Systems Implications for Rural Development

INTRODUCTION

This discussion paper was prepared for the Kellogg Research project into the potential to harness distance education strategies to support and promote rural development. The paper explores the concept of systems theory in order to gain an understanding of the dynamics that will need to be addressed if distance education is to have a significant impact on rural development. It has been assumed that there are certain basic criteria that can be applied to **all** quality distance education interventions but that there are also certain environmental factors which present unique opportunities and challenges for the support and development of rural areas.

The paper begins by offering a basic understanding of systems theory and applies the ideas of Bronfenbrenner to attempt to gain insight into the nature of rural environments. It then explores a distance education systems model and tries to link this to an understanding of the dynamics that need to be addressed in offering distance education in a rural context. Finally, the paper tries to develop a picture of what a distance education strategy might need to look like if it is to have any lasting impact on rural development.

1. SYSTEMS THEORY AND RURAL CONTEXTS

Systems theory is posited on the notion that people do not exist as isolated beings but rather as members of social groups within different systems. Often, people play different roles within these different systems and the different roles and systems will impact on one another. Failure to take account of the interconnectedness of these different systems in planning is in fact planning to fail. As Fullan (1993 in Gultig, et al. 1999) in writing on school reform notes:

Change is systemic
Political pressures combine with the segmented, unco-ordinated nature of educational organizations to produce a 'project mentality'. A steady stream of innovations – such as co-operative learning, effective schools research, classroom management – come and go. Not only do they fail to leave much of a trace, but they also leave teachers and the public with a growing cynicism that innovation is marginal and politically motivated.

What does it mean to work systemically? There are two aspects:

- Reform must focus on the **development and interrelationships of all the main components of the system simultaneously** – curriculum, teaching and teacher development, community, student support systems, and so on.
- Reform must focus not just on structure, policy, and regulations, but on deeper issues of the **culture of the system**.

[My emphasis.]

The first paragraph of the above quotation points to the need to address attitudinal issues in relation to education innovation. If we wish to introduce something new, we will need to create a culture that is receptive to the innovation, and will not see it as just another passing fad. SAIDE's experiences with the promotion of the Literacy campaign should offer useful lessons in this regard.

The second part of the quotation offers key pointers towards ensuring acceptance and longevity: planning that takes cognisance of the complexity of innovation, in terms of the interrelationship between the many subsystems that make up a particular society; as well as the need to place the innovation within its cultural context. These issues have come out very strongly in the case studies compiled for the Kellogg project to date. If we want something that works and is sustainable, it has to be meaningful for the intended participants and must be driven by their needs, rather than decided for them by 'outsiders'. Overall, as Holmberg (1995) notes, systems thinking can be linked with a holistic approach to educational service provision.

Bronfenbrenner (in Pettigrew and Akhurst, 1999) points out that learners are themselves embedded in several environmental systems which can impact on the quality of their learning. He identifies the following four levels:

1. *Microsystem:* immediate family and home environment which can have a direct impact on learning
2. *Mesosystem:* system elements which are one step removed from the learner but can have a direct impact on learning e.g. immediate neighbourhood, church, learning centre etc.
3. *Exosystem:* the third environmental layer consists of settings that the learner may not experience directly but which might nevertheless impact on the learner, e.g. spouse's place of work, friends of other family members, governmental and non-governmental organisations working in the area
4. *Macrosystem:* the cultural or sociopolitical context consisting of dominant beliefs, values, customs, laws and resources of a particular culture.

It is important to spend some time thinking about this because traditionally in South Africa, distance education interventions have been characterised by very low throughput and high drop out rates often related to institutions' inability to grapple with the **individual needs** of learners. High drop out figures in distance education interventions are often associated with family, workplace, financial and other militating environmental factors which traditionally DE institutions have not seen as being their concern to address (SAIDE[2], 2000).

What then are the characteristics of rural areas in South Africa that it will be necessary to take into account?

