The Value of Indigenous Knowledge in Development Programs Concerning Somali Pastoralists and Their Camels

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As more development is being done overseas through agencies such as the World Bank and USAID, extensionists, scientists, and researchers have recognized the value of indigenous knowledge. Indigenous knowledge is the knowledge that helps a society make decisions about activities, such as agriculture and education, that are acceptable to their lifeways. Indigenous knowledge, along with western- based knowledge, helps create development solutions that are culturally acceptable to the society being helped. In the past, such knowledge has been ignored and development solutions have been created that were not economically feasible or culturally acceptable for the society being aided. Due to the efforts of the Center for Indigenous Knowledge for Agriculture and Rural Development (CIKARD), a broad and extensive library of monographs, books, papers, and journal articles on indigenous knowledge now exists.

When western scientific ideas are paired with indigenous knowledge systems, researchers going overseas or working with Native Americans can prepare an initial development plan that has a complete picture. This picture includes an attempt to understand that the culture being aided is different from western culture. Therefore a Somali's idea of a successful solution may be very different from a western scientist's idea of success. CIKARD provides researchers with the materials to assist in greater resolution of this picture.

This manuscript focuses on pairing indigenous knowledge with western research in regards to camel pastoralists in Somalia. This paper examines R. T. Wilson's "Husbandry and Management" and "Productivity" chapters in *The Camel* (1984) and *The Camel in Somali Oral Traditions* by Axmed Cali Abokar (1987) as part of a development solution.

Discussion will cover: 1) what constitutes indigenous knowledge; 2) the basic key components of accepted indigenous innovations; 3) why indigenous knowledge is so important to development research; 4) background information on Somalia and Somali Pastoralists; 5) Wilson's husbandry chapter; 6) Abokar's paper on Somali oral traditions; and 7) how the indigenous knowledge found in Abokar's manscript influences Wilson's information in a development situation.

Indigenous Knowledge

As mentioned earlier, knowledge that is the basis for agriculture, environmental conservation, education, and many other activities is known as indigenous, or local, knowledge. Indigenous knowledge is generally transmitted across generations by an oral tradition and is an aspect of every human community (Puffer, 1994: 20). Because of the broad definition of indigenous knowledge, not only do Somali pastoralists have indigenous knowledge, but so do Native Americans in the United States.

Local knowledge is not always understood because it is an ingrained part of a culture's lifeways. Indigenous knowledge is part experience, part custom, religion, community laws, and the attitudes of a society that concerns their lives and the lives of other living things. Development professionals began recognizing the value of this knowledge within the last ten years.

Local knowledge has been ignored because of the ideas passed on from Nineteenth century colonialism and social science that indigenous knowledge is primitive, simple and static. In his article, "A Mail-order Catalog of Indigenous Knowledge," John Herbert discusses the recent explosion of indigenous knowledge resources and lists several of the 19 indigenous knowledge centers that have gone into operation worldwide in the last seven years. Yet, Herbert writes:

What little is recorded in black and white about it [indigenous knowledge] is often only found in anthropologists' anecdotes or mere mentions-in-passing in scientific dissertations on tropical agriculture, forestry, or veterinary medicine (1993: 33).

I disagree with Herbert for three basic reasons. The catalogued library at CIKARD, at present, contains over 4,000 titles concerning indigenous knowledge. In the last two months, the library grew from over 3,000 titles to its current number of 4200 and new material for the library arrives every day.

Next, in writing abstracts for CIKARD, articles exist which date back to the early part of this century (Fulahn, 1936) and beyond. This literature includes work from such researchers as Frank Hamilton Cushing. Cushing's *Zuñi* describes his experiences of being accepted as part of the Zuñi tribe. Cushing worked for one of the first field expeditions of the Smithsonian Institution's Bureau of Ethnology (Eggan, 1979: xi). Articles and books such as these show that indigenous knowledge is not a new kind of knowledge that just suddenly appeared.

