Theoretical Perspectives on the Contributions of COL-PROTEIN to Open and Distance Learning for Development

Krishna Alluri and K. Balasubramanian
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The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies.

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Executive Summary

During 2000 to 2009, the Commonwealth of Learning (COL) supported the innovative use of open and distance learning (ODL) to alleviate poverty in rural areas of the world. The programme under which this work was done was known as the Poverty Reduction Outcomes through Education, Innovations and Networks (COL-PROTEIN).

In particular, COL-PROTEIN supported initiatives that involved using ODL and information and communication technologies (ICT) to build capacities for community development in areas such as food security, environmental protection, women’s empowerment, micro-enterprise and good governance. The initiatives focused on three themes:
- designing and demonstrating innovative learning models that use ODL and ICT;
- developing and piloting self-learning materials; and
- demonstrating a detailed learning design that can be ICT-enabled to benefit those living in poverty.

Development institutions from various Commonwealth countries were encouraged to apply under the programme. Proposals were selected through a peer review process. Successful applicants then received technical and financial support from COL. Among these participants were non-governmental organisations, research and development institutions, universities and colleges.

This report provides a follow-up analysis of the experiences of COL-PROTEIN. It discusses the contributions of ODL to development, focusing on the outcomes from five theoretical perspectives: 1) social capital; 2) horizontal transfer of knowledge; 3) self-directed learning; 4) reaching the unreached; and 5) gendered learning.

After an analysis of the strength and weaknesses of the approach, the report concludes with the influences of COL-PROTEIN projects on the Lifelong Learning for Farming (L3F) and other initiatives of COL.

Highlights of the analysis:
- There is a direct, mutually reinforcing relationship between social capital, the horizontal transfer of knowledge, and self-directed learning, all of which in turn contribute to reaching the unreached. ODL must be perceived within this framework.
• Stakeholder engagement and participation are crucial in Open and Distance Learning for Development.

• Gender should not be a separate component in any development project, but rather a cross-cutting theme of the entire project.

• An outcome-oriented approach that incorporates appropriate gender-sensitive indicators is critical in a development project.

• To develop effective models of Open and Distance Learning for Development, intensive project cycles of management (design, development, implementation, monitoring and evaluation) that run for at least three years are needed.
The Commonwealth of Learning

The Commonwealth of Learning (COL; www.col.org) is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies. COL helps developing nations improve access to quality education and training.

Mandated to be in the vanguard of technological change in education and training, COL and its international network of partner organisations have helped the Commonwealth’s 54 member nations and their citizens realise widespread access to quality, current education and training for over 15 years. Fully operational since 1989, COL is financially supported by Commonwealth governments on a voluntary basis. It responds to Commonwealth needs through in-country and regional programmes and initiatives, as well as offering fee-for-service consulting for international agencies and national governments.

Although it is a small intergovernmental body and not a donor agency, COL has, over the two decades of its existence, helped Commonwealth countries give millions of people new opportunities to learn. It focuses on empowering governments, institutions and individuals to develop learning systems themselves without relying on donors.

COL is also a learning organisation. Before 2000, COL focused exclusively on supporting formal education, working mostly with universities and formal educational institutions. Since 2000, however, it has played a major education role in areas such as agriculture, environment and health, working to strengthen the sustainable livelihood process in Commonwealth countries.


Through advocacy, advisories, training, information provision, institutional strengthening, model building, consultation, conferences, professional development, policy
support, partnership brokering and networking, COL has been instrumental in promoting, supporting, advancing and enriching the practice of distance and open learning throughout the Commonwealth. Its influence and impact are evident in a variety of ways, including the migration of the practice from the periphery of educational delivery to the centre. More importantly, COL has been instrumental in reshaping thinking. As a consequence, Commonwealth Governments and international agencies better appreciate the value of open and distance learning, including the use of learning technologies, not just in the tertiary sector but also in basic education, open schooling, teacher training, technical/vocational education and training, continuing professional education, literacy and values education, as well as in a variety of non-formal situations.

By 2003, COL started addressing broader developmental challenges in which education and learning are relevant. The introduction to the 2003–2006 Three-Year Plan (Commonwealth of Learning 2003) points out:

COL’s influence has gone beyond the Ministries of Education to whom it has a primary obligation. Other ministries — including those of Agriculture, Health, Justice, Rural Development and Youth — have requested and received support from COL in their human resource development.

The plan further argues:

For any poverty reduction scheme to have effect, the skill sets necessary to underpin more dynamic economies must be created. This requires, at a minimum, the development of necessary life skills. For this, ODL can be helpful.

The focus on Millennium Development Goals also encouraged COL to undertake themes such as Open and Distance Learning for Development as a means of addressing livelihood issues. It is within this context of programme development that the Poverty Reduction Outcomes through Education, Innovations and Networks initiative of COL (COL-PROTEIN) was established in 2000 and operated until 2009.

COL-PROTEIN
The COL-PROTEIN projects represent the first major attempt by the organisation to directly link the role of open and distance learning (ODL) with the opportunity to address poverty issues. COL has helped launch many ODL programmes and projects, including those involving information and communication technologies (ICT). Through COL-PROTEIN, COL
further broadened its outreach by inviting not-for-profit government and non-governmental organisations (NGOs) throughout the developing Commonwealth — many operating just under the radar — to submit proposals on ICT-enabled development projects that reflect their circumstances and concerns. The aim was to establish collaborative partnerships between COL and these entities.

COL took note that the majority of people in developing countries reside in rural areas, making a subsistence living. Most of them depend on agriculture, with women (who are more disadvantaged than men) playing a key role in the sector. Education gives rural dwellers a chance to learn and gain new knowledge and skill competencies with which they can shape their own destiny and help each other. Increased access to learning and development enabled through emerging ODL approaches and technologies gives agricultural communities greater opportunity to obtain this education in relation to their needs.

**COL-PROTEIN’s objectives and themes**

Objectives (Commonwealth of Learning 2008):

- To further explore ODL options for non-formal learning with the aim of finding practical options for Open and Distance Learning for Development.
- To create a mechanism for expanding partnerships and providing partners with extended access, including enabling non-traditional NGOs to link with COL to facilitate grassroots innovations.
- To encourage creation of a multi-sector partnership-based resource pool, involving targeted financially poor agricultural communities as partners.
- To provide a broad framework incorporating ODL to reduce poverty — in which collaboration, networking, good governance and accountability are the core concepts necessary — with a focus on rural and peri-urban poor (in particular girls and women) associated with agriculture.
- To enable COL and its partners to gain knowledge from joint experiences with Open and Distance Learning for Development, and to reflect on the lessons learned from application of ODL tools and strategies for further refinement of “agriculture and environment” initiatives.

Themes:

- designing and demonstrating innovative learning models that use ODL and ICT;
- developing and piloting self-learning materials; and
• demonstrating a detailed learning design that can be ICT-enabled to benefit those living in poverty.

**Solicitation of proposals**

COL encouraged NGOs with a proven track record to submit proposals that specified objectives reflecting COL’s mandate and goals. A potentially successful proposal was required to include a high level of inter-institutional collaboration, significant ICT use, and innovative, well-researched ODL and content design that focused on the rural poor. Successful bidding institutions determined a set of agreed outcomes in consultation with COL, and submitted evaluation and progress reports over the course of the year-long programme. COL contributed expertise in ODL and limited seed funding, disbursed in instalments.

The COL-PROTEIN concept underwent six months of in-house consultation, and included feedback from COL’s known partners, before being informally floated in discussion groups at the 2002 Second Pan-Commonwealth Forum on Open Learning in Durban, South Africa. After a positive reception from delegates, COL-PROTEIN announced its first offering in early 2003. Offerings were tendered by email to COL’s mailing list, as well as being relayed through several other organisations and posted on COL’s website.

Eligibility to receive COL support required that an applying organisation or institution:

• have an established track record in addressing poverty in Commonwealth countries;
• hold a certificate of incorporation or proof of legal standing;
• be a university, training institution, school or other government or non-government educational or research and development organisation; or
• be a not-for-profit agency or community-based organisation working at the grassroots level.

Before initiating its agriculture- and environment-based poverty reduction activities, COL conducted an elaborate literature review and consulted with many partners around the globe. As a result of this work, COL determined that all COL-PROTEIN initiatives should include the following criteria in their design. These became the selection criteria for awarding COL-PROTEIN awards:

• focus on poor;
• interest and involvement of target groups;
• innovative application of ODL and ICT;
• documentation and sharing;
• contribution/commitment of lead organisation and partners;
• reliance on the professional inputs of COL; and
• management of the project with regard to implementation plans, monitoring of performance indicators, and evaluation of outputs.

COL-PROTEIN supported only one initiative per organisation. For successful applicants, COL provided:

• technical support in the form of consultancy and advice, shared knowledge and materials, and capacity-building (at cost) in the area of ODL; and
• financial support (up to CAD 18,000) for specified outputs based on a budget and timelines.

In a six-year period, from 2003 to 2009, COL-PROTEIN supported 18 initiatives (Table 1.1). Eight were in Africa (primarily in sub-Saharan African countries); eight were in South Asia (Bangladesh, India and Pakistan); and two were in the South Pacific (Solomon Islands and Papua New Guinea). Of the 18 initiatives, 8 were implemented by universities, research institutions, international organisations and international NGOs. The remaining 10 were implemented by regional and grassroots NGOs. Thus, COL-PROTEIN facilitated broadening of the COL partnership base, which to that point had focused on educational institutions and systems.

Successful applicants were required to enter into a contract with COL that outlined all aspects related to administration of the grant and required reporting. The financial support was normally provided in three instalments based on outputs/deliverables and on the associated budget and timelines. The copyright for materials developed through the initiative resided jointly with COL and the lead institution responsible for implementing the initiative. The information related to the COL-PROTEIN initiatives has been made public using the WikiEducator platform (www.wikieducator.org) and a Creative Commons Attribution-ShareAlike licence.

Purpose of This Book

When COL-PROTEIN was first started, reaching the poor and applying ODL innovatively were the only themes. Because of the short-term nature of the activities (about one year) and limited budget (ranging from CAD 8,000 to CAD 20,000 per project), COL-PROTEIN did not have resources for intensive monitoring. Though consultants were employed to review some of the projects, most of the review focused on the implementation of the projects as per the contracts. Very few attempts were made to synthesise the experiences into theoretical perspectives.
The project reports from the facilitating and implementing agencies were mostly related to outputs rather than to development outcomes.

However, these projects led to a series of formal and informal debates. Conferences such as the Pan-Commonwealth Forum provided opportunities to raise issues regarding the projects. In informal discussions over lunches and dinners, delegates debated the merits and disadvantages of the development interventions of the projects. Discussions through emails and stakeholder meetings helped COL realise that ODL by itself would not lead to development, though it would add value by strengthening the structure and processes of development as well as the work of institutions. *A posteriori* perspectives emerged and COL came to learn that concepts such as social capital, horizontal transfer of knowledge, self-directed learning, gendered learning, and reaching the unreached are vital in developing an innovative approach in ODL.

This book is an attempt to consolidate and analyse the experiences of COL-PROTEIN in terms of these concepts. In the absence of theoretical perspectives applied or expressed in the project reports and reviews, an attempt has been made to reconstruct the various formal and informal discussions, dialogues and debates and to synthesise these in a “remembered report.”

The result — *Theoretical Perspectives on the Contributions of COL-PROTEIN to Open and Distance Learning for Development* — is thus not a case study of experiences of specific projects but an analysis from the theoretical perspectives of the following broad themes:

- Social Capital
- Horizontal Transfer of Knowledge, Self-Directed Learning and Community Knowledge Management
- Reaching the Unreached and Gendered Learning

In terms of these theoretical perspectives, the strengths and weaknesses of the COL-PROTEIN models and approaches are examined in the following chapters. The aim is to highlight what works well and what has not worked so well and to identify the potential elements needed to chart a course for the future sustainability and transformation of Open and Distance Learning for Development.

