

Use of Indigenous Knowledge and Social Networking in Resource Management: A Case Study in Sustainable Development from KwaZulu-Natal*

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ABSTRACT Recognition and application of social networking, based on indigenous knowledge systems, requires greater attention, on the part of policy makers, especially in rural areas where it has sustained the livelihoods of people in many developing countries for generations. This paper is an attempt to illustrate how this actually functions in South Africa's north-east province of KwaZulu-Natal, home to people of mainly Zulu background, with smaller populations of European and Indian descent. The information is based on ethnographic data gathered from women who operate as street traders in the city of Durban's train station and a beachfront zone that is a major tourist attraction. By dealing with the profile of the women, the social ethos under which they operate, the characteristics of their social networking and the effects of the spill over of their knowledge, and the rewards of self-effort, this paper illustrates that local social structures and indigenous knowledge systems are crucial in sustainable development strategies. It argues that exogenously conceptualised development programmes should really have a facilitating role rather than the hegemonic one it enjoyed over the last five decades.

INTRODUCTION

This paper is based on fieldwork in the KwaZulu-Natal province of South Africa, with African women who are producers of domestic items such as brooms, door and floor mats, baskets, sieves and a range of other items. To produce these items, they rely largely on the leaves of a species of the *Hyphaena coricea* family, lo-

cally referred to as the ilala palm tree (hereafter referred to as such). I have discussed more extensively elsewhere (Singh, 1988 and 1997) how the plant has been placed on the endangered species list in the province, after it has been considerably depleted here and reached a point of total extinction in the neighbouring province of Transkei. Its exploitation is by both men and women, who see its value in different ways. While men draw out the sap from the trees for a local alcoholic brew – which leads to a premature destruction of the tree, women exploit it more carefully for a more rewarding and more sustainable livelihood – by depending only on certain age and size of leaves. The manner in which these leaves are exploited and the social patterns that are associated with it, provide important information that can be fed into policies that are aimed at tackling poverty and resource management in practical ways, as well as understanding how indigenous knowledge, social networking and spill overs can understood and utilised.

One of the questions that is central to contemporary development issues is how best to build capacity of indigent populations in ways that will enable them to transcend their destitution and lead their own economic and social upliftment. For at least five decades development strategies were exogenously introduced, with the support of capital, managerial skills and technology that had no long-term spin-off for local populations. Most often the aim has been to produce goods for the middle and upper classes in the northern-hemisphere, thereby creating export oriented economies, instead of creating economies with an inward focus. This thrust, predicated on the theory of economic growth, led to benefit only small segments of the developing world's populations. Those who were marginalized and

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remained indigent were widely considered as "resource poor". This term gained international currency and was used as an intellectual justification by planners and policy makers to avoid rural upliftment and to concentrate upon the urban-industrial infrastructures – from which only the elite in the developing countries benefited most. But the inappropriateness of the concept is realised when we consider the knowledge, and the range of mechanisms and support systems such people tap into in order to ensure their survival. The knowledge they have of their environments, their selective use of exploitable areas of the natural capital stock in sustainable ways, and the social networks that act as social security in the absence of state funded assistance, constitutes a significant knowledge base which must classify such people as resourceful. Hence to consider those who fall outside of a region's or country's mainstream economic activities as resource poor is inaccurate and misleading. Farnsworth (Farnsworth, 1988) for instance has brought to our attention that out of 114 plant derived drugs, more than 70 per cent are used for the same purpose for which indigenous people discovered their use. Numerous other examples from several continents on such issues are presented by Singh and Titi (Singh and Titi, 1995). Together they present legitimate and substantial illustrations against the advocates of the theory of resource poor people.

Faith in the resourcefulness of the indigent have led many contributors to the discourses in sustainable development towards building up an information base in indigenous knowledge. Dei (1995) for instance, among others (see Singh and Titi, 1995) views indigenous knowledge as a fundamental tool for the empowerment of the poor in the world's drive towards sustainable development. Drawing from the information he gathered in the West African region, Dei (1995) argues it is increasingly being realised that the establishment of a more humane society in a globally transformed world will depend on the extent to which common struggles are based on the internal linkages between people's histories, heritage, philosophies, value systems and knowledge base. This knowledge draws on the common sense ideas of local peoples about the everyday realities of living. Indigenous knowledge

therefore is a world-view that shapes how local people relate to their environment.

