# Community Development in the Rural Areas through Traditional Indigenous Knowledge

**Barigye Godfrey[1], Prof. Dr. Kaaya Siraje[2*]**

[1]*Kabale University p.o.box 317 Kabale Uganda*

[2]*University of Technology and Arts of Byumba (UTAB), Deputy Vice Chancellor (Academics and Research), Rwanda*

**\*Corresponding Author: *Prof. Dr. Kaaya Siraje,* *University of Technology and Arts of Byumba (UTAB), Deputy Vice Chancellor (Academics and Research), Rwanda***

**Abstract:** *The desire to change the community is buttressed in its sustainability and equitability through imperative and rationale of community governance and knowledge-ability. The rural setting is characterized by the agrarian setting: peasants, pastoralists, fishermen, hunters and gatherers. These people depend on land practices for sustenance through agriculture (crop and animals). Also, the rural area is seen as the place where the elderly, disabled, victims of war, unemployed, drug addicts and those with poor political governance reside. Such vulnerability reflects lack of buffers against contingencies to social conventions, disasters, physical incapacity, unproductivity and exploitation; low living people/ the marginalized. The paradigm shift in practice of activities for community change in the rural setting entails appraisal, analysis, planning, experimenting, implementing, monitoring and evaluation that leads to sustainable development through and use of traditional indigenous knowledge. Community mobilization brings together people to pursue common interests by creating a sense of unity, ownership and self–control. The process gets people to overcome their differences, to begin dialogue on an equal basis and to determine issues that affect their community, enabling communities especially the poor and other marginalized groups to participate, negotiate, demand, change and hold accountable institutions that affect their livelihoods and well-being, ease access to community- driven development. Increased indigenous technologies, approaches and methods in the rural areas improve peoples' visual representation of their knowledge, judgment and preference. They tend to increase commitment and enthusiasm to generate consensus. This progressive change is synonymous with sustainable development designed to improve the economic and social means that the total stock of environment (resources) be put into use in socio-economic and other related aspects to satisfy human needs.*

**Keywords:** *Community Development, Indigenous Knowledge, Peace and Security*

## 1. INTRODUCTION

### 1.1. Key Ideas and Concepts

#### 1.1.1. Indigenous Knowledge

Indigenous knowledge also referred to as local knowledge, is unique to a given culture or society (Warren, 1987). It is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture (Rajasekaran, 1993). Traditional knowledge (TK), Indigenous knowledge (IK), Traditional environmental knowledge (TEK) and local knowledge (LK) generally refer to knowledge systems embedded in the cultural traditions of regional, indigenous, or local communities. Traditional knowledge includes types of knowledge about traditional technologies of subsistence (e.g. tools and techniques for hunting or agriculture), midwifery, ethno-botany and ecological knowledge, celestial navigation, ethno-astronomy, etc. These kinds of knowledge are crucial for the subsistence and survival and are generally based on accumulations of empirical observation and interaction with the environment.

Haverkort (1991) argues that indigenous knowledge is the actual knowledge of a given population that shows the experiences of traditions that have modern technologies. The custodians of indigenous

knowledge are local people (farmers, landless laborers, women, rural artisans, and cattle keepers): these people are well informed about their own situations and resources, impacts on their system (Butler and Waud, 1990).

In many cases, traditional knowledge has been orally passed for generations from person to person. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of traditional knowledge are expressed through different means (Carya, Deepak and Shrivastava, 2008).

Rural peoples' knowledge (indigenous) and values have been variously described as peoples' science, ethno-science, folk-ecology and village science (Barker 1997:2-5). This refers to the whole system that includes concepts, beliefs and perceptions: the processes whereby the storm of knowledge is acquired, augmented, stored and transmitted. Rural peoples' knowledge focus on farming practices, local technologies, environmental knowledge, social conventions and human rights (poverty and vulnerability), the beliefs, values, attitudes (culture) and politics against leadership of duress, coercion and hegemony. The question still remains -*Whose knowledge? Is it the outside biases, culture, domination, civilization, western development or technologies or indigenous knowledge that affect sustainable development of local people for their peace and security?*

### 1.1.2. A Community

People's knowledge is found in the communities. The notion "community" is not differentiated and issues of hierarchy are minimized. A community refers to a set of people with common interest and implies that there are more commonalities than differences, there is homogeneity and the concept of standardization is indispensible in the peoples' setting.