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1 The social anthropologist M.N. Srinivas, having lost all his field data in a fire, reconstructed a monograph from memory, titled *Remembered Village* (1976, Delhi: Oxford University Press). This report uses a similar approach.
### Table 1.1 The initiatives under COL-PROTEIN

<table>
<thead>
<tr>
<th>Year</th>
<th>Countries Involved</th>
<th>Title</th>
<th>Implementing Organisation/Lead Partners</th>
<th>Type of Lead Implementing Organisation</th>
<th>Key Outputs and/or Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Kenya, South Africa, Tanzania, Uganda, Zambia</td>
<td>Tuned into Farmers: Linking Agricultural Research and Rural Radio</td>
<td>International Service for National Agricultural Research (ISNAR), The Netherlands and University of Guelph (Canada)</td>
<td>International agricultural research centre and a university</td>
<td>Development communications: communicating highly technical information to illiterate and semi-literate farmers</td>
</tr>
<tr>
<td>2004</td>
<td>Kenya, Uganda, Tanzania, Zambia</td>
<td>Rocks for Crops: Multi-Media Learning Materials on the Use of Rock Phosphates for Sustainable Agriculture</td>
<td>University of Guelph (Canada) and national partners in Kenya, Uganda, Tanzania, Zambia</td>
<td>University</td>
<td>Multi-sector partnerships; developed and developing country partnerships</td>
</tr>
<tr>
<td>2004</td>
<td>12 countries in sub-Saharan Africa</td>
<td>Online Learning: A Peer-to-Peer Exchange for Development through Radio</td>
<td>Developing Country Farm Radio Network (DCFRN), Canada</td>
<td>International NGO</td>
<td>Multi-media (online, radio and face-to-face) communications to build capacity and skills</td>
</tr>
<tr>
<td>2005</td>
<td>Kenya</td>
<td>Women in the Fishing Industry Programme (WIFIP) Kitchen Gardens and Nutrition</td>
<td>WIFIP Education and Development Trust</td>
<td>NGO</td>
<td>Instructional design for semi-literate fishing women; capacity-building in small business; economic development</td>
</tr>
<tr>
<td>2005</td>
<td>Nigeria</td>
<td>Solar Cooking Training via Telecentres in Rural Nigeria</td>
<td>Fantsuam Foundation</td>
<td>NGO</td>
<td>Transfer of sophisticated technologies for rural communities; peer-to-peer learning</td>
</tr>
<tr>
<td>2005</td>
<td>Cameroon</td>
<td>Small Business Training for Rural Women in the Upper Nkam Division, Cameroon (PROTEGE QV project)</td>
<td>Promotion of Technologies that Guarantee Environment and a better Quality of Life (PROTEGE QV)</td>
<td>NGO</td>
<td>Women; small business; development communications; reaching the unreached; contextualisation using local language; economic development</td>
</tr>
<tr>
<td>2007</td>
<td>Ghana</td>
<td>Winneba Open Digital Village for ICT Capacity-Building and Community Development</td>
<td>One Village Foundation and University of Education, Winneba</td>
<td>NGO and a university</td>
<td>University–NGO–community partnerships; innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2007</td>
<td>Kenya</td>
<td>ICT Skills for Teachers, Students and Communities in Rural Kenya</td>
<td>Charity for African Welfare and Development (CAWD)</td>
<td>NGO</td>
<td>Developed–developing country partnerships; expanding ICT access and use; reaching the unreached</td>
</tr>
<tr>
<td>2003</td>
<td>Bangladesh</td>
<td>Mobile Internet Educational Unit on Boats</td>
<td>Shidhulai Swanirvar Sangstha (SSS)</td>
<td>NGO</td>
<td>Development communications; reaching the unreached; innovations in ICT; contextualisation using local language</td>
</tr>
<tr>
<td>Year</td>
<td>Countries Involved</td>
<td>Title</td>
<td>Implementing Organisation/Lead Partners</td>
<td>Type of Lead Implementing Organisation</td>
<td>Key Outputs and/or Topics</td>
</tr>
<tr>
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<td>--------------------------------------------------------------------------------------------------------</td>
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<td>-------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2007</td>
<td>Bangladesh</td>
<td>Functional Literacy for Livelihoods in Rural Bangladesh: An Initiative for Poverty Reduction Using ODL and ICT</td>
<td>Centre for Urban Studies (CUS)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; contextualisation using local language</td>
</tr>
<tr>
<td>2007</td>
<td>Bangladesh</td>
<td>Open and Distance Learning Approach to Strengthening Development Initiatives through Interfaith Responses in Bangladesh</td>
<td>Community Development</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; transforming mindsets; contextualisation using local language</td>
</tr>
<tr>
<td>2003</td>
<td>India</td>
<td>Coping with Drought: A Computer-Based Distance Learning Module – BRAOU in Collaboration with ICRISAT (BRAOU(ICRISAT Project)</td>
<td>B.R. Ambedkar Open University (BRAOU), Hyderabad, and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)</td>
<td>University and an international agricultural research centre</td>
<td>Reaching the unreached; transforming mindsets; contextualisation using local language</td>
</tr>
<tr>
<td>2004</td>
<td>India</td>
<td>Jeevan Vidya Kendra: Learning Approach for Poverty Alleviation</td>
<td>Siddhi Trust</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2005</td>
<td>India</td>
<td>Community-Based Distance Learning for Development among Fisher Folk Communities</td>
<td>Constant Service in Developing Education and Rural Reconstruction (CONSIDER)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2007</td>
<td>Pakistan</td>
<td>Functional Literacy and Skill-Based Education for Rehabilitation of Youth in Earthquake-Affected Areas of Pakistan</td>
<td>Secondary Teacher Education Department Allama Iqbal Open University (AIOU)</td>
<td>University</td>
<td>Innovations in ICT; reaching the unreached; contextualisation using local language; economic development</td>
</tr>
<tr>
<td>2008</td>
<td>India</td>
<td>Establishment of a Livelihood Resource Centre (LRC) in Prakasam District of Andhra Pradesh, India</td>
<td>Society for the Development of Rural Women and Children (SDRWC)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; transforming mindsets; bottom-up approach for sustainability</td>
</tr>
<tr>
<td>2005</td>
<td>Solomon Islands</td>
<td>Training of Rural Trainers</td>
<td>Rural Development Volunteers Association</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2008</td>
<td>Papua New Guinea (PNG)</td>
<td>Training of Women and Youth at Selected Model Villages of Papua New Guinea University of Technology</td>
<td>Department of Agriculture, PNG University of Technology</td>
<td>University</td>
<td>Reaching the unreached; contextualisation using local language</td>
</tr>
</tbody>
</table>
References


The Connection between ODL for Development and COL-PROTEIN

Introduction

Amartya Sen (1999, p. 10), in his seminal contribution to the concept of development as freedom, postulates five requirements for true development:

Five distinct types of freedom, seen in an “instrumental” perspective, are particularly investigated in the empirical studies that follow. These include (1) political freedoms, (2) economic facilities, (3) social opportunities, (4) transparency guarantees and (5) protective security. Each of these distinct types of rights and opportunities helps to advance the general capability of a person. They may also serve to complement each other. Public policy to foster human capabilities and substantive freedoms in general can work through the promotion of these distinct but interrelated instrumental freedoms.... In the view of “development as freedom,” the instrumental freedoms link with each other and with the ends of enhancement of human freedom in general.

While development analysis must, on the one hand, be concerned with objectives and aims that make these instrumental freedoms consequentially important, it must also take note of the empirical linkages that tie the distinct types of freedom together, strengthening their joint importance. Indeed, these connections are central to a fuller understanding of the instrumental role of freedom.

The ability to participate in political, economic and social processes is thus seen as an important aspect of development.

The discourse generated by Sen’s perspectives has influenced national and international agencies in defining a roadmap for development. Many organisations initially focused on the economic aspects and considered growth as a proxy for development. Dutraive (2009, p. 10) describes how international organisations took a “universalist” approach to advocating
economic reforms, now known as the Washington Consensus: “The first Washington Consensus was based on the idea that economic laws were absolute truths and that they were universal, i.e., independent of the historical or cultural context.”

This resulted in a set of recommendations sometimes ironically qualified as “the mantras: privatization, liberalization, and stabilization.” Dutraive (2009), quoting Gay (2007), points out:

> The second Washington Consensus was more cautious concerning the problem of the efficiency of reforms and more sensitive to human distress and poverty. It however remained “universalist” — the universalism of institutions replacing the universalism of market.

Over the past 20 years, the focus of the World Bank has changed. So has its approach, which is now “to fight poverty with passion and professionalism for lasting results to help people help themselves and their environment by providing resources, sharing knowledge, building capacity, and forging partnerships in the public and private sectors” (World Bank 2011).

Mahbub ul Haq (1995) helped the United Nations Development Programme (UNDP) to “shift the focus of development economics from national income accounting to people-centered policies” in defining the Human Development Reports (HDRs). Based on the premise of Sen’s capability, functioning and freedom, these reports have established a comprehensive index for defining development. Such initiatives have influenced how multi-lateral agencies like the United Nations arrived at the Millennium Development Goals.

**Education and Development**

The role of education in development is significant. For example, rates of HIV prevalence in rural Uganda were initially similar across all education levels. Around 1995 that began to change. By the turn of the century, those individuals with some secondary education showed much lower HIV prevalence rates compared with those having less schooling. This evidence is mirrored in other African countries where condom use has increased sharply where both men and women have higher levels of schooling. The general cognitive and social gains from education seem to be the main factors in protecting adolescents and young adults from infection (UNESCO 2005, p. 45).

Studies in public policies and development have illustrated the role of literacy in economic growth and development (Johnston 2004). However, in the area of higher education, Friedman and Friedman (1980, p. 34) argued that there
is no evidence that higher education yields social benefits over and above the benefits that accrue to the students themselves. Moreover, said the authors, such education may lead to “social unrest and political instability.” Bloom et al. (2005) challenged that perspective through their studies in Africa, which suggested that investment in higher education could improve a country’s ability to maximise its economic output. Bloom et al. (2005, p. 29) found out that a “one-year increase in total education stock would raise African GDP by 0.24 percentage points per year. But a one-year increase in tertiary-education stock would raise African output by an added 0.39 percentage points per year, generating a total increase of 0.63 percentage points per year from increased tertiary education.”

Rightly or wrongly, education is generally construed in terms of formal education. The non-formal education, informal education, training, extension and other types of learning fall into the broad category of human resource development. O’Mahony (2010) shows that intangible capital from investing in training is a significant contributor to output growth in some European countries. According to Dearden et al. (2005, p. 25), in Britain an increase of 1 percentage point in the number of employees trained translates into about a 0.6% increase in productivity and a 0.3% increase in wages.

**Extension and Development**

The term “extension” is derived from the 19th century practice of some British universities to use out-of-college lectures as a means of providing adult education in neighbourhoods. Such university extension was later adopted by the Land-Grant Colleges in the U.S. for “the extramural work concerned with serving the needs of farm families” (Food and Agriculture Organization [FAO] 1997). When many developing nations became independent, they followed a similar framework of extension in many areas, including agriculture and health.

While the definition of agricultural extension has varied over time, influenced by different ideologies and approaches, the common themes linking all the definitions are information, communication, knowledge management and human resource development.

The impact of extension on agriculture and livelihood has been well documented. For example, Fan et al. (2007) discovered that every rupee spent in India on agricultural research and development (including extension) in the 1990s yielded a return of Rs. 6.93, by far the largest rate of return to investment (Table 2.1). Fan et al. also found that every million rupees spent on agriculture research and development enabled 323 impoverished people to move beyond the poverty line.
Table 2.1  Returns on rural investment in India (from Fan et al. 2007)

<table>
<thead>
<tr>
<th>Area of Investment</th>
<th>Returns in Rupees/ Per Rupee Spent</th>
<th>Number of Poor Reduced/ Million Rupees Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Research and Development</td>
<td>6.93</td>
<td>323</td>
</tr>
<tr>
<td>Irrigation</td>
<td>1.41</td>
<td>67</td>
</tr>
<tr>
<td>Roads</td>
<td>3.17</td>
<td>335</td>
</tr>
<tr>
<td>Education</td>
<td>1.53</td>
<td>109</td>
</tr>
<tr>
<td>Power Subsidies</td>
<td>0.58</td>
<td>27</td>
</tr>
<tr>
<td>Credit Subsidies</td>
<td>0.89</td>
<td>42</td>
</tr>
<tr>
<td>Irrigation Subsidies</td>
<td>Not Significant</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Fertilizer Subsidies</td>
<td>0.53</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Fan et al. (2007)

Alston et al. (2000) studied trends from 292 studies on agricultural research and extension. The authors found that extension studies yielded a median rate of return of 62.9% per year. Overall, they concluded that extension, if efficiently managed, is capable of generating better social and private returns. Evenson (2000, p. 41) reached a similar conclusion, saying that “Research and extension programs have afforded high payoff investment opportunities.”

While the economic impact has been widely documented, the social impact of extension has started receiving attention only recently. Poverty, gender, household food security, environment, governance, and knowledge management are some of the important dimensions that are analysed in social impact assessments. A World Bank report (Rajalahti et al. 2005) elaborates the issues in understanding the social dimensions of agricultural research and extension projects. Ideological and methodological issues, cost, and lack of capacity have restricted a broader understanding of the social impact of agricultural extension. In the context of India, Sulaiman and Holt (2002) emphasise the need to focus on vulnerability and livelihood issues rather than merely on productivity of crops. According to the authors:

The basic issue ... has been the lack of a clear articulation of what should be the role of extension in the Indian context. Public sector extension has to look beyond [Transfer of Technology] models. With the changing development agenda, extension in India will have to devise strategies for facilitating the poor to pursue broader livelihood options in on-farm and non-farm sectors so that their vulnerability could be reduced.

Another World Bank report, referring to a study by Wennink et al. (2007, p. 12), points out the importance of social inclusion in extension. The
report notes that strategies aimed at alleviating poverty should include three key elements:

1. Identifying opportunities for small-scale farmers (e.g., access to natural resources, markets and services to build up assets).
2. Facilitating the empowerment of men and women farmers (e.g., participation by the poor in political processes and decision-making).
3. Enhancing household food security.

Social inclusion includes access to knowledge, but if the context is not right or if farmers’ access is not inclusive (of the rural poor), then such growth will not lead to well-balanced development and certainly not to pro-poor development.

Social exclusion leads to research and development agendas that do not address the priorities of the poor, resulting in constrained access by the poor to appropriate technology and, hence, to their exclusion from economic and social progress.

Wennink et al. (2007) studied extension systems in Benin, Rwanda and Tanzania and found that the social impact of such initiatives is defined by the characteristics of the farmers’ organisations. The participatory approaches promulgated by various experts in the 1980s and ‘90s stressed that social impact can be achieved if appropriate participatory approaches and governance principles are embedded in the extension systems.

