

# **Knowledge or Prejudice? Bridging the Communication Gap between Center and Periphery**

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The topic discussed below does not relate to the anthropological and sociological discourse alone. Rather it is intended as an assessment of the general problem of communication within societies, on micro and macro levels alike. There is no need to substantiate the claim that inadequate communication, poor information flow within societies, or even purposefully distorted information, contribute significantly to the conflicts within societies, and also internationally.

The discussion is based on the following assumptions, all of which have been subject to debate for some time: (1) the concept of 'knowledge' in academic debate is a useful analytical term, but what it entails should be given a critical consideration; (2) the term 'knowledge' has different meanings depending on the context where it is applied (e.g. academic debate on a certain issue is different from the debate on the same issue at the village level); (3) the academic conceptualization of knowledge is constantly in danger of becoming alienated from the general interest; (4) owing to the ever increasing specialization of disciplines, knowledge is being fragmented and dispersed into countless sub-fields; (5) so-called 'local knowledge' or 'indigenous knowledge' should be taken as a subject of serious investigation on a larger scale than has been done so far; (6) the national language policy has serious implications for the efficiency of communication and thus on the communication of knowledge. Although many more issues could be raised, within the space given I have to limit myself to those listed above.

## 1. WHAT IS KNOWLEDGE?

The aim of research in all its fields is to accumulate knowledge. Although the question of the contents of the term 'knowledge' is, or at least should be, subject to discussion in various disciplines, the social sciences evidently enjoy the reputation of being less unanimous about its meaning than any other discipline. While the social sciences try to understand the structures of societies and the processes going on within them, they also have to establish the epistemological base on which the 'data' or 'facts' concerning social phenomena become intelligible. The

significance of theory at times becomes overemphasized to the extent that there is good reason to question whether the theory explains the 'facts', or whether the opposite is obvious, i.e. the 'facts' have been subordinated to the theory.

Today it already sounds a bit strange and uncomfortable to read books and articles written just a few years ago in the framework of Marxist phenomenology, or historical materialism, on how pastoralism in East Africa should be classified in the Marxist scheme, whether it is the type of 'precapitalist mode of production' (Bonte 1977, 1981) or whether it should be classified as part of 'peripheral capitalism' (Hedlund 1979). Because the regimes based on Marxist theory have collapsed worldwide, there is, in sociology and anthropology in particular, a strong trend away from ideologically oriented research approaches. There is, however, a danger of dismissing also the indisputable achievements of Marxist studies. They contributed enormously to the understanding of how the world capitalist system extends its influences, often indirectly, even to remote pastoral areas in arid and semi-arid lands. From the pastoralists' own viewpoint it is, however, quite irrelevant to argue whether they belong to this or that social formation in the world capitalist system. These studies have shown that, although pastoralists themselves often think that they are their own masters and free to move where they wish, in fact their real living conditions reveal the opposite; they are being pushed to more remote and hostile areas and becoming more and more marginalized, even compared to settled agriculturalists.

In a sense sociology is now in a dilemma. We were used to the situation where socialist regimes were backed by a cadre of more or less Marxist theorists, sociologists and anthropologists, who did not appreciate any research which was not overtly based on Marxist ideology. Many of the recent anthropologists declared themselves to be 'Marxists', or at least 'socialists', in order to be accepted to the ranks of the 'correct', 'modern' or 'enlightened'. Now that Marxism as an ideology has shown its disastrous worldwide effects in practice and come to an end as a political philosophy, the same fate should obviously befall the research based on such an ideology. One might hope that there would now be time for less ideologically oriented research, where people's real needs concern us more than the sophistication of theoretical constructs, which, although intellectually inspiring and mentally elevating, do not always have the use value might desire.

Let us return to the concept of 'knowledge' and note some wrong connotations attached to it. Contrary to superficial thinking, the term 'knowledge' is not an objective term in the sense that all people understand it in the same way. I already indicated that within sociology the term is ambiguous and needs clarification. In sociological research we look for 'data', or 'hard facts', on the basis of which, as researchers, with the aid of our theoretical framework and other subsidiary data, we establish a body of knowledge. From the viewpoint of the use value of such knowledge there are two problems. First, there are seldom objective 'data' as such available, because sociological knowledge is knowledge about institutions and relations between institutions and individuals, which have to be grasped rather than recorded. This primary knowledge is obtained from the communication

between individuals, between the researcher and the society members, and it is therefore always subjective in nature. Second, the 'data' obtained in this way are not 'knowledge' in themselves, unless they have been brought to the theoretical framework and 'understood' or 'explained' within it. From the viewpoint of social analysis, such primary data are defective in two ways. Firstly, they are data in an atheoretical context, almost devoid of any kind of theorizing. Secondly, there is the initial bias caused by the preconceptions and prejudices of the researcher. The researcher can only seldom use theoretical reflection in fieldwork conditions, because the common language does not allow it. There is plenty of documentation on the bias caused by the researcher in recording field data, and there is no need to discuss it here.