### 1.1.3. Community Change

It is argued that communities no longer exist, classification is primal and is reflected by material possession and the position one holds. Such classifications divide the community due to modernization (capitalism and globalization). There are definitions of politics in the community, commercialization and production of classes to re-invent peoples' living structure into societies with sharp differentiations. Thus, the community change in the rural areas requires transformation premised on the desire of fundamental attitudes of life and work to the social, cultural and political institutions (development in terms of progress) that enhance peace to fulfill people's desires based on their socio-economic needs.

### 1.1.4. Rural Areas

These are commonly referred to areas re-invented by the outsiders (colonialists) to mean outside the urban setting (the countryside). It is by no means only the international system of knowledge and prestige that holds the belief (Chambers 1983:17). The rural area setting is characterized by the agrarian setting: peasants, pastoralists, fishermen, hunters and gatherers. These people depend on land practices for sustenance through agriculture (crop and animals). Also, the rural area is seen as the place where the elderly, disabled, victims of war, unemployed, drug addicts and those with poor political governance reside. Such vulnerability reflects lack of buffers against contingencies to social conventions, disasters, physical incapacity, unproductivity and exploitation; low living people/ the marginalized. Such areas require egalitarianism embedded in their owned peace and security that promotes their livelihood posterity.

### 1.1.5. Culture

Culture is the characteristics of a particular group of people, defined by everything from language, religion, cuisine, social habits, music and arts. World over, the relationships between Indigenous peoples and Western groups of society differ: however, there is a lot enthusiasm and synergy for culture/heritage development, evolution and ideological organization to sustain peace and security in the African setting. Hence, there is differing viewpoints based on geographic locations around the world which needs further investigation. There is an obvious need to link, collate and consider culture findings in a global context based on case studies such as Faulkner & Lewincamp (2003), and Nakata, M., Byrne, A., & Nakata, V. (2005).
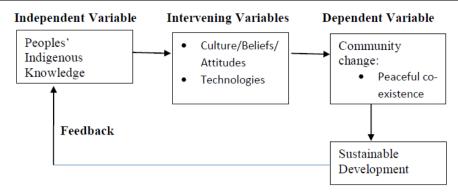
**Figure1.1.** *Conceptual Framework for Sustainable Community Development*

**Source:** Research, 2013

### 1.2. Key Question(s)

- Whose knowledge contributes to peace and secures African community changes in the rural areas?

- Is it outside knowledge (biased), cross-culture, civilization (modernity), neoliberalism, globalization, technology or indigenous knowledge that makes rural peoples' knowledge develop to bring them to realm of peaceful existence?

## 2. PERSPECTIVES OF COMMUNITY CHANGE IN THE RURAL AREAS

The desirability to change the community is buttressed in its sustainability and equitability through imperative and rationale of community governance and knowledge- ability. Therefore, Chambers (1983:17) is rightly on track to argue that the development in the rural setting is a strategy to enable groups of people to gain for themselves and their children more of what they want and need. It involves helping the poorest among those who seek a livelihood in their rural areas to demand and control more of their benefits and development (the groups include small scale farmers, tenants and the landless).

The paradigm shift in practice of activities for community change in the rural setting entails appraisal, analysis, planning, experimenting, implementing, monitoring and evaluation that leads to sustainable development. Community mobilization brings together (egalitarianism) people to pursue common interests by creating a sense of unity, ownership and self–control. The process gets people to overcome their differences, to begin dialogue on an equal basis and to determine issues that affect their community, enabling communities especially the poor and other marginalized groups to participate, negotiate, demand, change and hold accountable institutions that affect their livelihoods and well-being, ease access to community- driven development.

