

**FORUM TO ASSESS DEVELOPMENT POLICIES OF  
TANZANIA**

**INDIGENOUS KNOWLEDGE, LIVELIHOOD &  
DEVELOPMENT**

**Non - Commissioned Paper**

**Sub-theme 1: Is a High Rate of Sustainable Growth Achievable?**

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## INDIGENOUS KNOWLEDGE, LIVELIHOOD & DEVELOPMENT IS A HIGH RATE OF SUSTAINABLE GROWTH ACHIEVABLE ?

### Preamble

Let me make two comments in this preface that will give context to this paper. The first of this is the cliché that Tanzania is rich in resources and still poor. Has any serious study been undertaken about the relationship between mineral rich countries in Africa and development? Could the persistence of poverty in many such countries be linked with the lack of knowledge of the citizens including the learned?<sup>1</sup> The second observation is that many in the Government are becoming aid dependant both in financial terms and even with the capacity to bring change.<sup>2</sup>

This paper is not concerned with an abstract issue. We have good examples from the early years of independence which illustrates the dangers of both the lack of knowledge and heavy dependence on foreign aid. For instance, the first three year plan of Tanzania, left out over a million people, or nearly 11% of the population from its consideration. Are we heading in that direction with the 4<sup>th</sup> Population Census? I hope not. Similarly, regarding the heavy reliance on foreign aid - for political reasons foreign aid simply did not materialize, when Tanzania began to assert its rights as an independent nation. We probably would never have had the Arusha Declaration, if the foreign aid had flowed as it had been anticipated. With the tragic events unfolding in Iraq, should we be concerned about the possible evaporation of aid flowing into Tanzania? We would be extremely naïve if we did not try to interpret the writings on the wall.

Although knowledge about foreign aid is an important topic, this paper is not concerned with foreign aid. It is concerned with local or indigenous knowledge and development. The future of all our countries depends on the extent to which our decision makers and their institutions give knowledge getting and knowledge using a widespread priority.

Failure to use knowledge, even in the formal sector can lead to serious economic, social and environmental problems<sup>3</sup>. Tanzania cannot be indifferent to the use of knowledge irrespective whether it is modern/scientific or local/indigenous. However, there are issues related to costs, efficiency and relevance that have to be considered. This study focuses on indigenous and local knowledge, a field that has been so neglected in the formal processes of development that there is urgent need to document its presence, use, benefits and contribution to the different communities and to their development.

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<sup>1</sup> None of the 25 cream of researchers from institutions in the Greater East African Region, most with a Ph d. including some from Uganda, Rwanda and Kenya, on Conflicts over Natural Resource Management, had heard about colton or its impact in the countries of the Great Lakes Region

<sup>2</sup> During the presentation of a paper on Indigenous Knowledge and Development a member of the audience remarked that foreign aid was paramount since it accounted for the bulk of our economy. It turned out the majority of the participants had no idea how much came in as aid and how much was generated by the Tanzanians themselves. For the sake of argument, in 2000 Tanzania received ODA worth about \$1.046 billion and the GDP of Tanzania is \$ 9 billion or on the basis of PPP, the GDP is \$ 17.6. (HDR 2002). If we take the former figure, foreign aid accounts for 11.6% and 5.9% respectively. Therefore, if all aid ceased the majority of Tanzanians would still continue to feed themselves, build their own houses, send their children to school etc. Should we be asking who really benefits from foreign aid ?

<sup>3</sup> The classical case of not using knowledge of the tropics occurred after World War II, when the British invested over Pound Sterling 50 million in what was known as the Groundnut Scheme. For instance the rainfall pattern, and the soil condition were simply taken for granted. Heavy equipment compacted soils, large scale clearing of the bush left the ground exposed. If we examine importation of pesticides we get the same story again. By the 1980's large amounts of them had been imported at great expense, in several cases after they had been banned in other countries. As a result Tanzania is among the top five countries in Africa with accumulated noxious pesticides.

## **1.0 The Anomaly In The Investment And Impact Between The Modern And Local / IK<sup>4</sup>**

All societies and communities possess knowledge and have used it to survive. The development of human societies is a measure of the extent to which they have used and generated knowledge. Pre-colonial communities in what is today known as Tanzania had a repertoire of knowledge pertaining to the flora, fauna, food and nutrition, environment and land use practices, irrigation and water management practices. There was knowledge about medicinal plants and about the health of both human beings and animals. The majority of people in Tanzania continue to use traditional knowledge. Superimposed, since the colonial period, on the various indigenous knowledge systems was a veneer of a modern scientific knowledge system. In present day Tanzania, both the modern and traditional systems coexist. Yet, there is a major anomaly between the investments and impact of the modern and the indigenous knowledge systems.