Adequacy of Extension

Extension as a major human resource development tool thus has a vital role to play in the economic and social development of a country. However, a declining trend is being observed in the intensity of extension activities in the agriculture sector. Feder et al. (1999, p. 7), for example, identified eight generic problems for extension:

- scale and complexity
- dependence of extension on the wider policy environment and other agency functions
- inability to trace cause and effect
- commitment and political support
- accountability
- liability to public service functions beyond agricultural knowledge and information transfer
- maintaining operating resources and fiscal sustainability
- interaction with knowledge generation
The problem of declining commitment and support is described by Alex et al. (2002, p. 12) as follows:

Financing for public extension systems grew rapidly in the 1970s with an average 8.6 percent increase in expenditures per year, but slowed to 2.6 percent per year in the 1980s (Beynon et al. 1998). Financing for agricultural research grew even more rapidly and the ratio of extension to research expenditures declined from about 2:1 in 1950 to 1:1 in 1980. Agricultural extension intensity ratios averaged 0.9 percent in the 1980s (0.5 percent if taken on the basis of weighted averages) with ratios in developing countries typically about double those in industrialized countries (Beynon et al. 1998). Extension expenditures as a share of total government agricultural spending were also strikingly higher for developing as compared to industrialized countries.

Until 1988, there was little evidence of decline in public spending on agricultural extension, except in Africa where extension spending declined but still remained higher than in other regions (Beynon et al. 1998). Since 1988, structural adjustment, public sector retrenchment, and re-allocation of expenditures suggest that there may have been a substantial decrease in funding for extension.

Given the scale and complexity of extension, the declining trend in commitment and political support can weaken the human resource development process in the crucial primary sector on which a large number of poor people depend. Hence, a paradigm shift in the concept of extension is required to identify strategies for effectively reaching large numbers of people who are involved in agriculture and limited resources.

Information and communication technologies (ICTs) and ODL have the scope to support this paradigm shift for an effective extension system.

**ODL and ICT in Extension**

Open learning refers to policies and practices that permit entry to learning with no barriers (or minimal barriers) of age, gender or time and while recognising prior learning. Distance education refers to the delivery of learning or training to learners who are separated, mostly by time and space, from those who are teaching and training. Conceptually distinct yet complementary, these two aspects come together in ODL (Commonwealth of Learning 2011).

McLean (2001) defines distance learning as the use of educational materials or media by learners who are not necessarily linked with an educational
organisation or engaged in communication with an instructor. From the correspondences courses of 1970s and 1980s, ODL has today moved to e-learning with the help of technology.

As shown in Table 2.2, ODL can take many forms, particularly in e-learning.

### Table 2.2 Types of open and distance learning (ODL)

<table>
<thead>
<tr>
<th>ODL Type</th>
<th>Description</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synchronous Formal</td>
<td>Group-based classroom type of virtual teaching, with instructors and students meeting at a fixed time and interacting.</td>
<td>Has the advantage of real-time interactivity, but also has low flexibility and reach is limited.</td>
</tr>
<tr>
<td>Asynchronous Formal</td>
<td>No classroom type of learning though instructor teaches the students through software support. No real-time interactivity and feedback is through email and discussion boards.</td>
<td>More flexibility than synchronous learning, but no advantage of real time, and reach is limited.</td>
</tr>
<tr>
<td>Formal Self-Study</td>
<td>Similar to asynchronous system but without the support of instructors. Structured and designed courses.</td>
<td>Offers high flexibility and larger reach, but has no real-time interactivity and learners may not get adequate support.</td>
</tr>
<tr>
<td>Informal Self-Study</td>
<td>Self-directed learning without an instruction base. Done mostly by browsing the Internet using search engines.</td>
<td>Very high flexibility. Offers no real-time interactivity and no systematic learning. Does have larger reach.</td>
</tr>
<tr>
<td>Community-Based Learning</td>
<td>Learning done through people coming together through Web-based discussions and sharing of experiences.</td>
<td>Very high flexibility with possibilities of real-time interactivity and larger reach.</td>
</tr>
<tr>
<td>Blended Learning</td>
<td>Blending of all types of ODL: e-learning plus conventional face-to-face classroom interaction.</td>
<td>Potential varies based on the mix.</td>
</tr>
</tbody>
</table>

ODL has the advantage of enabling a large number of people to access different types of education at less cost and without sacrificing their employment. UNICEF (2009) refers to a study of Rumble and Koul (2007) that refers to the National Institute of Open Schooling (NIOS):

Comparing NIOS’s cost per student per course with other providers showed that the 2005–06 NIOS cost of educating a student to completion of his or her secondary education over five years (INR 1,151) was just 7.8% of the cost of educating a student over the two-year full-time secondary level course in the Kendriya Vindyalayas Central schools catering for the children of central government and services personnel (INR 14,817), while the 2006–07 cost to completion in five years at NIOS (INR 1,213) was just 10.7% of the two-year cost of educating a student at secondary level of INR 11,343.

The World Bank (2001, p. 26) estimated the cost and expected savings of a five-day videoconference-based training session for senior policy-makers compared with a more traditional face-to-face session.
As the costing in Table 2.3 shows, the unit cost for face-to-face training is more than seven times greater than for videoconferencing.

Table 2.3 Cost-efficiency comparison between distance learning and face-to-face learning (from World Bank 2001)

<table>
<thead>
<tr>
<th></th>
<th>Cost for Face-to-Face Training (US$)</th>
<th>Cost for Distance Learning (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Trainer (3) Salary and Travel</td>
<td>21,000</td>
<td>15,000</td>
</tr>
<tr>
<td>2 Participant Travel</td>
<td>60,000</td>
<td>0</td>
</tr>
<tr>
<td>3 Per Diem</td>
<td>33,000</td>
<td>0</td>
</tr>
<tr>
<td>4 Material Shipment</td>
<td>5,000</td>
<td>0</td>
</tr>
<tr>
<td>5 Facilities and Maintenance</td>
<td>1,000</td>
<td>16,000</td>
</tr>
<tr>
<td>6 Network Access Costs</td>
<td>0</td>
<td>10,500</td>
</tr>
<tr>
<td>7 Local Staff</td>
<td>0</td>
<td>9,000</td>
</tr>
<tr>
<td>8 Distance Learning Center Operations</td>
<td>0</td>
<td>20,000</td>
</tr>
<tr>
<td>9 Global Development Learning Network Services Costs</td>
<td>0</td>
<td>12,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120,000</strong></td>
<td><strong>82,500</strong></td>
</tr>
<tr>
<td><strong>Unit Costs</strong></td>
<td><strong>4,000</strong></td>
<td><strong>550</strong></td>
</tr>
<tr>
<td><strong>Number of Participants</strong></td>
<td><strong>30</strong></td>
<td><strong>150</strong></td>
</tr>
</tbody>
</table>

Thus, ODL is becoming cost-effective with the integration of modern ICT. Institutions such as The Open University UK have acquired a reputation of delivering quality education and satisfying the needs of students.

While ODL has acquired importance in formal education and formal human resource development systems, its role in non-formal education and extension systems is still being debated. Perraton (2007) analysed the role of ODL in non-formal education in the developing world. According to him, the initial euphoria of ODL-based non-formal education is declining (Perraton 2007, p. 18):

> It was encouraging enough to suggest that one might “create a whole system of non-formal education which would complement the formal....” But it has not happened like that. There has been less demand for non-formal and out-of-school education than was anticipated, the communication sector has not developed in the way....

Perraton further points out that “the economics of non-formal education did not encourage investment. With the possible exception of Accion Cultural Popular in Colombia, non-formal education does not appear to have been able to provide basic education at a cost that compares with that of primary schooling.”
Viability of Non-Formal Education

Perraton’s analysis raises two major issues:

1. Should non-formal education be compared to the formal education system? It may be appropriate to do so, say in an agricultural extension system. The example of Africa quoted in Perraton’s analysis is more relevant to the agricultural extension system.

2. The conventional didactic educational system views education in terms of the teacher–student relationship. Non-formal education may face problems if it follows the similar path. It has to be perceived in the context of community knowledge management.

In our view, non-formal education should be viewed in the context of need for extension in various livelihood sectors such as agriculture and health. Table 2.4 shows the level of extension services in the agricultural sector in various developing countries.

Table 2.4 Agricultural extension intensity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>0.98</td>
<td>1,809</td>
<td>2,245</td>
</tr>
<tr>
<td>Asia and Pacific</td>
<td>0.56</td>
<td>2,661</td>
<td>1,075</td>
</tr>
<tr>
<td>Latin America</td>
<td>1.44</td>
<td>2,940</td>
<td>3,983</td>
</tr>
</tbody>
</table>

*Person providing extension services.

Roseboom (2004, p. 19) suggested to the Food and Agriculture Organization (FAO):

Based on the idea that face-to-face interaction is essential in order to diffuse knowledge (and this is particularly so in rural communities where the majority of farmers are illiterate and where modern media are not available), extension costs will depend largely on the number of people that need to be reached. The minimum target we suggest to adopt is that of at least one extension agent per 1,000 agricultural labourers. In 1988, this ratio was in the order of 1,800–3,000 for the developing countries and around 400 for developed countries.

To achieve one extension agent per 1,000 agricultural labourers, Roseboom arrived at a range of intensity ratios, as shown in Table 2.5.
Table 2.5 Agricultural extension: intensity ratio

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Low income countries</td>
<td>1.85</td>
<td>1.17</td>
</tr>
<tr>
<td>2 Lower middle income: China</td>
<td>1.53</td>
<td>1.53</td>
</tr>
<tr>
<td>3 Lower middle income countries: others</td>
<td>0.52</td>
<td>0.47</td>
</tr>
<tr>
<td>4 Higher middle income countries</td>
<td>0.35</td>
<td>0.27</td>
</tr>
<tr>
<td>Total: developing countries</td>
<td>1.15</td>
<td>0.92</td>
</tr>
</tbody>
</table>

If such an extension system has to be operated, at least 1% of the agriculture GDP needs to be invested in agricultural extension. In the 1990s, a country like India was spending only 0.15% of the agriculture GDP in agricultural extension (National Centre for Agricultural Economics and Policy Research). The economics of “non-formal education needs to be perceived from the demand of extension services. It is in this context that ICT-based ODL has potential to contribute.

Community Knowledge Management, Non-Formal Education and Extension

Freire’s (1970) *Pedagogy of the Oppressed* has had a direct and indirect influence on extension, effecting a transition from a product-oriented approach to a farmer-centred approach. Chambers et al. (1989) argue for “farmer first” approaches, focusing on the idea of participatory development that emphasises the involvement of the farming community in planning, implementing and monitoring extension efforts.

Roling (1988) takes the concept one step further, arguing that extension needs to be looked at in terms of community knowledge management. In this context, Roling suggests there were three aspects to extension: structure, institutions and process. A summary of his insights follows.

- He views *structure* as consisting of two systems (1988, p. 33):
  - an *agricultural knowledge system* is “a system of beliefs, cognition, models, theories, concepts, and other products of the mind in which the ... experience of a person or group with respect to agricultural production is accumulated”; and
  - an *agricultural information system* is “a system in which agricultural information is generated, transformed, transferred, consolidated, received, and fed back in such a manner that these processes
function synergically to underpin knowledge utilization by agricultural producers.”

- An institution involved in extension, says Roling, must be an active utiliser constituency that “makes demands upon the system and can exert a certain leverage” (1988, p. 146). Such an active constituency can force the knowledge and information systems to serve the needs of the members of the constituency.

- Roling defines process in terms of five crucial elements: mobilisation, organisation, training, technical support and system management.

With such structures, institution and processes in place, the transformation of agricultural information into farming behaviours or behavioural objectives is possible through the horizontal transfer of knowledge. Horizontal transfer of knowledge results from the community’s efforts to: explore the issues involving various stakeholders; study the relevance of various education and training options; develop a process of sharing the insights and reaching consensus; and apply the shared insights for improving the livelihood security. Interactive learning mode is an essential component of this process, where the trainer and trainee learn from each other. The role of the trainer and trainee becomes fluid in such a relationship: a trainee may at one point become the trainer and then the trainer may become the trainee. In this way, the codified formal knowledge and the tacit oral knowledge are blended into a combined package.

ODL based on ICT can play a critical role, reinforcing non-formal education via extension.

**COL-PROTEIN and Development**

COL-PROTEIN began with the premise that ODL offers scope to enhance development process and address issues such as poverty reduction. It looked at ODL as an effective strategy to address the declining extension system in the agricultural sector.

Over time, the programme transitioned from an output-based approach to an outcome-based approach. It placed ODL in the context of community and moved away from the conventional framework of teacher–student. As experience within the programme was gained, COL-PROTEIN started looking into the relevance of self-directed learning, social capital, horizontal transfer of knowledge and gender in Open and Distance Learning for Development.
References


Social Capital and COL-PROTEIN

Introduction

Recognition of the role played by social capital in economic and social development has grown in recent years. The Organisation for Economic Co-operation and Development (OECD) describes social capital as the “networks together with shared norms, values and understandings that facilitate cooperation within or among groups” (Keeley 2007). Coleman (1988) describes social capital as “productive potential which is derived from relationships between actors.”

Many studies have linked the role of social capital to economic development. As a resource embedded in relationships among people, it strengthens and facilitates cooperation, reciprocity and risk-sharing in a collective form through norms, values and regulation, thereby stimulating economic growth and social development (Putnam 1993; Kilpatrick et al. 2001).

