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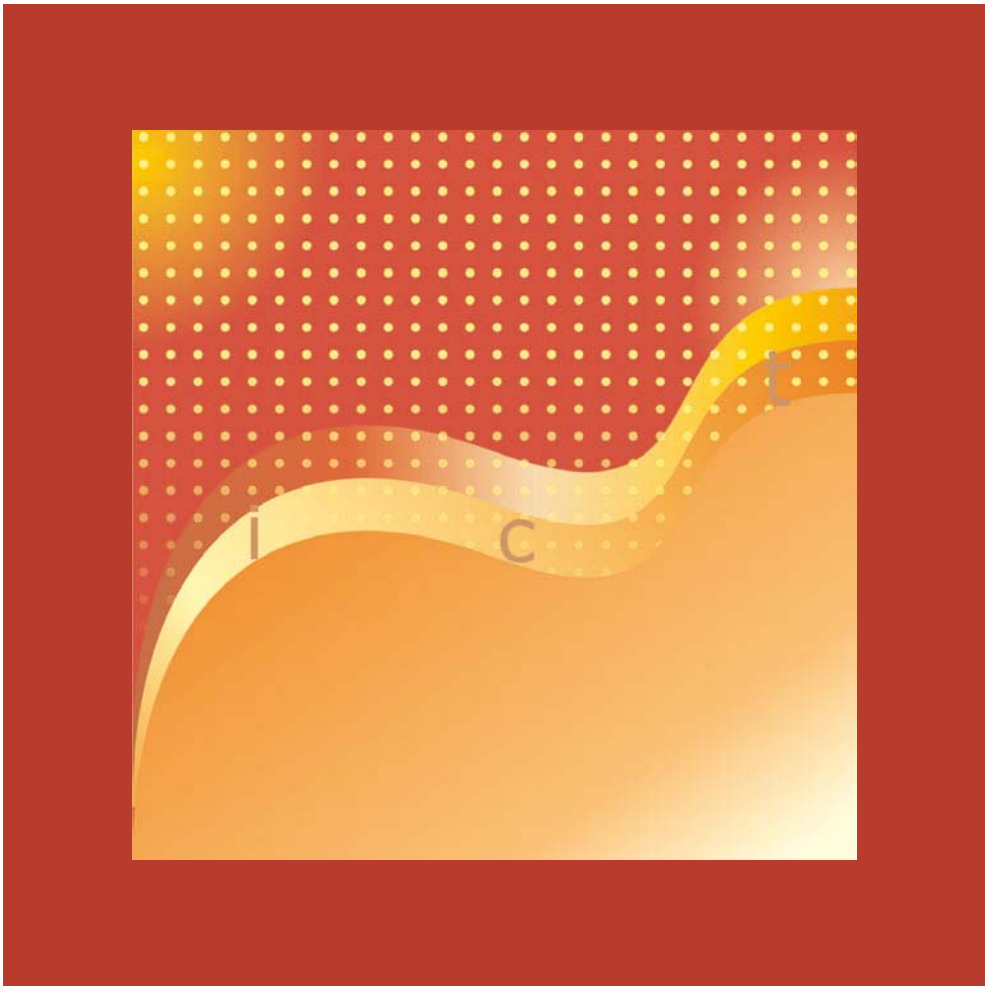
INFORMATION ECONOMY REPORT 2007-2008

Science and technology for development: the new paradigm of ICT

Prepared by the UNCTAD secretariat



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Chapter 7

PROMOTING LIVELIHOODS THROUGH TELECENTRES

A. Introduction

The multi-purpose applications of ICT and the rapid fall in its costs have allowed innovative uses of that technology in many poverty reduction programmes. Governments worldwide[1] are developing and implementing ICT policies to support economic and social development. However, so far, the impact of ICT strategies and programmes in providing economic opportunities for people living in poverty has been limited. Attempts to provide wider access to ICT, including the establishment of public ICT access spaces (telecentres) and programmes to develop ICT skills, have not been sufficient.

This chapter reviews the role of a key policy instrument (telecentres) in promoting livelihood opportunities for people living in poverty, in line with earlier UNCTAD analytical work on ICT and poverty reduction. In the 2006 edition of this Report, UNCTAD proposed a pro-poor ICT framework[2] to evaluate to what extent a policy or programme supports people living in poverty. The framework highlights 12 dimensions (the 12 Cs) that ICT programmes and policies supporting poverty reduction should consider (connectivity, content, community, commerce, capacity, culture, cooperation, capital, context, continuity, control and coherence). This chapter considers the "commerce" component of that framework – that is, the need for ICTs to be relevant to the economic lives of their users.

To examine how ICTs can support means of living for people living in poverty, this chapter will use the concept of livelihoods. "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living" (DFID, 1999). In other words, what is important for a person is not only the wage income that he or she may receive but also all the other assets (e.g. subsistence food, savings, physical assets, access to government support) and capabilities (e.g. education, access to markets, access to information, ability to communicate) that he or she may need to have in order to earn a living.

Sustainable livelihoods approaches[3] put people living in poverty at the centre of development programmes and emphasize that programmes supporting poverty reduction should be based on the specific context, and people's vulnerabilities, capabilities and assets, and should address the influence that institutions (whether Governments, civil society or private companies), organizations and social relations have on the ability of men and women to pursue a strategy to escape from poverty. Thus, using telecentres for promoting livelihoods[4] requires an understanding of how they can support people's capabilities and assets, how they can address their vulnerabilities, and how they can work in and influence the specific institutional and social context shaping those livelihoods.

Section B examines telecentres as a specific approach for using ICTs in order to support livelihoods. The first part provides an introduction to the concept of telecentres and of how telecentres can support livelihoods. The second part discusses the findings of the survey conducted by UNCTAD (2007) among telecentre networks. The subsections that follow present, respectively, examples of best practices regarding how telecentres are promoting livelihoods, and a discussion of the challenges ahead. Section C provides a checklist of elements to take into account when using telecentres for supporting livelihoods. This checklist expands the commerce component of UNCTAD's 12 Cs pro-poor ICT framework.[5] Some general policy recommendations addressed to Governments and telecentre networks for enhancing the role of telecentres in promoting livelihoods are also made.

