Is Modern ICT the Answer to Extension?

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It is an honour to be here at ICRISAT to join the 40th Anniversary celebrations and I am very grateful to the DG Dr William Dar and the organisers for giving me this opportunity to speak to such an expert audience. My topic today is: 'Is modern ICT the answer to extension?' which will be examined in the context of the Commonwealth of Learning's work in Lifelong Learning for Farming. This presentation has been prepared jointly with my colleague Dr Balasubramanian.

But first a word about the Commonwealth of Learning or COL. The Commonwealth of Learning is an intergovernmental organization that helps Commonwealth governments and institutions use various technologies to improve and expand education, training and learning in support of development. We work in 54 Member States that cover all regions of globe. COL has headquarters in Vancouver, Canada and a regional office for Asia in New Delhi.

COL and ICRISAT have shared a close collaboration over the past decade. COL supported the feasibility study for the VASAT, which brought together agricultural education, ICT4D and open and distance learning. It was a timely initiative. ICRISAT also played a prominent role in the biennial Pan Commonwealth Forums held in Durban, Jamaica, London and India. More recently, the Learning Integrated Voice System developed jointly by COL and the University of British Columbia is hosted by ICRISAT and will reach thousands of farmers in their local languages.

COL's two former Presidents were associated with ICRISAT—Tan Sari Raj Danarajan as the Chair of the Agrocuri Project and Sir John Daniel who visited ICRISAT in 2006.

COL experts worked with ICRISAT to develop a repository of Reusable Learning Objects in different languages and here is a sample of the content developed by rural women in Telugu.

COL also supported the founding of the ICT hub in 2003 to promote two-way video conferencing with women learners in Andhra Pradesh.

In addition to our present collaboration in LIVES, we have recently completed joint learning modules on the Commonwealth Computer Navigator's Certificate.

Finally, the link between COL and ICRISAT was further strengthened when your Global Leader for Knowledge Management and Sharing Dr V Balaji, joined COL as our Director, Technology and Knowledge Management

Let us first review some of the basic issues in agricultural extension. First, there is a declining investment by both governments and private providers. Second, the ratio of extension officers to farmers is 1 to 25000 in Uganda and in India there is 1 extension officer for every 2000 farmers. Third, the volatility of global imperatives can disadvantage the farming community as the recent case of the demand for vanilla which was brought to India and then suddenly shifted back to Madagascar, before farmers could react. Fourth, the lack of involvement of the farmers with the financial institutions and markets and finally, the absence of a holistic perspective to agricultural extension.

This is a huge task as there are more than 500 million families to reach in the Commonwealth alone.

The conventional didactic mode of extension training is inadequate to reach such large numbers.

Yes, ICT can play a role as more options are available to farming communities—mobile telephones are the fastest growing sector in both South Asia and sub Saharan Africa. Community radio has had a second coming in India as the government is giving licenses proactively. TV and Internet are increasingly available.

Its not just about access to ICT. There are the other issues of connectivity, relevant content in the local languages and culture, which determines who can/not have access such as women and marginalized communities. In addition we have the issues of economic viability, such as the questions of who will support the running costs of the systems?

As a UNDP Human Development report points out 'the belief that there is a technological silver bullet that can 'solve' illiteracy, ill health or economic failure reflects scant understanding of real poverty.'

As Prof Tim Unwin observes: 'ICT have the potential to increase equality or to reduce them, depending on the social, political and economic contexts within which they are introduced'. As we know ICT do enable change and add value to the development process. But by themselves they do not create the development process. ICT strategies are only effective, sustainable and worth the effort if they are integrally linked to a broader, more comprehensive development, education and poverty reduction strategies.

So we need a paradigm shift if the potential of ICT is to be harnessed to serve the needs of agricultural extension. What would this paradigm shift entail? One, it would require strengthening self-directed learning among rural communities, since 80% of adult learning is always self-directed. Two, the emphasis needs to shift from the existing model of trainer-trainee to that of facilitated self-directed learning.

What would be the elements of this paradigm shift? It would mean promoting the horizontal transfer of knowledge which means peer-to-peer learning and strengthening the community's knowledge management approach.

This paradigm shift would take a holistic approach, building on the social capital of the community, facilitating the exchange of relevant knowledge and making the linkages with both banks and markets.

ICT can strengthen self-directed learning. It can enhance the horizontal transfer of knowledge through connecting communities via basic mobile phones, strengthen forward backward linkages by catalyzing partnerships and provide generic information, which can be converted into specific knowledge by the local communities themselves.

COL's lifelong learning for farmers facilitates a process of learning in rural communities, especially for women, that leads to knowledge empowerment which is then translated into livelihoods security.