It is, therefore, evident that the knowledge which the researcher obtains from the society is even in the best cases distorted in a number of ways. But we have to be careful not to conclude that because the knowledge is distorted knowledge, it has no value at all. On the contrary, even defective and distorted 'data', brought into a context with theory, can bring about new knowledge and understanding which was not available before. The point is that the 'advanced' knowledge, or knowledge enriched by theory, can be seen as a latent reality within the society even without the intervention of the researcher. It cannot, however, be spelled out and made explicit without the conceptual framework provided by a consciously formulated theory.

Not all research traditions would agree with the claim that data obtained in fieldwork conditions are biased and subjective. There have indeed been attempts to make fieldwork conditions as 'objective' as possible and eliminate the bias caused by the researcher, or even by people's awareness that they are being studied. This is well known in behavioral psychology, for instance, but sociologists too have tried to diminish the bias of subjectivity by making research situations 'neutral', by minimizing the effects of the presence of the researcher, by infiltrating into the society and by trying to become a member of it, or by resorting to anonymous questionnaires, and the like. Such efforts to eliminate subjective haphazardness should not be condemned, since they ensure at least some degree of objectivity. We have to remember that a reliance on intersubjective communication alone may lead to non-representative information and to subjectivism par excellence. Nevertheless, the subject matter of sociological investigation is always such that its results are more or less subjective, an outcome of intuition. And herein lies also its specific strength.

## 2. DIFFERENTLY UNDERSTOOD KNOWLEDGE

The second claim which I made concerns the different contents given by various quarters to the concept of 'knowledge'. Researchers have their own definitions, government administrators and planners have others, and the people themselves, the research subjects, have still other conceptions of it. None of them, however, is

irrelevant or wrong. These three parties may constitute a vicious circle, where each should understand the other but where this seldom happens.

A government's task is to govern its subjects. The government is supposed to be the body which knows what is good for the people. As the custodian of correct policies, it believes it is in possession of the appropriate knowledge for developing people's living conditions. It is not by chance, and not unique to Tanzania, or even to Africa, that one of the principal aims of government has been to abolish ignorance among the people. Ignorance, *ujinga*, has been one of the four main enemies of Tanzania since independence, and the government has been fighting against it by persuading children to go to school, and by arranging adult literacy campaigns.

Such a policy gives the impression that real knowledge can be obtained only through formal education, and that those without formal education are also without knowledge. It was correctly understood by the policy makers that the technical ability to make sense of marks on paper was not enough in the fight against *ujinga* (although some people in the villages thought it was quite enough). The literacy campaigns were combined with useful education on health, child care, cultivation, fertilizers, insecticides, disease control etc. All this was based on the idea that real knowledge comes from outside, and that people on their own, without external illumination, were totally ignorant. One wonders how people were able to survive earlier in such assumed total ignorance.

In accordance with the education policy, agricultural advisors were sent to villages to show what the people should grow and how. The wise ones, instead of teaching the villagers too much, took the opportunity to learn from the villagers about local cultivation and disease control techniques, while others taught what they were sent to teach. Of course there was also much that was positive in such operations, and useful knowledge was certainly transmitted to the villages. But what was psychologically less wise was the total neglect of the local knowledge which had accumulated for hundreds and thousands of years, knowledge which had been tested in local conditions and which was appropriate to them. I shall return to this important question of local knowledge later.

From the viewpoint of pastoralists, the situation was still more absurd. Rural development was seen largely as improvement of production technology in agriculture. Not only were the needs of pastoralists neglected; they were told to change their living habits, stop wandering around (as if their movements were sheer ill will), dress themselves decently, and start practising agriculture. It could be seen that the planners (or implementers) had little idea of what pastoral life was about and what it demanded. It is a totally different thing to have a couple of cows in a barn and rely otherwise on agriculture than to base one's economy entirely on livestock. A pastoralist mode of life has to be seen as a social, ecological, and even ideological formation in its own right. While the planners had little idea about it, it is no wonder that the response of pastoralists to development efforts was something between uninterested acceptance and total disregard. The villagization programme of 1975-76 in Tanzania was implemented in many

pastoral areas in a way which caused least harm to the realities of life. Ten years later there were actually no traces of the villagization activities in Terat, Loiborsoit, Shambarai, Makuyuni, Naperera, Engassmet, Simanjiro, Kijungu, Kitwai, Ruvu Remiti, West Kilimanjaro etc. Actually the whole Maasai area was only marginally affected by the programme, largely owing to the unsuitability of the plans to the needs of the pastoralists. What did affect the life of pastoralists disastrously was the encroachment of commercial farms onto the best pastures, but that is another story.