B. The case of telecentres

1. How telecentres can promote livelihoods

Telecentres are public facilities where people can access the Internet, computers and other information and

communication technologies to gather information, communicate with others and develop digital skills (telecentre.org). A telecentre may be, for example, a public library providing Internet access and basic digital literacy training courses (e.g. Biblioredes in Chile) or a community development centre providing, among other services, Internet access to meet the information needs of the community (e.g. the Pallitathya telecentre in Bangladesh featured in box 7.1). Cybercafes are "privately owned, primarily urban establishment providing limited services, such as e-mailing and browsing" (Fillip and Foote, 2007, p. 19). Telecentres may come in varied forms and names (e.g. village computing, information kiosks, community multimedia centres), but they have a common goal: to serve the community and support local development. This developmental characteristic distinguishes telecentres from cybercafes. Telecentres are often a key policy or programme to bridge the digital divide, and some Governments include a telecentre programme as part of their national ICT policy.[6]

The first telecentre programmes in developing countries started in the late 1990s. Financial, political and sociocultural sustainability concerns pose a challenge to the existence of telecentres and some of them have had to be discontinued or reduced in scale. Nevertheless, telecentres continue to play a critical role in supporting an inclusive society. Given the limitations of the private sector as regards serving less profitable areas, telecentres are increasingly recognized as a public good and a development instrument worthy of public support (Fillip and Foote 2007). Telecentres, since they support underserved communities, will often necessarily require financial subsidies. Governments'

Box 7.1

How telecentres are supporting livelihoods: some examples

Pallitathya – network of rural information centres (Bangladesh)

Mr. Nurul Islam Khan produces rice, together with beans, bitters and bottle gourds, on his land. He supports a six-member family with an average monthly income of BDT 8,333 ($120). One day he found that his cultivated vegetables were attacked by harmful insects. He sought information from the Pallitathya Kendara (the local rural information centre) and used audiovisual CDs to obtain the desired advice. Mr. Khan successfully applied the prescribed insecticides and saved his crop and, above all, his livelihood. He was able to prevent a total loss of BDT 8,500 ($123 USD) without paying any fee for the service offered by the Pallitathya Kendra. He thinks that the information services provided can save farmers from potential loss, and he suggests that farmers like him would benefit immensely if the infomediaries of the centre regularly visit the farmers in the area to provide them with the necessary information.

Ms. Najmunnahar looks after her family, which has an average monthly income of BDT 2,000 ($29). She heard about the different services offered at the local Pallitathya Kendra from her neighbours and from the centre's infomediaries during their field mobilization. She visited the centre to collect printouts of different embroidery designs and paid BDT 5 (7 US cents). Ms. Najmunnahar used the designs to make beautiful rural blankets known as *Kantha*. Her designs brought her praise, and they have given her a certain standing in the neighbourhood. She is very pleased with the service received and will be glad if the centre can provide training for making clothes and accessories.

Ajb'atz' Enlace Quiché Association (Guatemala)

Ajb'atz' Enlace Quiché is an association developing the capacities of Mayan communities through ICTs. It focuses on the promotion of the Mayan culture and linguistics and the provision of educational services. In the association's community telecentre, adult students on the «Up to date with ICT» training course find the new computer skills very useful in several aspects of their lives: "as a teacher is very useful to teach children and also to prepare material for the lectures", "now I can help my children with their homework and ICT skills".

Partnerships for e-Prosperity for the Poor (Indonesia)

Telecentre Muneng, in East Java province, has inspired the establishment of Gabungan Pemuda Terampil dan Kreatif (GPTK), a cooperative of cricket breeders. After finding through the Internet access facilities offered by the telecentre a new method for breeding crickets, four breeders established GPTK in December 2005 with an initial investment of 3 million rupiah ($330) and a working capital of 300,000 rupiah ($33). The new method of breeding proved to be more productive than the conventional one. The founders also learned how to find buyers through the Internet. Substantial requests and orders for crickets from several big cities in Java had surprised them and made them more enthusiastic and convinced of the potential of cricket breeding.

Source: Pallitathya (2006).
Cowell and Marinos (2006).
Pe-PP (2007).

financial support for telecentres does not need to be permanent. In the longer term, telecentres may be able or expected to be self-sustainable, and the private sector may start offering some of the services in an affordable manner. Moreover, today, telecentres often benefit from an enhanced environment in which to operate and from a greater understanding of best practices for dealing with sustainability.[7] Although there is no one sustainable telecentre model, sustainability can be achieved through the provision of value-added services, by working in partnership with others in the public and private spheres, and by timely scaling-up to build on existing experiences, capacities and resources (Fillip and Foote, 2007).

How can telecentres support the livelihoods of people living in poverty? Telecentres may, for example, support the development of technical and business skills, provide access to key information, facilitate access to government services and financial resources, and/or provide micro-entrepreneurship support. Box 7.1 provides examples of a telecentre in Guatemala that supports teachers in developing ICT skills and telecentres in Bangladesh that help farmers reduce vulnerabilities and women enhance their income-generating activities. Telecentres are also centres for dissemination and consumption of science, technology and knowledge. As box 7.1 shows, telecentres facilitate access to knowledge and support the dissemination of productive methods.

The examples in box 7.1 are an illustration of how telecentres promote economic opportunities and sustain livelihoods. However, as the results of an earlier UNCTAD survey (2006b) among Chilean telecentres show (see box 7.2), the promotion of economic activities through telecentres may not be widespread or may pay limited attention to the needs of some user groups. In the first place, while telecentres in Chile have been successful in promoting e-government services, only a small number of them are designed to support economic activities, and capacity-building programmes in trade and business are not mainstreamed. Secondly, there is limited understanding of how women and men benefit from telecentres, and thus women may have fewer opportunities for using ICT to support their livelihoods.

A study by Parkinson and Ramírez (2006) has assessed to what extent the Aguablanca telecentre in Cali, Colombia, is supporting livelihoods. It shows that the telecentre supported only some of the livelihood strategies employed by the community. Residents used the telecentre mainly to develop social assets (social relationships) and to increase financial assets in the long term by investing in education to improve formal employment prospects, even when current opportunities in the community lie primarily in informal employment. Other livelihood strategies were not being served through the telecentre, for example (a) increasing financial assets in the short term through the conversion of human or physical capital (i.e. formal employment or informal employment), (b) reducing reliance on financial assets by developing other assets (i.e. house ownership), and (c) reducing the necessary recourse to financial expenditure. The unemployed "rarely used the telecentre for searching a job and most considered it inappropriate for that use". The self-employed "rarely used the telecentre, or had any ambition to use it, in support of their business needs".

Telecentre managers and promoters can conduct similar analysis to better understand how specific telecentres can support local livelihoods. Such analysis, although context-specific, can help inform broader strategic decisions regarding the role of telecentre networks and support policymakers in their analysis and promotion of policies that can support the livelihoods of people living in poverty. Chart 7.21 defines the elements to be considered in assessing the livelihood dimension of telecentres, from the point of view of commerce, within the broader 12 Cs pro-poor ICT framework developed in the *Information Economy Report 2006*.

The following section provides a broader analysis of how telecentres, as institutions, are supporting the livelihoods of people living in poverty. The analysis is based on key elements of the sustainable livelihoods approach, which includes the broader definition of poverty, an acknowledgement of people's different assets and the strategies women and men can follow, and a holistic approach (where in addition to building capacities, development efforts take the context, structures and processes into account). However, UNCTAD's analysis focuses on how telecentres support economic activities, and does not explore other areas important for sustaining livelihoods, such as physical well-being, which are not UNCTAD's areas of expertise.