Social capital influences household food security in various ways. Campbell argues that social strategies (that is, the sharing of resources within the community through family or clan) are also a common practice of coping with food deficit (1991, p. 145). A study in Peru has found higher economic development and food security when social capital is also high (Diaz et al. 2002). In Bangladesh, social capital that influences credit and household expenditure has an impact on food security (Ali et al. 2005).

Two types of social capital are generally referred to:

- **Structured social capital** refers to the roles, rules, procedures and networks that facilitate information-sharing, collective action and decision-making through established roles.

- **Cognitive social capital** refers to the norms generated through cognitive and interactive processes and reinforced by trust, reciprocity, collective identity and shared beliefs that contribute to mutually beneficial collective action. Cognitive social capital emerges from continuous interactions, dialogues and debates.
COL-PROTEIN's Contribution to Social Capital

At the time COL-PROTEIN was envisaged, social capital as a concept was not on the agenda. The Lifelong Learning for Farmers (L3F) initiative during 2004–2007 led to the discussion on social capital. One of the review reports compared the performances of two villages in terms of L3F. It found out that in one village where L3F activities were strong, there was a well-developed cognitive social capital in terms of reciprocity, trust, collective identity and so on. In the other village, where the trend of L3F was not so strong, the emphasis was on structured social capital and the cognitive social capital was weak.

The experiences of L3F led to discussions about social capital in COL-PROTEIN. Table 3.1 shows where social capital elements were incorporated into some of the COL-PROTEIN initiatives. All five of these initiatives are discussed in more detail below.

### Table 3.1 Examples of social capital in COL-PROTEIN initiatives (2003–2008)

<table>
<thead>
<tr>
<th>Year</th>
<th>Country Involved</th>
<th>Title</th>
<th>Implementing Organisation/ Lead Partners</th>
<th>Type of Lead Implementing Organisation</th>
<th>Key Outputs and/or Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Kenya</td>
<td>Women in the Fishing Industry Programme (WIFIP) Kitchen Gardens and Nutrition</td>
<td>WIFIP Education and Development Trust</td>
<td>NGO</td>
<td>Women: learning design for semi-literate fishing women; capacity-building in small business; reaching the unreached; economic development</td>
</tr>
<tr>
<td>2005</td>
<td>Cameroon</td>
<td>Small Business Training for Rural Women in the Upper Nkam Division, Cameroon (PROTEGE QV project)</td>
<td>Promotion of Technologies that Guarantee Environment and a better Quality of Life (PROTEGE QV)</td>
<td>NGO</td>
<td>Women: entrepreneurship development; micro-enterprises</td>
</tr>
<tr>
<td>2004</td>
<td>India</td>
<td>Jeevan Vidya Kendra: Learning Approach for Poverty Alleviation</td>
<td>Siddhi Trust</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached ICT; information and communication technologies</td>
</tr>
<tr>
<td>2003</td>
<td>India</td>
<td>Coping with Drought: A Computer-Based Distance Learning Module – BRAOU in Collaboration with ICRISAT (BRAOU-ICRISAT Project)</td>
<td>B.R. Ambedkar Open University (BRAOU), Hyderabad, and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)</td>
<td>University and an international agricultural research centre</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2008</td>
<td>India</td>
<td>Establishment of a Livelihood Resource Centre (LRC) in Prakasam District of Andhra Pradesh, India</td>
<td>Society for the Development of Rural Women and Children (SDRWC)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; transforming mindsets; bottom-up approach for sustainability</td>
</tr>
</tbody>
</table>
WIFIP Kitchen Gardens and Nutrition, Kenya

Women in the Fishing Industry Programme (WIFIP) implemented the Kitchen Gardens and Nutrition Project in Kenya. It started with 160 members in four beach communities living on the banks of Lake Victoria. WIFIP addressed the needs of the women who lacked knowledge and skills to manage and expand their businesses. They were organised into eight women’s learning groups in the four communities.

WIFIP had a good management and governing structure in place. It developed a flexible learning curriculum that was packaged into simple and easy-to-read print and audio materials for self-use, as well as being available for radio broadcast and video. The quality of the learning materials, their systematic and organised delivery, and learner support systems using community trainers helped members develop their kitchen gardens both to enhance nutritional practices and to provide a livelihood option through increased income. Community-based resource people were trained in group dynamics and community-based learning. WIFIP also put in place a strong Participatory Monitoring and Evaluation (PAME) process, where the community evaluated the progress of the initiative.

WIFIP members benefited directly and women and youth from the neighbouring communities benefited indirectly from the WIFIP kitchen gardens promotion. An evaluation report on WIFIP (Women in the Fishing Industry Programme [WIFIP] 2008) made the following observations:

- The members are able to do their business better as they were able to negotiate for prices, keep records and have some savings.
- The women are united, share ideas [and] work as a group with a united voice that boosts their businesses.
- The women have improved confidence and are now able to address the community in the public meetings, which was not the case previously.
- The members are able to teach the wider community about issues of health in the public meetings and the administrative leaders confess that these women have made their work easier.
- WIFIP has developed an excellent distance education material development and delivery approach, which is flexible and adaptable to the needs of the women, as well as effective learner support systems to enable the women to learn and acquire new knowledge and skills.

Thus, the WIFIP Kitchen Gardens and Nutrition Project incorporated solid principles of building community social capital effectively for the benefit of the target communities. In particular, the elements of cognitive social capital were evident in the initiative. The evaluation report also cited
evidence of mutual trust, group identity and other measures of growth among the women who came together to strengthen their livelihood opportunities.

**Small Business Training for Rural Women in the Upper Nkam Division, Cameroon**

This initiative began with the premise that creating a network for poor women would help support them in their efforts. The initiative used the network of women’s associations created by the Ministry of Women’s Affairs. This resulted in a separate network (called CERFORDEV) of 200 women. Through this network, the needs of women members were identified, and this helped in planning the ODL packages and in linking the women with financial institutions. Specific strategies were adopted to build the social capital. Group discussions, sensitisation programmes, surveys and joint group activities such as participatory need assessments were used to build the network.

According to the NGO, the network CERFORDEV was successful in helping the women members access financial institutions for credit.

**Jeevan Vidya Kendra: An Experimental Learning Approach for Poverty Alleviation, India**

This COL-PROTEIN project was aimed at developing self-learning modules for over 1,700 poor tribal people (mainly women and youth) in 15 villages, to help them acquire livelihood skills and mechanisms for poverty reduction. The 11 modules were in the areas of biomass management, land productivity, food processing and market support. The initiative helped the tribal people get organised, share their knowledge and experiences and preserve their traditional knowledge.

The Jeevan Vidya Kendras became the centres for learning and development of the entire village in hilly areas, where no development had occurred before. Because the communities included semi-literate and illiterate people, considerable emphasis was put on development and delivery of suitable learning materials. Use of local languages and local community leaders as trainers helped make the material easily understandable. Radio, video, folk songs, music and drama were included.

According to the NGO that implemented the project, the initiative successfully enabled the tribal communities to build their organisational structure for management and decision-making.
Coping with Drought: A Computer-Based Distance Learning Module — BRAOU in Collaboration with ICRISAT, India

This initiative involved a federation of rural women micro-credit groups called Addakal Mahila Sangh (AMS). The focus was building the capacity of the community to transform generic information into locale-specific information. Social mobilisation was given importance in the initiative. The community was perceived as a partner rather than as a beneficiary or trainee. The initiative helped to establish Village Network Assistants (VNAs). One of its evaluation reports (Balasubramanian 2006) points out:

AMS, being a women’s organization, focuses on woman as “development agent”. The integration of these development agents in the predominantly “male farmer’s” world has resulted in certain interesting premises.... The huge financial transactions and the control over credit have empowered these women. Their ability to face conflicts and capacity to negotiate in the political platforms have been further strengthened with the introduction of ICT by ICRISAT.

The Coping with Drought initiative was placed in the context of the cognitive social capital of AMS. This strategy helped the community own the technology and the initiative. According to the evaluation report, “A strong community based organisation acting as a knowledge intermediary using ICT has shown the potentials of emerging as a new model in extension.”

Establishment of a Livelihood Resource Centre in Coastal Prakasam District of Andhra Pradesh, India

This COL-PROTEIN project was implemented by the Society for the Development of Rural Women and Children (SDRWC-India). It focused on the livelihood portfolio of coastal communities dependent on salt farming, vegetable cultivation, animal husbandry and fisheries, and micro-enterprises. The women formed Common Resource Groups based on their primary source of income. They were able to attract micro-finance support and link with companies for marketing their produce. Women representatives from a self-help group contributed to the project’s implementation. Two hundred poor women farmers were trained and supported in learning skills to manage and make profit from their livelihood sources. The women were able to self-manage their community-based organisations with guidance and advice from SDRWC. Seventy-five per cent of trained women were able to generate sufficient funds from the sale of salt. According to SDRWC-India, the women gained leadership and ability to work as a community and govern themselves.
In Retrospect

A substantial number of initiatives under COL-PROTEIN were initiated by universities and international organisations focusing mainly on the area of delivering learning materials to the community. Most of the initiatives perceived learners as individual students and stressed the didactic mode of education. Training, student, course and assessment were the key aspects of these initiatives. One of the projects had transfer of technology as a dominant theme.

Few COL-PROTEIN initiative reports specifically discussed social capital. However, some grassroots NGOs integrated the initiatives with existing community-based organisations. They discussed the role of communities managing the initiatives with a focus on rules and regulations. Thus, they recognised the importance of structured social capital and provided evidence in support of some interesting insights. For example:

- Investing in community mobilisation to build cognitive social capital is crucial for human resource development.
- ODL can add value in the development process if it is placed in the context of the cognitive social capital.
- The term “beneficiary,” which is widely used in the development discourse, often has a negative connotation, suggesting dependency on external help. “Social capital,” on the other hand, refers to a self-sustaining process of empowerment where the poor are able to help themselves and are considered as partners or clients — not beneficiaries.

During discussions, it was observed that when communities come together and learn together, this has a positive effect on the development process. The examples of the women from fishing communities in Kenya and the rural women in Addakal in India show that learning in the context of groups (group learning or community learning) contributes to effective outcomes. Baker (2006) refers to this as “social learning capital.”

Such discourse in COL-PROTEIN led to the strengthening of the basic premise of the L3F initiative that mobilising collective norms for enhancing learning is an essential process in development.
References


Horizontal Transfer of Knowledge and COL-PROTEIN

Introduction
The horizontal transfer of knowledge refers to a community’s efforts to find the best options and processes for sharing knowledge and skills, and then applying those in a way that improves the security of the community’s livelihood. The ability of the community to manage the agricultural information system, which emanates from all aspects of agriculture — including experiential learning, education, research, extension, communication and development — is thus an important aspect of the horizontal transfer of knowledge.

In such a process, the government, institutions, NGOs and researchers engage as partners in an interactive learning process rather than being mere providers of new knowledge.

