Partnerships in Education, Training and Management for Sustainable Natural Resources Processing in Zimbabwe's Rural Communities

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Abstract

In the course of their everyday academic business, universities in developing countries turn over large volumes of mainly foreign-sourced knowledge, while on the other hand typical communities in rural areas are starved of vital information for their own survival and development. Partnerships between universities and their immediate communities have a potential to turn the fortunes of both parties in economic ways. In the area of natural resources harvesting for commercial purposes, the university-community partnership plays a critical role in fulfilling mutual needs and tackling environmental stability. This paper explores the perceived roles of education, training and management practices on encouraging rural communities to recognize natural resources within their environments and to develop appropriate capacity to sustainably exploit them for economic benefit. Elaborating on the views of selected players and with reference to textile materials sourcing and processing, the paper identifies the complementary functions of education, management and rural communities in developing informed appreciation for sustainable harvesting of natural resources.

Key words: university-community partnerships, education and training, sustainable resource harvesting, knowledge, rural communities

1. INTRODUCTION

The reciprocal role of education, training and management in community development is for the enlightenment, empowerment and advancement of knowledge for all involved. *Education* is a continuous lifelong process with various stages and categorizations meant only for ease of implementation rather than to suggest completion. *Training* is aimed at competence and the ability to repeatedly perform the same task over and over again. *Management* of people and systems is inevitable in any enterprise since people cannot progress without a leadership structure among them, and systems always require organization among other inputs. Thus, flexible, development-oriented education and training curricula, beginning from the primary school and moving right through to university level and beyond, are useful in producing a cohesive, holistic and progressive community. Harmonization and continuity in curricula, syllabi and training programmes ensures that national goals are marketed widely over time and across society.

Useful knowledge, strategies and activities on the identification and sustainable exploitation of natural resources rely on sound education, training and management. The discipline of science and its attendant scientific method are at the forefront in providing, processing and utilizing knowledge on nature and resources management. The scientific approach is best adopted by community members through a systematic education delivery system that covers relevant life preparation throughout the whole education provision timeline. Textile and allied resources and

technologies touch on environmental issues as well as human activities, from the collection of raw materials to the realisation of a finished product. The knowledge that exists and is exchanged among various players in between the materials processing stages remains the determinant for sustained economic exploitation as seen against environmental preservation and the survival of species on the planet, not least among them, humanity. In Zimbabwe, materials for processing textile products are sourced and processed by players ranging from the rural communities to large commercial enterprises.

1.1. Related Literature

University-community partnerships have the potential to bridge the knowledge gap between those 'in the know' and those 'seeking to know'. Universities, for their part, take pride in doing intellectual business with and for the community, with the express purpose of developing a socially responsive orientation to their teaching programmes and seeking to meet the challenges which derive from the application of knowledge and skills in poor communities [1]. Indigenous knowledge development and deployment has to be achieved through both formal and informal schooling. So-called 'appropriate' and 'alternative' technologies are brought to the centre of development efforts so that community members contribute more purposefully and confidently. Knowledge is a collective commodity, accumulated over time and becomes a vital heritage for newer generations.

1.2. Basic Education for Community Cohesiveness

From common experience, young children in primary school are introduced to the appreciation of natural resources, and to the beauty and fragility of nature in general. Through role-play and real exposure to situations likely to affect their future and continued survival, young children embark on relevant learning. Schools and institutions are set as launching pads for lifelong learning, which is likened to lifelong breathing – something which we cannot avoid while remaining conscious [2]. The challenge is to improve the quality of the relevant lifelong learning experiences. There

is need for harmonization in the learning experiences in the home, the school and the wider community. Children have to easily transfer learning and receive motivation when the pieces fit together.

In the Zimbabwe secondary school curricula, there is a lot of justification for the consolidation of knowledge on the types of natural resources, renewable and non-renewable forms, aesthetic versus economic considerations in natural resources exploitation, conservation and waste management fundamentals, climate change and global warming. The students at this level are ready to learn more about their environment so as to be able to explore it in preparation for exploiting it in future. Using local and foreign-sourced knowledge, the students need to understand well the concept of wholeness in the environment, with living and non-living components co-existing interdependently among themselves [3]. Middle and high school students always show their aptitude in acquiring the lifelong skill of problem identification and problem solving, and this is their opportunity to practice the scientific method or other beneficial alternative.

Adult and non-formal education programmes form part of lifelong learning, and inclusion of environmental and natural resources components in the syllabi is appropriate. This, coupled with information management systems directed at community members, increases common knowledge for improved communication between adults and their children, thus promoting community cohesiveness for easy policy formulation and implementation.

