

Review of indigenous knowledge in Uganda: implications for its promotion

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Indigenous knowledge (IK) has a role to play for households and community well-being in Uganda. However, IK is undergoing significant change and is on the decline in Uganda because of factors such as acculturation or the loss of IK through exposure to external cultures. In this paper we review some of the roles of, and threats to, IK with particular reference to the local community of Kaliro District. We make some recommendations on how to conserve IK in Kaliro and elsewhere in Uganda.

Key words: traditional knowledge, conservation, traditional medicine, ethnobotany

Introduction

Indigenous knowledge (IK) is an important resource that contributes to social and economic needs, community sustainability and sustainable development (Broadhead & Howard, 2011). IK holders use it to exploit, manage and conserve their environments. In Uganda, a wide diversity of IK exists such as that associated with traditional medicine. However, IK is undergoing rapid change and is weakening because of factors that include the outside influence of western cultures and inadequate documentation. These issues are explored here. Specifically we review the role of IK for household and community well-being, discuss the weakening of IK and describe opportunities in the existing national legal and institutional structures for valorizing IK.

The value of Indigenous knowledge to local communities and households

According to the United Nations Environment Programme (UNEP), website), Indigenous knowledge (IK) is the “knowledge that an indigenous (local) community accumulates over generations of living in a particular environment”. IK is sometimes referred to as traditional knowledge, indigenous knowledge system, traditional environmental knowledge, local knowledge, rural people’s knowledge, indigenous technical knowledge or indigenous agricultural knowledge (Sillitoe, 1998).

IK plays a critical and significant role for the people who possess it. Many people use it to a lesser or larger degree to identify and use natural resources in their environment for their wellbeing (Tabuti, 2006). For instance, people use their IK base to identify useful plants that satisfy subsistence needs of nutrition or good health (Box 1). This is especially true for the majority of people in Africa who are not well integrated in the cash economy, or have not acquired formal western education and therefore cannot benefit from the technological advances of western knowledge.

Box 1. Towards prioritization of indigenous plant species using Indigenous knowledge: the case of Kaliro District

Local people know which species are useful in their community. This knowledge extends to aspects of species biology such as germination requirements and ecological characteristics such as the preferred habitats of particular species. Indigenous knowledge (IK) pertaining to the use of wild plants is localised and is generally unknown outside the immediate community where the species are used. To broaden understanding and mainstreaming of such IK there is a need for effective documentation and also the validation of useful IK technologies. In 2000, we undertook a study in present-day Kaliro District (eastern Uganda) with the aim of prioritizing species and documenting patterns of use of wild plant species in the community (Tabuti, 2003). Some of the questions that guided our study were: which plant species are used as medicine for humans and cattle? What are the local peoples' attitudes to traditional medicines? Which species are eaten by humans and cattle? How are species processed to make medicines or meals? Which species are used as firewood?

Data was generated using an ethnobotanical survey which was used to interview 126 randomly chosen community members and a further 47 healers. Our focus was on the knowledge domains of medicine and food (for humans and livestock), and firewood. We complemented the interviews with participant observation. The people of Kaliro District are ethnically known as the Balamogi. Kaliro is a rural community that mainly depends on crop agriculture for its subsistence and has poor access to social services such as health care (western medicine).

We found that the people of Kaliro district possess a large and diverse plant use knowledge. Survey respondents mentioned 315 plant species used variously and in overlapping ways as medicine, food or firewood. Their knowledge encompassed the management of 97 human illnesses as well as 26 magical, spiritual or ritual conditions, and 33 different diseases and conditions of cattle. Additionally, the community knew 38 different wild food plant species.

Historically, indigenous knowledge such as that of traditional healing has always been transmitted orally between members of the community (Tabuti *et al.*, 2003b), within and between families, and from one generation to the next. Knowledge transmission, however, was weakening at the time we undertook our survey. For instance, knowledge had declined regarding the identification of wild food plants (WFPs) or processing (for those where some processing was necessary) among some members

of the society. Others no longer knew how to cultivate, or prepare WFPs or had lost the taste for WFPs (Tabuti *et al.*, 2004). Respondents explained that the young were failing to acquire IK because they spent most of their time at school away from their relatives who would have taught them cultural aspects of the traditional way of life and indigenous knowledge.

Traditional medicine for humans was reserved for chronic and difficult-to-understand diseases while common and easy-to-diagnose illnesses were treated using western allopathic medicine. Wild food plants were neglected in preference for cultivated crop species. There were many reasons why the use of WFPs was in decline. The latter included ready access to a wide diversity of introduced crop plants, decline in wild food plant availability, and loss of associated IK. Other reasons given were that colonial governments had not supported the use of WFPs (Tabuti *et al.*, 2003a, 2004).