COL-PROTEIN’s Contribution to the Horizontal Transfer of Knowledge
Of the 18 COL-PROTEIN initiatives undertaken, at least 14 focused on some aspect of peer-to-peer learning, horizontal learning and horizontal transfer of knowledge (see Table 4.1). Five of these initiatives are discussed in more detail following the table.
<table>
<thead>
<tr>
<th>Year</th>
<th>Countries Involved</th>
<th>Title</th>
<th>Implementing Organisation/ Lead Partners</th>
<th>Type of Lead Implementing Organisation</th>
<th>Key Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Kenya, South Africa, Tanzania, Uganda, Zambia</td>
<td>Tuned into Farmers: Linking Agricultural Research and Rural Radio</td>
<td>International Service for National Agricultural Research (ISNAR), The Netherlands and University of Guelph (Canada)</td>
<td>International agricultural research centre and a university</td>
<td>Development communications: communicating highly technical information to illiterate and semi-literate farmers</td>
</tr>
<tr>
<td>2004</td>
<td>12 countries in sub-Saharan Africa</td>
<td>Online Learning: A Peer-to-Peer Exchange for Development through Radio</td>
<td>Developing Country Farm Radio Network (DCFRN), Canada</td>
<td>International NGO</td>
<td>Multi-media (online, radio and face-to-face) communications to build capacity and skills; reaching the unreached</td>
</tr>
<tr>
<td>2005</td>
<td>Kenya</td>
<td>Women in the Fishing Industry Programme (WIFIP) Kitchen Gardens and Nutrition</td>
<td>WIFIP Education and Development Trust</td>
<td>NGO</td>
<td>Instructional design for semi-literate fishing women; capacity-building in small business; reaching the unreached; economic development</td>
</tr>
<tr>
<td>2005</td>
<td>Nigeria</td>
<td>Solar Cooking Training via Telecentres in Rural Nigeria</td>
<td>Fantsuam Foundation</td>
<td>NGO</td>
<td>Transfer of sophisticated technologies for rural communities; peer-to-peer learning</td>
</tr>
<tr>
<td>2005</td>
<td>Cameroon</td>
<td>Small Business Training for Rural Women in the Upper Nkam Division, Cameroon (PROTEGE QV project)</td>
<td>Promotion of Technologies that Guarantee Environment and a better Quality of Life (PROTEGE QV)</td>
<td>NGO</td>
<td>Women; small business; development communications; reaching the unreached; contextualisation using local language; economic development</td>
</tr>
<tr>
<td>2003</td>
<td>Bangladesh</td>
<td>Mobile Internet Educational Unit on Boats</td>
<td>Shidhulai Swanirvar Sangstha (SSS)</td>
<td>NGO</td>
<td>Development communications; reaching the unreached; innovations in ICT; information and communication technologies contextualisation using local language</td>
</tr>
<tr>
<td>2007</td>
<td>Bangladesh</td>
<td>Functional Literacy for Livelihoods in Rural Bangladesh: An Initiative for Poverty Reduction Using ODL and ICT</td>
<td>Centre for Urban Studies (CUS)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; contextualisation using local language</td>
</tr>
<tr>
<td>Year</td>
<td>Countries Involved</td>
<td>Title</td>
<td>Implementing Organisation/Lead Partners</td>
<td>Type of Lead Implementing Organisation</td>
<td>Key Outputs</td>
</tr>
<tr>
<td>------</td>
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<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
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<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2007</td>
<td>Bangladesh</td>
<td>Open and Distance Learning Approach to Strengthening Development Initiatives through Interfaith Responses in Bangladesh</td>
<td>Community Development</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; transforming mindsets; contextualisation using local language</td>
</tr>
<tr>
<td>2003</td>
<td>India</td>
<td>Coping with Drought: A Computer-Based Distance Learning Module – BRAOU in Collaboration with ICRISAT (BRAOU-ICRISAT Project)</td>
<td>B.R. Ambedkar Open University (BRAOU), Hyderabad, and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)</td>
<td>University and an international agricultural research centre</td>
<td>Reaching the unreached; transforming mindsets; contextualisation using local language</td>
</tr>
<tr>
<td>2004</td>
<td>India</td>
<td>Jeevan Vidya Kendra: Learning Approach for Poverty Alleviation</td>
<td>Siddhi Trust</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2005</td>
<td>India</td>
<td>Community-Based Distance Learning for Development among Fisher Folk Communities</td>
<td>Constant Service in Developing Education and Rural Reconstruction (CONSIDER)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
<tr>
<td>2007</td>
<td>Pakistan</td>
<td>Functional Literacy and Skill-Based Education for Rehabilitation of Youth in Earthquake-Affected Areas of Pakistan</td>
<td>Secondary Teacher Education Department Allama Iqbal Open University (AIOU)</td>
<td>University</td>
<td>Innovations in ICT; reaching the unreached; contextualisation using local language; economic development</td>
</tr>
<tr>
<td>2008</td>
<td>India</td>
<td>Establishment of a Livelihood Resource Centre (LRC) in Prakasam District of Andhra Pradesh, India</td>
<td>Society for the Development of Rural Women and Children (SDRWC)</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached; transforming mindsets; bottom-up approach for sustainability</td>
</tr>
<tr>
<td>2005</td>
<td>Solomon Islands</td>
<td>Training of Rural Trainers</td>
<td>Rural Development Volunteers Association</td>
<td>NGO</td>
<td>Innovations in ICT; reaching the unreached</td>
</tr>
</tbody>
</table>
Online Learning: A Peer-to-Peer Exchange for Development through Radio

In Africa, rural radio is playing a major role in the development process by reaching millions of illiterate and semi-literate people with contextually relevant and culturally appropriate information and knowledge in a language they understand.

This initiative focused on the rural radio broadcasters as a community, believing that peer-to-peer learning among the broadcasters would help them enhance their awareness and understanding of the development issues. Broadcasters from 25 stations were networked into a community, where they were able to share information. This horizontal transfer of knowledge among the radio broadcasters helped them deliver programmes pertaining to small farmers, agricultural workers and the matters of household food security. In this way, the initiative demonstrated the benefits of horizontal learning in developing relevant radio programmes for the communities with local, as well as, regional perspectives.

WIFIP Kitchen Garden and Nutrition Project, Kenya

This initiative was aimed at addressing, through ODL, nutritional issues among the women from fishing communities along the banks of Lake Victoria. The objectives of the initiative were:

1. To initiate and create awareness at the fish-landing beaches of the importance of good nutrition and its effects on health status.
2. To promote the establishment and maintenance of kitchen gardens.
3. To facilitate the growing of vegetables, particularly indigenous varieties, and create opportunities for women to improve their financial situation by selling surplus produce and reducing their own expenditures on food.
4. To establish and use organic compost manure.

Audio materials were used extensively in the ODL approach.

The following excerpt is from the 2008 evaluation report, by a consultant not engaged by COL, on the effectiveness of the Women in the Fishing Industry Programme (WIFIP):

Most (70%) of the women were limited by time to educate their members of the community on nutrition with only a few of them (26.6%) reaching out to their neighbours. This was aimed at addressing the issue of sustainability of kitchen gardens and improving the standard of living through kitchen gardens. It is very commendable that a few women under the program trained their friends who missed out on kitchen garden training and all these women have their own kitchen gardens.
It is evident that this initiative made a contribution to the horizontal transfer of knowledge.

**Open and Distance Learning Approach to Strengthening Development Initiatives through Interfaith Responses in Bangladesh**

This project focused on increasing the capacity of faith leaders from different religions to contribute to development initiatives. The overall objective was to create an enabling environment for democracy and good governance while at the same time protecting human and minority rights, all of which are closely linked to community development.

The knowledge gap between the faith leaders as a group and development workers from different beliefs within the community was substantial. Masjid Council for Community Advancement (MACCA) felt that ODL could be used to bridge that gap. Self-instructional modules were developed and used by the faith leaders to share their perspectives with each other as well as with the development personnel. A total of 205 participants became involved in the programme.

This initiative led to partnerships between the faith leaders and development agencies. In this way, the faith leaders benefited from peer-to-peer learning and in turn contributed to community development.

**Coping with Drought: A Computer-Based Distance Learning Module**

This initiative found that families, neighbourhood and friends constitute the major source of information among the rural communities in India. The main partner from the rural community was a women’s association with more than 8,200 members. The initiative focused on building the capacity of the community to convert generic information into locale-specific information. Such a conversion took place in the context of horizontal learning.

The community-sponsored animators (facilitators) were given training in understanding the distance learning models. Based on weather and climate data, maps were prepared and the facilitators developed skills in interpreting the computer-based maps. They also prepared learning materials. At the community level, the women’s groups, with the help of the facilitators, discussed various issues. There were also regular discussions between the community and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) — through video-conferencing and mobile phone — about the mechanisms for responding to droughts.

Some of the follow-up studies showed that in horizontal learning which uses information and communication technologies (ICT), the role of the facilitator is crucial. In a study by Dileepkumar et al. (2005), the authors
observe that the villagers “usually use group meetings to disseminate the new things that are coming or the new information or the answers to the questions the farmers made. During the visits to the villages, we observed that they are having meetings very often, with a frequency of a meeting every 15 days.”

As the authors further noted:

We attended a meeting of one of the micro-finance groups of the village. Talking about what they have learned about the ICRISAT Project, two of the ladies attended the courses and learned how to manage the information and posted some questions to ICRISAT to solve different agricultural problems. As soon as the VNAs [Village Network Assistants] have the answer, they ask for another meeting just to tell all the people the answer received from ICRISAT.

**Tuned into Farmers: Linking Agricultural Research and Rural Radio in Three African Commonwealth Nations**

The experiences of this initiative have been consolidated into a *Learning to Link* model which argues that research-extension-farmer linkages are “learned-not planned.” The initiative starts from the premise that, with regard to food security, it is not realistic to expect relationships among scientists, extension workers, farmers and other stakeholders to automatically emerge from pre-determined policy guidelines and be sustained by policy imperatives. Instead, matters of mutual relevance to all stakeholders must be established before the horizontal transfer of knowledge can occur.

Those running the project interacted with 41 women and farmers’ groups and facilitated a dialogue on developing rural radio programmes for addressing information gaps in agriculture and food. Through institutional mechanisms such as “Radio Listening Clubs,” the initiative brought the women and farmer associations together to discuss the content and the delivery of the radio programmes. Gaining a broader understanding of the social and cultural aspects of the target learners in this way supported development of an appropriate horizontal learning structure.

This initiative led to another interesting development within COL. Hambly Odambe, who was one of the coordinators of the initiative, along with her colleagues, elaborated and extended the *Learning to Link* model into a major framework on innovation. This framework influenced COL’s Lifelong Learning for Farmers (L3F) initiative to a great extent.

Proposed by Hambly Odame et al. (2007) and further refined by Pant et al. (2008), the innovation system “departs from earlier notions of a research-driven process of technology transfer and views it instead as a social
process where different sources of knowledge and ideas are put into use.”
The concept has two dimensions: the interaction of various stakeholders and the institution where the process is located, shaped by and responding to the relevant contexts. The capacity-building process is perceived in terms of its ability to influence the behaviour of the system — not merely “in terms of a quantum of research or the nature of technology-transfer elements” (Pant et al. 2008, p. 8). Developing such a capacity depends on both “managing the divide between key public and private stakeholders and enabling the process of interactive learning and innovation” (Pant et al. 2008, p. 8).

Knowledge networking is vital in a self-sustaining innovation process. As Pant et al. (2008, p. 10) argue, this requires the “collective action of organizations and individuals in response to unpredictable economic, social, climate and environmental changes.” Thus “extension” should really be thought of as knowledge networking and not merely the transferring of technology.

Knowledge networking can take place through the combination of four types of learning networks, as summarised in Table 4.2 (after Pant et al. 2008).

<table>
<thead>
<tr>
<th>Table 4.2 Four types of learning networks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Codified Learning</strong></td>
</tr>
<tr>
<td>Formal knowledge source</td>
</tr>
<tr>
<td>Examples: policy briefs, manuals, journal papers</td>
</tr>
<tr>
<td>Informal knowledge source</td>
</tr>
<tr>
<td>Examples: rural bulletin board, newsletters</td>
</tr>
</tbody>
</table>

Based on this composite learning network, Pant et al. (2008, p. 10) put forward the following premise:

Within each type of learning network, knowledge conversion takes place from tacit-to-tacit, tacit-to-codified, codified-to-codified, codified-to-tacit (Nonaka, 1991; Nonaka and Takeuchi, 1995). Tacit-to-tacit conversion takes place through socialisation; tacit-to-codified conversion takes place through codification or externalisation of tacit knowledge embedded with people’s habits and practices; codified-to-codified conversion takes place through systematisation or combination into a higher scale; and codified-to-tacit conversion takes place through decodification or internalisation to put codified knowledge into use. One or the other type of knowledge conversion takes place in a system, but an efficient system integrates all of these conversions to produce
an upward spiral of learning networks. Here an upward spiral means that all four types of knowledge conversion begin at an individual, then at a group, organisational, network and system levels.

The knowledge conversion from tacit to tacit, tacit to codified, codified to codified, and codified to tacit is an important aspect of the horizontal transfer of knowledge.

**In Retrospect**

In addition to the COL-PROTEIN projects, COL supported a programme of the M.S. Swaminathan Research Foundation (MSSRF), Chennai, India, during 2002. The COL-MSSRF joint programme led to discussions among other partner organisations involved in COL-PROTEIN. The conclusions from those discussions offer an important caveat about interpreting horizontal transfer of knowledge.

Knowledge is socially constructed. And, according to post-modernist theories, social life not only defines experiences but also determines the manner in which the experiences are interpreted. As Balasubramanian et al. (2003, p. 60) say:

> Social structure, function and processes distinguish social life. Social structure and functions are characterized by social stratification in which significant social and cultural distances separate groups within a specified society. Thus stratification assumes importance in social construction of knowledge since different groups may have different interpretive frameworks for experiences. It is important to realize that there is a substantial social distance between farmers and peasants and between peasants and landless labourers. Otherwise the horizontal transfer of knowledge can be engulfed in the same trap as that of the conventional extension system.

Formal and informal debates over the distinction between peer-to-peer learning, horizontal learning and horizontal transfer of knowledge have also gone on between partners of COL and COL-PROTEIN. Many researchers tend to see the three ideas as being more or less the same thing. Other researchers, however, point to subtle differences. The general dictionary definition of peer is that it means one who is of equal standing with another, often in terms of belonging to the same societal group as defined by age, grade or status. Hence, “peer learning” indicates learning taking place by students or learners belonging to same age, grade or status. On the other hand, as the study by MSSRF indicates, even within the
horizontal plane of the community, there may be no peers in this sense — learning occurs across societal groups.

Wenger (2005), Ryberg (2008) and Mayes (2009) have discussed the inequality and differences in the horizontalisation of knowledge and argue that such issues should be addressed through negotiation of mutual relevance in which different forms of knowledge and learning interact with each other in a win-win framework.

Communities and societies are riddled with stratification in terms of class, ethnicity, language, caste, tribe, gender and so on. However, there are institutionalised reciprocal social and economic arrangements between the stratified segments within a community. Horizontal learning can be defined as information exchange and learning that take place through the negotiation of mutual relevance, cutting across the various segments of the community.