Building on the foundations of cognitive social capital, COL catalyses the productive linkages among the expert institutions such as agricultural universities and veterinary colleges, banks, the market and the rural communities through appropriate ICT.

The basic elements are: that this is a facilitation process rather than a training programme; that this builds on cognitive social capital and the community becomes a key partner in knowledge management. The community is not a passive recipient but an active partner in knowledge management.

The mobile phone, which is used largely in this project has moved from being simply an instrument for talking to an information, entertainment and learning tool. For example, the farmer can access weather information, listen to Bollywood songs and seek clarifications from experts for their immediate concerns.

Mobile phones are being increasingly used in formal education such as the University of Pretoria and the Korean National Open University and there are many more examples. Mobiles are gaining even greater traction in the non-formal education sector.

ICT and Open and Distance Learning are increasingly being harnessed to help Commonwealth Member States accelerate progress towards achieving the development goals. However, there is a caveat.

It is important to support communities to domesticate technology.

This can be done in four stages. The first is appropriation which means the ability to access and own the technology such as mobiles. Objectification refers to the use of the resources within the household economy. The third stage of incorporation relates to the integration of the ICT into daily life and the impact this has on power relations within the household. The final stage of conversion defines the relationship between the household and society. For example, linkages with experts, banks and markets.

COL's Lifelong Learning for Farmers works with communities to domesticate the technology. Technology is placed in the context of social capital, financial capital and enterprise management. The mobile based learning under the L3F initiative reaches 50,000 learners in primarily India, Sri Lanka, Uganda and Mauritius, mostly women, every day.

This is being done in Uganda by potato, sorgum and bee-keeping farmers; Kenya by poultry farmers and in Tamil Nadu by goat rearing communities.

You can see the women from Theni district Tamil Nadu, sharing information with other women, such as, for example, information on vaccinations being given by the government and its impact on a particular disease.

In a review of the L3F, the World Bank report concludes that 'the use of ICT such as mobile phones for learning influenced development outcomes because the learning experience was tailored to women's cognitive social capital and reinforced by links with commercial banks.'

Mobiles are being effectively used in Kenya and Uganda and have led to the prosperity of communities living on less than $ 1 a day.

The Kenyan farmers are jubilant after the completion of the financial literacy course and opening bank accounts.

According to World Watch Institute, 'Because L3F Uganda adapts its educational tools to fit farmers' lifestyles and technological capacities, rather than imposing costly or time-intensive educational programmes on farmers, the project can make real advances in empowering farmers and improving their livelihoods'

Here is the Batwa community in the Kabale district of Uganda.

They learn bee-keeping techniques from Makarere University experts and from each other in their language Ruchika. This has resulted in their enhanced productivity and increased production of honey

A study was conducted recently of the L3F projects in Kenya and Uganda. Three focus group were identified—those who participated in the L3F project (social capital plus learning); those who belonged to other self-help groups or associations (social capital) and those who participated in neither. The sample was randomly drawn from about 4000 L3F participants. There were 78% women to 22 % men participating in the L3F project.

Regarding the availability of various technologies, it was found that 90% of the L3F group had radios, only 20% had TVs while 85% owned mobile phones. A similar pattern was seen in the members of the other groups, with 75% owning mobiles. Compare this with the 60% ownership of mobiles among those who participated in neither group. What does this indicate? That the ICT is quite prevalent and all three groups have more or less similar access.

The knowledge in agriculture and livestock had increased greatly in the L3F group for 96% of participants, those who participated in other groups by 67% while only 35% of those who participated in neither group claimed such an increase in knowledge. It is clear then that ICT has to be systematically deployed to play a role in extension.

Regarding the increased ability to negotiate in the market, 95% of the L3F participants responded in the positive, while the % of those in the other 2 groups was much lower. This is one of the indicators of empowerment that emanates from lifelong learning.

For how many families had the income increased in the last two years? 87% of the L3F families had experienced enhanced income with only 35% of the families participating in other groups to 20% among those who belonged to neither group.

To the question of how many families were now able to take 2 meals a day, 88% of the L3F group responded positively to 46% among those who were members of other groups and only 30% of the families who belonged to neither. As you notice, the percentage of 'no answer' is higher in this category as members find this a sensitive issue

As you have seen from this evaluation that the L3F paradigm takes a holistic approach and it is this that has led to ICT contributing positively to agricultural extension.

In conclusion let us return to our question 'is ICT an answer to extension? Evidence shows that ICT alone cannot be the answer. A paradigm shift is required in the concept and practice of extension and only then ICT can add value to agricultural extension.

Thank you for your kind attention. For further information you may contact Dr Bala.