Census 96 offers the following definitions of urban and non-urban areas:

- An urban area is one which has been legally proclaimed as being urban. Such areas include towns, cities and metropolitan areas.

- A semi-urban area is not part of a legally proclaimed urban area, but adjoins it. Informal settlements are examples of these types of areas. In this publication semi-urban areas have been included with urban areas.

- All other areas are classified as non-urban or rural, including commercial farms, small settlements, rural villages and other areas which are further away from towns and cities.

Rural areas in South Africa tend to have the following characteristics:
- geographical isolation from other communities and services
- poor infrastructure – often few or no permanent roads, lack of piped water and sewerage, lack of electricity, lack of access to telecommunications
- strong community identity – more emphasis on collective rather than individual needs and processes and on direct human contact rather than other forms of communication
- high rates of unemployment and illiteracy
- disproportionate numbers of very young and very old people as the economically active youth and adults increasingly migrate to the urban areas in search of work
- high numbers of people living at or below a subsistence level standard of living
- higher mortality rates and health problems related to malnutrition, malaria, HIV-AIDs and lack of access to medical facilities and medicine.

Applying Bronfenbrenner's model we can expect:
- at the *microsystemic* level potential learners whose home environment may not be conducive to formal learning: the home environment may well lack stimulating sources of information such as books, radio and TV; there may be few role models within the home able to offer encouragement and support to those who may wish to learn; the demands of basic day to day survival may militate against uptake of learning opportunities that are not seen to have immediate benefits in improving the quality of life or which bear financial implications;

- at the *mesosystemic* level, there is likely to be a similar lack of access to information; it may well be that potential learners have to walk long distances to access even potential learning sites such as an existing primary school, church or clinic; related to this, might be limited access to potential role models and tutors/mentors – it is often the case, for example, that un- and underqualified teachers will be concentrated in rural areas as their better qualified colleagues migrate towards urban areas; traditional practices, such as initiation schools, are likely to have a greater impact on the "academic" year;

- at the *exosystemic* level, the remoteness and lack of infrastructure is likely to limit the number of individuals and organisations able and willing to work in and create development opportunities in rural areas; relatives who have migrated to urban areas in search of work may well have left their young children with their grandparents in rural areas, placing an even greater burden on already impoverished rural homes; there may be a tendency for those who left rural areas to look down on those they left behind, thus creating a sense of inferiority among members of rural communities, and hence a lack of motivation to engage with educational and other development opportunities;

- at the *macrosystemic* level, there will be questions about whether the rhetoric about rural development can and will be manifested in action, with the mobilisation of resources and the creation of incentives for rural development initiatives.

2.   SYSTEMS THEORY AND DISTANCE EDUCATION

Distance education has been hailed as one means of opening access to meaningful educational opportunities for people in rural areas (and others, of course). For the purposes of this discussion, we will use the following definition developed by SAIDE (2000[1]):

DISTANCE EDUCATION
Distance Education describes a set of teaching and learning strategies (or educational methods) that can be used to overcome spatial and temporal separation between educators and learners. These strategies or methods can be integrated into any educational programme and – potentially – used in any combination with any other teaching and learning strategies in the provision of education (including those strategies which demand that learners and educators be together at the same time and/or place).

Distance education therefore refers to a mode of education delivery rather than a philosophy of education. As the Global Distance Education Net points out on its website, learning and teaching at a distance is similar in many ways to learning in a classroom environment, but there are some significant differences. Educators of distance learners must accomplish the same general goals as those working in conventional environments, but separation from the learners means some of the educator's challenges take on special forms. Moore (1993; 1996) observes that overcoming this separation is a pedagogical concern:

> The transaction that we call distance education occurs between teachers and learners in an environment having the special characteristic of separation of teachers from learners … With separation there is a psychological and communications space to be crossed, a space of potential misunderstanding between the inputs of instructor and those of the learner. It is this psychological and communications space that is the transactional distance.
>
>   Psychological and communications spaces between any one learner and that person's instructor are never exactly the same. In other words, transactional distance is a continuous rather than a discrete variable, a relative rather than an absolute term. It has been pointed out … that in any educational programme, there is some transactional distance.