2. Telecentres' impact on supporting economic opportunities for sustainable livelihoods

To examine, at the broader level, to what extent current telecentres are supporting livelihoods, UNCTAD, in

Box 7.2

A gender perspective on supporting livelihoods through ICT: the case of Chilean telecentres

In 2006, UNCTAD conducted a study on Chilean telecentres and their contribution to poverty, in particular among women. Chile was selected as a case study because the Government has put in place a broad ICT strategy for development that includes support for Chilean telecentre networks. Chile>s development in the last decade, including in the area of access to and use of ICTs, has been notable. However, wide gender and economic disparities, including in ICT access and use, persist (Cecchini, 2005). Recent data (Cecchini, 2005; PNUD, 2006) show substantial inequalities in ICT access owing to income and geographical differences. For instance, in 2003, among the richest decile, three quarters had mobile telephone access and almost half had Internet access, while among the poorest decile, only one quarter had mobile telephone access and 1.4 per cent had Internet access (PNUD, 2006). In 2000, only 0.8 per cent of rural households had access to the Internet compared with 9.4 per cent of urban households (Cecchini, 2005, p. 29), and at the regional level, in 2003, while Santiago's Metropolitan region had a 9 per cent Internet penetration rate, the Maule region Internet penetration rate was 1.7 per cent (PNUD, 2006, p. 39).

The research used UNCTAD's 12 Cs pro-poor ICT framework as the point of departure for a survey and follow-up interviews among stakeholders from different Chilean telecentre networks. The 15 in-depth responses, albeit from a limited number of participants,[8] provide a flavour of the understanding of different stakeholders (i.e. national and regional telecentre coordinators, individual telecentre managers and users) about the capacity of telecentres to support livelihoods.

The Chilean telecentre network is a resourceful initiative: (a) it has strong and continued political support; (b) it strenuously engages with different actors; (c) it has implemented a large-scale ICT literacy campaign; and (d) it has had successful experiences in sustainability and community involvement

However, its relevance for reducing poverty among women is limited by several factors: (a) some stakeholders understate, where others take for granted, the importance of telecentres for reducing poverty; (b) there is limited understanding of how poor men and women use and benefit from telecentres; (c) gender is not mainstreamed – for instance, no specific training, content, evaluations or resources have been developed/earmarked for (poor) women – and the involvement and ICT capacity of women's institutions and organisations are limited; and (d) telecentres have yet to provide specific skills and livelihood opportunities for poor women.

Regarding the commerce dimension, Chilean telecentres participate in the broad promotion of a number of e-government services related to economic activities, and there are examples of successful adhoc collaboration with partners promoting the use of telecentres in that regard (for example, to complete tax returns online). There are also telecentres, even though limited in number, that support economic activity, such as those from SERCOTEC (Chile's Technical Support Service) and from FOSIS (Chile's Social and Solidarity Investment Fund).

However, support for economic activities, including for poor women, is limited. The training provided is not sufficient to support livelihoods: "in 18 hours it is difficult to transmit the practical use of ICTs" (questionnaire respondent). Collaboration is adhoc and depends on the ability/willingness of the partners. As one respondent put it: "To promote livelihoods, telecentres can only support other entities in promoting and providing access to their online services, and the issue is the ICT capacity of these other entities. For instance, telecentres do not provide employment opportunities but could support local public employment offices if they used ICTs". As noted in an evaluation study carried out by the Chilean Undersecretariat of Telecommunications (SUBTEL, 2005, p. 74), the main failing of Chilean telecentres is their inability to have a noticeable economic impact.

The major challenges for Chilean telecentres with regard to supporting women's economic opportunities, as highlighted by respondents, are the following:

- There is limited awareness among women living in poverty of ICT opportunities.
- Few women have a regular job.
- Local governments are not particularly interested in supporting poor women entrepreneurs.
- Managers are not trained in this area.
- Capacity-building programmes in trade and businesses are not mainstreamed.
- There is a lack of resources.

collaboration with telecentre.org,[9] carried out a survey (in 2007) among telecentre networks[10] on the impact of telecentres on promoting economic opportunities.

The questionnaire targets telecentre networks rather than individual telecentres for a number of reasons. One reason, in addition to practical reasons, is that telecentre networks play an important role in creating dynamics within the telecentre movement, in pooling resources to, for example, develop content and training materials, in sharing best practices, in creating partnerships and, in summary, in being able to bring about changes.

The questionnaire (in annex 2) was sent to 84 coordinators and leaders of telecentres[11], and over a quarter of them (22) responded. The respondents represented 22 different networks in 21 countries across Africa (7 responses), America (6 responses), Asia (7 responses) and Europe (2 responses), which serve over 7 million users a year. The large majority of the respondents were from telecentre networks in developing countries. There were four responses from two developed countries (Canada and Spain), and these are also valuable since those networks also aim at supporting vulnerable communities. The complete list of respondents is provided in annex 3.

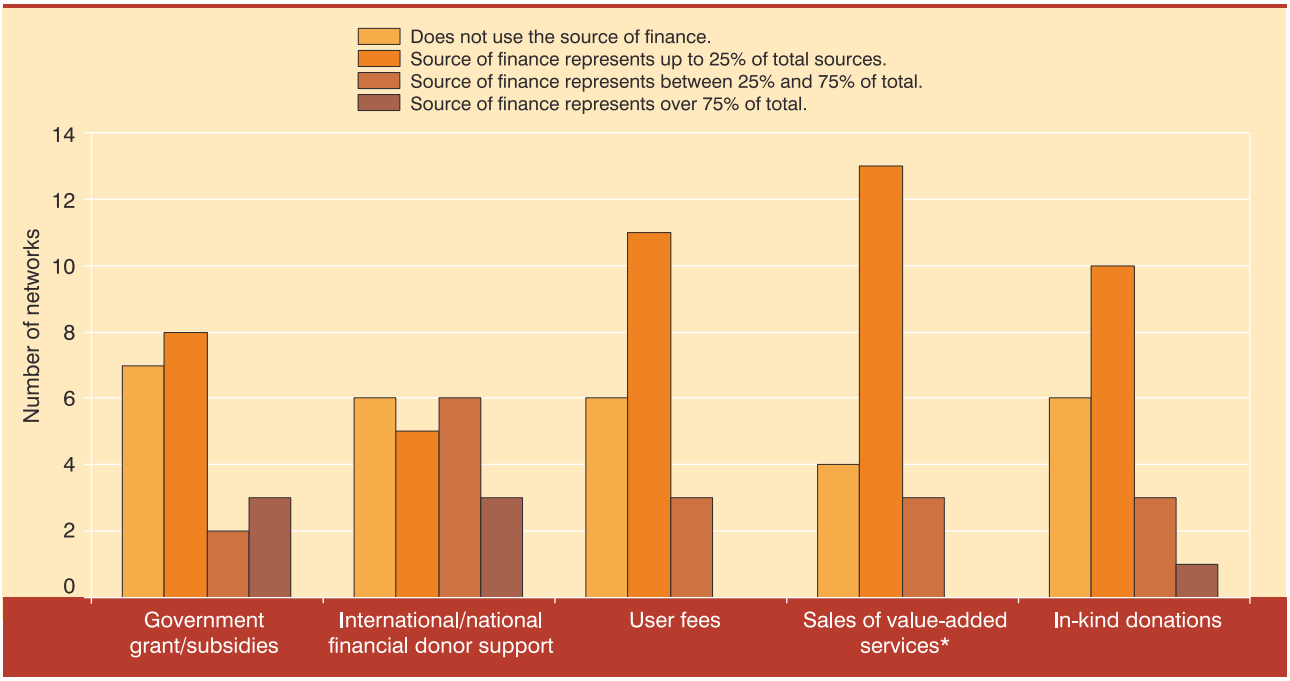
The following subsections present and review the survey's findings.[12] The survey should not be regarded as a statistical representative account but as an overview of how telecentres are supporting economic activities in different circumstances. The results are contrasted with the existing literature on telecentres and complemented with information provided by the telecentres themselves. As the responses to the questionnaire come from diverse telecentre networks with different objectives, sizes, and experiences, and while the analysis takes into account the spectrum of networks, some of the results may not accurately reflect individual experiences.