An important feature in indigenous knowledge systems, especially where poverty is prevalent, is the tendency to spread income-generating knowledge. This is an almost induced phenomenon where collaborative action, brought about by normative behaviour through kin groups, neighbourhood ties and household linkages, leads to spill over from one area to another. A spill over is an important manifestation of the indigenous knowledge base over which local inhabitants often tend to feel a sense of collective ownership. A "spill-over" in this context is the transference of local knowledge from one person/s to another/others who are either close-by or who live in distant places, where such knowledge helps to facilitate and sustain the livelihoods of kin or others in the wider society of indigent people. Its function, therefore, is to empower people to make careful use of the natural resources in ways that help them to relate more closely to their environments, which generate local solidarity and assists in building up a consciousness and awareness of sustainable livelihoods. The important aspect here is the fact that the spill over is facilitated through indigenous mechanisms and local forms of communication.

Numerous world leaders in our recent history have based their campaigns against poverty along these lines. In attempts to draw support from them several writers have referred to the initiatives of people like Gandhi and Mao Tse-Tung (Gupta, 1995; Hall and Sullivan, 1995) among others, in order to build a case for their arguments. The appeal of such revolutionaries lie in the pragmatic approaches they adopted in their crusades against imperialism and exploitative authoritarianism. Their revival is intended to remind the world of the need for simplicity and common sense approaches towards sustainable development that reaches out and empowers the marginalized masses. However we can only begin such initiatives once there is well informed knowledge of the local populations – based on what they have and what they know, their relationships to their environments and the options they exercise through their local indigenous knowledge systems. The information below is an attempt at such an exercise, which is intended

to contribute to the growing demand for more information on indigenous knowledge systems.

PROFILE OF THE WOMEN

The women whose lifestyles make up the ethnographic content of this paper are part of a wider group of female interviewees who were interviewed over several months in 1997 and early 1998. In building up the profile of this target group certain common aspects were researched. Their ages, the distances of their natal or residential villages, the size of their trading groups and the partnerships that resulted from them, the number of items they manufactured from the ilala palm leaves, their earnings and the contributions they make towards the survival of their households, their household responsibilities and the case histories of their acquisition of knowledge on ilala palm processing, formed the basis of the open ended questionnaires. Building up the individual and group profiles was a time consuming effort that demanded more than one visit to most of the women who were interviewed. The collective time spent with the women ranged from between two to three and half-hours that were spread over several visits.

Fifty women were intensively and extensively interviewed from a population of at least two hundred who operated as street traders in the central business district of Durban, KwaZulu-Natal's major metropolitan city. Numerous oth-

ers were casually spoken to, often at times to either cross check or affirm information that was elicited from the interviewees. Of this fifty, seventeen women provided episodes in their lives that illustrated variations of a general pattern of incorporation into the activities of ilala palm processing. Their ages ranged from seventeen years to sixty-three years and they all came from various rural areas outside Durban. Reconstructing the histories on how they have either acquired their knowledge or dispensed with it for the benefit of others required careful backtracking of thoughts that pointed towards every direction in the province. Their responses could only be counterchecked with others in the trading group - who were physically present with them. The time, effort and support that was rooted in the rural areas could not possibly be cross referenced because of the distances and number of areas that had to be covered. It is in these areas that the kinship networks, neighbourhood ties and household assistance galvanise to engage in activities that transcend their meagre existences. But it is also from these sources that knowledge is dispensed to other households, neighbourhoods and distant villages. Their activities lead to common forms of social and household patterns, giving rise to a cultural and economic ethos that has become too vast and entrenched to ignore.

The table below illustrates some of the common features of the women whose activities reflect these issues.