Moore goes on to point out that the transactional distance between educators and learners is determined by the inter-related function of three sets of variables in learning and teaching processes:

- *Instructional dialogue* – this refers to the ease with which there is interaction between the learner and educator. For example, there is often less dialogue between learners and educators in a first year face-to-face lecture than between a distance learner and an educator offering written feedback on assignments, etc. Dialogue between distance learners and their educators may be slower but more thoughtful than in an immediate face-to-face context, although with greater use of audio- and video-conferencing technology this may increasingly not be the case. The essential concern is whether or not opportunities for such dialogue are built into a learning programme and whether or not they are mediated in the best possible way in the circumstances.

- *Programme structure* – this refers to the extent to which a programme can accommodate or be responsive to each individual's needs and suggests the need for multi-disciplinary teams to design learning experiences in such a way that diverse needs are catered for and opportunities for learner-learner and learner-educator dialogue are maximized.

Learner autonomy – this refers to the extent to which in the teaching/learning relationship it is the learner rather than the educator who determines the goals, the learning experiences, and the evaluation decisions of the learning programme. It raises questions about the extent to which a programme is delivered in such a way that it helps learners to reach a point at which they no longer need a third person to mediate their learning. At this stage, learners can cope with a high degree of geographical and time distance between themselves and their peers and tutors.

Thus for Moore, the degree of *distance* between learners and educators is a product of the underlying educational philosophy of a programme and how this philosophy is manifested in the learning and teaching strategies employed. Once again, the different elements of the system are seen as inter-related and impacting on one another.

The notion of transactional distance therefore also places what is usually perceived to be 'distance education' and what is usually perceived to be 'traditional, face-to-face education' on a continuum of educational practices rather than in two different spheres of activity. In fact, there is an increased blurring of the boundaries as more traditional 'face-to-face' institutions make use of 'resource-based learning' and 'distance education' strategies and more traditionally 'correspondence' institutions build direct human contact into the delivery of their programmes. Another significant trend, observable at both ends of the continuum, is a growing desire to make greater use of different technologies – including the more recently developed information and communications technologies – in order to create learning environments that make use of an ever-wider range of media to support learners.

Moore and Kearsley (1996) define a **Distance Education (DE) system** in particular as follows:

A distance education system consists of all the component processes that make up distance education, including learning, teaching, communication, design, and management, and even such less obvious components as history and institutional philosophy. Within each of these broadly named components are subsystems …While we may choose to study each of these systems separately, we must also try to understand their inter-relationships.

CETDE (1998), on the other hand, divides the education and training system in South Africa into three broad sub-systems:
1. the physical system
2. the management and administration system
3. the learning systems,
and then provides 13 guiding criteria for the provision of quality distance education:
1. Policy and planning
2. Learners

3.   Programme development
4.   Course design
5.   Course materials
6.   Assessment
7.   Learner Support
8.   Human Resource strategy
9.   Management and Administration
10.   Collaboration and Relationships
11.   Quality Assurance
12.   Information and Marketing
13.   Results.
(The CETDE criteria can be found in Appendix 1.)

It is not difficult to see the relationships between these different perspectives and in a moment I will try to pull them together. Before that, however, I think it is necessary to stress that central to any educational intervention, whether traditional or at a distance, are the learners and their needs, strengths and constraints.

3.   A systems overview for quality distance education in rural areas

In the discussion that follows, I will attempt to draw out some of the implications of the model for distance education provision in general, and then for interventions in rural areas in particular.

Figure 1 represents an attempt to show how various systems at different levels impact on the quality and potential impact of distance education interventions.