The preoccupation of both the Government and many people has been to invest in the acquisition of the modern and "scientific knowledge". We can measure the success of this acquisition in the numbers of schools, health centers; or in the number of institutions like hospitals, universities and structures like factories and a transportation system. Most of the resources and assets of the formal economy has been used by the government to prop up the 'modern' sector<sup>5</sup>. In the process there are very major disparities and contradiction. For instance, Tanzania has proportionately among the lowest number of: students entering secondary schools. The net secondary enrollment ratio in 1998 was 4% compared to 22% for Zambia or 9% for Uganda (HDR 2002). The ratio of physicians to a population of 100,000 is 4 for Tanzania, 13 for Kenya and for India it is 48; the ratio for Norway is almost 10 times greater than that of India ! Basically, one of the major conclusions is that for Tanzania to depend entirely on the modern "knowledge system" it would require investing a massive amount of capital or simply follow a path in which proportionally fewer and fewer people benefit from services such as health and education.

But perhaps one of the most telling figure is that despite the billions of US \$ that have been spent since independence on the modern energy sector yet 92% of the people depend on traditional wood based energy for their domestic fuel. A considerable amount of financial resources have already been spent on the modern

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<sup>4</sup> The term Local or Indigenous knowledge is preferred because it is not unduly weighed down by negative connotation. Yet, both these two aspects of knowledge are rooted on tradition. Contrary to conventional thinking, traditional knowledge is not always stagnant but can be very dynamic and adaptive

<sup>5</sup> The propping up includes the 9 or so cashew processing plants that were installed at nearly US \$ 10 million a piece; a Paper Pulp Manufacturing Plant in Mufindi etc

energy sector. In addition there is a monthly bill of over 25 billion shillings to be spent paying IPTL and this is irrespective whether any electricity is generated. The Minister of Energy states that the Government does not have US \$ 250 million to buy IPTL outright. Yet, over the next twenty years, nearly 1.2 billion dollars will to be paid to IPTL. There is outright refusal to use knowledge and critical information available next door in Kenya. Not only is identical equipment in operation but a new three/four year agreement allows Kenya to purchase power at a fraction of the cost sold by the Malaysian firm. If IPTL is such a mess - to what extent will economic and management knowledge be used for the Songo Songo investment. This pattern of development has several very negative consequences. Since the modern and the traditional systems co-exist, it is time to focus on the latter.

## **2.0 What Is Indigenous Knowledge (IK) Is It Intellectual Capital?**

In an abstract way all knowledge, including L & IK, has at least four dimensions. First it is the act of knowing; second, acquaintance with a range of information; third, that which is grasped by the mind or learning and finally, the body of facts accumulated by human beings.(Fig 1)

Equally, one could take a basic approach, like the World Bank and describe IK in practical terms:

- Unique to every culture and society;
- Embedded in community practices, institutions, relationships and rituals;
- The basis for local decision-making in agriculture, health, natural resource management and other activities;
- The greatest asset of the poor, helping them to shape and control their own development;
- That which is critical to an inclusive knowledge economy.

Irrespective of which form of knowledge one is drawn to, knowledge is intellectual capital. With this asset it is possible to transform it into many forms that could lead to development – even an accelerated one. This is particularly the case when knowledge is more inclusive rather than exclusive. Basically knowledge is a box of tools.

In a macro sense the best examples of this parallel, integrative or fused use of knowledge, both traditional and scientific are to be found in China, India, and Japan. For instance millions of Chinese, Indians and Japanese adhere to traditional or indigenous medicine. In this context, for generations, the neem tree has been valued in India for its various by products. It is estimated that in India there 13.8 million *neem* trees,

which produce about 80,000 tons of oil and a residue of 350,000 tons of seed cake for cattle feed (Rao 2000). Other products include the extraction of *azadirachtin*.<sup>6</sup>

To take yet another example, the weaving of silk is based on a whole spectrum of traditional knowledge – including the raising of the silk worm, processing the fine yarn, weaving it into cloth, designing garments and exporting the cloth. This valuable trade has gone on for over two millennium. IK is a sustainable intellectual capital. Third World countries have made remarkable progress when they have combined modern and traditional knowledge systems for their national development.