Table 1: Reflecting specific issues of seventeen women dealing with ilala palm products

No.	Spill over from (indicating person and distance from)	No. of items processed from ilala palm leaves	Avg. monthly earnings	No. sup.in rural area
1.	Mother's sister - 20 km	2: door mats; brooms	R250.00	6
2.	Maternal cousin - 50 km	2: door mats; brooms	R280.00	4
3.	Sister - 10 km	3: Brooms; hats; floor mats	R400.00	7
4.	Father's sister - 15 km	1: brooms	R200.00	4
5.	Father's sister - 10 km	4: brooms; door mats; floor mats; sieves	R400.00	8
6.	Father's "other" wife: 20 km	3: floor and door mats; baskets	R350.00	6
7.	Mother: 45 km	2: Baskets; brooms	R250.00	7
8.	Mother: 30 km	2: Hats; brooms; door mats	R300.00	5
9.	Family: 15 km	4: door and floor mats; brooms; baskets	R400.00	8
10.	Friends in squatter camp	2: brooms; baskets	R200.00	5
11.	Friends from central station	2: brooms; hats	R200.00	4
12.	Neighbourhood	4: brooms; baskets; door and floor mats	R500.00	7
13.	Neighbourhood	3: baskets; door and floor mats	R350.00	8
14.	Neighbourhood	4: brooms; baskets; floor mats and curtains	R550.00	9
15.	Neighbourhood	3: baskets; floor mats; curtains	R500.00	7
16.	Neighbourhood	3: baskets; hats; floor mats	R350.00	7
17.	Neighbourhood	4: baskets; floor and door mats; curtains	R400.00	8

The table above is arranged in a manner that reflects the sources from which knowledge of ilala palm production emanated, as well as the distance from which they acquired the knowledge, the number of items they processed, their average monthly incomes and the number of people they supported. Numbers one to three reflect a spill over from maternal relatives, numbers four to six reflect a spill over from the paternal side of the household, numbers seven and eight show that knowledge was derived directly from their respective mothers, while number nine, who lost her mother through death, returned to learn from her paternal household. The common factor in all three was that all learnt the art of processing ilala palm leaves after marriage. Numbers ten and eleven were exceptions in that the knowledge was acquired in an urban environment where their common plights of poverty engendered interdependence and sharing of knowledge. The remaining six cases are from rural areas where the knowledge was basically spilled over from neighbouring households, but which were not necessarily within immediate distances from each other. Acquisition of the relevant knowledge was facilitated by kinship obligations, neighbourhood relations and household ties that straddled between and amongst the interviewee villages.

There were several reasons that led to the women learning the art of weaving ilala palm leaves from their mothers and paternal kin at a later stage in their lives. A common reason has been the fact that the trees were not available in their immediate vicinity, as in the cases of one to six and ten and eleven. In such villages and household units economic activities did not centre around ilala palm processing, but in subsistence farming, cattle herding and wage labour in industries, commerce and domestic employment. In other cases the women had to tend to younger siblings and to household chores and therefore did not initially have the opportunity to work in an activity that not only ensured their household's survival, but survival at a later stage in their lives. A spill over from one area to another in ilala palm processing has cut across the province, as the table illustrates, because of the ready market and demand for the products. Brooms, made with long handles of between four

and five feet for instance, are an essential utility for most middle class homes in the province. Middle class residential areas, which are extensive and well established in South Africa, are generally characterised by properties that exceed land sizes of one thousand square metres – which require daily sweeping. The brooms last for about three months therefore necessitating continual renewing. Door mats and baskets are also in demand although slightly less and sieves, hats, floor mats and curtains enjoy a lesser popularity than the first two items.

It is clear from the table above that the earnings from these activities are insignificant when compared with the contemporary regional Household Subsistence Level figure of R1500.00 per month for a family of four. The figures which have been expressed as an average by the interviewees range from the lowest of two hundred rands per month to the highest of five hundred and fifty rands per month. Behind each individual's earnings is a set of activities that highlights the social context in which production occurs. These activities are classic illustrations, which anthropologists have been stressing for decades, of how the social is tied to the economic and how both their activities are tied to the domestic (homes) and tourist industries, if not, the global economy. The social and the economic are inseparable, especially in rural areas. This does pose a major challenge to the protagonists of economic growth theory which since World War Two has consistently ignored the value of social factors in economic activities.