The differences between information and knowledge have been discussed in many academic books and papers. For example:

- Godbout (1999) describes the progressive processes from data to information to knowledge to wisdom in terms of purpose and context.
- Chapman and Slaymaker (2002) say: “Data refers to raw materials such as facts and figures that could be collected by an information system. Information refers to analysed data often presented in a form that is specifically designed for a given decision-making task, and transmitted to/received by decision makers. Knowledge refers to subsequent absorption, assimilation, understanding and appreciation of that information.”
- Pomerol and Brézillon (2001) argue that “knowledge is information incorporated in an agent’s reasoning and made ready either for active use within a decision process or for action. It is the output of a learning process. Thus the roles of knowledge are to: (1) transform data into information, (2) derive new information from existing ones, and (3) acquire new knowledge pieces.” Wisdom is considered as meta-knowledge, knowledge mobilised to acquire new knowledge and update it. From a philosophical angle, wisdom refers to the evaluation of knowledge vis-à-vis norms, values and morality (Pomerol and Brézillon 2001).
- According to Terra and Angeloni (2002), knowledge management focuses on definition of the context and validation of the information. It also increases the “connections among people (who have knowledge) that would likely not occur without the help of a knowledge management system.”
Citing Terra and Gordon (2002), Terra and Angeloni (2002) also say that an important dimension of knowledge management involves finding answers to such questions as:

- Who created the information?
- What is the background of the creators of information?
- Where and when was it created?
- How long will the information be relevant, valid and accurate?
- Who validated the information?
- Who else might be interested or has similar knowledge?
- Where has the information been applied or proved to be useful?
- What other sources of information are closely related?
- How can some of the concepts be tested and validated?

Thus, community knowledge management is a process whereby a community, through learning and networking, works to answer the above questions and then takes actions to create the body of knowledge to meet the community’s common goals. Horizontal transfer of knowledge is said to take place when relevant knowledge is transferred within the community and between communities, cutting across various segments — not just peer groups.

As discussed in Chapter 2 of this book, Roling’s (1988) view about agricultural extension has considerable relevance for Open and Distance Learning for Development. For a horizontal transfer of knowledge to take place, a community and an active utiliser constituency are needed. The constituency’s responsibility, according to Roling, is to undertake five key intervention processes (see Table 4.3).

### Table 4.3 Five types of intervention processes (by function) to be undertaken by institutions acting as “active utiliser constituencies” for the horizontal transfer of knowledge

<table>
<thead>
<tr>
<th>Function</th>
<th>Intervention Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mobilisation</td>
<td>Socio-cultural activation, conscientisation, understanding of inter-systemic conflicts, social rules and arrangements</td>
</tr>
<tr>
<td>2 Organisation</td>
<td>Facilitation of community efforts to decide and define the organisation</td>
</tr>
<tr>
<td>3 Training</td>
<td>Capacity-building among the stakeholders</td>
</tr>
<tr>
<td>4 Technical support</td>
<td>Provision of resources and technology</td>
</tr>
<tr>
<td>5 System management</td>
<td>Efforts to ensure a self-sustaining system</td>
</tr>
</tbody>
</table>

Source: Modified from Roling (1988)

It is important to understand that the horizontal transfer of knowledge is *facilitated* and not *implemented*. As the Tuned into Farmers initiative of the University of Guelph (described earlier in this chapter) shows, knowledge
transfer cannot be approached as a target implemented through policy and programme guidelines. The experiences of the WIFIP Kitchen Gardens and Nutrition initiative also show that various socio-cultural aspects such as gender roles can affect transfer of knowledge.

While some organisations did develop intervention processes, COL-PROTEIN was designed mainly as a capacity-building programme through ODL. These projects therefore neither had a history of mobilisation and organisation nor did they make specific attempts to do so during the COL-PROTEIN programme. Thus, evidence for the horizontal transfer of knowledge through these initiatives was not necessarily strong.

However, COL-PROTEIN initiatives demonstrate that ODL could facilitate the horizontal transfer of knowledge among different learning communities: rural radio broadcasters, women from fishing communities, faith leaders and development workers, and a women’s association community made up of farm families, the neighbourhood and friends. The ODL could support various stakeholders in interactive community learning, knowledge creation and innovation — all of which snowballs into collective capacity-building, enabling those stakeholders to improve their health and wealth and reduce poverty.

References


Self-Directed Learning through COL-PROTEIN

Introduction
Self-directed learning has been defined as “a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes” (Knowles 1975, p. 18). It is a learner-centred approach, in which the learner takes control of her or his learning process and experience. The learner decides, how, where and when she or he has to learn the content that has been identified as important.

“Andragogy” refers to strategies for helping adults learn. Merriam (2001, p. 5) describes an adult learner as one who is interested in self-learning and who:

1. has an independent self-concept and who can direct his or her own learning,
2. has accumulated a reservoir of life experiences that is a rich resource for learning,
3. has learning needs closely related to changing social roles,
4. is problem-centered and interested in immediate application of knowledge, and
5. is motivated to learn by internal rather than external factors.

According to Freire’s (1970) description of the conventional top-down extension system in agriculture, a farmer might be viewed as an empty “account to be filled by the teacher” through a “jug-and-mug” approach. The learning normally occurs outside of traditional educational or training institutions, even if it is managed by an educational organisation or a ministry. Such a non-formal learning system typically involves workshops, community courses, interest-based courses, short courses or conference style seminars. Learning need not be recognised by way of certification or a qualification. Non-formal learning sits in between, but overlaps with, formal and informal learning. It was this idea that led to the formalisation of learning in extension, which is fundamentally a non-formal learning process.
The FAO describes agricultural extension as non-formal education (FAO 2003). Non-formal education is, according to UNESCO (1997), “Any organized and sustained educational activities that do not correspond exactly to the ... definition of formal education.” Non-formal education may therefore take place both within and outside educational institutions, and cater to persons of all ages. Depending on country contexts, it may cover educational programmes to impart adult literacy, basic education for out-of-school children, life skills, work skills and general culture. Non-formal education includes self-directed learning, since it promotes and facilitates learning beyond the traditional teacher–student interaction.

**Perspectives on Self-Directed Learning**

Various scholars have presented different perspectives on self-directed learning. Some scholars see self-directed learning as a *process* of organising the instruction (Harrison 1978), where the focus is on the level of learner autonomy rather than on the instructional process. Others view self-direction as a *personal attribute* (Guglielmino 1977; Kasworm 1988) wherein the goal of education is to develop individuals who can assume moral, emotional and intellectual autonomy (Candy 1991).

Several models have been proposed to explain self-directed learning, starting with Mocker and Spear’s (1982) *Two Dimensional Model* and moving to Garrison’s more recent *Three Dimensional Model* (1997). Table 5.1 summarises three models that offer a useful overall representation of self-directed learning.

<table>
<thead>
<tr>
<th>Perspectives</th>
<th>Description</th>
<th>Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Attribute</td>
<td>Moral, emotional and intellectual management</td>
<td>Personal autonomy</td>
</tr>
<tr>
<td>Process</td>
<td>Learner autonomy over instruction</td>
<td>Learner control; autodidacy</td>
</tr>
<tr>
<td>Context</td>
<td>Environment where learning takes place</td>
<td>Self-direction is context bound</td>
</tr>
</tbody>
</table>

Source: Song and Hill (2007)

Candy (1991) concluded that self-directed learning, as an umbrella concept, encompasses four dimensions:
• self-direction as a personal attribute (personal autonomy);
• self-direction as the willingness and capacity to conduct one’s own education (self-management);
• self-direction as a mode of organising instruction in formal settings (learner-control); and
• self-direction as the individual, non-institutional pursuit of learning opportunities in the natural societal setting.

The learner’s interest, self-motivation and determination to pursue learning are essential steps for self-directed learning. A learner’s preparedness to face problems along the way and to explore different sources for finding and using information for learning are excellent personal attributes. The advances in information and communication technology (ICT), Web 2.0 tools and social media are providing immense opportunities for learners as well as for the providers to facilitate self-directed learning. The isolation for learners, which used to be a problem, can now be addressed by having them join online learning communities of personal choice through social media. These communities also facilitate the horizontal transfer of knowledge and give individuals opportunities to practise peer-to-peer teaching and learning.

Self-Directed Learning in Agricultural Extension and Rural Development

Extension systems in many developing countries have been placing emphasis on formal, structured, face-to-face classroom-based training programmes. In a country where there is only one technically qualified extension official per 1,500 farmers (and that does not include the number of agricultural labourers), structured, face-to-face training programmes to reach all the farmers in a spatial temporal context would be difficult.

Studies have shown that personal-strategic learning is playing a major role in the formal industrial sector as well as in the agricultural sector. While development literature talks about capacity-building, it is mostly with reference to formal training and other capacity-building tools. Very few attempts have been made to study the self-directed learning that may be taking place at various levels with different intensities. According to a study by Cross (1981), 70% of learning among adults takes place through self-directed learning.

All ICT-based distance learning recognises the importance of self-directed learning and helps to facilitate the process. Many knowledge bases — such as the Rice Knowledge Base of the International Rice Research Institute — not only help in asynchronous learning but also facilitate self-
directed learning. Self-directed learning has also influenced the role of computers in various institutions. While most self-directed learning takes place in an informal manner, ICT has enabled development of a formal facilitating process. For example, the School of Medicine of the University of Melbourne has developed a Personal Learning Planner through which a medical student can search, plan and review the self-learning process (Kennedy et al. 2000).

**COL-PROTEIN’s Contribution to Self-Directed Learning**

A number of COL-PROTEIN initiatives also incorporated elements of self-directed learning and knowledge management principles. Examples are presented in Table 5.2. All four of these initiatives are discussed in more detail following the table.

**Table 5.2 Examples of self-directed learning in COL-PROTEIN initiatives**

<table>
<thead>
<tr>
<th>Year</th>
<th>Countries Involved</th>
<th>Title</th>
<th>Implementing Organisation/ Lead Partners</th>
<th>Type of Lead Implementing Organisation</th>
<th>Key Outputs and/or Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>12 countries in sub-Saharan Africa</td>
<td>Online Learning: A Peer-to-Peer Exchange for Development through Radio</td>
<td>Developing Country Farm Radio Network (DCFKN), Canada</td>
<td>International NGO</td>
<td>Multi-media (online, radio and face-to-face) communications to build capacity and skills; reaching the unreached</td>
</tr>
<tr>
<td>2005</td>
<td>Cameroon</td>
<td>Small Business Training for Rural Women in the Upper Nkam Division, Cameroon (PROTEGE QV project)</td>
<td>Promotion of Technologies That Guarantee Environment and a Better Quality of Life (PROTEGE QV)</td>
<td>NGO</td>
<td>Women; small business; development communications; reaching the unreached; contextualisation using local language; economic development</td>
</tr>
<tr>
<td>2007</td>
<td>Kenya</td>
<td>ICT Skills for Teachers, Students and Communities in Rural Kenya</td>
<td>Charity for African Welfare and Development (CAWD)</td>
<td>NGO</td>
<td>Developed–developing country partnerships; expanding ICT access and use; reaching the unreached</td>
</tr>
<tr>
<td>2008</td>
<td>Papua New Guinea (PNG)</td>
<td>Training of Women and Youth at Selected Model Villages of Papua New Guinea</td>
<td>Department of Agriculture, PNG University of Technology</td>
<td>University</td>
<td>Innovations in ICT; reaching the unreached; contextualisation using local language</td>
</tr>
</tbody>
</table>
Online Learning: A Peer-to-Peer Exchange for Development through Radio

This initiative was implemented by the Developing Countries Farm Radio Network (DCFRN), now known as Farm Radio International, in collaboration with a number of radio broadcasters and agriculturists in 12 different countries in Africa. Through the initiative, radio programming addressed rural needs, with local experts speaking on the topics of relevance to the communities. Email was also used to enable the audience to interact with peer broadcasters, and resource people helped gather and design the radio scripts for broadcasting. The online facilitator introduced participants, encouraged response from participants, directed queries to experts for different themes, summarised discussions, and posted overall results on the Web for future reference. Eight different themes were discussed over a four-month period.

The experience resulted in an increased awareness of sourcing contacts on specific development topics and resource persons for networking and collaboration. The radio broadcasters were able to contextualise the information for local use. They also translated the information into local languages for ease of communicating with semi-literate and illiterate listeners in the communities. Thus, the combination of face-to-face, radio and the Internet facilitated a high degree of interaction among peer broadcasters, resource persons and the community, all of which resulted in self-directed learning for the radio broadcasters in various themes previously unfamiliar to them.

Small Business Training for Rural Women in the Upper Nkam Division, Cameroon

PROTEGE QV — short for Promotion of Technologies That Guarantee Environment and a Better Quality of Life in Cameroon — implemented this initiative. A needs assessment study in seven localities helped to identify business opportunities. The goal of the project was to use radio-based learning and cell phones to provide rural women with skills that would stimulate their desire to move on from survivalist activities to professional engagement in micro-enterprises. Besides the use of ICT, the project involved the training of “communicators” (facilitators) who would help train other women and multiply the impact of the project.

There were 300 female participants, 59% of whom were micro-entrepreneurs. The areas of expertise considered important for success in business by the women interviewed were: financing (91.7%), techniques of production (82.8%), management techniques (78%), commercialisation and promotion of products (82.8%), and the taxation system (53.8%). The women felt the need for strengthening their capacities in addressing such topics as: identifying and starting a business; accessing sources of funds
for small business at the local and national level; managing a business; accessing production equipment; identifying opportunities for training in production techniques; marketing products; understanding the taxation system related to small business; and improving agricultural and animal production.

The project involved the training of facilitators as mediators of knowledge and information. These facilitators were women who have become role models, and who spoke the local language and had influence in the community. They were trained to become facilitators by using radio, letters, telephone calls, short messaging services and meetings, as well as informal means to share information in the community. The training included workshops on using computers, searching for information on the Internet, writing radio scripts and speaking on the radio. They were also trained to run a group discussion and to communicate in a network using short messaging services.