Profile of telecentre networks that responded to the questionnaire

In terms of size, most networks (73 per cent) have fewer than 100 telecentres and a third have fewer than 25 telecentres but three large networks each have between 300 and 900 telecentres. Most of the networks are young: over half of them are less than five years old (established in 2003 or after), and over 80 per cent of them were established after the year 2000. In 2006 six networks were established; furthermore, there are indications that at least two other networks are being established in Rwanda and the Dominican Republic,

Chart 7.1

Main sources of finance



Note: * (such as sales of training, business services, etc)

and that discussions are taking place about setting up one in Indonesia. All of this suggests that there is an ongoing expansion in the establishment of telecentre networks.

In terms of budget size, nearly half of the networks reported that the annual cost of running the telecentre network was below $50,000 while for five networks the annual cost was between $250,000 and $5 million, and for four networks it was above $5 million. The networks generally diversify their sources of finance. Chart 7.1 shows that only one third of the networks are predominantly funded (over 75 per cent of total funds) by one source of finance, and when that is the case, they largely depend on government grants (three networks) or donor funds (three networks). The chart also shows that over two thirds of the networks charge user fees or charge for the sale of services to finance their activities. However, for most of those networks, user fees or the sale of services represent less than a quarter of all financial sources. Additionally, survey findings show that more than 60 per cent of the networks use four or more different sources of finance. There is only one exception: one network is entirely funded by government grants/subsidies. On average,[13] donors and Governments are the largest providers of funds (providing, respectively, 30 per cent and 24 per cent of the funds of a network), followed by user fees, sales and in-kind contributions, which provide around 15 per cent each.

The telecentres served through these networks are mainly rural and multi-purpose (that is, telecentres, in addition to access to telephones, computers, the Internet and/or radios, offer access to other value-added services such as training and business support services). Charts 7.2 and 7.3 provide an overview of the composition of telecentre networks.

In nearly a third of the networks there is a balanced representation of female staff – that is to say, women represent from 40 to 60 per cent of the network staff (see chart 7.4). However, one third of the networks still have a limited female ratio (women represent less that 30 per cent of the staff).

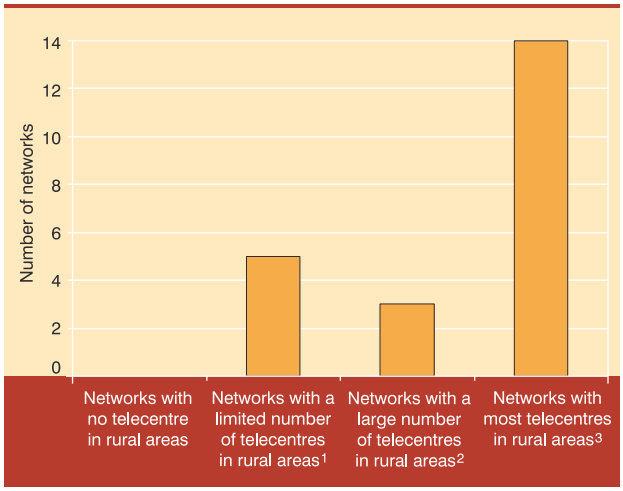
Users

To understand how telecentres support livelihoods, the first question is as follows: Whose livelihoods do telecentres support?

The 17 networks that reported data support over 7 million users per year. Half of the networks have fewer than 15,000 users per year, while the other half have over 100,000 users per year. The survey asked the telecentre network leaders to identify their two

Chart 7.2

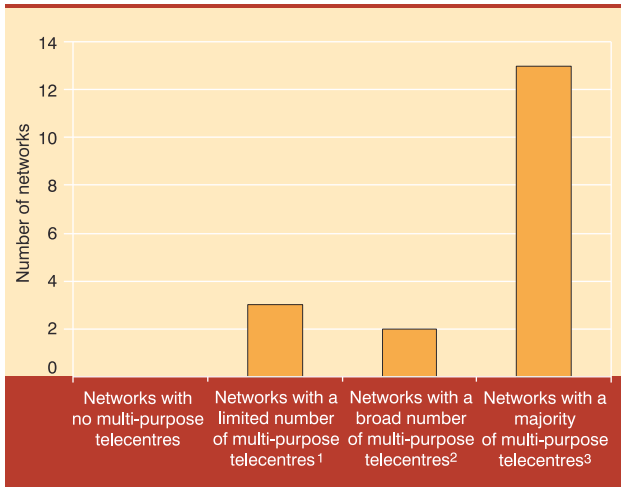
Composition of telecentre networks
Rural vs. urban



Notes: [1] The network has up to 25% of its telecentres in a rural area.
[2] The network has between 25% and 75% of its telecentres in a rural area.
[3] The network has over 75% of its telecentres in a rural area.

Chart 7.3

Composition of telecentre networks
Basic vs. multi-purpose



Notes: [1] Up to 25% of the telecentres of the network are multi-purpose.
[2] Between 25% and 75% of the telecentres of the network are multi-purpose.
[3] Over 75% of the telecentres of the network are multi-purpose.

Chart 7.4

Percentage of female staff among telecentre network staff

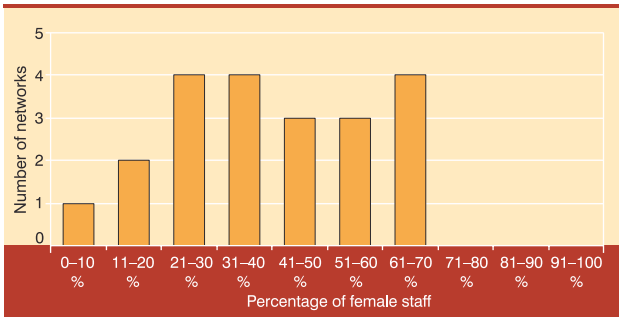
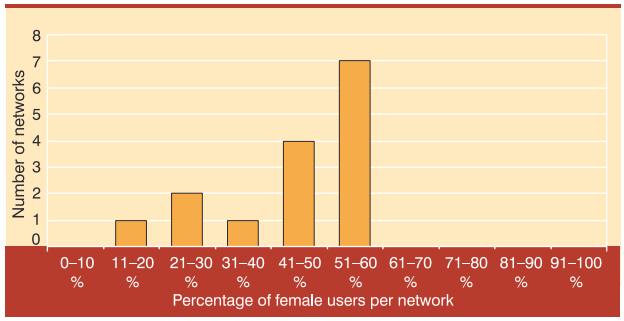


Chart 7.5

Percentage of female users



or three main user groups. Responses to the open question varied widely: some networks highlighted students, others the unemployed or new immigrants (in developed countries), but most responses did not identify the two or three main group of users.