Primary education, which was in principle geared to providing school children with basic practical skills, was also designed to serve children coming from the agricultural sector. Rather than training pastoral children in the skills of better livestock management, pest control, and other skills needed in pastoralism, they were taught how to grow cabbages, onions, carrots, and perhaps how to raise chickens - the only living thing they could manage in the school yards - all of which were outside of the pastoral production system. It was therefore no surprise to find that if the schools built in pastoral areas were attended by children, most of them were children of agriculturalists or government administrators. This incompatibility of the government plans in education with the needs and hopes of the pastoralists may have specific reasons. Either the planners were totally ignorant of the realities of the lives of the pastoralists, or they did not care what happened to the pastoralists. A third possibility was that the pastoralists had to settle and start to cultivate in any case, sooner or later. The opinion of a veterinary officer in Western Bagamoyo District in 1976 on the future of Parakuyo pastoralists perhaps represents the view of many similar officers: 'These pastoralists (i.e. Parakuyo) will settle and become farmers in any case. The sooner they do it the better.' Is this really pastoral development?

I mentioned above that researchers, government officers and pastoralists themselves are, all of them, in some way involved in pastoral development, and that they all have a different conception of knowledge. It goes without saying that cooperation between these groups should be close, in order to get mutual understanding and learn from each other's experiences. There are indications that such cooperation is increasing (Hjort af Ornäs 1992). The position of the government is quite clearly defined by the constitution, and there is no need to question it. It is responsible for the development of the country, including pastoralism. In order to fulfil its task it needs correct information from the 'field'. How is it able to achieve this? One way of course is to get into real contact and discuss issues face-to-face, and include the local level in development planning. This is, however, often neglected, as is indicated in several research reports (e.g. Johansson 1991; Abu Sin 1991). One of the early experiments to do this was the Jipemoyo Project, which brought administrators, villagers and researchers together in several village level seminars. Although the roles were not much changed - the bureaucrats were still bureaucrats - the villagers at least had a good opportunity to speak for themselves.

What could be the role of social scientists in such situations? Although they might perhaps want to, they cannot take the role of an objective and omniscient expert. In fact they are no experts at all. They do have, to be true, a different position from the bureaucrats and the villagers, in that they do not belong to either of those two groups, by definition. But it is an entirely different question whether they are objective in practice. Every fieldworker knows very well how easily the question of objectivity loses significance when people feel they have been totally misunderstood or mistreated by their superiors. The delicate and biased position of researchers may also be affected by the expectations of their employers. If they are a tool of the government for acquiring data about the people so that these can better be ruled, unexpected research results might endanger the job of the researcher. A researcher from outside who openly takes sides with the local people might again run the risk of being ignored and forgotten. With regard to foreigners, the easy way to eliminate them is the refusal of research permits.

Even at best the social scientist can be an additional agent, not a central one, in channelling knowledge between the government agencies and the local level. To succeed in this task, the social scientist has to be able to communicate in a language which is understood by the administrators and by the villagers. Although social science is one of those few disciplines where research results should be understood also by a non-expert, this is true only rarely. If researchers generally have the bizarre peculiarity of being able to say a simple and self-evident thing in an unintelligible manner, social scientists are experts in this. The subject matter is often cloaked in a jargon which is intended to reveal the modern theoretical (and ideological) position of the researcher, evidence of which being the latest fashionable 'scientific' expressions distributed here and there (to show brilliance), with very little information that is understood by other parties, or which has any real relevance. (As anybody can see, this paper too is almost turning into jargon.)

In discussing the communication problems between these three groups we should not overlook the question of power. The use of power in some form is in the interest of all the groups, researchers included. The position of the researchers is the most delicate one in this respect, since they often do not have any established position in the structure. The question of power, however, enters in the form of knowledge, the kind of information and understanding which none of the other two groups possess. This knowledge of the researcher may be manipulated both by the local people and by the administrators, each for their own benefit.

In fact we experienced such a possibility becoming reality on a few occasions when we were carrying out research in the coastal area of Tanzania in 1988-91.<sup>1</sup> The local government officials, accompanying us to several villages as local guides and hosts, used the opportunity to show the local people their concern

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<sup>1</sup> This joint project of the Institute of Kiswahili Research (University of Dar-es-Salaam) and the Department of Asian and African Studies (University of Helsinki) for training and accumulating oral tradition and linguistic data was financed by the Finnish Academy, FINNIDA, the Ministry of Education (Finland) and the University of Dar-es-Salaam.

about the living conditions and problems in the villages, obviously in the hope of thus improving their chances in the coming elections.

The fact that research results, sometimes abundantly available at least in some form, have been used all too seldom as a basis of decision making and planning, has been substantiated in a number of publications, also within other than social sciences. Perhaps scientists should think about their role in a more holistic way and see the importance of communicating their knowledge to all those concerned. Unfortunately such work is not academically rewarding, as has been so bitterly experienced by some internationally well-known researchers; but from the viewpoint of the ultimate task of the research it is nevertheless extremely important. There are also researchers who absolutely reject the view that researchers should, or could, be involved in people's problems and in questions of development as a whole. One might ask why they work at all, and who should finance them.