The women’s groups were not just participants of the project. They were also in charge of encouraging other women to listen to and take part in the radio-based learning. PROTEGE QV continues to distribute information to the facilitators through short messaging services and supports the network through knowledge sharing and regular refresher courses. The network that was created also continues to support and reinforce women entrepreneurs, as they are able to communicate with each other and share best practices.

The project was able to reach more than 7,000 people in over 100 groups. The identification of the community’s needs and addressing those through contextually appropriate design, the use of resource persons and ICT to deliver the information, and learner support systems — all of this motivated the women in self-directed learning.

The survey conducted by PROTEGE QV revealed that nearly 69% of the women respondents gathered information about income generation activities from those people who were already involved in small business. Such self-directed learning among the participants, coupled with the semi-structured blended learning of PROTEGE QV, helped a substantial number of women to start their own small business.

**ICT Skills for Teachers, Students and Communities in Rural Kenya**

The initiative was implemented by the Centre for African Learning and Development – Kenya, in collaboration with the Centre for African Welfare and Development, based in the UK. Twenty-six teachers in Kangundo District, Kenya, met regularly to coordinate the activities. The team identified a list of needs for ICT-aided learning and development for teachers. Online chat using computer and Internet facilities and mobile phones were used to enhance the learning opportunities. The teachers
foresaw the usefulness of learning to use and teach ICT skills, although doing so was not a requirement for teaching particular subjects. They travelled and met, at their own expense, on a regular basis for their self-directed learning. Their periodic exchanges with the group and with international sources — facilitated by the Charity for African Welfare and Development (CAWD), now known as Dadamac, UK — helped them strengthen their self-directed learning process.

The initiative, in partnership with other business centres and the Kenya ICT board, led to the establishment of Kenya Digital Villages (Pasha Centre Project) and a Kangundo Pasha centre. The topics covered addressed a broad range of interests beyond ICT, including distance learning, health, sustainable development and continuing professional education.

**Training of Women and Youth at Selected Model Villages by Papua New Guinea University of Technology**

This initiative began with a needs analysis to identify topics of interest to the communities in five model villages. ODL materials on six topics were developed: rice, vegetable farming, inland fish farming, sewing, cooking and baking, and adult literacy. Nearly 250 people participated.

The initiative facilitated the horizontal transfer of local knowledge from one village to another. For example, a village that had the traditional tool of milling rice (called *tong tong*) interacted with other villages. The knowledge spread rapidly to distant villages because the information was relevant to the livelihoods of the communities — in particular, to the women who play a major role in their households.

**In Retrospect**

In the beginning, COL-PROTEIN did not give much emphasis to self-directed learning. The focus was ODL with appropriate instructional design. However, with the evolution of various initiatives in different parts of the Commonwealth, discussions about self-directed learning began. The initiative of the DCFRN on community radio offered scope for understanding self-directed learning. The listeners of the radio programmes interacting and debating online showed the relevance of self-directed learning in the development process. And the rural teachers in Kenya took their own initiative in learning ICT skills in support of self-directed learning.

Another initiative of COL (a non-COL-PROTEIN project) showed that farmers regularly visited the information notice boards set up by an NGO (Balasubramanian and Thamizoli 2003). These boards were updated daily with prices, weather, new products, research results and similar information.
More than 50% of the farmers visiting these boards were without any formal school education. They gathered around the boards, read the content (or had it read to them by literate friends) and debated the issues.

This is in keeping with how Hammond and Collins (1991) describe self-directed learning. They refer to it as a process of learners taking the initiative, in collaboration with others, in:

- increasing self- and social awareness,
- diagnosing their own learning needs (social and personal),
- identifying resources for learning,
- choosing and implementing appropriate learning strategies, and
- reflecting and evaluating their learning.

The projects of COL-PROTEIN discussed above show that while learner initiative, collaboration and identification of learning strategies were present, evaluation of the learning was missing. There were no methodologies to study the reflective process. The discussions within COL and between COL and its stakeholders prompted COL to look further into heutagogy. According to Hase and Tay (2004):

Heutagogy, the study of self-determined learning, may be viewed as a natural progression from pedagogy and andragogy. It is learner-centred as opposed to teacher-centred learning. Teacher-centred learning has to be organised by others who make the appropriate associations and generalisations on behalf of the learner. Thus, random individual experiences are taken to be inadequate as sources of knowledge, the educational process is seen to need disciplined students, and literacy is seen to precede knowledge acquisition. Success is based on attending to narrow stimuli presented by a teacher, an ability to remember that which is not understood, and repeated rehearsal. Self-determined learning assumes that people have the potential to learn continuously and in real time by interacting with their environment, they learn through their lifespan, can be led to ideas rather than be force-fed the wisdom of others, and thereby they enhance their creativity, and re-learn how to learn. Heutagogy recognizes that people learn when they are ready and that this is most likely to occur quite randomly, chaotically and in the face of ambiguity and need. The challenge becomes how to maximise its potential.

The principles of heutagogy were included in the Lifelong Learning for Farmers (L3F) initiative. At the community level, monitoring systems were developed to assess and evaluate the success of self-directed learning in the participating communities. The L3F initiative defined self-directed learning
in terms of personal-strategic learning. The learner defines the goals and objectives suited to his or her situation, and then develops a specific strategy for learning. Miller and Major (2002, p. 13) describe it this way:

Such an approach involves several related elements. First, personal-strategic learners determine what they need to learn and why it is important. To do so, they may examine their organisation's goals and strategies, consider their personal aspirations, and critically evaluate their strengths and weaknesses, as well as areas that they feel need refreshing. They often seek feedback about their own work world and their contribution to it. They demonstrate the maturity to remain open to feedback. They use the feedback to improve the way they function and perform their jobs. They practice strategic listening, which involves focused, two-way interactions with others.... Continual learners look for opportunities to develop needed skills and knowledge.... Sometimes, the most important strategic learning simply requires taking the time to think and to reflect on experiences.... Continual learners are observers of their own actions. They learn in a cyclical fashion: they act, reflect, and connect.”

References


Reaching the Unreached and Gendered Learning

Introduction
The objective of COL-PROTEIN was to provide targeted rural and peri-urban poor communities with learning opportunities — through ODL methods to strengthen their knowledge, skills, and organisational, leadership and decision-making capacity in order to choose the ways and means to improve their livelihood. The focus was on marginalised groups such as rural women from poor communities.

Selected proposals were those that showed the likelihood of making a difference in the lives of those from previously unreached groups. In examining each proposal, the evaluators asked the following questions:

1. Does it address the rural poor?
2. Does it address the challenges confronting the rural poor?
3. Does it focus on girls and women?
4. Will it have a positive impact on rural poor?
5. Are the target communities involved in the design and the development of the proposal?

COL-PROTEIN’s Contributions to Reaching the Unreached and to Gendered Learning
All of the 18 COL-PROTEIN initiatives involved efforts to reach the unreached (see Table 1.1). However each project developed its own methodology based on the socio-cultural milieu in which it operated. How two of those initiatives contributed to reaching the unreached and to gendered learning are discussed in more detail below.

WIFIP Kitchen Gardens and Nutrition, Kenya
This initiative of the Women in the Fishing Industry Programme (WIFIP) focused exclusively on poor women from fishing communities on Lake Victoria. The majority of the women were lower primary school dropouts at
best, though a few had gone beyond primary education. About 80% of the women were in the fishing industry as fishmongers. All the women in the programme were married and in polygamous families.

Binns (2004) describes the women’s situation this way:

The majority of those handling fish at its source (the beaches) are relatively poor. The women fisher folk in particular not only buy and sell small quantities of fish, they all have low investment capacity with the more established operating a capital base of about US dollars 15 and sometimes as low as US dollars 5. Given their low capital base, women are more vulnerable to sexual demands from their male suppliers, who often give them fish on credit.

Some cultural practices impede effective participation of women in the fishing industry as women’s venture into the lake as well as boat ownership is restricted by culture. High impact of HIV and AIDS is one of the greatest challenges affecting the vibrancy of the fishing sector.

The COL-PROTEIN project was embedded in the overall concept of participatory development and empowerment. As Binns (2004) points out:

The women’s voices are central to the project and they are heard in two distinct ways. Firstly what they express as their needs and concerns informs the whole programme development and improvement. From the beginning they have been consulted and involved, which means that the programmes and the supplementary materials developed for the women’s group activities have been directly responsive to their needs. Feedback and questions from the women on the programmes themselves are used to develop responsive editions at the end of each block of programmes. Health and Beach Days are also set up to respond to needs articulated by the women, for example, by bringing the HIV/AIDS testing to the beach.

The use of ODL was introduced to help the women develop nutrition gardens. A blended learning approach, combined predominantly with audio-learning materials, played a key role in capacity-building.

Surveys conducted after the project’s completion show that the programme had considerable success in meeting its objectives, both in reaching the unreached and in achieving meaningful gendered learning (see text box).
Post-programme survey findings,
WIFIP Kitchen Gardens and Nutrition Initiative

- Nearly 85% of the women reported that their kitchen gardens were supplementing their food supply. This both reduced family food expenditures and provided the women with income through the sale of surplus produce.
- Around 80% of the women were reported to be in a much better position to provide food for their families as a result of developing their kitchen gardens.
- The majority (97%) of the women were reported to have acquired the skills and knowledge needed to create kitchen gardens and to practise good nutrition with their families through the programme. All of the respondents from Kaloka beach had fertile kitchen gardens. A few women (30%) from Nduru beach were opting for mobile gardens (that is, plants and shrubs grown in bags or earthenware pots that can be moved), because of lack of water near their homes and because domestic animals were eating or destroying their plants.
- About 77% of the women reported having a new understanding about the importance of nutrition. They had changed the ways in which they fed their families and started observing nutritious and balanced diets with the aid of produce from their kitchen gardens.
- The majority of the respondents planted indigenous vegetables because they had high medicinal and nutritious value compared to the exotic breeds.
- Most (70%) of the women were limited by time in their ability to educate members of the community on nutrition. They did, however, teach their immediate family members about kitchen gardening and nutrition. Only 26.6% were able to reach out to their neighbours. Some of the women under the programme trained their friends who missed out on kitchen garden training.

In spite of the benefits achieved, many women complained that male members of the household gave very little support to their initiatives. However, the women under the WIFIP have been able to negotiate and challenge the dominance of men. For example, Binns (2004) points out that a group of women from one of the beaches challenged young men who sell fish to the women for sexual favours. According to Binns, these challenges and condemnation have helped reduce such behaviour from young men. Binns also points out that men are increasingly demanding training and capacity-building similar to what the women have had.
Shidhulai Swarnivar Sangstha: Mobile Internet Educational Unit on Boats, Bangladesh

The objectives of this initiative were to:

- provide education to the farmers, watershed landowners, women, youth, students and water users about water quality;
- educate farmers about crop production that can protect water quality; and
- increase agricultural productivity through the introduction of the latest water management technology.

Shidhulai Swanirvar Sangstha (SSS) is working for the people living in the flood-prone Chalan Beel region of northwestern Bangladesh. A large number of households here are made up of either marginal farmers or landless labourers living below the poverty line.

According to SSS, rivers are vital to local farming, but farming methods and agricultural runoff take their toll on the health of the rivers. Most of the rivers have reached alarming levels of toxicity, aquatic ecosystems are being affected, and chemicals entering the food chain create dangers to public health. Fish production has declined to about 50% of what it once was because of contaminant runoff from croplands and over-application of pesticides. Not only have farmers’ incomes been reduced by these unsustainable practices, but the livelihoods of thousands of fishermen have been severely damaged.

In the projects of SSS, 70% of the targeted group are women. Men’s involvement in agriculture fell by one-third between 1987 and 2000. During the same time, women’s involvement in agriculture has increased. However, almost every working woman receives only half the wage that their male counterparts got. Statistics show that these women are most often poorly trained, and as a result unemployed or underpaid (Shidhulai Swanirvar Sangstha [SSS] 2005).

To address these issues, the Mobile Internet Education Unit on Boats (MIEUB) initiative was established. The villages in the project area are on the banks of the river and have limited transport and communication facilities. Therefore, SSS developed the MIEUB programme. Each boat was equipped with a laptop computer, multimedia projector, display screen, sound system, generator, wireless Internet connection, and multimedia open and distance educational materials. Accompanied by the technical staff of MIEUB, the boats reached various villages according to a set timetable based on the convenience of the villagers. The villagers were invited to the boats to use computers and the Internet. They received weather and market data as well as training on sustainable agriculture, health and the environment. The villagers were also encouraged to develop locally relevant materials using digital cameras.
Nearly 73% of the participants in the programme were women. Rural communities paid monthly contributions to support the local expenses of the boats. Through this training with the help of ODL materials, 50 Water User Associations were formed. In all, about 10,000 villagers participated in the programme.

Rezwan (2005), the founder of SSS, has written at length about the social impact of various projects, including the MIEUB initiative of COL-PROTEIN, in improving the situation of farmers in the Atrai River watershed of Bangladesh.

The socio-cultural aspects restricted women working and learning along with men in rural Bangladesh. The Distance Education Unit on boats reached the dwellings of the women and enabled them to participate in open and distance education. The project established relationships between participating women and the universities, educational institutions, government departments and NGOs. Such networking helped the institutions understand the needs and perspectives of the rural women, and identify methods to integrate those needs and perspectives into the programmes offered. Furthermore, the education and human rights dialogues between institutions such as the Girl Children's Rights Association (GCRA) and the rural communities started taking place at the grassroots level.