Increased indigenous technologies, approaches and methods in the rural areas improve peoples' visual representation of their knowledge, judgment and preference. They tend to increase commitment and enthusiasm to generate consensus. This progressive change is synonymous with sustainable development designed to improve the economic and social means that the total stock of environment (resources) be put into use in socio-economic and other related aspects to satisfy human needs.

Knowledge is always purposively, ideologically and pragmatically constructed. No knowledge is there for the sake of knowledge! Any person (s), group (s), class, nation or state dominating another or others cannot do so indefinitely. The use of force and dominance has to be withdrawn or reduced. Other means are then sought: politics, ideologies and socialization are used to replace force. The shift from use of force is argued by Antonio Gramscian (1891–1937), when explaining hegemony. Other mechanisms utilize rewards, promises, praises, gifts (largesse) etc. The Machiavellian construct theory and knowledge that emphasize and encourages relations (discourage any initiatives such as thinking and dissensions amongst the subalterns). Thereby create continuous mechanism for longevity of the existing social relations to promote peace, security and socio-economic development.

The failure of such dominance (modernistic ideologies) create and raise organic intellectualism amongst the subalterns (bringing to new theorization of emancipation/ liberation because there is understanding of their new societies, their problems, energies, weaknesses and potentials of their new

emancipatory projects) who constitute the leadership and community membership to mobilize resources and create leadership to promote peace.

## 3. GAP IN RURAL DEVELOPMENT

Reforms instituted in different rural settings need to involve local people so as not to resist change for their development. The tendency to de-agrarianize the rural people and not solving their agrarian issues (land, tools of production, labour inputs, diseases etc.) has continuously created differences. The taking away of characteristics of agriculture from the rural population (destroying the environment through mining and deforestation, etc.) makes people lose their culture setting. An example is the use of tractors in agriculture mechanization and promotion of importation of hand hoes that can easily be made by local black-smiths (Abaheesi) i.e in Kabale (Bubare), Buhweju etc.

Dangers of the latest solutions to community change and rural development are through genetic engineering and biotechnology. The chemicalization of agriculture through green revolution and transformation of the seed by biotechnologies as to increase the economic value is not a neutral economic process but a political issue to negate the indigenous knowledge ability. The shift-control over biological diversity from local peasants to trans-national corporations and changes in biological systems to complete systems reproducing themselves into raw materials change the role of ecology (Shiva: 1998). The issue of "seedocracy" based on the logic of the 'marketization principles' by capitalists brings patent protection for modified life-forms that raise political questions about ownership and control of genetic resources and affects the rural setting. This suffocates the efforts of communities to change positively in their agrarian setting. The fertilization of the laboratory gene is not based on nature but on political and economic power which violate the integrity of life and the common property rights of the people in the rural areas, thus that infringe on their setting and peaceful co-existence.

Example:

The use of local seeds, herbs/ local knowledge is to fight animal and plant diseases, and zoonotic diseases (animal to human and human to plants diseases). The people in the inter-lacustrine region have vast knowledge in the use of selection of seeds (sorghum/omugusha, millet/oburo etc ) that can have high yields, resist crop diseases and vagaries of weather. They as well can select animal species that give high yield in milk and meat production: the Bahiima of Ankore, are best known on this practice of animal selection locally known as "Okucyoka ente/ eitsyo/selection of a breed in herd." These practices bring better provision of social goods and will always promote social cohesion in their communities.

The modernization theorist Gerald Graff (1975), reduce development (community change) to a process of diffusion of foreign capital and knowledge while relegating the locals to production of raw materials for export and importation of foreign technology and manufactured goods. This has led to a negative effect on the history of the African people and disrupts their development programs. In the case of Bantu tribes, the results suffocate and or destruct the indigenous technology and knowledge.