Regarding female users, on average,[14] women represent around 40 per cent of users, and the majority of telecentre networks have a balanced ratio (40 to 60 per cent) of male and female users. However, there are great differences in female user ratios across networks (ranging from 15 per cent to 60 per cent) and three networks have a female user ratio of below 30 per cent (see chart 7.5). Other studies (e.g. Kumar and Best, 2006) also highlight significant variations in the gender balance among telecentre users to the detriment of female users.

It should be noted that the number and the gender of direct users do not necessarily reflect the total number and the gender of beneficiaries. For instance, a study in the Solomon Islands indicates that women often send their husbands to the radio station to transmit a message that they (the women) want to send (Chand et al., 2005, p. 39).

Who uses and who benefits from telecentres largely depends on the network's aims and design. For example, in the telecentre of the Ajb'atz' Enlace Quiché association in Guatemala (Cowell and Marinos, 2006), an association that focuses on supporting education and training by and for Mayan people, three quarters of users come from an indigenous group (a reflection of the wider community) and the large majority of users are students, and among adults, nearly half of them are teachers. User demographic analyses reveal that all-purpose telecentres (telecentres that not specifically target one group of users) are not necessarily used by the whole community. For example, a recent survey (Pun et al., 2006) shows that users from Nepal's Wireless Networking are mainly young (83 per cent were under the age of 30), male (72 per cent) and educated (all users are literate, although the national literacy rate is only 53 per cent).

Services provided

A second step to understanding how telecentres support livelihoods is to examine the services offered by them. What range of services do telecentres offer? Do they provide specific services to support the economic activities of the community?

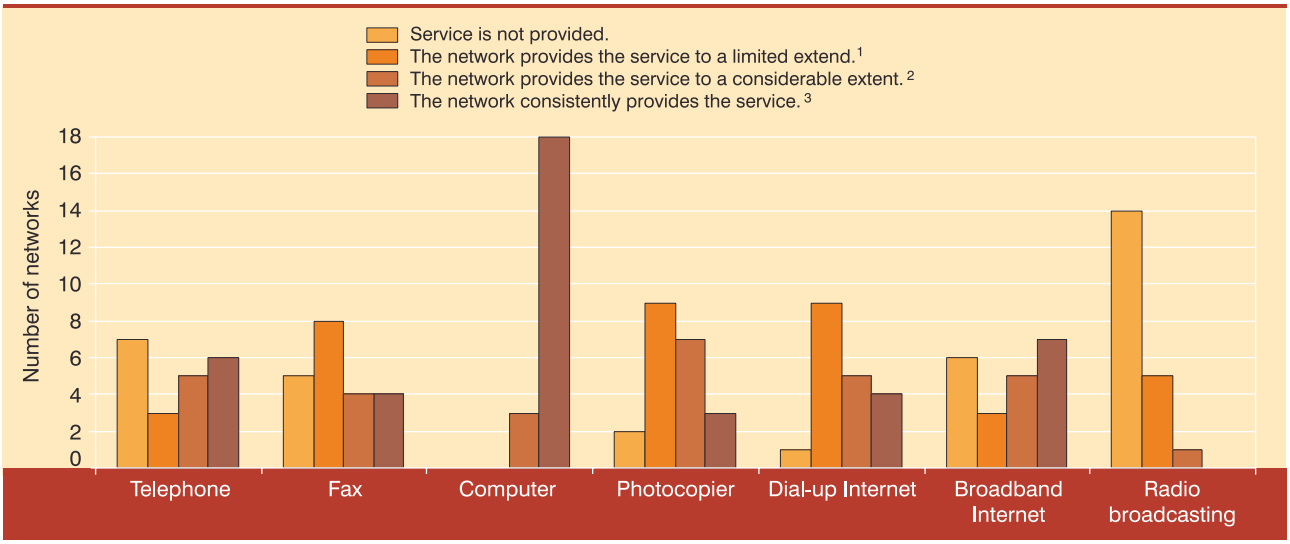
General services

A review of the types of technologies available across the telecentres reveals the kind, and delivery format, of services that can be provided. For instance, telecentres offering broadband Internet access can provide a wider number of services (e.g. downloading online training materials, VoIP) and perform a broader range of activities (e.g. buying and selling online) than telecentres offering limited access to the Internet.

Over 80 per cent of the networks provide access to computers in more than 75 per cent of their telecentres, that indicates that providing access to a computer is an essential service (see chart 7.6). All the networks that responded to the questionnaire provide access, at least in some of their telecentres, to the Internet via dial-up[15] or broadband, or both. However, broadband access to the Internet is still not available in a quarter of the networks. Few networks offer access to radio broadcasting, and when they do, it is to a limited extent – only one network offers it in more than 25 per cent of its telecentres. Access to telephone, fax and photocopier services varied widely across networks.

Chart 7.6

General services provided by the telecentre networks



Notes: [1] The service is provided by < 25% telecentres.
[2] The service is provided by 25% – 75% of the telecentres.
[3] The service is provided by >75% of the telecentres.

The range of services provided by telecentres evolves with technological developments and as different technologies become more affordable. For example, the telecentre network in the United Republic of Tanzania reports that telephone services are no longer offered because of the emergence of mobile telephones and an increasing use of VoIP.

Training services

Training services can help develop competencies that telecentre users need in order to conduct economic activities – that is, to enhance their human capital, which they may be able to exchange in the short or longer term for financial assets. Training, to be relevant, needs to build the competencies required for the economic activities that trainees undertake or will undertake and, additionally, trainees must be able to apply those skills. The questionnaire enquired about the different types of training services the telecentres provided and to what extent they were provided across the network.

Chart 7.7 shows that telecentres mainly focus on providing basic ICT skills:[16] all networks provide basic ICT skills and three quarters of them consistently provide such training through their telecentres. More advanced ICT skills training in the use of advanced or sector-specific ICT tools and in the use of advanced functions of generic ICT tools is provided in nearly all of the networks, but a large proportion of them provide it only to a limited extent (i.e. in less than 25 per cent of their telecentres).