There is a wealth of IK in Uganda spanning the domains of medicine, livestock keeping, crop and tree management, food processing, natural resource and environment conservation, iron smelting, building technology, and soil and water management. IK also contributes to the identification of traditional food plants, entertainment (music, games, sports), and conflict management in families and communities (Gradé *et al.*, 2009).

In crop agriculture, local people use IK to predict weather changes, recognize and conserve land races, classify soils, control pests, improve water management (Shemdoe *et al.*, 2009), and protect harvests. IK is invaluable for the identification of the right material to use and how to process it in traditional medicine. Traditional medicine (TM) occupies a special place in disease management in Uganda. Although people use both TM and western medicine, some afflictions such as cellulitis (Tabuti 2010), or those related to sorcery (Barnes-Dean, 1986), are believed to have no cures in western medicine and thus considered to be treatable only by using TM.

Local community members have knowledge relevant for the management and conservation of natural resources and the environment. Such knowledge includes biological and ecological knowledge of phenology or plant distribution that can be used to identify prime areas for the collection of planting material to restore degraded areas or for domestication (Tabuti, 2006). Local communities are known to promote the natural regeneration of plant species by sparing or protecting naturally regenerating plant species around the homestead (Tabuti *et al.*, 2009). Through a system of taboos embodied in traditional beliefs, local people protect communities or species or individuals of species from wanton destruction (Box 2). These practices are not unique to Uganda and have been reported elsewhere (Kendie and Guri, 2006; Trakansuphakorn and Kampholkul, 2010).

Box 2. The role of taboos and local beliefs in plant conservation

In present-day Kaliro District in Uganda, some plant species are not used for cooking because of cultural taboos. *Piliostigma thonningii* (Mulama) is not used because dead dogs are dropped on it or buried in it; *Flueggea virosa* (Lukandwa) because it is used in cultural rites related to parents of twins while *Gardenia ternifolia* (Lukoole) is believed to bring bad luck. People used to commit suicide by hanging themselves from it. *Dracaena fragrans* (Luhano), *Euphorbia tirucalli* (Lukone) and *Hymenocardia acida* (Mukanaga), similarly, are not used for cooking because they are reserved for traditional religious rites (Tabuti *et al.*, 2003a; Tabuti, 2006; Tabuti, 2010).

Some plant communities protected in spiritual groves contribute to conservation while shrines protect individual species. Some sites have unique cultural value, such as the coronation site for the Paramount chief of Busoga, the *Kyabazinga*, in Gadumire parish of Kaliro District. By selecting specific plant communities that are believed to be home to spirits, these plant communities and the species they contain are preserved. These then become refugia for restoring degraded landscapes (Gadgil *et al.*, 1993).

Note: Local names are in the Kilamogi local language.

IK also contributes to poverty alleviation through the fostering of employment opportunities, and the creation of enterprises. There are many artisans who are employed as indigenous healers (Plate 1) or in small cottage industries for making crafts, household implements or dwelling huts. Despite the immense role that IK can play in socio-economic development, many people outside the immediate community or sometimes even within the community are unaware of this potential and remain skeptical. An example is the health-seeking behavior whereby many Ugandans in urban areas refuse to use TM because they are not sure that such medicines are effective (Tabuti *et al.*, 2003b).



Figure 1: Dr. Yahaya Sekagya earns his living as a traditional medicine practitioner

It is important to point out at this stage that IK should not be romanticized (Sillitoe, 1998). Some forms of IK and their applications can be harmful. For instance, the practice of female circumcision or female genital mutilation is traumatic and very dangerous (Berg and Denison, 2012). The current spate of ritual murders associated with some forms of TM is harmful not only because it destroys human lives, but it also diminishes people's confidence in TM.

Indigenous knowledge is threatened

Indigenous knowledge is not uniformly distributed and differs between and within communities (Thomas, 2008). These variations in IK occur because of cultural (Somnasang and Moreno-Black, 2000), and geographical diversity. In Uganda, it is estimated that there are more than sixty-five indigenous communities (MGLSD, 2006), each of which is culturally distinct and has unique IK. Even within the same culture there are variations. For example, for each tribe in Uganda there exists a diversity of clans which greatly add to the diversity in IK (Katende and Kityo, 1996).