The modernization discourse does not consider the interests of the local communities. It promotes a culture of subservience and dependence, depriving the population of their local initiatives and power of imagination or innovation thereby creating an anti- nationalist culture and stunts knowledge of production, local development and progress. All these create in communities a tendency of deprivation through the brain drain where people begin to migrate to the source of capital and loans (McMicheal: 1995). The failures of modernization discourse and the problems that merge from its implementation confirm Walter Rodney's explanation that development can come from within but not from without.

The discourse of under-development or dependence theory (Tausch, 2003) emerged as a critique to modern theory. It identifies imperialism as the cause of African crisis. It is erroneous conceptually, methodologically and empirically to argue that all people in the so called third world were exploited and oppressed by imperialism the same way. Much as the dependency theory is anti-dialectical, ahistorical and is externally focused in its methodology, it cannot help comprehend politics in the African setting. However, this does not be-little its major contribution in identifying the locus and role of imperialism. The current political leadership in Greater Lakes Region lacks the use of inclusion of African administration setting: a typical example is the use of Structural Adjustment programmes of

Decentralization devoid of the African setting. The Buganda Kingdom had and has today better decentralized governance: from the King (Kabaka), Prime Minister (Katikiro), down to County leaders (Saza chiefs), Sub-county Chiefs (Gombolola chiefs) and Parish level (Omukungu chief). This leadership is locally selected and understood to serve the purpose and social cohesion of the people: it promotes peace and unity for the leadership is nearer to the people.

Commercialization of traditional knowledge (spirituality, medicinal and culture approaches):

- Spirituality in the use art and craft to makes mental telepathies / connections to the living dead and the sky-powers. Today the traditional healers are using their knowledge and abilities to tap the spiritual worldly powers to heal diseases, give riches and renewal of life. The sick pay a lot to have such services and there is no legality of that practice. Examples of ritual murders are too many in the Greater Lakes Region; the sacrifice of human beings to appease gods and defend individuals riches/ properties etc (The case of Kajubi in Uganda and other related cases of ritual murders; New Vision published on April 21, 2013 and April 25, 2013 show Arua women leaders undressing a witchdoctor and a case of ritual murder where four men are to spend 45 years in prison).

- Medicine: Plant and animal parts are used to cure and prevent ailments and diseases. Traditional healers have made sacrifices of animals and human parts to appease the gods as to provide healing and blessings. The commercialization of medicine made from plants to heal and cure human and animal ailments is facing a lot of challenges to a greater extent it is facing criticism and resistance from the Western World technology due to lack of scientific proof. The local herbalists and medicine persons lack the expertise and some have little knowledge on the use of such medicine but insist to medicate such in order to reap money from their patients. There is a sprung of herbalists and a lot of printed media and publicity of their power to cure and heal various diseases that include even AIDS/HIV: they inform the society that they have ability to cure "every disease".

- Culture beliefs have brought problems in regard to belief and attitude on their social relations e.g causing social differences in governance as a result on socio-economic benefits. The social differences are labeling others as inferior to others and this has caused drifts in ownership of property and the people's governance. The causes of social conflicts in Uganda (civil wars after Independence in 1962), Rwanda (the genocide syndrome from 1950s to 1990s), Kenya (political riots of Kibaki presidential elections in 2007), Democratic Republic of Congo ( Post Mubutu, Kabira and present M23 rebels conflicts) and Sudan (the tribal and economic imbalance between Southern and Northern Sudan leading to a new African State of Southern Sudan in 2011) have resulted from tribal undermining and assigning of specific roles and even rights to be enjoyed by specific social groupings.

There is also ownership of who owns the knowledge rights defined in the context of intellectual property rights: this is not a concept recognized by indigenous peoples. As much of traditional knowledge has never been protected under intellectual property rights, they cannot be said to have entered any public domain. On this point the Tulalip Tribes of Washington state has commented that "...open sharing does not automatically confer a right to use the knowledge (of indigenous people)... traditional cultural expressions are not in the public domain because indigenous peoples have failed to take the steps necessary to protect the knowledge in the Western intellectual property system, but from a failure of governments and citizens to recognize and respect the customary laws regulating their use." Equally however, the idea of restricting the use of publicly available information without clear notice and justification is regarded by many in developed nations as unethical as well as impractical.

