

Distance Learning Methods To Promote Sustainable Livelihoods

*Gamini Kulatunga, Krishna Alluri**

Open University of Sri Lanka, Commonwealth of Learning, Vancouver*

Experience is not happens to you. It is what you do with what happens to you.

Aldous Huxley

INTRODUCTION

The Open University of Sri Lanka in its corporate objectives has identified the need to empower rural communities through distance education and open learning. Distance learning in the sense that the student is spatially and temporarily removed from the centre and open learning to connote open entry and open curriculum including the methods of assessment. The Commonwealth of Learning too has identified life-long-learning as a method to contribute to knowledge and skills of small-holder farmers and to enable them participate in the increasingly complex food-production market chains.

For the last three years the Open University and COL have collaborated to identify rural community needs and capabilities in Sri Lanka and to create opportunities for those communities to examine and critique modern technologies used in rural areas and suggest modifications from user perspective. These finding were recorded and broadcast over the national community radio service as a method of evoking awareness among rural people and to obtain a feedback from them.

The rural technologies identified and the participatory work carried out to make these identified artefacts and processes available to the people have given the Open University the base to commence a distance education programme. The Norwegian Development Fund is assisting the Open University, to commence a programme in 2004, to take these technologies to the rural people thereby making them critically aware of the technology options available to them and enabling them to take part, jointly, in the process involved in their evaluation and selection.

THEORETICAL FRAMEWORK AND POSITION

A sustainable livelihood is possible and meaningful only if it is selected and decided upon by the people whose lives would be affected by the selection. In order to

achieve this, what is required is not notional participatory research but a genuine dialogue and sharing of experiences that transcend the narrow disciplines of academia.

The participants, generally meant to be the 'recipients' of theoretical knowledge, must be made to adapt knowledge received through a self-directed critical evaluation process. Distance education and open learning create the opportunity for such a transformation of the participants possible. The knowledge transferred will be matched to the situated conditions of the participants as they would normally be immersed in their daily activities that are real and not laboratory-based or isolated from reality but taking place in an extramural setting. This creates ideal conditions for reflection on what they learn.

The importance of reflection is rooted in the fact that learning and development do not necessarily occur as a result of experience itself but as a result of a reflective component explicitly designed to foster learning and development. Reflection should include opportunities for participants to receive feedback from those being served, as well as from peers and program leaders (Tsang, 2000).

The curriculum developed will not only be a symbiosis of indigenous knowledge and 'modern' knowledge but will also be a symbiosis between orality and literacy. As Bhola (1996) points out, systemic thinking, constructivist thinking and dialectical thinking must be combined with rationality and praxis to make this possible. Freire's (1993), argument on praxis as the only means for emerging out of self-constructed situations that makes rural livelihoods a matter of survival will be explored fully in the curriculum. The curriculum will include law and human rights, health and childcare, sociology, too.

An ethical behaviour that takes into account collective good will be emphasised to avoid the pitfall of ethics in a narrow legal sense that gives rise to development that is not sustainable. An ethic which necessitates more than mere respect for autonomy: new ethic beneficence on a personal and communal level that have moral force (Lowey, 1997).

The alternate premise on which the curriculum developed is contrasted with the dominant premise in the following table:

Dominant premise	Alternate premise
Atomism: Systems consist of unchanging parts; are simply the sum of parts	Holism: Parts cannot be understood apart from the wholes and wholes are different from the sum of their parts. Parts may evolve new characteristics or totally new parts can arise.

<p>Mechanism: Relationships between parts are fixed, systems move smoothly from one equilibrium to another, and changes are reversible.</p>	<p>Systems: Systems may be mechanical but they might also be not predictable or smooth because they are chaotic or simply very discontinuous. Systems can be evolutionary.</p>
<p>Universalism: Diverse and complex phenomena are the result of underlying universal principles which are few in number and unchanging over time and space.</p>	<p>Contextualism: Phenomena are contingent upon a large number of factors particular to the time and space. Similar phenomena may well occur in different times and places due to widely different factors.</p>
<p>Objectivism: We can stand apart from what we are trying to understand.</p>	<p>Subjectivism: Social and most natural systems cannot be understood apart from our activities, our values, and how we have understood and hence acted upon these systems in the past.</p>
<p>Monism: Our separate individual ways of understanding complex systems are merging into a coherent whole.</p>	<p>Pluralism: Complex systems can only be known through multiple, different patterns of thinking, each of which is necessarily a simplification of reality. Different patterns are inherently congruent.</p>

METHOD

The method adopted in identifying rural needs and capabilities was to take part in rural community discussions based on prior identification by matching their needs to solutions that could emerge based on our capabilities. The rural groups were selected through community-based organizations that were active in rural work, under UNDP Global Environmental Facility, Small-Grants Project. The groups that have performed well under the scheme were selected for further interaction.

