DEVELOPING INFORMATION SYSTEM ON INDIGENOUS PLANT RESOURCES IN THE CORDILLERA ADMINISTRATIVE REGION, PHILIPPINES

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ABSTRACT

The Cordilleras of the Philippines is home to a rich diversity of plant species that are used as nutrient source in organic farming and fallow systems; as nutrient source, biocontrol and soil and water conservation agents in sustainable indigenous farming systems; as herbal medicine in community health care; as food supplements; and as offering or symbols in cultural rituals. Written accounts on these plant species in the Cordilleras are fragmented and sporadic. This research study attempted to create a framework to organize information and knowledge system of indigenous plant resources in the Cordillera Administrative Region (CAR), Philippines through the application of bioinformatics (e.g. information systems). Literature survey was conducted in Cordillera Studies Center, U.P. Baguio; Benguet State University (BSU), La Trinidad, Benguet; and Kalinga Apayao State College, Tabuk, Kalinga. Key Informant (KI) interview and Focus Group Discussion (FGD) were also conducted to document additional information particularly on the use of indigenous plants in sustainable farming systems and organic farming and to cross validate the gathered data from published literature, reports, manuscripts and library archives. Open source development tools such as Joomla!, MySQL and PHP: Hypertext Preprocessor (PHP) were used in the development of the website and information system, respectively. The 305 indigenous plant species identified and organized in the Database Information System were used in various purposes: 1) indigenous farming systems, 2) organic farming, 3) food and food supplement, 4) cultural practices, 5) construction and livelihood, 6) ornamentals, gardening and landscaping, and 7) community healthcare system. About 232 indigenous plant species were of multipurpose use mostly dominated by those used for food or as food source (26.29%) and community health care (27.16%). Information system is an important knowledge-base in organic farming system, indigenous sustainable farming systems, health care and family nutrition of the communities in the upland areas of the country. It is the role of extension workers and researchers to bridge the gap on how such information can be transmitted and preserved for upland communities into user-friendly and effective forms (e.g. community brochures, story book, radio programs, posters).

Keywords: Database, information system, indigenous plants, literature survey, indigenous knowledge system

INTRODUCTION

Informal forms of knowledge such as ethnomusicology, ethonomathematics and indigenous science generally pertains to indigenous knowledge (Hortsthemke, 2008). On the other hand, indigenous science covers ethnomedicine and ethnobotany. Odora Hoppers (2005) argued that this knowledge is commonly linked to culture in the form of rituals, songs, dances, medicinal knowledge, food preservation and conservation, and agricultural practices. In general terms, indigenous knowledge covers the local, traditional, indigenous practices and customs (Hortsthemke, 2008). Indigenous knowledge system (IKS) referred to the unique, traditional, local knowledge existing within and developed around the specific conditions, indigenous to particular geographic area is defined by Rajasaken et al. (1992) and Tella (2007) as a systematic body of knowledge acquired by local people through accumulation of experiences, informal experiments and intimate understanding of the environment of a given culture. Appiah-Opoku (1999) noted that IKS includes a system of classification and a system of self-management that governs resource use. It is the basic component of country's knowledge system and it represents the successful ways in which people have dealt with their environment in the past (Puffer, 1995). It is holistic and a basis for self-sufficiency and self-determination. Moreover, it reflects the dynamics of the interrelationship of man with their environment in organizing the folk knowledge of flora and fauna, cultural beliefs to improve their lives (Semali and Kincheloe, 1999).

IKS are stored in memories of people and are shared orally by specific example and culture (Tella, 2007). It is expressed in many forms like stories, songs, dances, cultural beliefs and values and customary laws, among others. These forms of communication are important in the decision making processes at the local level, development and promotion of IKS (Tella, 2007). Moreover, IKS are essential in the contribution to global development of knowledge, problem solving strategies of the local communities, risk to becoming extinct, relevance to any development process and under-utilized resources (Tella (2007). In contrast to formal scientific knowledge, IKS are holistic in approach, communicated orally, taught by experience and observation, and explained based on social values and cultural belief. For any development project to succeed, the IKS of a given community is crucial as it serves as the knowledge-base prior to project implementation. Proper documentation of these indigenous knowledge systems is very limited and quite fragmented.

The recording and documentation of IKS is a major challenge because of its tacit nature. It is commonly exchanged through personal communication and demonstration: from master to apprentice, from parents to children, from neighbor to neighbor, among other things. Tacit knowledge will have to be converted to explicit form using special methods like story telling, interactive conversations, sharing experiences and face-to-face communication. Documentation tools both traditional and modern could be used depending on the availability and situations. Modern tools would include digital audio and video recorders and digital cameras, whereas tape