The view of traditional knowledge as past romanticism is a major obstacle to sustainable development (a necessary starting point and critical component of a cultural alternative to modernization). There are inherent limitations in indigenous knowledge approaches and systems strengthened by the attitudes of outsiders that indigenous knowledge systems are (Reijntjes *et al.*, 1992; Rajasekaran, 1993):

- primitive, unproductive and irrelevant.

- of oral in nature

- not formally recorded and documented

- only a part of the community's indigenous knowledge systems

- implicit within local people's practices, actions, and reactions, rather than a conscious resource

- rarely recall information on quantitative data pertaining to their indigenous knowledge systems

The loss and non-utilization of indigenous knowledge which results in the inefficient allocation of resources and manpower to inappropriate planning strategies have done little to alleviate rural poverty. With little contact with rural people, planning experts and state functionaries have attempted to implement programs which do not meet the goals of rural people, or affect the structures and processes that perpetuate rural poverty. Human and natural resources in rural areas have remained inefficiently used or not used at all. There is little congruence between planning objectives and realities facing the rural people. Planners think they know what is good for these `poor', `backward', `ignorant', and `primitive' people (Rajasekaran, 1993:35).

## 4. CONTRIBUTION OF INDIGENOUS KNOWLEDGE TO PEACEFUL SOCIETAL CO-EXISTENCE

In the last two decades from the early 1990's, there has been a global civil outcry on the levels of indigenous knowledge to be recommended for a change in development policy that allow direct community participation and respect of local indigenous aspirations. Various indigenous people have successfully petitioned United Nations to establish a Working Group on Indigenous Populations. This led to a greater public and governmental recognition on land and other resource rights that need to be addressed collectively as distinct from the individual rights of existing human rights law. The collective human rights of indigenous and local communities have been increasingly recognized - such as in the International Labor Organization (ILO) Convention 169 (1989) and the Declaration on the Rights of Indigenous Peoples (2007). The Rio Declaration (1992), endorsed by the presidents and ministers of the majority of the countries of the world, recognized indigenous and local communities as distinct groups with special concerns that should be addressed by states.

Indigenous knowledge is not static: it is dynamic and changing through various indigenous approaches and mechanisms of creativity and innovativeness as well as through contact with other local and international knowledge systems (Warren, 1991). Such indigenous knowledge systems appear simplistic to outsiders but they represent approaches to ensure minimal livelihoods for local people. Indigenous knowledge systems are elaborative; they are adaptive to local cultural and environmental conditions (Warren, 1987). Indigenous knowledge systems are focused to the needs of local people and the quality and quantity of available resources (Pretty and Sandbrook, 1991). They include a variety of cultural norms, social roles, or physical conditions. Their output/efficiency lies in the ability to adapt to changing circumstances (Norgaard, 1984: 7).

Statements on indigenous knowledge systems are invaluable, diversified, and comprehensive, although this is not always the perception among outsiders (Thurston, 1992): they are often overlooked by western scientific research and development because of their oral tradition (Warren, 1990). Hence, by facilitating and synergizing these systems, outsiders can understand better the basis for decision-making within a given society. There should be comparison and contrasting of indigenous knowledge systems with the scientific technologies of the outsiders e.g International Agricultural Research and Development Centers (IARDCs) and regional research stations, to see where technologies can be utilized to improve upon local systems (Warren, 1987).

Indigenous knowledge has received uplift in terms of scientific and medical knowledge World-wide (Nakata 2002; Reddy 2006). The human scientists encourage evaluation of social and cultural diversity (Agrawal, 1995). This recent evolution of ideology is termed by some to be a process of 'de-colonization' and makes indigenous people to retake control of misappropriated items from the past. There is a compromise or step to rejuvenate indigenous cultural information with indigenous communities (Smith, 1999).