At the **macrosystemic** level, the emphasis is on creating an enabling environment. Three key systemic needs are highlighted at this level, but not in any particular order of importance since they need all to be addressed simultaneously:

- *National information and marketing of DE, development, learning and related issues:* Large numbers of our population still feel marginalised from education provision and wary of distance education approaches, often seen as a second best option because so few learners are prepared for independent study by the formal education system. It is necessary to promote information about educational opportunities and the benefits thereof, and particularly target those who have traditionally been denied access.
- *National policy and planning:* Policy and planning at national level needs to complement the above marketing and information campaign. Policy, including financial policy, should encourage flexible, needs-driven interventions on the one hand but provide quality practices on the other. In particular, funding policy needs to take cognisance of the fact that quality distance education requires recognition of the facts that there are high up front costs and that:

> … a distance education system only becomes cost-effective when it can take advantage of economies of scale … courses need to be developed by teams of specialists and taken by many students across a large number of institutions. (Moore & Kearsley, 1996)

In addition, there needs to be recognition of the fact that policies related to health care, employment opportunities, crime and violence, political stability etc. all impact on education provision.

- *Infrastructural development:* At the heart of good distance education practice is interaction and communication. Thus the quality, extent and accessibility of road, rail and transport systems; electricity and other basic services; telecommunications and postal services will all impact on the extent to which distance education methods will be able to address educational development needs.
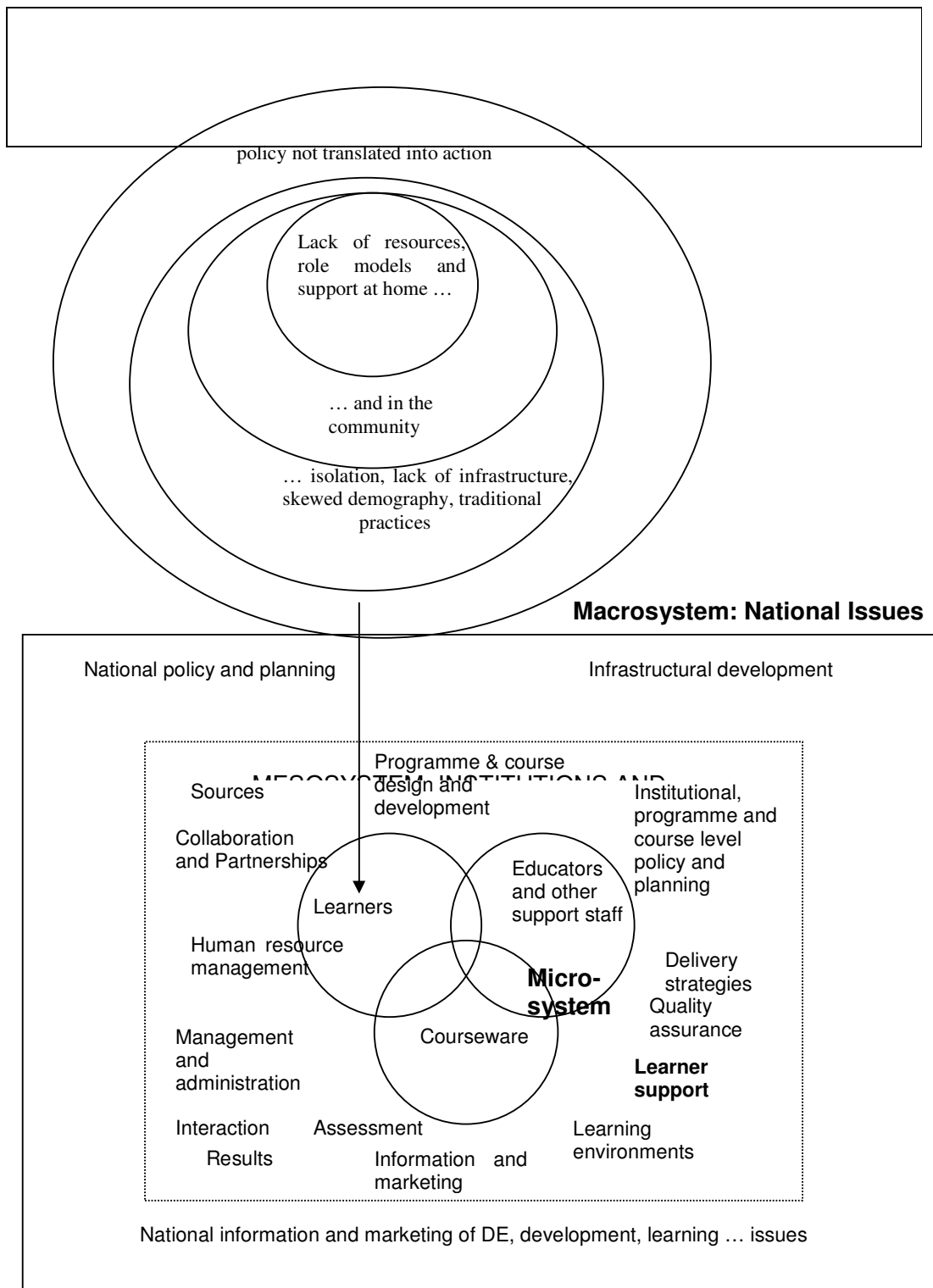
policy not translated into action