Finally, the statement of the anecdotal nature of current scientific research seems to be consistent with the ideas of Nineteenth century colonialism and social science, except Herbert is maligning the work of present day scientists by saying that there are only anecdotes in their work. Studies by Warren, Pawluk et al., Gradwohl, Rajasekaran et al., Mathias-Mundy, McCorkle, Abokar and others listed in the bibliography of this manuscript, help to disprove the Nineteenth century idea of indigenous knowledge being primitive, simple, and static. These articles also disprove Herbert's idea that these are just anecdotes in passing. The authors of these articles represent academic disciplines such as horticulture, anthropology, literary studies, wildlife management, agronomy, forestry, and economics.

The Key Components of Accepted Indigenous Innovations

Innovations that become permanent local knowledge often have several common features. The more of these features that are present, the more likely the innovation is to be accepted. To become a working solution, innovations must have some of these features:

- reduces risk
- generates income
- is affordable
- is readily available
- saves labor
- fits into current practices
- is easy to understand
- produces readily visible results within a reasonable amount of time
- meets multiple needs
- is attested by evidence from several sources, including those most trusted in the community
- take into consideration things such as taste preferences, and nutritional beliefs (McCorkle, 1994: 35-36).

By research, communication with their clients, and incorporating as many of these features as possible, extensionists create solutions that work and help build a rapport between themselves and a given culture.

Why is Indigenous Knowledge so Important to Development Research?

Indigenous knowledge is important for several reasons. First, local knowledge can help find the best solution to a development solution. Second, familiarity can help extensionists and researchers understand and communicate better with local people. Third, indigenous knowledge represents the successful ways in which people have dealt with their environments.

The theme of utilizing existing knowledge to create appropriate solutions occurs repeatedly throughout the development literature. Using indigenous knowledge can help find the best solutions for a culture. The solutions created must be economically and culturally acceptable to the society being aided.

McCorkle's Farmer *Innovation in Niger* illustrates this idea. Niger farmers often had uncomplimentary things to say about the extension service in their area because it would not extend credit for agricultural inputs, yet the service would order the farmers to pay for and plant experimental seed that was unknown and not requested. A passage from McCorkle's field notes sums up the feelings many developing cultures have towards extension workers and scientists, "The extension service is not 'honest' because it refuses to work with the realities of our village" (1994: 32).

Yet when an innovation has parallels with indigenous practices, there is often widespread acceptance of the innovation. Earlier, McCorkle writes about the successful adaptation of seed dressings in Zarma villages. The *sarkinoma*--or traditional chief of agriculture in these villages--often sold powdered seed dressing along with powerful incantations to ensure a good crop. This

innovation worked because West Africans consider powders to be an ancient and ubiquitous form of magical and medicinal treatment throughout West Africa (1994: 12).

Possibly the most basic answer to the question of why indigenous knowledge is important is that it shows that the extensionist has a clear understanding of the present situation and allows for better communication between the scientist and local people. With familiarity of cultural customs, a rapport can be built between the scientist and people that includes respect. This mutual respect fosters a relationship as partners who are looking for a solution together and encourages participation on a local level. One has to wonder if the Niger farmers described by McCorkle would have felt much better about their extension service if the extensionists would have taken the time to understand the realities of the farmers and the village they lived in.

Indigenous knowledge may suggest alternative techniques to extensionists, development professionals, and scientists. These techniques apply to the local system, but may be utilized in other societies (Puffer, 1994: 21). Another important aspect to take into account is that solutions that are not acceptable can lead to the waste of millions of development dollars. This sort of prevention is especially important in these times of threatened cuts in spending in the development programs.

Background Information on Somalia and the Somali Pastoralists

Somalia, located on the Eastern Horn of Africa, is an arid land. The country covers 637,540 square kilometers and is isolated from neighboring countries by large areas of semi-desert. Somalia has a topography that primarily consists of plateaus and plains except for rugged east-west mountain ranges in the far north.

Somalia is continuously hot except at the higher elevations in the north. Two wet seasons bring erratic rainfall. The first wet season runs from April to June and the second wet season is in October and November. Because the average rainfall is under 500 millimeters in much of the country, droughts are frequent. Only the Jubba River in the wetter southwest part of the country has permanent water flow. The Shabeelle River, also in the southwest part of the country, flows about seven months out of the year. The interrivine area is the only permanently irrigated section on the Horn that allows for extensive and continuous agricultural production (Cahill, 1980: 17). Bananas, sugar and maize are the main crops.