Indigenous peoples and local communities resist the use of traditional symbols and designs, derivative arts and crafts; the use or modification of traditional songs; the patenting of traditional uses of medicinal plants, and the copyrighting and distribution of traditional stories.

There should be approaches to protect traditional knowledge:

- Form of cultural heritage

- Collective human right

- Use of existing knowledge

Currently, few nations offer explicit protection for traditional knowledge. However, some have been willing to investigate how existing intellectual property mechanisms can protect traditional knowledge. Others believe that an intellectual property approach may work, but will require more radical and novel forms of intellectual property law ("sui generis rights"). Others believe that the intellectual property system uses concepts and terms that are incompatible with traditional cultural concepts, and favors the commercialization of their traditions, which they generally resist. Many have argued that the form of protection should refer to collective human rights to protect their distinct identities, religions and cultural heritage.

Literary and artistic works based upon, derived from or inspired by traditional culture or folklore may incorporate new elements or expressions. Hence these works may be "new" works with a living and identifiable creator, or creators. Such contemporary works may include a new interpretation, arrangement, adaptation or collection of pre-existing cultural heritage that is in the public domain. Traditional culture or folklore may also be "re-packaged" in digital formats, or restoration and colorization.

The liberal democratic ideal that information is for all and access should be open, versus the ideology from an Indigenous point of view that some knowledge should be treated more protectively as suggested by Sullivan (2007). Other Indigenous scholars such as Nakata investigate this ideological area when West-meets-Indigenous which is immensely interesting and thought provoking area of information science to letting people use material that contains sacred, secret, or otherwise sensitive material.

The agrarian setting empowers itself to be reproduced in its localities. It includes giving land, tools of production, credit or loan, seeds etc. The peasantry mode of production cannot be wished away but be modified in due course. The in-depth knowledge on the peasantry differentiations helps to understand agrarianism and its basis for community change. The continuous process that creates permanent differences in property relations or ownership has risen. Such class levels or relationships are realized at levels of production in the rural setting (peasantry situation). Such classes are not permanent but dynamic and form the core of community change. These include capitalist farmers, kulaks, rich peasants, middle class peasants, poor peasants, landless peasants, rural proletariat class, absentee landlords, pastoralists etc.

The problems associated with these peasantry classes once researched contribute to knowledge on rural development. The definition of classes is not a panacea to development but what matters is the agrarian question; the reforms in changing the ownership over land and new methods of production; the revolution to change the community into a society for betterment through organic intellectualism. The desirability for independence by a large section of people sharing common history, culture, language and the transformation strategy is paramount to rural-based change.

Development is not an isolated entity. It entails and includes various parties. Community change is not only by outsiders' knowledge, the insiders (rural communities) contribute much to initiate and implement their projects for their development.

The diversity of indigenous knowledge systems is adaptive skills and time-tested (Thrupp, 1989; Venkatratnam, 1990). These are strategies and techniques developed by local people to cope with the changes in the socio-cultural and environmental conditions. Their practices are accumulated to constant experimentation and innovation. They make trial-and-error problem-solving approaches by groups of people with an objective to meet the challenges they face in their local environments (Roling and Engel, 1988): the decision-making skills of local people that draw upon the resources they have at hand.

Policy actions should give attention to actively preserve the diversity of indigenous knowledge. This can be done by documenting, incorporating, and disseminating indigenous knowledge, and by creating awareness and supporting projects among local populations (cultural museum e.g. Igongo Cultural Center in Mbarara, Uganda to preserve and promote cultural heritage etc). Establishing a

national indigenous knowledge resource center forms the starting point for the entire framework of incorporating indigenous knowledge systems (Warren, 1992b). The resource persons in the national indigenous knowledge systems resource center will provide training on the methodologies for recording indigenous knowledge systems. For example: the concept of establishing national resource centers was developed by Professor Michael Warren, Director of the Center for Indigenous knowledge for Agriculture and Rural Development (CIKARD). He has pioneered the establishment of 11 national indigenous knowledge resource centers so far in Nigeria, Mexico, Philippines, Indonesia, Ghana, Kenya, Sri Lanka, the Netherlands, Brazil, Burkina Faso, and Germany. The functions of national indigenous knowledge systems resource centers include (Warren, 1992b):