THE SOCIAL ETHOS

Apart from having a strong economic value ilala palm products are culturally significant in Zulu symbolism and gift giving. During wedding ceremonies and symbolic gift giving, products of ilala palm such as floor mats and woollen blankets are important mediums that reinforces social relationships and the indigenous hierarchy. Presents are especially given to the chiefs on special occasions and to parents of the bridegroom in wedding ceremonies. The presentability and workmanship are generally openly expressed in appreciation at the time of presentation. Ilala palm mats are given together with

blankets in ceremonial style to the males first, beginning with the most senior, and then to women, again following a pattern of descent. The mats are used only during special occasions when relatives gather overnight to sleep on the floor of the rondavel (a circular single roomed hut). The mat is placed on the floor as a buffer against the cold and then individuals cover themselves with blankets. The mats may also be used for visiting women relatives who are traditionally expected to sit on the floor, and are given an ilala mat to place under them as a mark of respect and acceptance of their visit. Although the ilala palm trees are concentrated in selected areas of the province, its prestige and symbolic value makes people travel long distances to purchase them as gifts prior to weddings. It forms an integral part of the ceremonial exchanges that occur during this occasion and symbolically contributes towards the bonding of the two families.

For these reasons the ilala palm trees have enjoyed a near sacred status by the people of Zulu origin and have been seen as a lifeline to many who have been unemployed, unemployable through age or physical condition, or who had no alternate source of income. The tree has earned for itself a symbol of unification of and solidarity in local communities. Its income generating potential symbolises survival and continuity and is occasionally celebrated by the brew of the sap that the tree produces. The difference between this community celebration and the male dominated syndicates is that the former is carefully sought by sapping trees without posing a danger to it, while the latter engage in sapping indiscriminately. This is a clear illustration of localised responses to sustainability. It is widespread in Africa, as Dei (1995) illustrates from his ethnography of West Africa. In an almost similar scenario presented by the Ayirebi community which he researched in south-eastern Ghana, he argued that some trees were considered sacred because of their significance to their community's cultural history.

Table 1 above alludes to the factors of household, neighbourhood and wider kinship bonding, that are facilitated through the activities of ilala, palm processing. The table is intended to briefly illustrate some of the spill over aspects in the expansion of ilala palm processing, as well as

the personal cum social responsibilities that individuals have in their fight against poverty. The sharing of knowledge, as brought about by its filtering from one area to another, the processing of leaves into saleable products, the money that is generated from these activities and the number of people who are supported by them, bring out the various manifestations of the social ethos which underpins their daily routine.

The factors that characterise life in the rural areas have already been widely documented (Murray, 1981; Wilson and Ramphele, 1989; Martin and Beittel, 1987), among others. One of the main features of the social structure in KwaZulu-Natal's rural areas, as in most other parts of South Africa, is the absence of the active male labour force. These areas are left with mainly elderly men and women, and children who cannot be accommodated in the urban areas. Remittances from the urban areas from family members who are employed are not regular, if they are able to or care to remit to the rural areas. This has created a situation of desperation by those who are left behind and who are unable to fend for themselves in the highly competitive job markets in the urban areas. Their poverty has led to innovative and dynamic forms of interaction that has led to a revision of social forms and an inversion in household leadership and responsibilities. Women have virtually taken over from their absentee husbands in the responsibilities of household management and kinship obligations, the herding of cattle – designated to younger boys – and the marriage decisions of children, especially daughters, where they are able to effect control over them.

Local chiefs still wield control in their villages and are able to effect control over those they are deemed to have responsibility. For instance, in villages where the ilala palm trees are found, they automatically fall under his control. He then manages their care and protection and dictates the harvesting of leaves in different times of the year. While all those who are engaged in the processing of ilala palm leaves are theoretically entitled to harvest when called upon in terms of local practice, a degree of politics has been reported by some interviewees. For instance, when the leaves are due to be harvested, word allegedly first gets around to the chief's wives and

immediate relatives – if they engage in these activities. Only after the first day when the best have plucked, are the others apparently invited to engage in the harvest. Men however are forbidden from exploitation of the trees, because of their reputation for sapping the trees. Harvesting takes place over a short period of no more than a few days, depending upon the number of trees that are in a particular locality. Harvesting, transporting and processing are usually household-based efforts that include collaborative efforts from the wider kin and neighbourhood groups. Interdependence and reliance upon one another are part of the normative behaviour in the rural areas. These are almost entirely women centred activities that have created a sense of solidarity among them and acted as a cushion against the widespread absence of the active male labour force.