### **3.0 Status of L & IK In Tanzania**

There are several reasons why the status of L & IK in Tanzania have remained in the doldrums chief among which are a colonial mentality, general indifference to the plight of the people living in the rural area and a path of development that relies excessively on external thinking and assistance (Mascarenhas 2001). Is there L & IK in Tanzania? The very brief answer is “Yes”. Although it is not much appreciated, the use of L & IK is still widespread in Tanzania but it is being rapidly eroded. Indeed without L & IK the poverty and hardships would be even more severe. Since L & IK is not too visible to the uninitiated, taken for granted by others it tends to be very much under-rated. Local communities since prehistoric days have used it across many fields, but especially in agriculture and health. Therefore it is best to examine the role of L & IK in the context first of agriculture and livelihood of the people and also within the context of health.

### **3.1 Agriculture And Livelihood In Tanzania.**

There is a tendency to equate agriculture and livelihood as synonymous. The <sup>farmer</sup> (latter) does include, income or source of revenue but the concept of livelihood is much wider and hinges on the mode of “living”. It includes assets, of which the most critical are natural resources, customs and beliefs, institutions, skills and experience and above all is based on intimate “knowledge”! Neither natural resources nor culture are evenly spread in Tanzania. There is a fantastic mosaic of livelihoods in Tanzania. While in a general way, both the Maasai

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<sup>6</sup> The neem tree or *Azadirachta indica*, is also found in Tanzania, where it is claimed to have “forty uses”. In India where it grows in various ecozones, it is both of domestic and industrial interest. Demand for products, such as *azadirachtin* (at US \$ 185 per Kg) is greater than supply. In many parts of India the leaves are used as a substitute for DDT and as a repellent to grain damaging insects.

and the Wasukuma living in the semi arid parts of Tanzania, keep cattle, there are very significant differences between the two groups. Similarly, while there are agriculturalists practicing irrigation in the Rufiji, Usambaras, Pares and Kilimanjaro, their livelihood is distinct and the knowledge system is also different.

Agriculture is still the very dominant activity in Tanzania. In some form it is practiced by over 70% of the people. In the formal agricultural economy, which receives most of the attention and investments the focus is on modern knowledge – whether it is on land use fertilizer, or hybrid seeds, technology or markets for the products. When large scale agriculture was promoted, such as the NAFCO Wheat Farms, or Sugar Plantations in the Kilombero, expensive soil and land use studies were conducted. By default, there are economic, social and political reasons for the marginalization of traditional and local knowledge. In contrast, here have been few or no soil surveys done in areas where the 3.5 million households live and the sustainability and use of land does not depend on the use of chemical fertilizers<sup>7</sup>. The majority of rural people can continue with their livelihood because of the skill and local knowledge about the variety of plants and the useable part of the environment.

Livelihood is more than agriculture, it's a way of life with its own value system, priorities. Farmers greatly depend on L & IK – they need knowledge about soils, seeds, climate and water availability. Researchers in Mtwara have found that cassava varieties are selected on the basis of nine characteristics, including the sweetness, bitterness, whether it can be eaten raw etc ( Rashid 2000). Knowledge is used not only to carry out sustainable agriculture that exploits specific or general natural resources to give them food and shelter but also to enhance their own well being as well as that of their livestock. It is necessary to put this use of L & IK in a proper perspective.

### **3.1.1 L & IK In Agriculture And In Its Proper Perspective In Tanzania.**

There has been a great deal of negative publicity about the nature and backwardness of agriculture in Tanzania. Some of this criticism is valid and a great deal can be done to improve its performance. But if we

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<sup>7</sup> At its height, Tanzania had its own fertilizer plant located at the port of Tanga. The maximum fertilizer use was in the 1990's when over 100,000 tons were imported. The removal of subsidies drastically has drastically cut down usage so that over the last few years it has stood at less than 50,000 tons per annum. Production of agricultural crops has not declined sharply and manure and other soil enhancing practices are on the increase. However, there is a very great to monitor the situation in the field.

were to realistically appraise what this “simple tradition bound subsistence agriculture” has accomplished a really startling picture emerges. Four aspects need to be highlighted.