- Provide a national data management function where published and unpublished information on indigenous knowledge are systematically documented for use by development practitioners

- Design training materials on the methodologies for recording indigenous knowledge systems for use in national training institutes and universities

- Establish a link between the rural people of a country who are the originators of indigenous knowledge and the development community

- Facilitate the active participation of rural people in the conservation, utilization, and dissemination of their specialized knowledge through in situ knowledge banks, involvement in research and development activities, farmer-to-farmer training, and farmer consultancies

- Act as a two-way conduit between the indigenous knowledge-based informal research and development systems and formal research.

Hence, indigenous knowledge is a key to successful participation of local people in agricultural and rural development programs.

When the rural people are not involved (non-participatory theory), they see development as alien and tend to resist and desist the course of change. Thus, participation of the rural people enhances their positive attitude for progressive development.

Indigenous knowledge helps in conflict resolution: for example using Ubudehe, Gacaca , Ubwunzi approaches in Rwanda, there is identification of an individual's problems and using the local peoples' knowledge on the situation, a solution is sought amicably and to the satisfaction of the community/society. In the Uganda communities, land wrangles have been historically settled by calling village elders and a specific traditional type of plant (omugorora) is put along the agreed boundary line of separation: whenever that plant is seen traditionally, one knows that is a boundary mark. It is better than using the Geographical Information System (GIS) mark stones that may not easily be allocated and can fuel conflict than solving disputes quickly. Indigenous organizations are crucial for sustainable resource use and development because they can act as institutions for resource management and control. They enforce rules, provide incentives, and apply penalties for eliciting behavior conducive to rational and effective use of local resources. Local associations are embedded in local social structures and characterized by voluntary, personality, face-to-face transactions; hence, they tend to be highly participatory and reflect well with their members' interests (Cook and Grut, 1989). Leaders of local organizations have a comprehensive understanding of existing strengths and weaknesses in their own organizations and are exceptionally open to trying new management and planning mechanisms for development (Warren, 1992c).

Indigenous organizations also play a developmental function within the community. Strengthening the capacity of these existing organizations can greatly facilitate sustainable approaches to development (Warren, 1992c; Atteh, 1992). Identifying and strengthening indigenous organizations are challenging tasks for sustainable development in villages. Non-governmental organizations (NGOs) are found to play significant roles in strengthening informal local networks as well as indigenous organizations of local people. NGOs can participate in informal as well as formal meetings of the indigenous organization to identify the constraints faced by the organizations. Followed by this, NGOs can work with individual members to identify their own perceptions about their problems. Examples of constraints in indigenous organizations include the following:

- Conflicts due to social groupings in the organization, e.g tribes

- Influence of power brokers on the decision-making systems of the organization, e.g large-scale farmers influence the production of the ordinary people

- Non-availability of sufficient funds to run the organization

- Cultural change inhibits the growth of some organizations, e.g younger generations of politicians who have attained formal education are not willing to become members of the village-level social grouping and they always dictate their wishes to the majority rural people.

## 5. CONCLUSION

There is much to be learned from indigenous knowledge approaches and systems of local people: interactive technology dissemination is feasible, efficient, and cost-effective when learnt from village-level experts. The devaluing of indigenous knowledge systems as "low productive," "primitive," and "old" is no longer a useful attitude: there should be an established national indigenous knowledge resource center for strengthening the research deeper into important knowledge that will support social development. The change in the attitudes and behaviors of researchers and leaders stimulate the process of incorporating indigenous knowledge systems into day to day life activities: for example keeping indigenous knowledge in the process of developing technologies would result in a basket of sustainable technological options rather than fixed packages that enhance peace and sustainable development. When the stakeholders use indigenous communication channels, it increases the rate of dissemination and utilization of technologies that are built on indigenous knowledge: this easily solves community conflicts and promotes sustainable development.

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