Lack of resources, role models and support at home …

… and in the community

… isolation, lack of infrastructure, skewed demography, traditional practices

Macrosystem: National Issues

National policy and planning   Infrastructural development

MESOSYSTEM: INSTITUTIONS AND

Programme & course design and development

Sources

Institutional, programme and course level policy and planning

Collaboration and Partnerships

Educators and other support staff

Learners

Human resource management

Micro-system

Delivery strategies
Quality assurance

Management and administration

Courseware

Learner support

Interaction   Assessment

Results   Information and marketing

Learning environments

National information and marketing of DE, development, learning … issues

Figure 1: A Systems Model for Quality Distance Education in rural areas

At the **mesosystemic level**, the emphasis is upon quality issues at the level of institutional and programme policy, planning, design, development, delivery and review. The CETDE quality criteria should be considered as minimum guidelines in this regard and, as the diagram attempts to show, the different aspects cannot be considered in isolation in a kind

of checklist fashion, but need to be considered together simultaneously. Particular attention needs to be given to learner support practices that are driven by a need to reduce the high drop out and low throughput rates.

As indicated previously, this implies greater concern with the needs of the individual learner and the various subsystems that might have a direct impact on individual learning, especially given the challenges presented by the lack of infrastructure, financial limitations and the distances between communities in rural areas.

As with any educational provision, decision-making needs to be based on sound learning and teaching theory. How to tackle the distance element is actually a secondary question, which can be informed by specific distance education theory such as Moore's (1993; 1996) notion of 'transactional distance' and Keegan's (1993; 1996) analysis of different distance education models.

At the **microsystemic level** we are concerned with the interactions between a particular cohort of learners, educators, administrators and courseware. There is clearly a tension between the macro-level concern for creating a system that is cost-effective by achieving economies of scale through centralised production of quality courseware that can be used by large numbers of learners and, on the other hand, the need to nurture higher retention and throughput through addressing the needs of individual learners. This is where learner support practices become crucial in creating possibilities for flexible and varied mediation of generic materials. It also points to a possible key role for computer-based technology that allows for the possibility for a certain amount of adaptation of generically produced materials at the level of local implementation.

Key components needed for systemic change were identified by the Department of Education in its TELI report (DOE, 1996) and although the focus of the report was Technology Enhanced Learning, these key components remain largely valid for the broader distance education system and are therefore reproduced below in a somewhat edited form:

The list below is not comprehensive and is not presented in order of priority. In fact, some of these steps may need to be taken simultaneously. Ultimately the way in which the components combine to effect systemic change would be the subject of short, medium, and long-term implementation plans.