SOCIAL NETWORKING AND SPILL-OVER OF KNOWLEDGE

Social networks have been a cornerstone of anthropological interests since the 1960s, especially in the study of migrants and the organisational forms that their relocation from the rural areas have encouraged. Mitchell (1969) viewed a social network as a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behaviour of the persons involved. The interpretation in this context requires a closer examination of the economic linkages that such social networks produce. After Mitchell, Knoke and Kuklinski (1982) alluded to this notion by stating that the social linkages possess some attributes that identify them as members of the same class for purposes of determining the network of relations among them. The second column in Table one above provides some information on the nature and class of the networks that were spoken about by the interviewees. It is essentially through the medium of these networks that knowledge of ilala palm processing has spread. Most of the women depicted in the second column learnt the art and the economic value of the trees at a much later stage in their lives. One of the seventeen women (see number 3 in

table one) acknowledged being part of a local syndicate of mainly males that exploited the ilala palm tree for its sap, in order to produce their alcoholic brew for sale among local inhabitants. Its more refined use and sustainability was only realised by her at the age of forty eight, when all the trees in her locality were destroyed and together with the others, she was left destitute. Her community had no knowledge of the swift destruction they were bringing to the trees by sapping them. She had to return to her sister who lived ten kilometres away to learn about careful extraction of the leaves from the ilala palm trees, for processing. This exercise also led to at least three things viz. several women in her immediate neighbourhood benefited by learning how to make brooms, hats and floor mats. It was a serious lesson in the economic value of the tree, the need to use it in a more sustainable way, and a project to reintroduce the trees into their locality by planting new ones. In this case a new found consciousness has emerged in grasping issues that have relevance to the local ecosystem and responsible utilisation of exploitable plants to ensure sustainability.

In the cases of the women indicated from numbers twelve to seventeen, five of them began their work with ilala palm leaves under the guidance of their mothers or other women from their neighbourhoods since adolescence. One of the youngest of the interviewees, a nineteen years old girl related her experiences and awareness. She began working with the leaves since the age of twelve, under the guidance of her mother and women from her neighbourhood, who themselves learnt it from relatives about sixty kilometres away from their village. At that early age she was being taught the value of the trees and the need to care for them in a way that will ensure their survival. She was aware that sustainable use of the trees ensured sustainability of her own livelihood. Her community was fortunate to be situated close a nature reserve, from where the conservationists kept close contact the local chiefs and educated them about the value of the ilala palm tree and the need for general ecological sustainability.

The contrasts in the two cases above illustrate the value of exposure to education at two levels viz. from an early age when people are

conscientised about the necessity to ensure the sustainability of the ecosystem, and at the level of the community, starting from the hierarchy where the power to influence and to control local inhabitants activities is made possible. In these two cases the striking aspect is that while the former had engaged in destruction of her environment and livelihood up to a very late stage in her life, the latter had an early introduction to ecological issues and sustainability, making her a conscientious citizen at a young age. It is well a known fact that children in the rural areas in KwaZulu-Natal have either little or no exposure to formal schooling. The resources are generally unavailable or very meagre in these areas and the enrolment rate is low while the drop out rate is high. With parents lacking the finance to send their children to school and the absence of an historically based literary tradition, there is still a high degree of non-compulsion to engage in longer term schooling. Such areas become the reservoirs of cheap unskilled labour or the suppliers of large armies of unemployed people who gravitate towards the urban areas where employment opportunities and accessibility to food is deemed to be easier. The urban areas in the province, like many other metropolitan centres in the developing world, have become synonymous with dumping grounds for excess labour. The problem is exacerbated through land invasion and the proliferation of squatter camps, which are havens for unhealthy conditions and anti-social behaviour.