1.3. Community Knowledge and Skills development

Knowledge-rich and knowledge-starved communities differ in the way they deal with knowledge creation, preservation and dissemination. Although the capability for knowledge-processing can be found isolated in individuals across communities and organizations, the tertiary and higher education institutions have a high concentration experts in specialised and advanced knowledge, as well as innovative minds capable of carrying out research. For sustained progress and controlled
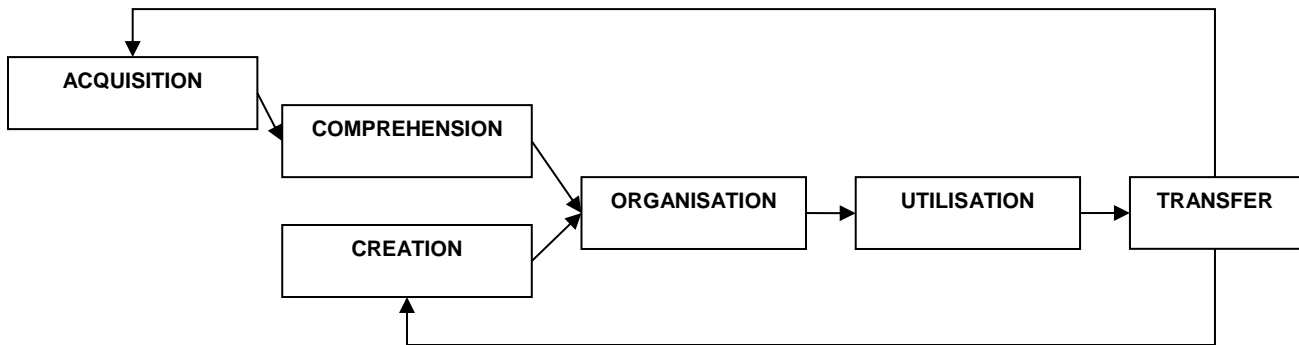
Figure 1. A Knowledge processing model

development, every country (or community) needs to turn to a small corps of its own citizens for informed guidance and expert advice about scientific and technological developments [4].

Learned or acquired knowledge often requires substantial comprehension or understanding by the knower before it can be of any further use. After this, a process of *organizing* the knowledge in light of all past experiences and other related knowledge, or knowledge management [5], must follow. The most important function of knowledge is its *utilization* (to produce change, development, etc.) in efforts to survive and to improve the quality of life. Using the resources present in the community, and tacit knowledge in the minds of members, home-grown solutions to problems are developed. For example, utilization of knowledge in natural resources pertaining to textiles presents challenges in the identification of raw materials, their quality and quantities, the processing and production requirements, and the marketing implications. The role of science, technology and innovation may be sought in specific examples such as the possibility of developing weavable textile fibres from plants such as *sisal* found in drought-prone areas. Properly and successfully utilized knowledge has then to be documented and transferred to others within or outside this community or organization so that continuity is guaranteed. Those to whom the knowledge has been transferred go through a similar process of knowledge processing as described above, and depicted in Figure

1. This knowledge-processing model also shows that created knowledge goes through the stage of organization before it can be effectively utilized.

It is possible to harmonize both the preservation and the economic exploitation of resources 'to promote the economic and social development of the populations that live within their areas of influence.' [6]. Furthermore, every activity of environmental preservation must be carried out together, and in consultation, with the local population and, preferably for them. Further, this means that it must not be the cause of any loss in their life quality [6], and that it should, as far as possible, bring together the preservation of the environment and their expectations concerning an increase in their life standards.

2. METHODOLOGY

A qualitative study consisting of a series of participatory field observations and interviews in various sections of a rural community in Western Zimbabwe was carried out. The community had a multi-disciplinary partnership with the university in which teams would carry out relevant consultation and data collection with the aim of capturing the community's perceived problems, proposed intervention strategies and solutions. The sections of the community interacted with by the researchers of this paper consisted of primary and secondary school children and teachers, participants in a rural community

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information centre, business people and traditional leaders. A substantial amount of data was collected from speeches delivered in cultural meetings at the information centre on special occasions. Interviews were carried out with teachers and school pupils, as well as purposively selected community representatives and businesspeople. The key question in the interviews revolved around the usefulness of universities in influencing the socio-economic well-being of rural economies. Recorded data were manually summarised and analysed thematically. Findings and their contextual discussion are presented in the sections below.