Beyond cultural diversity, variations within community knowledge are influenced by gender, age, class, economic level and personal life experiences (Sillitoe, 1998; Somnasang and Moreno-Black, 2000). The IK of women tends to differ from that of men because women play different roles in the homestead and the community. For instance, rural women possess more knowledge than do men on the characteristics, distribution and site requirements of plants (Upadhyay, 2005). This knowledge difference becomes significant in terms of gathering food, fuel or medicines. With respect to age, older people usually know much more than the young about indigenous practices. Knowledge possessed by specialists such as healers or hunters is often unique to them and so may not be known by other community members.

IK is disappearing because of increasing barriers that affect its transmission between community members. There are many examples of such loss of IK in Uganda. For instance, people of the present-day Kaliro District have forgotten how to manage traditional food plants to ensure that such plants are available to future generations, or how to prepare traditional foodstuffs (Tabuti *et al.*, 2004). Previously, people managed species such as *Dioscorea bulbifera* by cultivating them.

The barriers to IK transmission include inadequate documentation of IK and the secrecy of custodians of IK. Some of the latter, especially traditional healers, are loathe to divulge their IK on healing to outsiders and to some members of their families. In Kaliro District, some healers refused to reveal their healing secrets to their daughters fearing that the latter would share the secrets with the families they marry into. Over time, IK disappears when its custodians die or migrate before their IK has been adequately transferred or documented. Presently, much documentation of IK has been undertaken, especially in the domains of traditional medicine and traditional foods. However, many aspects of IK, for instance the spiritual aspects, remain un-documented.

It is sometimes the case that forms of IK become less relevant to people when social and environmental conditions change. In Nepal for instance, shifting cultivation was abandoned following a significant growth in human population (Sillitoe, 1998).

IK was weakened by colonialism and the process continues today under globalization (Haverkort et al., 2002; Millar and Haverkort, 2006; Tabaro, 2009). African indigenous knowledge systems, including beliefs and practices, suffered much during colonialism when many forms of IK were considered inferior and so were repressed by colonialists. The colonized were forced to abandon their IK and made to believe that their knowledge was primitive and inferior to western knowledge. This led to a lack of confidence in IK by its holders. In this way, innovation in fields such as medicine and the whole social fabric was undermined (MGLSD, 2006).

Foreign religions and western forms of education were introduced during colonialism. The advent of Christianity and Islam led to the subduing of traditional religions and spiritual practices. When traditional religions came under pressure, a situation that continues today, many indigenous practices associated with these religions, such as traditional healing practices, were abandoned. Western education further weakened social contacts and opportunities to learn indigenous ways by keeping young people away from their homes and elders, who would have taught them indigenous knowledge and practices (Tabuti et al., 2004; Tabuti, 2006). Furthermore, the knowledge passed on in western types of education was, and still is, at odds with that of informal education. Young people are taught to disregard almost all aspects of their heritage including their traditional language(s). For instance, many Ugandan schools discourage pupils from talking in the vernacular on school premises, and reprimand those who do. In Ugandan social life, it is taken as a sign of backwardness if one communicates only in the vernacular and cannot speak English or one speaks the language with a heavy accent.

Colonialism was followed and further enhanced by globalization. Globalization, by promoting universal values and beliefs, has encouraged people to abandon their IK while adopting western knowledge (Haverkort et al., 2002; Tabaro, 2009). Globalization reduces diversity in all aspects of human life and leads to the adoption of new values. With globalization there is a convergence of behaviour, norms, and knowledge. People incorporate and reinterpret aspects of Western knowledge and practices into their traditions as part of globalization (Sillitoe, 1998). For instance, the people of Kaliro District have abandoned traditional diets and have adopted 'modern' diets (Tabuti et al., 2004; Termote et al., 2012). This is a natural progression following the mingling of cultures. When cultures meet, they borrow and share what they consider beneficial aspects from one another, while discarding harmful or non-beneficial practices. Of course, the adoption of other cultures may occur through coercion as happened, or is still happening, under colonialism.

Realizing the enormous contribution that IK makes to local livelihoods in the developing world many bodies including the World Bank, United Nations Environment Programme (UNEP) and Bioversity have come out strongly to promote and conserve this knowledge.

There are many different ways in which IK can be conserved. One important means of conserving, developing and promoting IK is by teaching it to the young. To do this well, local and relevant case studies need to be documented and generated. Examples of case studies relevant to IK revitalization are reported in Haverkort *et al.* (2002).