Those who warn about researchers getting too involved in people's affairs are, on the other hand, partly right. We know only too well the fate of many of those Marxist researchers in Eastern Europe, who did their job in the service of the omniscient Party. Today you will find excellent researchers without employment, simply because of their earlier allegiance to the Party, although this allegiance was in practice the only way to do research at all. Such politically and ideologically fixed research is, however, quite different from the approach advocated here, where the researcher should keep an eye open for any kinds of problems experienced by the people and work towards the solution of such problems. Very obviously, such openness will lead to the realization that in order to analyse the problems satisfactorily there is a need to cooperate closely with researchers in other disciplines. Such cross-disciplinary cooperation is more acutely needed now than ever before, when nothing seems to stop the compartmentalization of disciplines.

### 3. KNOWLEDGE AND INTEREST

The advancement of the sciences seems also to have the unfortunate effect that although the quantity and quality of knowledge increase tremendously, this has led to the fragmentation of knowledge. Experts know more and more about a field which is more and more specialized. Not only has a physicist little idea about recent research in molecular biology; he hardly masters more than a narrow sub-field of physics itself. In such micro-specialization there is also another danger, the estrangement from the general interest. It is not enough for the researcher to think that it is up to other people to work out how research results could be utilized. It is the task of the researcher himself; otherwise such research should not be financed from public resources.

It might perhaps be argued that this is to demand too much from the researcher, who has neither time nor resources for everything. It has to be

admitted, for example, that in basic research it is hard to show direct applications of research results. But even in basic research, it is extremely important for the researcher to be aware of how his own work is linked to the larger ramifications of research, either within his own discipline or in other disciplines. If the researcher denies his moral responsibility while using public resources, he excludes an important part of his task as a researcher. I should like to emphasize that although academic research is one of the rare areas where objectivity and non-alignment are in such high esteem, the researcher should not be misguided to think that the research on its own is a sufficient justification for claiming public funds. Research is work in cooperation with a number of bodies, and its results should be part of general databases and open to public utilization.

#### 4. LOCAL KNOWLEDGE

'Local knowledge' is a term which has recently become popular in several fields of research and among development planners (Ibrahim 1991; Geertz 1983). It has always been part of anthropological inquiry, but its significance has become more evident recently when so many development plans have failed despite considerable investments and efforts (e.g. Johansson 1992; Darkoh 1992; Tvedt 1992). If anthropology and social sciences in general primarily investigate functions of social systems in variable environments, it is not too much expected that it is just these disciplines that should take the initiative in planning, coordinating and carrying out research on local knowledge. The nature of sociology as a kind of holistic and integrative science would be a natural and sufficient justification for such an enterprise.

I am afraid, however, that there are a number of preconceptions or prejudices at various levels that would hamper such efforts. We all know how hard it is to accept that a trained scholar is not an omniscient expert who masters his field, how perplexing it is for a government officer to go and confess to his 'subjects' that although he has been appointed to a task as an expert, actually he should be a student and learn from the people whom he is supposed to advise and help. There is no other way, however. The information flow has been far too unidirectional, and it is this that has maintained hierarchical structures and ordered power relations.

There might be fears among the experts and administrators that once it is experienced by the people that their knowledge is needed and that this knowledge also has more than a curiosity value, the existing structures might start to shake. These fears are not without foundation, since knowledge creates power around itself. The well-known saying 'knowledge is power' crystallizes the notion that knowledge and power are necessarily intertwined. If it were generally recognized that the transfer of knowledge is not a one-way motion from centre to periphery, a top-down process, but rather a network of multi-directional currents of information, this intuitive notion might open totally new resources for



development. And in the long run, there is nothing to be feared in a shift of power relations resulting from the general recognition of local knowledge. After all, government organs should be just tools for serving people, although from time to time they tend to become self-perpetuating automata.

Now we should again be careful in not drawing too hasty conclusions from this notion. If we are not fully aware of the intricacies lurking within the term, 'local knowledge' may turn out to be nothing more than another popular slogan or a wave to ride on for superficial scholars in want of publicity. A number of points have to be made immediately to underline what 'local knowledge' is not.

Like knowledge as a whole, local knowledge too is not something that exists somewhere as a hidden treasure just to be found and put to use. Neither is it like pieces of a jigsaw puzzle which, when assembled, will form a perfect whole, a 'grand knowledge'. Neither is it something static, once invented and then carefully preserved, but kept out of reach of the wider society. Terms that characterize local knowledge are e.g. 'accumulated wisdom', 'tested knowledge', 'local applicability', 'cultural boundedness' etc.