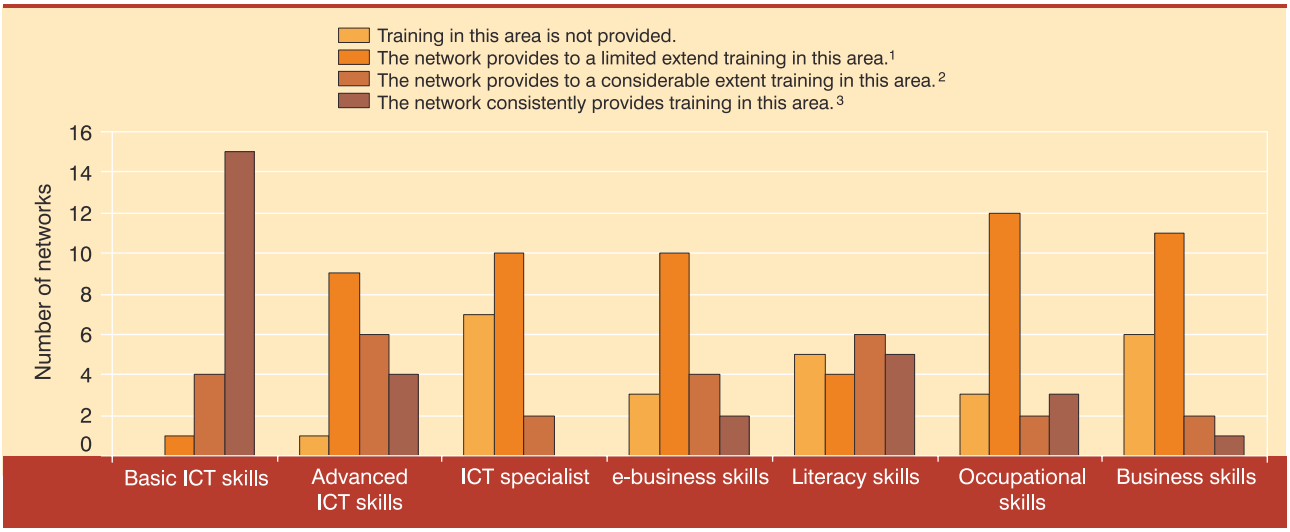
The development of basic literacy skills (the ability to read and write) is supported by numerous telecentres. Half of the networks provide training in those skills either consistently (i.e. in more than 75 per cent of the telecentres) or in a considerable number (25 to 75 per cent) of telecentres. This is one indication that networks are reaching people living in poverty.

Training to develop skills important for developing economic activities, including e-business skills,[17] general business skills (e.g. marketing and management) and occupation-specific skills (e.g. farming, crafts and tourism), is provided in over half of the networks to a limited extent (less than 25 per cent of their telecentres). This means that there is scope for expanding the provision of that type of training by replicating within networks services already being provided by telecentres in the same network. Only one or two networks consistently provide (i.e. in more than 75 per cent of their telecentres) training in e-business or broader business skills. Some networks do not provide training services for e-business skills (three networks), general business skills (six networks) and occupation-specific skills (three networks).

What type of business-related training are telecentres providing? The telecentre network of Asturias (Spain) organizes training courses for businesses and

Chart 7.7

Training services provided by the telecentre networks



Notes: [1] The service is provided by < 25% telecentres.
[2] The service is provided by 25% – 75% of the telecentres.
[3] The service is provided by >75% of the telecentres.

entrepreneurs to become familiar with searching for employment opportunities and recruiting personnel, keeping financial records, conducting business communications, searching online for products, services and competitors, managing security (how to make security copies and protect from cybercrime), obtaining digital certificates, digitalizing documents and organizing business trips. After those training courses, the telecentres noted a significant increase in the number of wage employees and self-employed users (Fundación CTIC, 2006). In Bangladesh, the Community Information Centres organize a training programme on "how to start up a new business", which explores information available on the web and how the telecentre can help users request a trade licence or a bank loan (Shahid Uddin Akbar, SEBA Coordinator, GPCIC, UNCTAD questionnaire, 2007).

Business-related services

To further examine the extent to which telecentres support economic activities, the questionnaire enquired about the business support services being offered by telecentres.

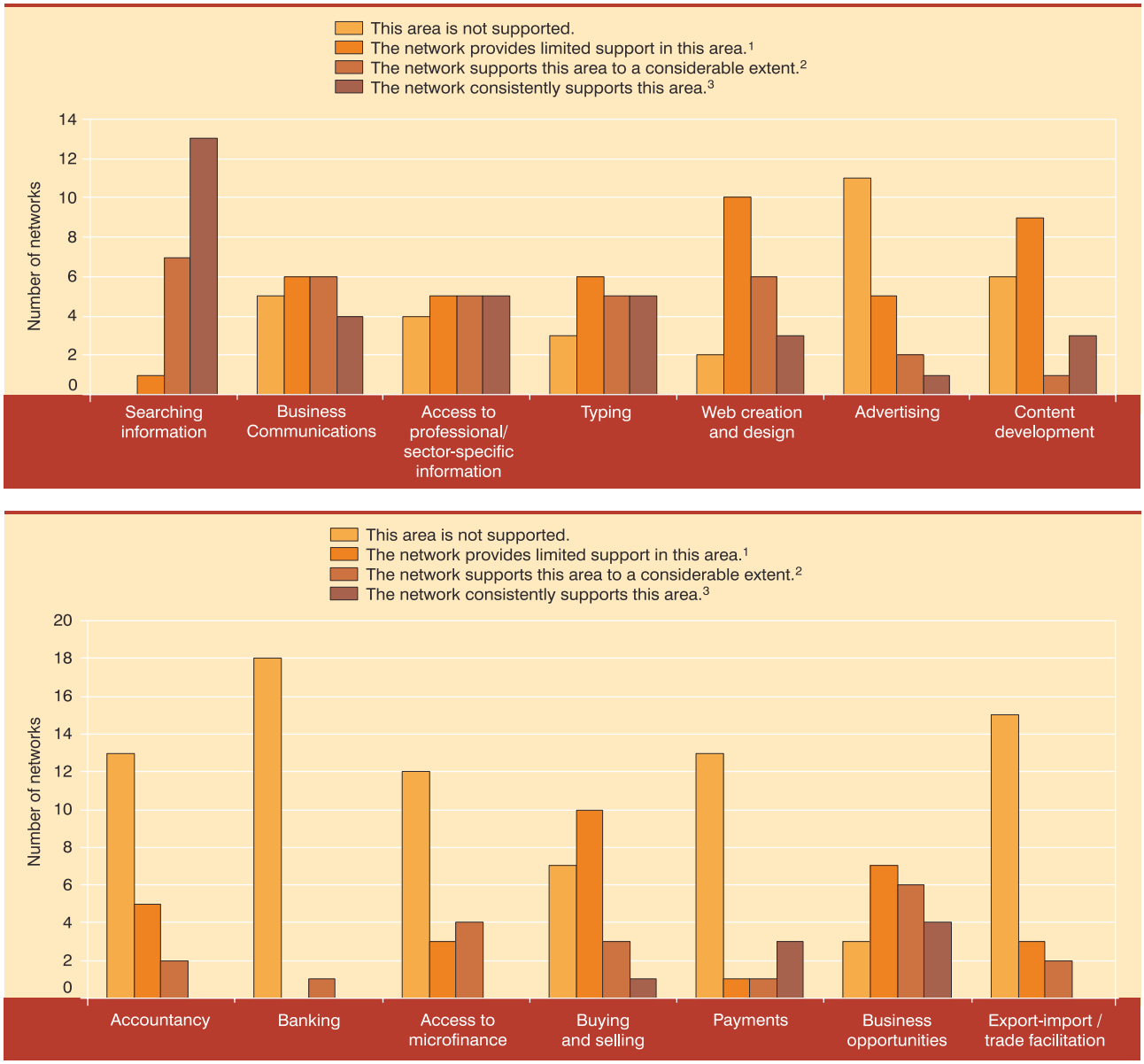
The service most consistently provided, and by far, is "searching for information". All networks provide this service and 13 networks do so in the majority of their telecentres (chart 7.8). The other two business-supporting services more widely available are "searching for/advertising jobs" and providing access to "government services" (a third of the networks provide those services in the majority of their telecentres). Other services often supported are searching for "professional/sector-specific information", "typing", "business communications" and supporting "employment opportunities". Some networks provide support for "designing and creating websites", "developing content", "buying and selling", and developing "business opportunities".