Opportunities for enhancing the value of IK

In Uganda, opportunities to support and promote IK exist. Firstly, there is a good institutional and legal framework for IK. Governmental and non-governmental bodies, as well as private organizations can be counted among the many institutions that exist to support IK. Governmental institutions responsible for cultural development include the Ministry of Gender, Labour and Social Development (MGLSD), the Natural Chemotherapeutic Research Institute (NCRI), the National Drug Authority (NDA), and the Uganda National Council for Science and Technology (UNCST). Among the different functions of the MGLSD we can highlight actions to promote culture and to register traditional healers. NCRI previously known as the Natural Chemotherapeutic Research Laboratory, was established soon after independence to validate TMs. NDA links with TM within its mandate of ensuring that human and veterinary medicines are of high quality, are safe and efficacious through the regulation and control of drug production, importation, distribution and use. UNCST, the organization responsible for coordinating research in Uganda, has been at the forefront of efforts to promote and conserve IK. In 1998, UNCST made a formal declaration in which it recognized the role of IK in improving and sustaining the lives of Ugandans and therefore called for the promotion of the IK systems of local communities to improve their social and economic statuses. UNCST also works to ensure that IK custodians share benefits with counterparts interested in developing products using IK.

Uganda has traditional and cultural institutions mandated to safeguard and perpetuate indigenous knowledge. Historically, Uganda had five major Kingdoms that included Bunyoro, Buganda, Ankole, Tooro and Busoga, as well as chiefdoms in several parts of the country. These institutions were abolished in 1967, but were re-instated in 1993 as symbols of history and mandated to promote people's cultural heritage (Atwooki, 2010).

Examples of non-governmental institutions associated with TM include the "Traditional and modern Health practitioners Together against AIDS and other diseases (THETA)". The mission of THETA is "to [increase] access to improved health care services through partnerships with traditional, biomedical and complementary health care systems and the larger community." THETA started as a clinical study with traditional healers in 1992. Currently, it is operating in 18 districts of Uganda. Another project is Promotion Des Médecines Traditionnelles (PROMETRA)-Uganda, an affiliate of PROMETRA International, which is involved in training healers in traditional practices of healing and promoting the conservation of useful plants.

In addition to these existing institutions, there are many policy texts and laws that have a bearing on IK in Uganda. Key among these are the Uganda National Culture Policy, the National Indigenous Knowledge Policy of the Uganda National Commission for Science and Technology (UNCST), the regulation on Access to Genetic Resources

and Benefit Sharing (ABS), the Constitution of Uganda, intellectual property right laws including trademark laws, and patent laws. The pivotal role of IK to sustainable livelihoods and national development is well-understood in Uganda, and the need to preserve, integrate, utilize and promote IK, is articulated in the Uganda National Culture Policy of 2006, sections 7.3. and 7.4 (MGLSD, 2006). Collectively, these policies and laws are there to promote IK and to ensure that bio-prospectors using IK develop products and share acquired benefits with IK owners.

Conclusions and recommendations

IK plays an important role in the well-being of Ugandans by guiding them to exploit natural resources. This form of knowledge is rapidly declining throughout the country because of factors that include inadequate documentation, and acculturation (or domination by western cultures). However, a good institutional and legal framework to support IK exists in Uganda. What is missing at present is a focused and coordinated plan of action to conserve and promote IK.

There is also a need, however, to demonstrate that IK can contribute to national development using local resources and skills. In this respect more documentation and dissemination of IK should be undertaken for the whole of Uganda. According to the Uganda National Culture Policy such documentation can achieve a number of outputs, including the archiving of important cultural capital and generation of hypotheses that will lead to validation and better use of IK. Documentation is ongoing in Uganda and much IK has been documented, e.g. many inventories of useful plant species have been carried out in Uganda. But many aspects of IK have not been documented, e.g. the spiritual aspects.

IK that has already been documented needs to be evaluated to confirm its efficacy and utility. For instance many potential users of traditional medicine are dissuaded from using it because they are doubtful that it is efficacious and safe to use. A key challenge to IK development and promotion through documentation and validation is that by reducing indigenous and traditional practices to the knowledge dimension and stripping away their cosmological context (the so-called backward beliefs), we risk losing a major source of IK meaningfulness for the local people and consequently lose IK in the community. Therefore the treatment of IK within the knowledge domain must be done in a holistic way that will include also difficult-to-validate aspects such spiritual beliefs.

There is also a need to raise awareness, through dissemination among the community, of the most appropriate knowledge and technologies, and the benefits of adopting them. Lastly, strategies must be developed for mainstreaming IK and technologies in development actions and the national teaching curriculum at all levels of instruction from the primary level through to secondary and university level.

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