First, barring a few large scale farms like those belonging to the Canadian assisted Wheat Scheme in Arusha, the Chinese operated Mbarali Rice Irrigation Project, the four large sugar producing estates and a few others, Tanzanian agriculture is dominated by small to medium scale growers. Nearly the entire variety of staple food crops, fruits and vegetables all originate from household farms. Secondly, as will be elaborated later, we also owe pastoralists a great deal for their contribution to the economy. Thirdly, with the exception of sisal and to some extent tea, most of the export crops, coffee, cotton, cashew once again are have a small holder origin. Finally, without going into details, the ramifications of the impact of the small holder cultivators to the economic and social development of Tanzania has been great ...much greater than most of us would like to admit – so much so that it is worth mentioning them:

- The population of Tanzania has nearly quadrupled since independence and yet the small holders during most years have produced enough and even surpluses for export to the urban areas of Tanzania and to the neighbouring countries;<sup>8</sup>
- Despite all the problems, (crop diseases, high cost of inputs, some of the lowest prices for export crops in the last 60 years, and even non payment for crops delivered) small holders have been able to produce export crops,
- The national incomes from agriculture are net earnings without being encumbered by hidden “costs” or concessions such as tax holidays. In contrast, although incomes from mining, tourism and fishing are increasing, they are scandalously low and the multiplier impact is small except in the immediate vicinity of the enterprises;
- Small holder cultivators have consistently provided most of the employment and self employment and have made up, at great cost and burden, for most of the deficits in social and infrastructural spending.
- The pastoralist and agro pastoralists have used some of the more inhospitable parts of the country. Tanzania, has the third largest cattle population in Africa. Its current and potential value to the people in the rural area has to be put in its proper context.

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<sup>8</sup> At independence, about 5% of the population of Tanzania dwelt in urban areas, and the present estimated proportion is more than 30% of the total population. Excluding luxury items, imported from Europe and South Africa, less than 60% of the population now feeds the nation. I am aware that less than 5% of the population feeds the USA – but that is a different story.

Without local knowledge and its use Tanzania would be a very much poorer country. Yet, because a variety of eco-regions are used such as for instance the arid and semi arid areas, highlands and coastal lowlands, fertile and so fertile land etc, the agricultural problems also tend to be localized rather than take a pan-territorial dimension. There is a mosaic of farming systems ranging from the manipulation of water on the slopes of Kilimanjaro to the *mlau* or the retreating irrigation system of the Warufiji in the Rufiji Delta. This diversity is of great value and importance to the stability of Tanzanian agriculture.

### **3.2 Livelihood & The Challenge to Health**

Since time immemorial human beings have tried to meet the challenges confronting their own health and welling being as well as that of their animals. Knowledge of plants, soils and water with special properties have enabled them to deal with infections, bacteria and disease. For instance, more than 3,770 years ago the ancient Babylonians, in present day Iraq, had prepared a check list of medicinal plants.

In Tanzania, most communities have tried to meet the challenges of pests. Where the problem is local and familiar the efforts of the traditional healers have meet with some degree of success. Where the problem was unfamiliar, such as the out break of rinderpest in the 1990's, (carried over from Ethiopia) the impact was devastating. In a survey carried out in Simanjiro found that the local Maasai community knew a total of 96 plants and treatment for 81 diseases. Plants were identified by the Tanzania National Herbarium of TPRI and a consolidated list with local terms and their scientific equivalence has been compiled (Minja 2000).

The formal health sector can only meet a small proportion of those with health and related problems. Notable successes have been made against communicable diseases, such as polio, some deficiencies like iodine. Despite all these advances, trained medical staff are very few, equipment and some drugs are expensive, the infrastructure, water, electricity are non existent. The fact remains that for many visiting health facilities is completely impractical and expensive, others simply cannot afford the cost and the lack of privacy and the aliën environment puts of others. In contrast, traditional healers are available on site even in the most remote villages. In Tanga, the traditional healers are very much attuned to the needs of the people (Box 1).

No matter which way one approaches the issue of health and well being, the traditional healers offer valuable services to both rural and urban dwellers. It is estimated that there are over 70,000 traditional healers spread throughout the country. They are resident even in the remotest village. This is a valuable asset. But there

are disturbing signs. In Tanga, the average age of a healer is 52 years, it is uncertain whether some of the plants will still be there or does the activities of the healers lead to ecological destruction.

**Box 1 Meeting The Health Needs Of The People**

In Tanga District there is one trained physician for every 33,000 residents. In contrast there are 670 traditional healers., some 337 being in Tanga Urban and the remaining 333 are in Tanga Rural. This means that for every one healer there are 343 residents and 146 in the urban and rural areas respectively.