Those who have remained behind in the rural areas and who acquired knowledge from their neighbourhoods, forebears and contemporary households, or from some initiative that was a product of a spill over from another area, provide interesting scenarios of how life in the rural areas can be made sustainable. Each one of the women in the table above is a recipient of knowledge that emanated from outside their own households. The spill over to them occurred through various processes, including chance. The diversity in these processes include:

1. talking about the difficulties of life and being encouraged by kin,
2. knowing about the activity and making the effort to go out and learn from people who are willing to teach,

3. coming into contact with education programmes on ecosystems and sustainable development,
4. learning about it through friends and building up courage by observing others in the activity,
5. learning from neighbours who are equally destitute, and
6. sheer chance and coincidence.

Recourse to knowledge of ilala palm processing is based on the common will by those who have it to ameliorate the impoverished statuses of kin, valued friends and respected neighbours. The willingness to share the knowledge and ideas stem from the common destitution the women have and the solidarity that is generated from it. There is a special tendency to filter this knowledge to kin who do not have an income. For this reason, as the table illustrates, several of the women related accounts of having to travel long distances in order to spend several weeks with relatives to acquire sufficient knowledge and to be able to work independently before returning home. Often, this orientation has a ripple effect in that others in the neighbourhood become benefactors to this acquired knowledge, thereafter empowering them as a group to engage in a much bigger collectively based venture. Since the urban areas and metropolitan city centres provide the most attractive markets for the women's goods, a rural-urban continuum has to be created for the viability of their activities. The rural areas are the source of their materials and the household members who there are an indispensable support network. This kind of reliance necessitates learning about the harvesting patterns, transport and at least initial preparatory work with the leaves in the rural areas. There is a feeling of commitment among household members to participate in the activities, especially since each one's survival is at stake. While this organisational pattern ensures a constant supply of unprocessed material and partly finished and unfinished goods, it also ensures the spreading and survival of knowledge in ilala palm products. Each member of the household ought to have at least a basic knowledge of the working patterns, which in turn introduces other well meaning kin or neighbours to it, when they assist in overseeing the welfare of the children and elderly while the

more productive women are away.

Spill over has become an important enabling mechanism for the impoverished to acquire some form of knowledge that assists them in transcending their conditions of impoverishment. For the manner in which it has functioned among the ilala palm producers, it has shown itself to be cost free and accessible to the most deserving. Its spread is often spontaneous and carried out with the genuine will to facilitate independent income generation among others. In this manner the dignity of the household and wider community is sustained and sometimes even resurrected by the dignity of the independent efforts of individuals.

REWARDS OF SELF-EFFORT

The seventeen cases in the table above are classic examples of how self-initiative and collaborative action contribute towards the capacity to survive in areas with no infrastructure and support mechanisms. When the low earnings of the women illustrated in column four are compared with what unskilled and domestic labourers, especially women, earn in the urban areas, the initiatives of the ilala palm producers fair positively against their urban employee counterparts. There are three issues that emerge through self-effort, which provides a basis for possible reorientation away from the indignities of unskilled lowly paid highly exploited labour. First, the women have demonstrated an ability to either match or transcend the earnings of domestic labourers. Second, they either restore their personal dignity or totally avoid the indignation suffered through paltry treatment as unskilled labourers. Third, the creativity and innovativeness that their individual trial and error has produced is worthy of the highest commendation. The lack of recognition for these factors has led to poorer conceptualisations of development strategies and ideologies and the formulation of inappropriate and ineffective policies.

However, self-effort should not be confused with either the eurocentric notion of individualism or the often mistaken notion of tribally based communalism. While collective efforts towards harvesting, transport and production are the norm among the women, self-effort is a phenom-

enon that straddles between the two notions of individualism and communalism. The issue of self worth and dignity is a high priority among the women, judged especially by their strong will to remain self-employed. At the centre of their personal values lie their unwavering commitment to strong family and cultural values. Their efforts revolve around keeping the household as close knit as possible and safeguarding whatever possessions they may have in the rural areas. One is often treated to expressions such as "*In our culture...*" or "*In our families...*", whenever there is a need to articulate issues of self or collective effort, family or task structures, personal or broad philosophical values.