The mobile unit also reached the members of the Water Users Association (WUA) and became a platform around which issues such as water distribution during scarcity, riverside sanitation and clean drinking water were discussed. The mobile unit helped the participants discuss the status of khas land (state-owned land meant for redistribution to poor and landless households) and to take their discussions to government departments. As well, the information on the price list in the mobile unit helped the poorer farmers negotiate prices for their products.

According to Rezwan (2005), the project has achieved the following outcomes and impacts:

- 24,000 micro-businesses have started through the credit support programmes, benefiting 168,000 people
- 17,500 families have started saving towards education, and a good number of boat schools are self-sustainable with the revolving funds of the credit programmes
- 2,000 landless people’s rights on khas land and water bodies have been established, benefiting 10,000 people
In Retrospect

COL-PROTEIN set out to reduce poverty by targeting groups of rural poor, including the typically unreached of many past development efforts. The initiatives did this by involving poorer sectors of society such as landless agricultural labourers, small and marginal farmers, and members of fishing communities.

Most of the groups targeted by the COL-PROTEIN initiatives were those marginalised in terms of income and social status. Often these are women. Women in most developing countries are marginalised and disempowered because of social, cultural and historical factors. In a farmers’ meeting in many countries, for example, invariably men will be dominant in the crowd and women rarely seen. In many cultures, the perception persists of a farmer being a “he” and not a “she.”

Few of the COL-PROTEIN initiatives explicitly addressed issues of gender equality and other gender-related aspects (see text box). Nevertheless, COL-PROTEIN did contribute valuable insights to these issues and to gendered learning — a critical consideration in development projects.

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**Defining gender and gender issues**

(Source: UNDP 2001)

- **Gender** — Identifies the social relations between men and women. It refers to the relationship between men and women, boys and girls, and how this is socially constructed. Gender roles are dynamic and change over time.

- **Gender mainstreaming** — Gender mainstreaming is the process of ensuring that women and men have equal access and control over resources, development benefits and decision-making, at all stages of the development process and UNDP projects, programmes and policy.

- **Gender-sensitivity** — Gender sensitivity encompasses the ability to acknowledge and highlight existing gender differences, issues and inequalities and incorporate these into strategies and actions.

- **Gender equality** — Gender equality is the result of the absence of discrimination on the basis of a person’s sex in opportunities and the allocation of resources or benefits or in access to services.

- **Gender equity** — Gender equity entails the provision of fairness and justice in the distribution of benefits and responsibilities between women and men. The concept recognises that women and men have different needs and power and that these differences should be identified and addressed in a manner that rectifies the imbalances between the sexes.
The experiences of COL-PROTEIN brought out the challenges in developing gender-sensitive ODL materials. For example, the initiatives led by WIFIP and BROU-ICRISAT addressed the differences in the flow of information, knowledge and skills between women and men in agriculture. During this period (around 2001–2005), COL also started focusing on developing gender “keys” for ODL. These are now used to provide a framework for managing projects, initiatives and activities (see text box). The experiences of COL-PROTEIN and of other COL-supported initiatives have all helped in refining approaches towards gendered learning.

**Gender analysis** — Is the methodology for collecting and processing information about gender. It provides disaggregated data by sex, and an understanding of the social construction of gender roles, how labour is divided and valued. Gender analysis is the process of analysing information in order to ensure development benefits and resources are effectively and equitably targeted to both women and men, and to successfully anticipate and avoid any negative impacts development may have on women or on gender relations.

Gender keys developed by the Commonwealth of Learning

Gender keys, which are guidelines for prompting introspection and integrating gender considerations into strategies, approaches and programmes, are expressed as questions.

**Design and Initiative Development Phase:**

- What are our objectives for this initiative/activity? Do we want our activity/initiative to play a role in transforming the existing gender relations? If yes, what is the possible role of our activity/initiative in transforming gender relations?

- What is the existing situation? Is there any difference between the situation/role/positioning of men and women/boys and girls? Do we have enough information to understand these?

- Is there any difference between the interests of men and women? If yes, what are these? Are these important for our work? Have we tried to understand differentiated needs of men and women, different ways in which they operate in this particular context? Do we have all the information that is critical for this understanding?

- If not, why not? What are the constraints? What is the information that we need, what can be the ways of collecting those and what are the challenges of collecting those? If yes, has this understanding informed our project design and interventions?
Discussion of the gender keys with the M.S. Swaminathan Research Foundation (MSSRF) in India led to some innovative activities in one of the projects supported by COL. The COL Literacy Project (COLLIT) in MSSRF began addressing gender issues through a literacy project based on information and communication technologies (ICT). A description of this work is provided by MSSRF (2007, p. 12):

Traditional family and cultural values of the society, gender-based roles and responsibilities do not support and encourage women’s participation especially in education. Women face considerable
barriers in access to education and information. Proportion of literacy rate among men and women shows great disparity and therefore there is a need to target women. Also, the literacy rate varies based on class, caste and gender and hence targeting economically and socially disadvantaged sections of the rural communities especially among women helps to reach towards bringing gender equity.

To integrate gender perspectives in programs, it is essential to understand the needs and priorities of both women and men across different sections of the village community. While some of the needs were common for both men and women, monitoring children’s education and activities related to household food security were the predominant areas of literacy need for women. Men felt that literacy would help in tackling issues concerned with their occupation. Gender-sensitive learning modules were prepared and used as reading materials for the learners. For example, pictures of unconventional gender roles were shown to the learners [who were then asked to] read words and sentences. Generic learning materials were prepared in simple locally familiar words focusing on gender sensitization. The activities related to literacy programmes were in harmony with the available time and the daily routine of the individual women and men learners.

Women’s multiple roles and responsibilities act sometimes as limitations … [to them] attending routine classes. Especially women from the agricultural labour sections were finding it difficult to participate after their daylong work in the fields during the peak agriculture season (September to January). The flexibility of time at the centre for attending the structured class and the open access for the whole day to use the computer and the proactive role of the facilitators helped to overcome the constraints.

These experiences led COL to integrate issues such as empowerment into the Lifelong Learning for Farmers (L3F) initiative, and to disaggregate data on outputs, outcome and impact along gender lines.

References


Conclusion

What Did COL-PROTEIN Achieve?

Development, says Evans (2002), should be perceived in terms of expanding the capabilities of people so that they can “lead the kind of lives they value — and have reason to value.” According to Sen (1999), such expansion depends both on the “elimination of oppression and on the provision of basic facilities like basic education, health care, and social safety nets.” ODL is seen as one of the tools for enabling education to reach a large number of people at relatively low cost. Mostly, however, it has been a vehicle for formal higher education.

One of the important contributions of COL-PROTEIN is to place ODL in the context of extension and non-formal learning. This is in line with the experience of the distance learning course for extension agents developed by the University of Ghana (Aggor 2004):

> It is impossible to organize regular face-to-face workshops for all Agricultural Extension Agents to equip them with relevant knowledge, skills and attitudes to address the various issues in agriculture. It was therefore decided to use open and distance learning methodology to address the problem. The materials have been prepared to help you do your work better. You are required to study the materials, and carry the message to farmers.

The experiences of various COL-PROTEIN projects have created interest among agricultural professionals. The involvement of the Indian Council of Agriculture Research in promoting ODL and initiating an ODL unit in Tamil Nadu Agricultural University, India, are examples of the developments to which COL-PROTEIN has contributed. The BROU-ICRISAT project helped ICRISAT evolve a definite direction regarding ODL and contributed to the development of the Virtual Academy for Semi-Arid Tropics (VASAT) and the ODL component in the National Agriculture Innovation Programme, India.

Moving beyond the realm of educational institutions such as universities, COL-PROTEIN also brought non-governmental organisations into the fold of ODL.
The fine-tuning of ODL to suit the illiterate and semi-literate masses was another major step in the development process. Providing ODL in a range of forms — from audio (WIFIP project in Kenya) to synchronised learning through video-conferencing (the BROU-ICRISAT project in India) and through community radio (the PROTEGE QV project in Cameroon) — showed that semi-structured learning could reach a large number of communities. All of these experiences played a major role in the conception and facilitation of the Lifelong Learning for Farmers (L3F) initiative.

Innovations are new forms of socio-technical practice that develop and disseminate in networks (Knickel et al. 2009). Innovation itself occurs through a successful mix of technological, socio-cultural, organisational and institutional elements, and emerges through stakeholder interaction and learning. Some of the COL-PROTEIN projects have supported the development of innovative socio-technical practices integrating ODL. Initiatives such as the Mobile Internet Educational Unit on Boats (MIEUB) and Coping with Droughts showed that, by innovation, technology can be placed in an appropriate socio-cultural context influencing development process.

**What Could COL-PROTEIN Have Done?**

COL-PROTEIN projects had limitations in synthesising the experiences. The theoretical perspectives on the role of ODL in adding value to the development process were missing. The objective of COL-PROTEIN was to support innovative uses of ODL to alleviate poverty in rural areas. However, the direct insights from the projects regarding the role of ODL in alleviating poverty were limited. The projects did not develop methodologies or theoretical frameworks to assess the outcomes and impacts. Most of the projects concentrated at the output level. The limited resources and the timeframe of the projects were two of the reasons for this limitation.

For these reasons, the concepts of social capital, horizontal transfer of knowledge and self-directed learning were not discussed within the projects, and gender as a cross-cutting theme was not evident. Some projects had limited perceptions about how to place technologies in the socio-cultural context of the communities.

**What Did COL-PROTEIN Stimulate?**

*Failure is not falling down; it is refusing to get up.* — Chinese proverb.

The challenges and issues of COL-PROTEIN prompted many discussions at Pan-Commonwealth Forums. From these, the following premises about how ODL can make a difference in the development process were developed:

1. As Figure 7.1 shows, a direct, mutually reinforcing relationship exists between social capital, the horizontal transfer of knowledge and self-
directed learning. ODL has to be perceived within this framework. Thus, it is not the individual student but the community that should be the target.

2. Stakeholder engagement and a participatory ideology are crucial in Open and Distance Learning for Development. The ODL institution–community relationship should not be seen in terms of a teacher–student or instructor–trainee relationship. Community should be seen as a key partner. A participatory approach is required in a programme's needs identification, design, implementation and monitoring, and evaluation. Terms such as “beneficiary” that perpetuate benefactor–beneficiary power relationship should be avoided. Interactive learning between the community and ODL institutions should be encouraged.

Figure 7.1 The mutually reinforcing relationship in Open and Distance Learning for Development

3. Gender should not be a separate component of an ODL-based development package, but must be a cross-cutting theme in the entire project. As the World Bank (2011, p. 680), quoting a pioneering study from Finland, points out:

Gender can be considered as a specific result area or component and monitored as such. This traditional method of treating gender has been used in many projects and is still used in some poverty reduction strategy programs (PRSPs) and other programmatic instruments. Often, however, this approach meant that gender was ignored by many project or program staff and stakeholders, as it was considered “taken care of.” As an assessment of development cooperation funded by Finland reports, “Women are sometimes still seen as a separate sector so systematic work to eliminate gender inequalities is not undertaken within other sectors.... In projects, ‘gender mainstreaming’ still usually means small and isolated components dealing with women (Ministry for Foreign Affairs of Finland 2003, p. 11).”
4. Rural communities demand knowledge as a single unified package representing the entire social and economic value chain. On the other hand, ODL and other educational institutions operate through a sectoral approach. Hence, collaboration among the various actors in the social and economic value chain of rural livelihoods is an essential basis in a win-win framework.

5. An outcome-oriented approach with appropriate gender-sensitive indicators is crucial in a development project.

6. To develop replicable models, intensive projects that run for a longer period are needed. Short-term projects with limited resources offer limited scope to study and analyse the role of ODL in development.

These lessons stimulated COL to evolve a perspective for the L3F initiative. Gender has become a cross-cutting theme in all the initiatives of COL. Concepts such as social capital, the horizontal transfer of knowledge and self-directed learning are being operationalised in the activities. This has contributed to a deeper understanding of the development process. COL’s work has also extended the boundaries of ODL from academia into the field of development, enabling the empowerment of the unreached and the marginalised.

References


During 2000 to 2009, the Commonwealth of Learning (COL) supported the innovative use of open and distance learning (ODL) to alleviate poverty in rural areas of the world.

In particular, the programme known as Poverty Reduction Outcomes through Education, Innovations and Networks (COL-PROTEIN) supported initiatives that used ODL and information and communication technologies (ICT) to build capacities for community development in areas such as food security, environmental protection, women’s empowerment, micro-entrepreneur and good governance.

Development institutions from various Commonwealth countries were encouraged to apply under the programme. Proposals were selected through a peer review process. Successful applicants then received technical and financial support from COL. Among these participants were non-governmental organisations, research and development institutions, universities and colleges.

This report provides a follow-up analysis of the experiences of COL-PROTEIN. It discusses the contributions of ODL to development, focusing on the outcomes from four theoretical perspectives: 1) social capital; 2) horizontal transfer of knowledge; 3) self-directed learning; and 4) reaching the unreached and gendered learning.

After examining the strength and weaknesses of the approach, the report concludes with a discussion of the influences of COL-PROTEIN projects on Lifelong Learning for Farming (L3F) and other initiatives of COL.