The second visit was notified in advance so that we could record the discussions we have to explore the possibility of working with them to address some of the technology needs of the community that falls within our purview. The discussions

took place in an informal manner to explain our mission and what we could do to assist them. From the outset it was emphasised that we can not fund any activities but we could only work with them jointly to evolve possible solutions to their problems. By directing the discussion to areas that we could assist them, the group was focused to select areas that could be mutually examined. The recommended technology options were either discussed or demonstrated, depending on the appropriateness, to get a feedback depending on their understanding and situation. These discussions were broadcast to other communities to get a general feedback to expand the scope. By this means, the individual constructions were made into collective reconstructions as dictated by praxis.

The emergent technologies that were of immediate importance to the rural people that were collectively identified are:

- *Domestic stove using biomass as fuel*
- *Solar dryer with nocturnal drying of food*
- *Water harvesting and conservation*
- *Low-cost footbridges that could be built at village level*
- *Protected houses for plants made of local materials*

Some of the identified solutions were tried out directly by the communities, e.g. domestic stove, and others were built as demonstration models by the university for further study e.g. solar dryer and the suspension bridge.

In the case of the domestic stove, the university had several models developed by other research institutes such as IRRI, Tata Engineering Research Institute, and National Engineering Research and Development Centre, Sri Lanka. These were shown and their performance compared in the presence of the rural people who were interested in it. Then they went back to their village and discussed among themselves and especially the housewives, who use the stove, about what they need and developed a paddy-husk fired stove (Kulatunga, 2001). This was a definite improvement of what we had and it served their purpose much better than any of the stoves that were developed by other research institutions.

The solar dryer had to be constructed at the university, for extensive trials, because none of the models that were available had nocturnal drying capability needed for food items to be dried within two days. In the tropical climate where the drying was done, when the sun goes down the dried food reabsorbs moisture, when the food is dried below the equilibrium moisture content, thus prolonging the drying time and thus promoting bacterial growth. Several heat storage devices were tried out and finally wax was selected as the best. Some groups prefer biomass as a heat source in the night, rather than phase-change material, and they are developing the domestic stove for this purpose.

The low-cost foot bridge was not a success as it was not perceived as a 'bridge' in the conventional sense by the rural people. The suspension bridge had several advantages over conventional bridges as it could be constructed in most inaccessible places using very light construction materials. In order to demonstrate its versatility, a 50-foot span bridge was constructed, using discarded rails and wire ropes, across a canal in the university premises. It is in use for the last three years and has become a major attraction in the university. The method of working and the construction details were recorded on video to be used by others who would need similar inputs. The emphasis was not on the technical details but more on the adaptation process that was involved to demonstrate the specific nature of technology selection. Though no other construction was done, inquiries have been made about its construction by several village communities.

USING DISTANCE EDUCATION

The proposed new programme, funded by the Norway Development Fund, will use the material produced to transfer the skills of scanning technologies to pick up what is appropriate depending on resources. The resources has a wider connotation here which include cognitive, power, material, personnel, institutional, and time, as enumerated by Bhola (1996).

Initially, 100 young people from rural backgrounds will be enrolled to follow the programme. Initially, ten centres of the Open University will be selected to launch the programme, based on different agro-ecological districts. Preference would be given to students whose parents are engaged in agriculture and who have access to farms to try out the new methods they would learn. The community-based organizations would be consulted in selecting the students and in identifying the areas of interests. The proposed curriculum gives flexibility of selection depending on the needs. It covers the following aspects:

- Environment
- Organic farming
- Rural sociology
- Health, food and nutrition
- Communication and development
- Rural agricultural technology
- Law and human rights
- Water and sanitation
- Roads and transport

Method of teaching will depend heavily on AV material and field work, and evaluation would be based mainly on the work done at field level, subject to peer review. The students would be expected to maintain a journal that will enable them to think more subjectively through 'perspective writing'. They might describe the project and its goals from the perspective of one of the recipients of the service.

The work done so far will be converted to video presentations with the assistance of the AV centre of the university. CDs will be made available at the centres with projection equipment to be purchased under the project.

At each of the selected centres, appropriate technology demonstration models, pertaining to the district will be built for demonstration and adaptation.

The process of critically reviewing the technologies will be part of the curriculum and the discussions will be transferred to audio tapes for use by the other centres, as learning material.

RESULTS AND OPPORTUNITIES

The results seen in the first phase of the project carried out with COL collaboration indicate the potential of the rural people to adapt technology to suit their needs. Given the time and space to innovate, in areas of knowledge accessible to the people, it was observed that participatory work resulted in better adapted designs. Incubation of ideas is an important ingredient of the method that is facilitated by distance education.

The possibilities in areas outside their immediate scope were not tested nor were attempts made to challenge institutional constraints faced by rural people. If adequate time and scope for incubation is given, critical thinking in the areas of technology adaptation has wide possibilities.

