was drawn from three purposively selected forest adjacent sub- locations and primary data collected through interviews facilitated by questionnaires and an observation schedule. Secondary data was collected from existing information on bioprospecting. Statistical Package for Social Sciences (SPSS) was used to analyze the data. The results obtained revealed that gender, marital status, education and land size had an influence on the number of medicinal trees maintained by households. Female, married and educated headed households had significantly higher number of medicinal trees compared to ---- those headed by male, single/widowed and uneducated. The number of medicinal trees on-farm increased with increasing land size. The results further indicated that KaIcamega forest and its environs had a rich and diverse species base with more than 74 medicinal trees reportedly used by the farmers to address a multitude of ailments. Farmers maintained a broad mix of ditTeteut multipurpose trees on-fmm to meet their needs. Zanthoxyllum gillettii (De Wild.)Waterm (85%) was the most popular prospected medicinal tree followed by Croton megalocarpus Del. (73%). Kakamega forest had numerous medicinal herbs, saplings, tall shrubs and trees but with low densities. Mimulopsis solmsii Schweinf was the most frequent herb (11.3%). Saplings of Trilepisium madagascariense DC. were the most common (6.5%). The most common tall shrubs were those of Dracaena fragrans (L.) Ker- Gawl (4.3%) and Funtumia africana (Benth.) Stapf (11.5%). The most common trees were Funtumia africana (11.5%) and Celtis gomphophyla Bak. (5%). Debarking, picking leaves and root digging were the common methods used for harvesting medicinal trees. Debarking was the most popular method of harvesting medicinal trees with over 75% of respondents debarking the top five most popular medicinal trees on farm namely Zanthoxyllum gilletii (95%), Khaya anthotheca (Welw.C.DC.) (98%). Azadirachta indica A. Juss (76%), Olea capensis L. (99%) and Croton megalocarpus (94%. The farmers' perception was that there was need for conservation of seven high priority medicinal trees including Erythrina abyssinica L. (91.7%), Harungana madagascariensis Poir (90%), Khaya anthotheca (88.9%) and Zanthoxylum gilletii (87.8%). The integration of medicinal trees into the traditional farming system was a problem with 76.7% of the farmers having a perception that medicinal trees were competing unfavorably with food crops. The study recommended increased planting of trees to address the current inadequacy of medicinal trees with Kenya Forest Service providing the lead in addressing issues of provision of germplasm and integration of medicinal trees into the traditional farming system. The study further recommends development of appropriate conservation measures to ensure that the current diversity levels of the medicinal trees is not only maintained but also increased.