Somalia has an estimated population of eight million people. The Somali, or Samaal, consist of six major clan-families. Four of these clan-families are predominantly pastoral and represent about 70 percent of the population. The other two clan-families are agricultural and make up 20 percent of the population. The other 10 percent of the population consists of urban dwellers and marginal non- Samaal groups (Federal Research Division, 1993: xiii-xxi). The majority raise livestock and live a nomadic lifestyle because they are looking for water and pastures for their herds.

Somali is the main language spoken by these clans. Somalia did not have an official alphabet until 1973. There are several dialects of Somali. Common Somali is the most widely used.

Because most of Somalia's population are Sunni Muslims (less than 1 percent of the population is Christian), Arabic is used in religious contexts and there are no pictorial art forms.

R. T. Wilson's "Husbandry and Management" and "Productivity" Chapters from *The Camel*

Wilson's chapters from The Camel give a broad survey of camel husbandry, management, and productivity. These chapters also provide the part of the technical information that a development scientist would need. In order to better understand what Wilson is talking about, the terms husbandry, management and productivity need to be defined. Husbandry is the labor it takes to maintain a herd. Management is the coordination of breeding, herd movement, herd structure, and diet. Productivity explores what goods and work are provided by the livestock animal. In these two chapters, Wilson looks at herd structures, labor required to do camel herding, examples of traditional herd management; traditional husbandry, carrying capacity; stocking rates; aspects of modern management; and camels' production capacities for milk, meat, and work.

Wilson includes some limited ethnographic information about cultures that utilize camels on a regular basis. As shown by the topics listed above, the main thrust is a more scientific look at camel husbandry, management, and productivity. These chapters include mostly technical information about camels as livestock and beasts of burden. The chapters do not have enough ethnographic information to grasp the cultural importance of camels in Somali and how new solutions could be presented.

Abokar's *The Camel in Somali Oral Tradition*

Abokar's text provides the cultural information for the merger of technology and science in the development work. Abokar's manuscript has two parts. The introduction, written by Tiiariitta Hjort, provides the reader with an extensive cultural description of the Somali. This description includes information about the development of oral tradition and the role it plays in Somali society today; the roles of camels in Somali society; and how camels are reflected in the oral literature.

Abokar's section of the manuscript begins with detailed animal husbandry and economic information regarding the camel. He shows how this information is presented in the oral tradition of the Somali. Abokar provides the reader with a translation of the particular poem or proverb he is examining and then discusses the piece's cultural context. Abokar then focuses on the social uses and camel husbandry within the Somali lifestyle. He again illustrates his points with appropriate pieces.

Unfortunately, upon closer examination of Abokar's manuscript, gaps in the information were found. These gaps were caused by errors in photocopying when the manuscript was accessioned into the CIKARD library. These gaps encompass critical information in discussing the camel as a cause of conflict and most of the discussion of the new oral literature and the camel. Only part of the "New Oral Literature and the Camel" section is present. The available section of the text

discusses the roles that outside influences have played in the last 100 years in the oral literature and the role camels have taken on in the literature

Implications of how Abokar's Manuscript Influences Wilson's Information

By merging the information in both manuscripts (and others as well), a researcher gets a complete picture of what is appropriate to Somali culture and how to present possible development solutions. The goal in any development engagement is to create a cycle that encourages experimentation and communication.

One of the first realizations a development scientist must have is that material possessions are limited and a rich oral tradition developed because of the nomadic lifestyle. The scientist must also remember that pictorial art does not play a role in Somali lifeways. Presented development solutions must make enough impact that Somali camel pastoralists want to remember them. AbokarÕs paper gives us clue as to how this could be achieved through the use of the oral traditions such as poetry.

Somalis have a centuries-old oral tradition that has played a large part in their culture. Until the development of an official alphabet in the early 1970Õs, Somalis were encouraged to develop their ability to memorize long poems and practice oratory. These well-developed skills allowed researchers to fill in the gaps in the history of these pastoral people. The gaps were filled because there is a vast reserve of knowledge regarding migrations, and genealogies, conflicts over wells and pastures between clans being maintained across generations.