Typical of local knowledge is its communal use value. It has accumulated in varying conditions within a society in the course of often hundreds or thousands of years. There is no reason to doubt that people who have been living in a certain type of environment for several generations are the best experts to tell what kinds of economic adaptations will work in those areas and what will not. They have had ample time to test different kinds of methods in herding, pest control, farming, managing water resources and pastures etc. Nobody from outside has that knowledge, whatever his formal education.

It is possible that much of the mistrust and assumed 'stubbornness' of the pastoralists towards government plans derives from their awareness of their own knowledge of how they should live and use their environment. The only way the 'experts' could gain the full confidence of the local people, and thus open the channel for acquiring local knowledge, would be through openly declaring their ignorance in matters related to the traditional herding systems, land use systems, knowledge and use of flora and fauna etc. This 'confession' should be accompanied by a sincere willingness to learn from the local people.

What kind of knowledge might this local knowledge be? As anthropological research has shown, local knowledge is usually bound to a thought system, a world view of the people concerned. One might argue that it also includes technical knowledge which as such is useful and transferable to an entirely other context. More often, however, even local technical knowledge has wider implications than might appear at first glance. The operations and decisions of individuals as well as the function of the whole society have their base in the world view of the people, which guides their decisions, often unconsciously. The apparent irrationality of decisions is based on a world view, within which the decisions are perfectly logical, although not always rational.

I think that one of the very important areas of cooperation between 'educated' experts and local people would be in investigating together the knowledge base of

a given society, particularly knowledge which is directly relevant to the development efforts. Once again, it is not a question of recording and transferring local knowledge as if gathering pieces of artifacts. Very probably this joint effort would produce a new kind of knowledge, hitherto nonexistent. It would bring the traditional knowledge to a forum where it could be viewed in the context of a wider knowledge base, and thus become integrated into it.

Much of local 'knowledge' is, however, cloaked in such culture-bound (mis)conceptions that it would not stand critical examination (Ibrahim 1991:65). This is perhaps one of the main reasons why some researchers and administrators still belittle the significance of local knowledge. In their view, people without modern education are illogical or prelogical, their concept of causation is misconstrued, and it is therefore a waste of time and resources to look for knowledge there. Such misconceptions and wrong causation concepts are not to be denied. Ibrahim (1991) gives an example of how deeply rooted and extensive such conceptions may be, when he demonstrates the belief of Hausa and Fulani that hens have invisible breasts and that chicks suckle invisible milk, and therefore bringing day-old chicks to the farmers from incubation centers was considered an anomaly. Such misconceptions can be corrected through practical experimentation and discussion with people.

There are a number of examples of distrust among pastoralists concerning cattle dips. For example, the Parakuyo of Tanzania responded to such dips in the beginning of the 1970s with the belief that they would be a sure way to kill cattle. The greatly improved health of dipped cattle soon changed the situation and soon virtually all pastoralists used these services.

The following example illustrates a number of points in searching for and using local knowledge. Almost ten years ago I was involved in research on pastoral development in Western Bagamoyo District, Tanzania. The area is not particularly suitable for pastoralism, mainly because of constraints caused by livestock diseases. The area is also rather densely populated by agriculturalists. The pastoralists, who were Maa-speaking Parakuyo, were considered newcomers to the area and their spread to the previously agricultural area was not always viewed as a desirable development. There was competition for land, and it was not easy for the pastoralists to find suitable pastures between the cultivated plots and dense bushland, where cattle diseases were a major problem.

The government, however, saw the value of cattle grazing not far from the capital, which consumed large amounts of meat and dairy products, and it was therefore in the interest of the government to develop cattle grazing in the area. The Ministry of Livestock Development had initiated a programme for clearing chosen areas free of trees, so that cattle diseases, particularly trypanosomiasis infested by tsetse flies (*Glossina spp.*), could be brought under control, and at the same time pastures would be improved when there were no trees and bushes to prevent grass from growing. Local agriculturalists, not pastoralists, had been hired to cut trees and clear the bush with axe and panga. The results were not particularly encouraging, because certain tree species, particularly *Combretum*

*zeyheri* and *Combretum molle*, had the propensity to grow again from stumps, so that after a year or two the area was worse than it was before.

Clearing the bush was important particularly in preventing the *glossina spp.* from breeding, because they use bushes, hollows and other shady places as hiding places from hot sunshine during the middle of the day. Abolishing such shade would make circumstances intolerable for flies in these areas. There was enough experimental knowledge to support this view. Despite the strenuous efforts of the clearing team the bush had no intention of giving up. There was clearly a dilemma, which was recognized by the clearing team as well as by the ministry.