· *The further development of the National Qualifications Framework* through the establishment of standards-setting bodies and quality assurance structures will provide the key impetus for restructuring the education and training system.

· *The development of new curricula* for the General Education Certificate, the Further Education Certificate, and new courses at higher education level. This is not only the task of the Department of Education and education/training providers.

  Other government departments, industry training boards, non-governmental organizations, and private sector organizations which have an interest in education and training must be drawn into a coordinated planning process so that the system can be developed for the benefit of all learners in all locations and from all walks of life.

· *The introduction of a flexible, learner-oriented approach to teaching and learning* that uses whatever combinations of strategies are appropriate to the needs, demands and

circumstances of learners as well as education and training providers and interest groups from the community, industry, and government.

· The important thing is that they are appropriate and will achieve meaningful outcomes effectively and efficiently in identified circumstances.

    This open approach must affect the whole of education and training. It must be brought into the mainstream, not sit on the margins. This will have significant ramifications for all aspects of the development, delivery, management, and administration of education and training programmes.

· *The development of new print and electronic resources.* Indigenous texts, educational broadcasting, and appropriate software will underpin the move to resource-based learning. Good resources are essential in helping educators in all spheres move away from a preoccupation with delivering content and in helping them develop their role as facilitators of a variety of learning processes. The Department of Education needs to clarify its role in this regard and needs to give careful thought to how it can stimulate quality materials development within the country as a whole.

· *The systematic introduction of appropriate technologies* into each of the education and training sectors. [This involves] … making decisions about how to introduce technologies into specific learning environments, not only on the basis of their appropriateness, but also in relation to their cost.

· Related to resource development is the need to establish *mechanisms for research and evaluation* and for the dissemination of good information about how resources are working in the different education and training contexts.

· Teachers and educators in all sectors need *ongoing professional training* in outcomes-based education, in learner-centred teaching methodologies, and in new forms of assessment. The distinction between pre-service and in-service training needs to make way for a continuum of professional development that spans all educational sectors – from early childhood development to higher education.

· Training is also required to produce a critical mass of instructional designers, communications technology specialists, tutors, and learner support specialists.

· New approaches need to be developed to *planning, allocating, and managing resources*. The research team believes that the traditional planning, allocation, and management of resources is based on assumptions of educational methodology and organizational practice that are inappropriate to the effective use of technology to support open learning.

· The *development of the infrastructure required for a range of learning environments to function effectively*. This includes the provision of power (through electrification or solar power), provision of roads, installation of telephone lines, an efficient postal system, equipping of learning centres in communities and in institutions such as schools, and the establishment of resource centres within communities or among clusters of schools.

4. IMPLICATIONS FOR DISTANCE EDUCATION INTERVENTIONS IN RURAL AREAS

Young et al pointed out in 1980 that "For millions of people, education means primary school". The Kellogg Research completed to date suggests that this perception is largely

true in rural areas of South Africa even today. Until the, fairly recent, legislation making schooling compulsory, many parents either did not send their children to school at all or allowed them to drop out after acquiring at best a very low level of functional literacy and numeracy.

Anything more than this was seen as unnecessary; as adding no value to the lives of a rural community. Clearly any educational intervention must be seen to be driven by the rural development needs identified at the local level. These needs will vary from context to context, but the following cautionary tale, based upon fact, illustrates what will **not** be appropriate:

The experts arrived at the fishing village. For years the natives had used primitive techniques in their work. True, they caught fish, but they had to paddle out to sea every day, maybe even on feast days. It was a hard life, though it had served well over the years.

The new nets were rather dearer than the old, and the method of fishing was different too. But in a single net they caught a whole week's supply. Fantastic! You could work one day and be free for the rest of the week!

The village folk had a great feast, several feasts … in fact so many that they had to fish two days each week to pay for the celebrations.

This is no good, thought the Experts, they should be fishing six days a week and making money out of it. We haven't come here to witness endless parties. Surely it's enough with one feast a month. This is an underdeveloped country; they must produce more protein. Fish!