Somalis hold people with well-developed oratory skills in high regard. Somalis believe that oratory must have a purpose. The piece is part of the social life, and will either take one of two traditional formsÑa poem or a prose piece. The traditional poem always has a special message, such as a story to tell or an argument to advance. Hjort writes the following about the role of poetry in Somali Society:

"A good poet knows his power to influence people's opinion and to stir emotions for or against a cause. But in influencing public opinion, poems also have an informing function. A good poem has a structure that makes it easy to memorize. A well-remembered verse can spread through areas rapidly, broadcasting the message it bears. In this way, poems have an important informative role in a society without newspapers, radio or televisionÓ (1987: ii).

Prose oratory is used in negotiations of social content and in judicial matters (Hjort, 1987: i). It is important to note that younger men are not held in as high regard as elders because of their lack of oratory skills.

Oratory could become a development tool for professionals. Constraints would that the presenter is an older male with sufficiently developed oratory skills which would enable him to present his message without the use of notes or pictures. The speaker would also have to know the

customary laws and traditions as well as any earlier materials on the subject he is discussing. Both Wilson and Akobar stress that Somali men are the camels' caretakers.

Reducing the camel herd is not an option. Somalis depend on the camel for food and transportation. Somalis love their camels and consider it a matter of pride to own many camels. Poets have chosen the camel as a symbol of Somalia and its independence from the colonial powers present in the eighteenth and early nineteenth centuries.

In the harsh ecological climate of Somalia, camels provide Somali pastoralists with a source of food and transportation. The main food from the camel is its milk. Female camels that are old enough to breed are the most valued. Male camels are kept in limited numbers. If they are kept, the males are castrated at age four and made fat. These males are either butchered for meat or sold to bring money into the household. Some males are kept for breeding. The majority of the male calves are killed so that more milk is available for female calves and human consumption (Wilson, 1984: 139). Old female camels and male camels who are not being kept, are slaughtered for meat.

During the calving season, a female camel produces more milk than cattle or goats and is milked several times a day. Camel milk doesn't spoil as quickly and is considered to have a high nutritional value. The oral tradition described by Abokar reflects these ideas. One of the proverbs he explains is "A mouthful of camel's milk keeps you going for half a day" (1987: 4). It describes the nourishing aspects of camel's milk. It also implies that a person who drinks camel's milk has more physical strength and stamina than someone who does not. It also implies that the person would be able to walk half a day without a problem. Abokar uses several of these proverbs and work songs to show the love and the value Somalis give for their camels.

Wilson mentions that the Somali are almost totally dependent on milk production. Because of this dependence, most Somali herds are structured a particular way. On average, females make up 75 percent of Somali herds (1984: 138- 9). Extension scientists must realize that the Somali herd must maintain a minimum of 50 percent breeding females. This minimum is twofold. First, the minimum helps to ensure a continuous supply of milk for the Somali diet. Second, it allows for rapid herd recovery from drought or disease outbreaks. However, it also implies that if a severe catastrophe occurs, the family has little opportunity to find alternate sources of food income.

As mentioned earlier, there are gaps present in Abokar's document. "The Camel as Cause of Conflict" segment is a critical section for developing methods of conflict resolution which work. Conflict resolution is an important part of the development process and must be addressed more fully. The "New Oral Literature and the Camel" section discusses the roles that outside influences have played in the last 100 years in the oral literature and the role camels have taken on in the literature. Wilson does not cover either of these topics in his work. These issues will be addressed in a future paper.

Conclusion

This manuscript is an example of a starting point in the development process. The pairing of conventional textbooks with monographs and articles focusing on indigenous knowledge is a small fraction of the work to be done on a project. Interviews and field research must be performed in addition to the literature searches. Field researchers need to interview both sexes of the society being helped to ensure that such issues are discussed. With these steps, a better picture can be developed for creating and facilitating a participatory approach to local-level decision-making and sustainable approaches to development.

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