It turned out that one of the main tasks of our research team was to try to solve this problem. The praised know-how of industrialized countries was put in use. We tested all the methods which had been so effective in Europe. We peeled growing trees around the stem, so that they would use all the root energy by trying to suck liquids from the roots to the foliage, which would not succeed because the glands had been cut. We felled trees and applied liquid containing growth hormones on the stem to stimulate the stump to exhaust its energy. We also applied the stimulant to the cut of a growing tree, a method that had also been successful in Europe. None of those methods proved successful in those conditions.

The Chairman of the pastoralist village had been following our tests, obviously with some amusement. He was clearly interested to see what these new methods were and whether they were effective. Seeing that both the Ministry of Livestock Development and our specialist research team had failed to solve the problem, he turned up and wanted to show his own experiments. He had used a method which he knew to be indigenous knowledge among the pastoralists since time immemorial. He had put dried cow dung around the tree stem and then set the dung on fire, with the result that the foliage of the trees had dried up and no sprouting was seen from the roots.

Exhilarated by this new knowledge we immediately wanted to test the method. We transported several car loads of cow dung to the test area and placed different quantities of dung around the trees. The results were impressive. We found that not only could the trees be dried in this way, but they could also be felled. The most significant result of this test, however, was that there was no regrowth at all. There was no stump left, since the heat had burned it and part of the roots to ashes.

This single incident teaches us that there is local knowledge available, knowledge which in some cases is more efficient than imported knowledge. If we had not been in such close cooperation with the Chairman, we would perhaps never have become aware of such knowledge. It also shows that an innovation, as this clearly can be called, is often only locally applicable. Such a method works only where there is a need to clear ground, either for pasture or cultivation, and where there is enough cow dung available. Where these conditions are fulfilled, the method is astonishingly efficient and economical. Using dried branches and

bushes for this purpose does not have the desired results, since they burn too quickly and do not produce sufficient heat.

The recent history of the Barabaig in North-Central Tanzania illustrates the extreme complexity of networks of social relations between different ethnic groups, and also the use and misuse of local knowledge (Loiske 1990; Ndagala 1991). It also shows the devastating effects of external forces on the comparative balance which somehow existed between sometimes hostile ethnic groups. The Barabaig have been, as has been demonstrated in many other pastoral societies, on ambivalent terms with neighbouring ethnic groups. Although casual cattle rustling and small-scale warfare are part of their history, the groups are economically dependent on each other. Some sort of relative peace has therefore been maintained between them.

In recent times, this balance has been upset by a number of external factors which have been beyond the control of the pastoralists themselves. Firstly, the prospects of good livestock prices in Kenya attracted bands of cattle thieves to practise illegal cattle trade across the border. Cattle stolen from the pastoralists in Tanzania and sold in Kenya seemed an attractive and secure way to gain wealth quickly, particularly when the robbers could buy in Kenya cheap consumer goods which were in short supply and extremely expensive in Tanzania at that time. These thieves had little to fear afterwards, since they were out of reach of the Barabaig and of the police too. In order to mislead possible investigations, the robbers used the local knowledge of the customary dress of various ethnic groups. When robbing the cattle of the Barabaig, the robbers dressed like the Sukuma or Iramba, to place the blame on those groups. Consequently cattle thefts were registered in the name of those suspected groups. It is evident that a considerable number of cattle stolen in the Barabaig area in the course of several decades have to be attributed to these external robber gangs, who have used powerful modern weapons and driven the cattle through Serengeti and Ngorongoro Districts across the border to Kenya.

Secondly, since 1968 the parastatal organization NAFCO (National Agricultural and Food Company) has opened wheat farms of a total of about 40.000 hectares in Hanang District, in the area where the Barabaig had their dry season grazing lands (Ndagala 1991:75; Loiske 1990:84-85). This has taken place without consultation with the Barabaig and without compensation for the lost lands.

Thirdly, the government responded to unrest in pastoral areas by urging the pastoralists to settle in permanent villages, which in practice meant either resorting directly to settled agriculture or to agro-pastoralism. Some of the killings in 1984-85 were triggered by the government policy of refusing to distribute famine relief grain to others than those who had moved to settled villages (Ndagala 1991:79-80). The Barabaig took by force what they considered to belong to them, particularly the seeds for cultivation, in spite of failing to meet the requirements of the government, which requirements they did not think sensible anyway. Furthermore, the reluctance of the Barabaig to move to the villages had

another adverse consequence: the new government-sponsored facilities attracted non-pastoralists to these villages or to nearby areas, so that in some villages the services were used mostly by non-pastoralists (Ndagala 1991:76).

With hindsight, it is easy to point out a number of single incidents which reveal a lack of knowledge on the part of perhaps all the parties. The prevailing preconceptions held by the neighbouring ethnic groups that the Barabaig are murderers and thieves were transmitted to the government authorities, who saw the permanent settling of the pastoralists as the only solution. It is not clear whether the government, despite the unsuccessful attempts of 1975 and 1978-80 to settle the Barabaig, has yet properly understood all the problems entailed in the full sedentarization of pastoralists in areas such as that inhabited by the Barabaig and many other pastoral societies. It is probable that the countrywide publicity of these incidents and the systematic research triggered by them (e.g. Ndagala 1991) has distributed knowledge about these particular pastoralists, and about the pastoral mode of life in general. It is sad that this happens only after such disasters.