In Indonesia, to empower and mobilize poor communities for economic activities, and on the basis of the findings of ethnographic research, each telecentre has an infomobilizer – that is, a person that supports the development of the community by, among other things, using and promoting the use of relevant information. The infomobilizer helps the community/village identify its needs and its opportunities to improve livelihoods (for example, acquiring new agricultural skills, expanding the marketing of village products and linking to experts for information). Moreover, websites to promote village products and tourism are developed.

Among responding telecentres, there is limited support in the areas of "advertising", "accountancy", "banking", "microfinance", supporting the carrying out of "payments", "export/import and trade facilitation", "data management and storage", "taxation", and "innovation/research and development". Each of those services is provided in less than half of the networks.

Chart 7.8 a, b

Business-related services provided by the telecentre networks



Notes: [1] The service is provided by < 25% telecentres.
[2] The service is provided by 25% – 75% of the telecentres.
[3] The service is provided by >75% of the telecentres.

Successful experiences of other networks in supporting some of these services (such as taxation in the case of Chile (box 7.3)) suggest that there is substantial scope for expansion. However, expanding the offer of business-related services requires the existence of certain conditions. For instance, supporting tax filing or other government services may need to be led by the Government. Also, some of the above areas (e.g. trade facilitation and banking) require specialized skills or additional infrastructure not always available.

Business-related services can be supported in a number of ways:

(a) Through specific training courses;

(b) As part of broader training courses – for example, a general course on ICT may show how to search the Internet for general and sector-specific information, conduct payments online and access different e-government services;

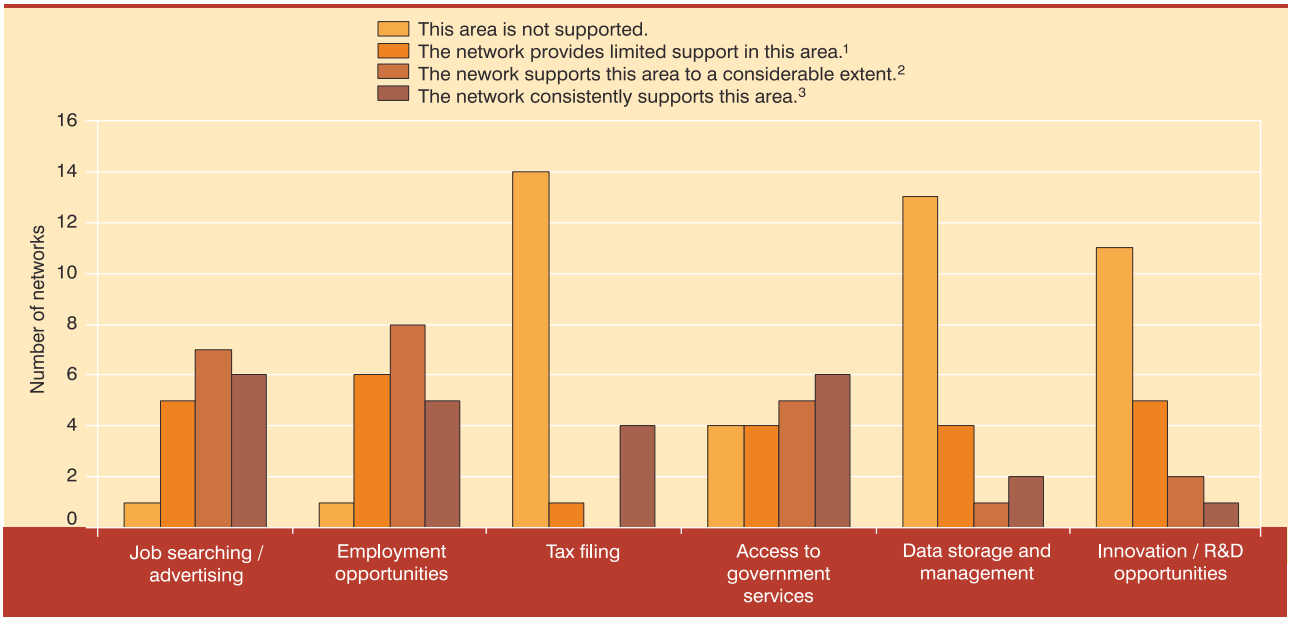
(c) Adhoc support provided by staff;

(d) Provision of the service by the telecentre itself.

Survey responses (chart 7.9 a, b, and c) show that to support business-related services telecentres mostly provide the service itself or provide adhoc support.

Chart 7.8 c

Business-related services provided by the telecentre networks



Notes: [1] The service is provided by < 25% telecentres.
[2] The service is provided by 25% – 75% of the telecentres.
[3] The service is provided by >75% of the telecentres.

Box 7.3

Making life easier: government services provided through the telecentres

Chile: telecentres support citizens in completing their tax declarations.

The Government of Chile, as part of a campaign to ensure that all tax declarations are completed online, has developed a cooperation agreement with telecentre networks across the country. Telecentres provide free access, or access at a reduced fee, access to the Internet and the technical tools needed for completing the declaration. The tax office provides training to telecentre staff so that they can support clients completing their tax declaration online. In 2007, for the fifth year running, the tax office programme allowed and helped citizens to complete their tax declaration throughout 578 telecentres operated by INJUV, Biblioredes, Sercotec, Confedech and Conupia, as well as 73 cybercafes.

Jhalawar, India: Janmitra improves citizens' access to government services in rural areas.

Janmitra is a network of 30 kiosks providing one-stop access points for various government services, such as land records and application forms. Users can, for a small fee, ask for land records and the patwari (local revenue official) visits the kiosk twice a week to sign the records, which are then delivered to the user by the kiosk owner either by hand or by courier. All other land-related records are manually provided by the patwaris.