"Healers are accessible, affordable usually have credibility and in Tanga have a treasure trove of biological diversity from which to collect efficacious plants".

Healers can be herbalists, diviners, mediums, birth attendants and midwives, surgeons, traditional psychiatrists and counselors. Healers have specialist knowledge for treating physical, bacterial, cultural, and psychological ailments.

When AIDS arrived in Tanga and patients seemed to be condemned, it was the healers, with traditional knowledge, who offered them some hope .

**Source: World Bank, IK Notes No 51.**

### **3.2.1 AIDS**

For our discussion on L & IK there are a number of good reasons to focus on AIDS and because of the gravity of problems to learn lessons from it. When the first three patients died in Tanzania, in 1983 not even the learned knew about AIDS. For a number of years after that it was a topic of a great deal of discussions at conferences and meeting all over the world. Most decision makers tended to treat AIDS as a medical problem. But unfortunately the formal medical profession did not have any answers to this "medical problem".

It is guesstimated that in Tanzania there are at present nearly 2 million people who have been afflicted by AIDS. Even if the drugs to keep it under control were to be donated, with the exception of a few large hospitals, the infrastructure is simply not there to test, prescribe the treatment regime and to monitor the progress. As it is nearly half of the patients in the major hospitals are AIDS patients implying that they create a logjam which prevents patients who could otherwise be treated or get attention.

AIDS is much more than a health issue. It is compounded by the social and economics consequences to the patients, their families and the people around them. The devastating impact of AIDS can be gauged by the points made by Dr Peter Poit. In his address to the World Summit on Sustainable Development (Box 2) he highlighted the wider issues. In Tanzania a deal of attention has been focused on the condomized approach to AIDS prevention. In the formal sector there has been little done to treat, care or to offer support for those with AIDS.

There is as yet no known cure for AIDS. In the developed countries a cocktail of drugs, which are expensive to get, have prolonged life. Few in the developing countries can afford to purchase these life prolonging drugs. After a great deal of debate there is a good chance that some of the drugs used in the developed countries will be available at concessionary rates in Africa.

In 1999, President Mkapa declared AIDS a national disaster in Tanzania and within a short time appointed a Major General to head TACAIDS. Although it is under the Prime Ministers Office, its independent status as a Commission means it has the flexibility to act. There has been a noticeable and necessary re-orientation. The main thrust of TACAIDS will be through the Community AIDS Response Funds (CARF). CARF will both strengthen and complement the existing Government efforts. National and International NGO will form Regional Facilitating Agencies to assist Local Government Authorities and Community Based Organizations (TACAIDS/PMO 2003). Such an approach will give new opportunities for Traditional Healers to be recognized and to offer valuable service which would otherwise not be available to the rural people.

### **3.2.2 L and IK In The Age of AIDS.**

Given a situation in which drugs for the treatment of AIDS were simply not available or unaffordable, what did the Tanzanians suffering from AIDS do? A very large and increasing number simply resorted to traditional medicine and start the fight for survival. It is as if they quite simply accepted the fact that if you do not survive, you cannot develop. The battle for survival depends on the affordable medicine from the traditional healers. No systematic study has been done but we do have a well documented case study, from Tanga District which sheds a great deal of light regarding the way foreword.

## Box 2 The Impact of AIDS

A report released by UNAIDS for the Summit warns

- that AIDS robs communities and nations of their greatest asset their -- PEOPLE.
- AIDS drains the human and institutional capacities that drive sustainable development.
- This distorts labour markets, disrupts production and consumption, erodes productive and public sectors and ultimately diminishes national wealth.
- As HIV prevalence rises, poverty deepens, and in combination with other setbacks, AIDS can trigger food crises.
- Some of the countries worst affected by AIDS face the prospect of un-Developing seeing their development achievements dissolve in the wake of the epidemic.
- Particularly affected by this chain reaction are young people, since half of all people newly infected with HIV are under 25. An AIDS-ravaged generation of youth constitutes not only a human tragedy, but a basic threat to communal security, Dr Piot said.