I already mentioned that local knowledge is bound to the world view of the people, and therefore it cannot be transferred to another society as such. This applies particularly to the way people see the links between various events and aspects of life. Such knowledge may be termed as magic, witchcraft, sorcery, or whatever terms one wishes to use. Phenomena like these are probably among the least transferrable types of knowledge, and even within the societies themselves they are subject to debate and their contents change over time.

There is, however, knowledge, particularly within the field of indigenous taxonomy of flora and fauna, which has a great local value, but which also has general interest (Oliver 1960; Brokensha & Warren & Werner 1980; Sofowora 1986). The accumulating detailed studies made so far on such knowledge show that people living on the conditions of nature, and fulfilling their daily needs from it, have developed incredibly sophisticated knowledge systems about their surroundings. Almost all such knowledge has some kind of use value. Inherited knowledge about nature, based on the experiences of numerous generations, is a rich data bank in itself.

Every fieldworker knows, however, that this knowledge too is entangled in beliefs and practices, some of it being entirely esoteric knowledge. Not all of it can be directly 'tapped', as the customary saying runs, because some knowledge is confined exclusively to a certain initiated group of specialists. Some medical knowledge, in particular, is esoteric knowledge in all societies. Experience has shown that there is nevertheless quite a large body of medical knowledge which is communal, available to everybody. Such knowledge is often related to the properties and uses of various plants known to have medical significance. Some societies know the medical effects of more than 100 tree species alone.

The research carried out so far has given promising results here. Yet it is still only in its infancy, since plant varieties vary greatly in different environments, and different societies may not have similar knowledge of the same species. It is

therefore important to accumulate such knowledge from different kinds of environments and from different people. The accumulation of taxonomical knowledge requires team work, a joint research input of several disciplines, where biological classification and description of plants, their chemical analysis and communal use are analysed within a single framework.

Although a multidisciplinary approach for documenting and producing knowledge is clearly what is needed now, its implementation is likely to face a number of problems. Differently trained team members may be a problem to each other. It is not self-evident either that the local people will share their knowledge with external research teams, if they do not see any personal benefit in doing so. Fieldworkers know well that any piece of knowledge will acquire a 'market value' as soon as a researcher or a research team needs it. How to avoid the two pitfalls of such research: the exploitation of local people by taking their knowledge without compensation, and the atmosphere of trading with local knowledge? Such questions should be discussed with the local people and the problems should be solved, because the issue itself is too important to be missed because of mismanagement.

It is not enough, however, that multidisciplinary research teams carry out research together with the villagers for obtaining local knowledge. One important group is excluded from such a team, i.e. government officials of various levels. They probably could only occasionally be included in the teams, but they could be made fully aware of what the research is about, and thus create a positive atmosphere for future implementation. There are indications that steps have been taken towards such corporate development planning also in arid and semi-arid lands; one may talk even about a paradigmatic shift (Hjort af Ornäs and Salih 1989; Hjort af Ornäs 1992).

## 5. THE PROBLEM OF LANGUAGE

The question of language in many African countries is still a major problem, since there are very few monolingual countries. The countries are typically composed of several ethnic groups with distinct mutually unintelligible languages. The official language(s) of the country, which most often is French, English or Portuguese, is understood only by a small minority of the population. Other inter-ethnic languages, lingua francas, extend often only over a limited area, and are not understood by the whole population. With the exception of a few countries, such as Somalia, Tanzania, Rwanda, Burundi and Botswana, countrywide communication covering the whole population through a single language is not possible. This problem of language is not only a technical one, because language is the major carrier of people's culture and identity. Therefore, forced monolingualism is not a viable solution. How to merge the two trends: the need to honour and nurture people's ethnic identities (and languages), and the demand for effective countrywide communication? There are many indications that African

countries are not content with the present state of affairs, where an imported language, understood and used properly by only a small minority, serves as the official medium of communication.

Although there is no quick solution to the language problem, it is important to be aware of its central significance also for the issue discussed in this paper. The language barrier not only prevents communication flow between areas and groups of people; it also creates and maintains suspicion and prejudices between different groups. Government officials also feel their position to be uneasy if they do not understand what the people around are talking. A lack of communication is often negative communication. This crucial issue needs another place for more thorough discussion.