3. RESULTS AND DISCUSSION

3.1 Innovation and Competitiveness

Community leaders and most adults interviewed acknowledged that because of a historical, knowledge and the cultural gap between them and their immediate communities, universities in developing countries have tended, on the one hand, to be associated more with the knowledge-rich, large-scale, formal and well-established organizations for beneficial and reciprocal interaction, and on the other, to disadvantaged and marginalized sections of the community for charitable and philanthropic engagements. In the process, many of the more proximal, middle-of-the road and knowledge-starved sections of society such as rural entrepreneurs have been left out of active and sustained partnerships with institutions of higher learning and knowledge generation.

In schools, teachers reported that apart from spearheading innovation within themselves, universities had a calling to identify innovative ideas in the community, and to help nurture and develop these through promoting patenting and marketing of creative ideas. The responsibility of the university extends to leading by example in developing curricula and syllabi that impart relevant knowledge about science, technology, industrialization, and economic development. In support, Pant and Khanduri argue that economic development was a source of ecological crisis and man's meaningless fascination with it is leading him fast towards destruction [3]. The processes of production and consumption as developed by man affect the availability of natural resources for the subsequent processes of production and consumption.

On the interviewer's suggestion for research and development (R & D) towards mass production in rural areas, businesspeople thought that although seemingly farfetched because of the often sparsely distributed natural resources, rural outposts could serve as collection points for raw materials headed for further processing at centralized locations within and outside the specified community area. However, work in extracting natural resources is generally poorly remunerated compared to later stages of processing and product development [7]. The community might feel robbed of better paying job opportunities lost to other areas. It is possible to motivate local entrepreneurs to think deeper about localizing as much of the industry spin-offs from their natural resources as possible. In organizations, it has been found that:

> … once people have discovered that they can be creative and they have practiced their skill, their enthusiasm and confidence are so high that they rush forward to tackle all those things that they just know could be done better. They get together with like-minded people and, fired with enthusiasm, they put their newfound abilities to work to produce truckloads of ideas to do things differently and to replace their least favourable systems and processes [2].

Thus, although the breaking ground products of innovativeness and creativity are rare to find, the spirit of innovation can be found in a good number of people, and this helps to support successful innovation efforts.

3.2. Management of Natural Resources for 3.2.1. Entrepreneurship

Together with education and training, management becomes very crucial in efforts at sustainable development in general and natural resources in particular. Business and community leaders acknowledged that

management covers people, materials and systems or processes. Collaborative management was suitable for university-community partnerships since it involved participant support and involvement. The manager and the managed participate in decision-making, communication, and sharing of views and ideas on an equal footing [8].

Enlightened community management of natural resources resulting from a well-integrated education was necessary in rural areas where natural resources were sometimes plundered unintentionally or ignorantly. An example is the annual fencing off of crop fields using freshly cut tree branches, and the fencing off between adjacent neighbours' fields. Agreeing with the interviewer, community leaders reiterated that proper and progressive management with an innovative focus would bring in ideas such as using more durable fencing materials including barbed wire and treated poles. And, in order to reduce costs, only perimeter fencing of multiple adjacent fields be done. Other management inputs to a rural community would be to explore the introduction of conservatories, gardens, fields and parks for the protection and marketing of selected resources. Management also informs on the efficacy of a business culture, determining the role and place of small and medium-scale enterprises (SME's) in comparison to large-scale organizations in the community. Legal and policy issues required dissemination, interpretation, and implementation, functions that employ managers and management systems.

Communities rely on teams, and team building, in a community, ensures that there exists "a group of people pulling together for a common purpose" [9]. Furthermore,

> … if a team is given power to make decisions, it will use it, and it may not always use it in the way the organization expects it to. However, as long as people are fully trained and the limits of their empowerment are clearly defined, it can be a very powerful force [9].

The view of the authors is that people management requires a leadership with a vision. Community projects take time to take off and to complete. Those tasked with the leadership should lead by example in showing commitment to the completion of projects even beyond their own duration of leadership. The leaders' vision metaphor by Sullivan and Lytton consists of seven elements, continuous improvement, customers, people, performance, quality, systems, and technology [10]. In leadership development, these elements all point to what a project leader in a modern organization or other undertaking needs to consider in mapping out plans for development and successful delivery.

4. CONCLUSION

Community development is mainly about programmes that change the way things are being done now, and such culture change programmes take time to deliver benefits [10]. University-community collaborations can quicken the pace and strengthen the cause for culture change by using well-researched intervention strategies negotiated with the communities for mutual benefit. Education and training in general must ensure that knowledge is acquired, created, organized and utilized for the development of community cohesiveness and vigour. The subject of sustainable management of natural resources in the rural communities by the local inhabitants provides a platform from which to launch useful partnerships between the knowledge-rich universities and the knowledge-starved communities such as the typical rural areas in Zimbabwe.

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