**Source:** UNAIDS Statement at World Summit On Sustainable Development, Sep 2002

### 3.2.3 The Tanga AIDS Working Group (TAWG)

In 1990 in an initiative to improve public health goals in Pangani, it was decided to obtain the participation of traditional healers. During one encounter, Waziri Mrisho an 84 year old healer requested that since there was little progress with some of the confirmed HIV / AIDS in-patient he be allowed to treat them with three medicinal plants. Not only did the patients respond to the treatment for opportunistic infections that became fewer and less severe but they also regained their appetites, gained weight and had improved health. In 1994 TWAG was officially registered as an HIV/AIDS NGO. As a continuation of a joint venture to improve public health, TWAG has moved to Bombo Hospital, in Tanga as well as in Muheza District.

Plant remedies soon became the standard treatment for HIV / AIDS. While the three plants originally used form the core of the treatment, other plants have also been introduced. A home care service to deliver the plants at home for the patients and their families was started and along with this, the monitoring of health and providing counseling was also available. What has been the impact of this TWAG's work. Basically, apart from treating over 2000 patients, there were three powerful messages for HIV / AIDS patients and relatives:

- With treatment, HIV / AIDS patients could prolong their lives;
- This improvement and well being had social and economic consequences especially for children; (children became orphans later rather than earlier.
- The medicines were conveniently delivered at home and at affordable prices

#### **4.0 L & IK Opportunities In Tanzania To Accelerate Development**

Potentially there are great opportunities for Tanzania to capitalize on the L and IK knowledge of the people. This stems from two great diversities: a physical/biological diversity and a cultural diversity that embraces more than 125 tribes. The cultural diversity and ecological diversity are intimately bound and inter-related. Destroy one and the other is threatened. The Malmo Declaration of 2000 drew attention to the need of preserving cultural diversity. In Tanzania, out of the nearly 125 languages, nearly 70% are threatened. The Maasai have culturally a great deal of understanding of the range. They plants as indicators of the health and productivity of the range. All this knowledge could be better used.

The old style of development in which peasants were expected to grow primary crops or products for export will perpetuate poverty and degrade the resources. For instance, using blackwood for charcoal making, as was the case in the recent past, is an extreme form of ignorance. The Makonde culture and knowledge of using black wood for carving is a national asset. The value added through their carving is both a cultural and a financial advantage. Traditional healers in Tanga who use a variety of plants for medicines, from the rich biodiversity of the area, could have this knowledge transferred to their counterparts in Kisarawe and Mkuranga Districts. Ultimately and depending on circumstances knowledge systems have to be realistic in the manner in which they are used. In a real life situation there are all types of variations to consider but in nearly all cases there is an improved situation (Box 3).

**Box 3 L & IK For Accelerated Development**

**Uganda:** In an effort to reduce maternal mortality rates in the Iganga District of Uganda, UNFPA gave Traditional Birth Attendants (TBA) "walkie talkies" which were linked to a solar powered VHF radio communication systems at the Primary Health Care Centre (PHCC). Improved communications between the TBAs' and the PHCC meant that there were timely referrals and health care for a larger number of pregnant women. In a matter of three years the maternal mortality rate was reduced by 50%.

**Utter Pradesh (UP) – India:** Agricultural production declined dramatically during the 1980's when inappropriate irrigation practices resulted in the salination of soils, infestation by brown hoppers made farmers lose 40% and 60% of their paddy and wheat respectively. In 1993 the government launched a WB supported farmer driven project. Using IK and their own experience, farmers reclaimed 68,000 ha of land by spreading gypsum etc. The use of bunds, green manure, multi cropping. Neem extract was used to control the hoppers. Income levels rose by 60%.. The community has also started its own school to train farmers.

**Tanzania:** The Premier Cashew Processing Factory opted not to get involved with expensive cashew processing equipment from Italy or Japan. Each of the 10 factories in Tanzania, cost approximately US \$10 million. Instead they used simple manual technology that is prevalent in India. Close to 1200 women are employed, nearly 5,000 tons of cashews are processed adding value to the product. The factory also gets by products, used a braking fluid, the shells are sold to a cement plant and the waste from the carnel is used as a chicken feed. The factory is a net foreign exchange earner

**Source: WB; WB; AM**

The potential interest is emerging among individuals and some professionals and institutions, both NGO's and in the Government. At present it is uncoordinated. Such interest and the process of making IK visible needs to emphasized the grassroot level. The interest in IK is gaining momentum in Africa. Because of its location, Tanzania has got a deal to offer (Mascarenhas 2002).