How these lessons learnt could be transferred into a distance education programme and used as a pedagogical approach will be experienced in the new programme. The fact that the students remain situated in their own setting while following the programme, made possible by distance education, will be an asset in developing their critical abilities denied to them mostly in a class room surrounding. The ICT-mediated teaching is proposed to facilitate easy access and to create opportunities for a wider technology search.

It is envisaged that at the end of the programme the student would be sufficiently motivated to critically evaluate the technology options, on his own by searching a wider spectrum than what is given to him. The search, based on his abilities and

needs, will also give him the opportunity to adapt the available systems to suit specific needs.

DISCUSSION

Distance education and open learning has built-in tools to inculcate critical self-directed learning among the people who have no access to formal education. They are not caught up in narrow disciplines of academia that makes holistic knowledge difficult to gather. Some of the academics too will benefit by this approach as some are too 'disciplined' to see the totality that affects the livelihood of people at large.

The disparate situations the rural people are placed in will create the necessary atmosphere to make use of the inherent advantages in distance education and open learning that is not fully utilized in most programmes that fail to create a symbiosis between theory and practice outside the confines of a laboratory or an experimental plot.

The genuine dialogue that is the hallmark of education is lacking due to various factors such as large class rooms in conventional teaching, highly competitive education that allows no time for wandering and incubation, evaluation based on strict criteria that allows no variety in thinking etc. The lack of dialogue is not felt much in most educational programmes as they cater to very specific needs and niche markets, with well defined needs and abilities.

The rural situation is quite different with an array of situations and conditions never grasped by conventional education. The best means of addressing the disparate situation is to allow the student to make his choices that distance and open education allows both in space, time and content.

It is hoped that when the programme is run with these objectives in view, it is not only the student but the teacher, too, who will benefit through the dialogue possible in genuine education.

The change in paradigm is enunciated by Robert Chambers (1993):

Emphasis	Traditional	New
Main objective	Transfer technology	Empower farmers
Analysis of needs and priorities by	Outsiders	Farmers assisted by outsiders
Primary R&D location	Laboratory, greenhouse	Farmers' fields and

		conditions
What is transferred	Precepts, messages, package of practices	Principles, methods, basket of choices
The 'menu'	Fixed	A la carte

The resulting farmers' activities would be analysis, choice and experiment, while the outsiders' role would be that of convenor, catalyst, and adviser. The outsider would be a searcher and supplier as a consultant.

The change in perspective necessary to bring about such a change in paradigm is difficult no doubt. An ethnographic approach may be called for, and at best, work must proceed on the lines of grounded theory to realize these objectives.

Conclusion

The centre has always acted as the knowledge-giver under different roles such as in participatory researcher, extension officer, mediator, catalyst, change agent etc. But, a genuine dialogue and incorporation of ideas into practice taking the total livelihood was not possible under conventional systems. This was mainly due to the reason that the knowledge-giver did not live by what he knows, except as a pedagogue. Now the opportunity is available for the participant of the programme to incorporate his knowledge and experience into what he learns to make a livelihood out of it. This is a possibility that distance education and open learning has created which we must not miss if sustainable livelihood based on critical self directed learning is to be inculcated among the rural people.

ICT would also be an important part in the process as the portals of knowledge now defined into neat disciplines will have to give way to a cross-disciplined approach based on the disparate situations of the learner in a rural surrounding which is not very homogeneous. The content, pace and depth of learning would be selected by the learner to meet his requirements, which are facilitated by ICT.

The classic notion of the 'student' is also challenged by changes in the social, economic and technical environment (Hans, 2000). The evaluation based on actual work accomplished that is peer-reviewed would ensure the learning is useful and appropriate to the community. It is hoped that by making the learning so situated the community would benefit and the livelihoods of the people would be sustained where they are. This would also have the benefit of avoiding urban migration which has become a synonym of development with its untold suffering to the poor.

The technologies selected would ensure self-reliance and village level maintenance and operation which would reduce dependence and associated exploitation of the poor by the centralised markets.

The question that remains to be answered is whether the programme fosters two levels of technology for the poor and the rich. The answer would be based on the success of adaptation which may show that frugal use of technology is the way forward to sustainable development for all.

More important is to undertake reflection on the work we do and understand, in a phenomenological sense, why certain technologies are accepted and while others are not. The foot-bridge was a failure in the sense of acceptance but it remained a novel solution appreciated by many. Distance education and open learning, based more on a constructionist approach, will have to address these issues to make the delivery more effective.

The other fact to bear in mind is that it is not the artefact or the technology we are primarily interested in but in the process of transformation in adapting technology. As a pedagogical approach, self-directed critical learning is the goal of the project. The method and philosophy is one of experiential learning through which participants in community meet community needs while developing their abilities of critical thinking and group problem solving, their commitment and values and skills needed for effective citizenship (Mintz and Liu 1993)

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