But the village favoured the *fiesta*. Fishing two days, and free for the rest of the week.

The Experts grew annoyed. They hadn't travelled from the distant North to watch natives dance and dream. They had come to fill hungry stomachs, to lessen the threat of the undernourished against the overfed.

Yet the villagers danced late into the night. Why shouldn't they? They were rich now, almost as rich as the Maharaja, though he had never done a day's work in his life …

And then the Project Director had a brilliant idea. (Not for nothing had he taken an evening course back home in economics.) These lazy fisherfolk were not actually lazy: they were simply weak on *motivation*, motivation to work harder. They had not discovered their needs.

He bribed a villager to buy a motorbike. Bribery was distasteful, but sometimes necessary. true, there were no roads as such, but the wet sand along the water's edge was hard and smooth …

The motorcycle roared back and forth. What a toy! And soon every young man wanted one of his own. The village elders warned them: *What use is there riding off and back again on the sand?* But the young men replied: *We can race. We shall see who is the fastest. And you grey-beards, you can place bets on us!*

The Project Director's idea proved a brilliant success. At last the men fished almost every day. The capital city got the fresh fish it needed. (Indeed a large part of it is now turned into fish-meal and exported to Europe, where it makes excellent pig food and helps keep down the price of bacon.)

But probably the most pleased was the Maharaja, for it so happens that he was sole agent for the motorcycle firm in that country. He also owned the main fish market in the city, while his uncle's family built and ran the fish-meal factory. When the Experts flew home he raised the price of a motorcycle, so that to buy one a man had to work three years, instead of a single season.

And the fishermen fished on. They had discovered a need.

[From Olavi Junus, **U-landssagor**, Prima, Stokholm, 1970 in Roberts, 1984).

As Roberts (1984) notes, from this short story at least one thing seems clear: change does not always mean progress.

Although more children are now going to school, many adults still see education as something for school children, with men in particular choosing not to be involved even where opportunities are made available, and many women still being denied access by men in traditional patriarchal systems. Even where educational opportunities of various kinds are taken up in rural areas, be they informal sewing programmes offered by a local resident or formal literacy programmes offered by a visiting NGO, the dominant model, both in terms of expectations and actual delivery, is contact-based and teacher-centred. This again points to the need for a marketing campaign that illustrates practically some of the advantages of education offered through distance methods and hence a probable process of weaning people off of contact support onto more independent, resource-based learning.

Young et al go on to note that distance education practices in rural areas tend to have been aimed at developing literacy and agricultural extension. They point out that in an environment characterised by limited infrastructure and low levels of literacy, the radio can be a prime medium for effecting change:

… in the last few decades the most important step taken has been to connect radio with organised but informal groups. the radio is used to arouse interest and to convey information; the information and the ideas are then discussed by group members; often the local extension officer serves as a group leader. The combination seems to be a powerful one. It allows the technical knowledge of the teachers or experts, usually from outside, to be combined with and adapted to the local knowledge and environment of the students or forum members. (p.87)

They conclude as follows:

… we have learnt of the importance of personal advice and human contact, and the limitations placed upon them by having too few people, too little training and too much bureacracy. … we have learnt that study groups, without expert instructors, can become the interpreters and users of new knowledge, but that such a process requires support and

servicing beyond the capacity of any individual institution … They also illustrate the limitations of private organisations … without government support and commitment.

The following case study is offered as a basis for discussion. It is hypothetical in the sense that it does not describe an actual project: nonetheless it is based upon the foregoing discussion and upon several ;actual interventions: one in Honduras in the 1970s; one in Lesotho in 2000, one in Soshanguve in 1998-2000 and several ongoing WorldVision projects.