**5.0 So What Is So Important And Great About L & IK ?**

In the context of the Forum there are several aspects that indicate the importance and value of Local & Indigenous Knowledge in Tanzania. In the words of James D Wolfensohn, President of the World Bank:

*Indigenous Knowledge is an integral part of the culture and heritage of the local community. We need to learn from the local communities to enrich the development process. You simply cannot have development without a recognition of culture and history.*

It is worth considering the following aspects of L & IK in Tanzania:

- **National Heritage:** One of the most important aspects of L & IK is that it is a tool and a great asset that is part of the National Heritage. Therefore there is no need to ask anybody permission for its use. L & IK is already responsible for generating a considerable part of our present development because it enables all different eco-regions to be used.
- **Livelihoods:** In the context of livelihoods L & IK tends to be integrative rather than divisive. It is holistic rather than sectoral, practical rather than theoretical. All the senses including common sense are employed to understand the processes. A traditional healer, not only has knowledge of diseases and their symptoms but he also has to be a botanist, processor counselor etc.
- **Efficiency and Specificity** From the aspects of efficiency and specificity L & IK is cost effective and uses technology that is appropriate. For instance, having factories that cost millions of dollars, to process cashew, when there is no convenient source of electricity is a waste of foreign exchange. Using basic knowledge, (Premier Cashews) to process nuts results in more employment, keeps overheads and loans to a minimum, adds value and also makes Tanzania competitive.
- **Addresses Real Problems:** Most of the examples in this paper demonstrates that L & IK focus on the solutions to the problems. For instance, there were no endless debates about AIDS. It was recognized that the opportunistic infections were the problem and relief was provided. Pastoralist in Saminjiro knew the plants and the diseases and problems that could be treated
- **Organic Farming** Organic farming/agriculture is the way of the future. Most traditional agricultural systems in Tanzania are organically based. This is the way of the future. Products that avoid chemicals for fertilizers and pesticides fetch a premium price. Organically grown tea from Southern Tanzania has been in the British market for over a decade,
- **Low Cost Solution:** We may be seeing an upsurge of low cost solution which are inspired by L/IK practices. This includes rainfall harvesting, traditional irrigation (e.g Chamazi in Lushoto);
- **Revival & Possible Improvement of Past Good Practices:** This includes multiple cropping, integrated pest management retention of seed diversity etc ;
- **Capitalizing on Bio-products:** Powerful medicines such as, quinine, aspirin (the willow), digitalis (fox glove) have their origin in IK. Nearly 25% of all pharmaceutical products are plant based. Still another age is being augured in.

- **New Institutional Arrangement:** The time for listening and learning is probably being ushered in.

## **5.1 A Note of Caution**

With all the potentialities and benefits from enhanced use of L/IK it is possible to overlook some of the indiscriminate use of technology and scientific break through such as GM Foods. The main danger is the increased vulnerability that follows. There have been a number of efforts to document traditional use of medicinal plants for animal health care. There is a dilemma. While documentation and sharing are necessary steps in the wider application of a knowledge base, how can the rights of people be protected against biopiracy, bioprospecting and other unethical commercial practices? (FAO/LinkS 2000). The threats of farmers losing their rights because of loopholes is real (Kabudi 2000). Above all there is need to document all aspects of I and IK.

## **6.0 Conclusions**

In this brief on going work, it has been only possible to present an outline. L/IK is not an exclusive panacea. Knowledge has to be used for development. In the near past we were hypnotized by the statistics on productivity per area and person. Then it was realized that the environment was affected, as small farmers were bought out and corporations took over – it seemed that a new scientific age has dawned. But science should not be allowed to go on a rampage as in the development of the arms industry. For poor African countries what does such futuristic agriculture portend?

The misuse and failure to use knowledge has cost Tanzania to financially haemorrhage. Equally, in this day and age, there is something quixotic, if we continue to have blind faith that a citizenry armed with the primary education of the formal sector – basically devoid of local and indigenous knowledge, can propel us to growth. It is not a question of a choice of either the modern or the traditional – rather it is a question of relentlessly using both. The best path forward is to make dedicated efforts to integrate the modern and traditional knowledge systems. There is a very great potential for Tanzanians, to use L/IK, to get low cost services, carry out secure and sustainable agriculture and above all to add value to products. The evidence from other countries demonstrates that such a step can accelerate growth. In such a situation there will be a self reliant improvement in the quality of life for the majority of people and not only a privilege of the rich and powerful. Only knowledge that is not corrupted, that is broadly based, that aims to be equitable, that is just and democratic can bring peace and accelerated development.

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