## CONCLUDING REMARKS

In this paper I have tried to emphasize the primary significance of knowledge in planning and implementing development programmes, and in preventing conflict situations on various levels. I have also pointed out the need of viewing this concept from a number of angles, not the least from bottom up. Knowledge, particularly useful knowledge, is not isolated pieces of data, which can be collected, transferred and reused somewhere else as such. Rather, it is often composed of a network, where several factors contribute to its production. Emphasis was laid on the importance of local accumulated knowledge as a significant contribution in development endeavours. It has been exhaustively documented that top-down approaches in development have largely failed and are likely to do so in future. Therefore, new approaches are needed where local knowledge and initiative are taken as starting points in planning. The accumulation of such knowledge needs a multidisciplinary approach, a new kind of orientation to research in general and much patience to succeed. Owing to their holistic nature, social sciences could function as an agent for integrating such research and development projects.

REFERENCES

- Abu Sin, M.E. 1991.  
Community-Based Sustainable Development in Central Butana, Sudan. In: *When the Grass is Gone. Development Intervention in African Arid Lands*, P.T.W. Baxter (ed.), pp. 152-61. Uppsala: The Scandinavian Institute of African Studies.
- Baxter, P.T.W. (ed.), 1991.  
*When the Grass is Gone. Development Intervention in African Arid Lands*. Uppsala: The Scandinavian Institute of African Studies.
- Bonte, Pierre 1975.  
'Cattle for God: An Attempt at a Marxist Analysis of the Religion of East African Herdsmen', **Social Compass** 22: 381-96.
- 1981 'Marxist Theory and Anthropological Analysis: The Study of Nomadic Pastoralist Societies'. In: *The Anthropology of Pre-capitalistic Societies*, J. Kahn & J.P. Llobera (eds.). London: Macmillan.
- Brokensha, D., Warren, D.M. and Werner, O. 1980.  
*Indigenous Knowledge Systems and Development*. Lanham: University Press of America.
- Darkoh, M.B.K. 1992.  
Irrigation and Development in Kenya's Arid and Semi-Arid Lands (ASAL). In: *African river basins and dryland crisis*, M.B.K. Darkoh (ed.), pp. 79-95. Uppsala: The Scandinavian Institute of African Studies.
- Darkoh, M.B.K. (ed.), 1992.  
*African river basins and dryland crisis*. Uppsala: The Scandinavian Institute of African Studies.
- Geertz, C. 1983.  
*Local Knowledge*. Further Essays in Interpretive Anthropology. USA: Basic Books.
- Hedlund, H. 1979.  
'Contradictions in the Peripheralization of a Pastoral Society: The Maasai', **Review of African Political Economy** 15/16: 15-34.
- Hjort af Ornäs, A. 1992.  
*Dryland Management for Food Production, A Shift in Paradigms*. African Arid Lands Working Paper Series No. 2. Uppsala: The Scandinavian Institute of African Studies.
- Hjort af Ornäs, A. and Salih, Mohamed, 1989.  
*Ecology and Politics. Environmental Stress and Security on Africa*. Uppsala: The Scandinavian Institute of African Studies.
- Ibrahim, Mamman Aminu, 1991.  
Indigenous Agro-Veterinary Knowledge. In: *When the Grass is Gone. Development Intervention in African Arid Lands*, P.T.W. Baxter (ed.), pp. 58-72. Uppsala: The Scandinavian Institute of African Studies.



- Johansson, S. 1991.  
Tana River Basin: Ecological Implications. In: *When the Grass is Gone. Development Intervention in African Arid Lands*, P.T.W. Baxter (ed.), pp. 115-40. Uppsala: The Scandinavian Institute of African Studies.
- 1992 Irrigation and Development in the Tana River Basin. In: *African river basins and dryland crisis*, M.B.K. Darkoh (ed.), pp. 97-112. Uppsala: The Scandinavian Institute of African Studies.
- Loiske, V-M. 1990.  
Political Adaptation; The Case of the Wabarabaig in Hanang District, Tanzania. In: *Adaptive Strategies in African Arid Lands*, Mette Bovin & Leif Manger (eds.), pp. 77-90. Uppsala: The Scandinavian Institute of African Studies.
- Ndagala, D.K. 1991.  
*The Unmaking of the Datoga: Decreasing Resources and Increasing Conflict in Rural Tanzania. Nomadic Peoples 28: 71-82.*
- Oliver, B. 1960.  
*Medicinal Plants in Nigeria*. Nigerian College of Arts, Science and Technology.
- Rigby, P. 1985.  
*Persistent Pastoralists*. Nomadic Societies in Transition. London: Zed Books Ltd.
- Sofowora, A. (ed.), 1986.  
*The State of Medicinal Plants Research in Nigeria*. Ibadan: Ibadan University Press.
- Tvedt, T. 1992.  
Non-Implemented Plans as a Barrier to Development: The Case of the Jonglei Project in the Southern Sudan. In: *African river basins and dryland crisis*, M.B.K. Darkoh (ed.), pp. 59-78. Uppsala: The Scandinavian Institute of African Studies.