A government sponsored campaign in the local media – newspapers, TV and radio – has highlighted the importance of education and the power of co-operative organisation as a means to address poverty and dependency. The campaign is organised around the following ten issues of urgent concern (WorldVision [WV], 2000):

• A livable income
• Food for everyone
• Primary education for all
• Clean water
• Debt relief channelled to the poorest
• Peace building

• Gender equality
• Sustainable living (Yeld, 1997)
• An end to child labour and exploitation
• Freedom to believe.

In each education district, a district community development committee has been established with representatives from each government department as well as business leaders and interested NGOs.

In each community a change agent has been 'elected' through participatory learning and action workshops (PLAs, WV, 2000) and trained by the district committee to coordinate a local SWOT and needs analysis as well as a skills audit and has also received basic facilitation skills training. This person has direct contact at least once a week with a member of the co-ordinating committee, and has been given information and contact details related for a number of individuals/organisations with expertise in solving various problems.

The local change agent facilitates the work of a community development committee whose work is based on the following 10 key guidelines (WV, 2000, p. 15):

1. Mutual trust and respect between all groups through the honouring of agreements and taking responsibility for changing one's own attitudes.
2. Community developers, both local and external, see the community as their focus and as their client. Thus there is community involvement in all decision-making and 'experts' are willing to change to accommodate them.
3. A sense of purpose and confidence among those involved transforms both individuals as well as community support structures.
4. Sensitive, transformational leadership, which empowers and leaders who can articulate and spread a vision.
5. Local people become competent in many tasks previously done only by external professionals; they reach remote areas and are very effective in engaging with women and disenchanted male adults.

6. Mentoring for local and external support personnel includes on-the-job application of any skills acquired through training.
7. Tools like Participatory Learning and Action (PLA) sessions are used to focus group discussions and there is ongoing scheduled review and evaluation of progress against goals.

8. Schools and other local structures are used as 'learning sites' where training can take place in 'real-life' situations.
9. Government, NGOs, community organisations, local businesses, private practitioners and traditional healers work as a team and remain open to outside input.
10. The District co-ordinating committee draws groups together to capitalise on outside expertise and new ideas as well as local experience.

A basic programme has also been developed nationally (building on top expertise and achieving economies of scale) for literacy, numeracy, life skills and scientific knowledge. This material is arranged around four main subject areas: 'work' (agriculture, use of resources, commercialisation, crafts, small business development); 'health and family' (personal and environmental hygiene, nutrition); 'communication' (written documents, letters, newspapers, transport, migration, art, folklore, geography); and 'organisation' (traditional, social and local government; unions, political organisations, national laws, workers' laws and human rights). In addition, 'numeracy' is developed in a functional way in conjunction with these themes. All materials are self-contained in terms of content, paper (they are workbook-based) and writing implements (each module contains a pen and pencil).

The above four issues are returned to at ever increasing levels of sophistication. They are available in printed form with radio programmes as a support mechanism.

In the early parts of the programme, the printed materials are picture-based and more emphasis is placed on the radio programmes and discussions. As learners progress through the levels, there is a concerted effort to move towards more print-based and individual study methods. All materials are in modular format and **accessed as needed**. They offer multiple learning pathways which make stand-alone conceptual sense but also can be recognised for subsequent formal accreditation if required by the user now or at some time in the future.

The local change agent, who is a respected member of the community, forms a community development forum which conducts an analysis of needs and skills and forms a list of prioritised concerns. One of the key outcomes of this process is to establish a pattern of skills within the community that can be 'traded' internally and with other communities.

Once a month community change agents meet at the district education office to compare what they are doing, the skills their community can offer and the needs they still need to address. In addition, these meetings provide a channel for the pooling of ongoing evaluation and lessons of experience which can be fed back to the national courseware design and development teams.

From the generic learning programme components available, materials are selected that will address specific needs, e.g. literacy, numeracy, lifeskills development linked to a need to expand a local skill in needlework into a cottage industry providing

services/products that can be 'traded' with other communities. Roving tutors, who have government supplied vehicles, run initial workshops as needed with key members of the community development forums. The emphasis is on holistic development.

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