A level of individualism cum self-awareness is seen in the way in which authority and control over household resources is effected among the women. The striking feature about this issue lies in the way they have to straddle between an impermanent trading site in the city centre and a permanent abode in distant rural areas where destitution is a somewhat accepted and persistent problem. While ilala palm products provide the most constant flow of income to them, their vested interests in the rural areas remain a priority to them. Their land, homesteads, farming implements, livestock, poultry and kin are sources of perennial concern. As one woman summarised the point in succinct terms: "We work to feed our families in the farm at home and to make sure that our things are cared for while we are not there." Reference to "*I have...*" have occasionally been made. However, despite the frequent reference to collective efforts and family pride, the personal responsibility and roles that individuals have is seldom under-emphasised. The women have spoken at length about how they supplement their incomes through subsistence farming and by tending to their livestock and poultry. The land provides some basic vegetables, cattle provide an amount of milk – though seldom in excess, and poultry provides the occasional taste of meat – especially during ceremonial occasions when other animals such as goats or cows are sacrificed. While in the final analysis the women do take personal credit for the management of their resources, they seldom ignore the fact that it is their social networks both in the urban and rural areas that function simultaneously to make

this possible.

CONCLUSION

In view of the ethnographic information above, certain fundamental questions emerge, such as: "How do we link this with the process of globalisation and the quest for a virtual homogeneity in the world's economic systems?" or "How do we apply this knowledge to harmonise with provincial or national development goals?" or "Is this not an attempt at turning back the clock in an age that is now increasingly being referred to as "post-industrial". There are certain common characteristics in this contemporary period, alternatively referred to as the global economy or post-industrialism. The most glaring among these is the increasing replacement by computer based technology of large industrial workforces and rapid devaluation of the currencies in developing countries, leading to increased unemployment that was last witnessed only in the period prior to and post Second World War. There are few alternatives for people who are past the age of feeling inclined towards acquiring new knowledge and retooling for new careers, other than to possibly engage in self-initiated small business ventures. The lack of alternatives is not only driving many towards this scenario, but is also inducing an increasing reliance on conventional institutions, social networks and individual relationships. It is from these kinds of associations that new ideas, survival skills and "reinvented strategies" for survival – based on local indigenous knowledge – as the information above suggests, are emerging on a daily basis. The marvel of such examples is that they are endogenously hatched, springing from indigenous knowledge, which Dei (1995: 150) refers to as "a world view that shapes how local peoples relate to their environments." The process of reconstituting and documenting these issues has already begun in the developing countries. In India's Indian Institute of Management, Ahmedabad, the formation of the Society for Research and Initiatives for Sustainable Technologies (SRISTI) in 1990 and their voluntary global initiative in the form of a newsletter, *Honey Bee*, has already paid substantial dividends. They succeeded across a wide international front

by networking people and the activists who are engaged in eco-restoration and reconstruction of knowledge about precious ecological, technological and institutional knowledge systems of people. Their network extends over at least fifty seven countries, the newsletter is circulated in at least seventy five countries, and they have collected more than five thousand innovative practices predominantly from dry regions.

How people relate to their environments and eke out a living on their own initiatives from them is the most central issue in the global drive towards economic and social upliftment. In his conclusion on building upon local creativity and entrepreneurship in vulnerable environments Gupta (1995) raised some poignant issues:

How do we ensure that poor people do not become more dependent on the process of development, instead of becoming autonomous? How do we avoid their performance becoming contingent upon external "clappers"? We submit that far too much attention has been given to the role of external change agents and far too little to the endogenous trigger of change, creativity and innovation.

The plight of the poor cannot be articulated in simpler and more persuasive language. If external agents of development and change believe they have a role to play, then it must begin from the knowledge base of the targeted population. But the most fundamental issues here must be directed at how the local population can be fed through their own efforts, what measures need to be taken to avoid an unbridled outflow of capital and what needs to be done to ensure its internal circulation, growth and retention within the local populations, and how best to repair broken social fabrics where they occur. Where outside intervention for development purposes occurs, the role must be focussed on how to build upon indigenous knowledge systems, allow for its expansion where the circumstances warrant it – such as through social networking, and keep the focus on local resources and expertise.

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