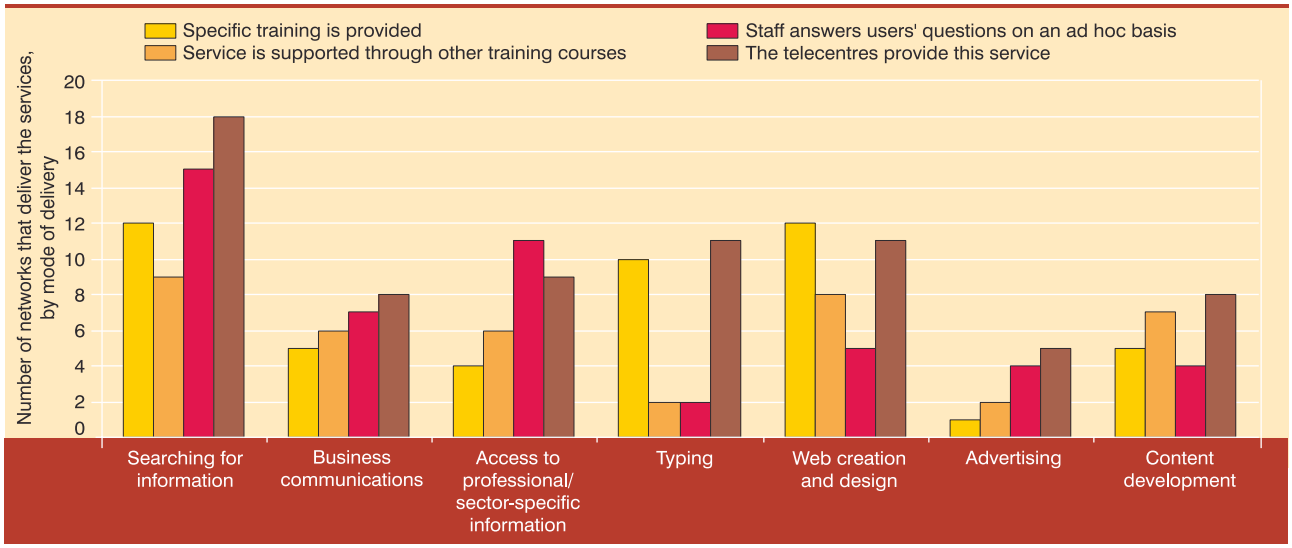
An early needs assessment helped identify how the ICT project could support livelihoods in the rural areas, and experience confirms that such projects do not necessarily need to be connected to the Internet. Despite numerous challenges, the integration of various e-services and offline activities can generate enough revenue at information kiosks. For the Janmitra project, the franchisee model (based on enterprises charging users for their service in enabling the latter to access government services) has worked better than if the telecentres had been manned by government-employed staff. However, e-governance services are possible only when government departments streamline and e-enable them to function. A crucial lesson learned from the Janmitra project is that a close partnership with government is essential.

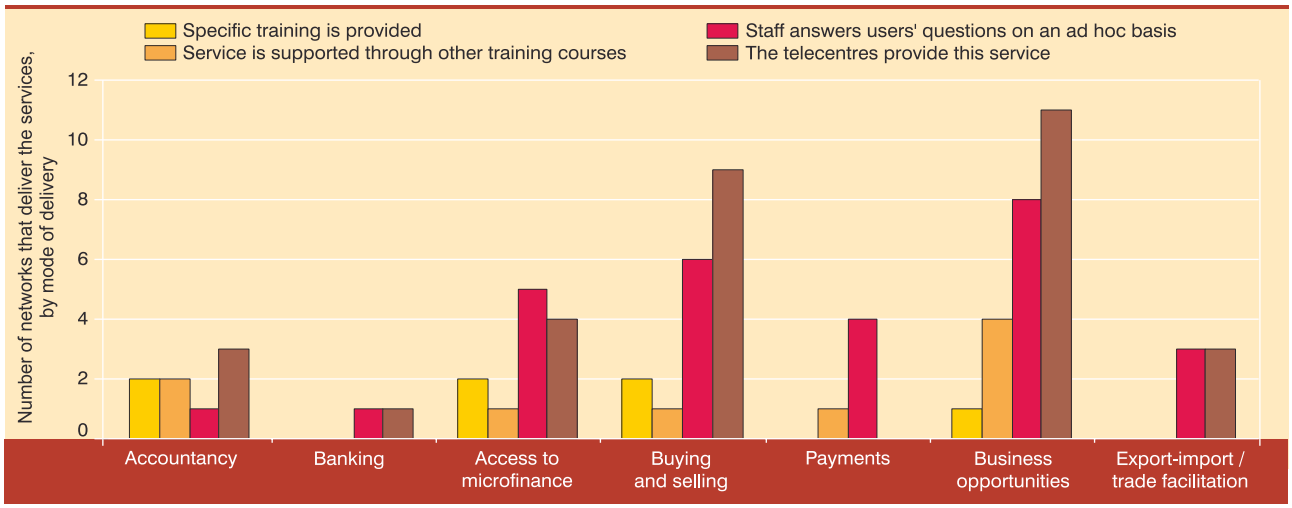
The sustainability of the project will now depend upon its level of institutionalization.

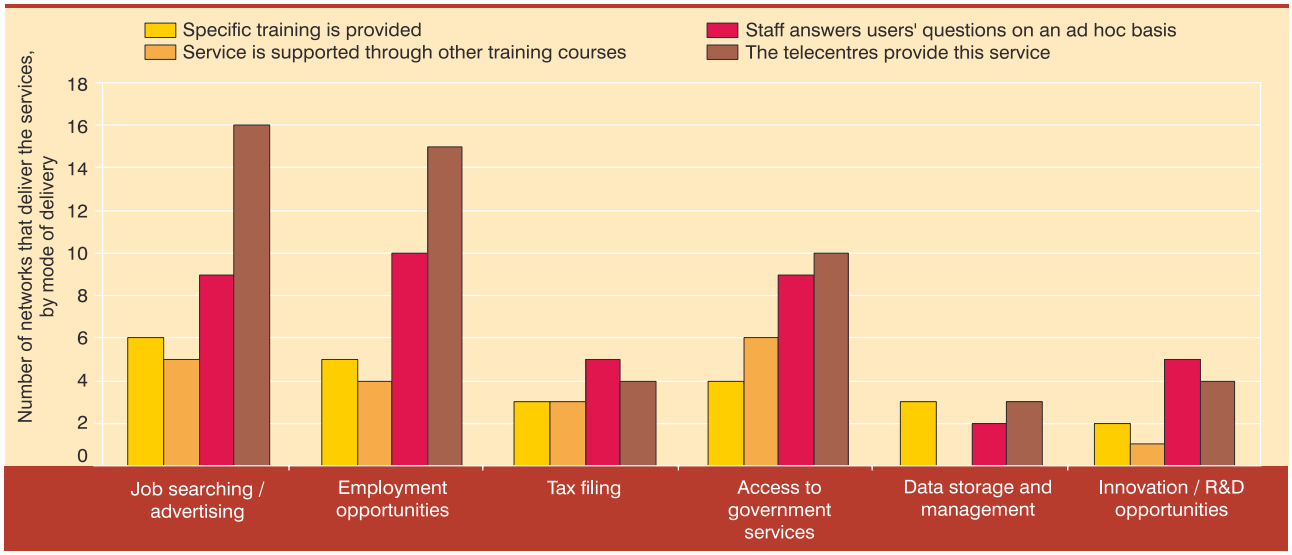
Source: Gobierno de Chile (2007).
Harris and Rajora (2006).

Chart 7.9 a, b and c

Approaches used by telecentres to support business-related services







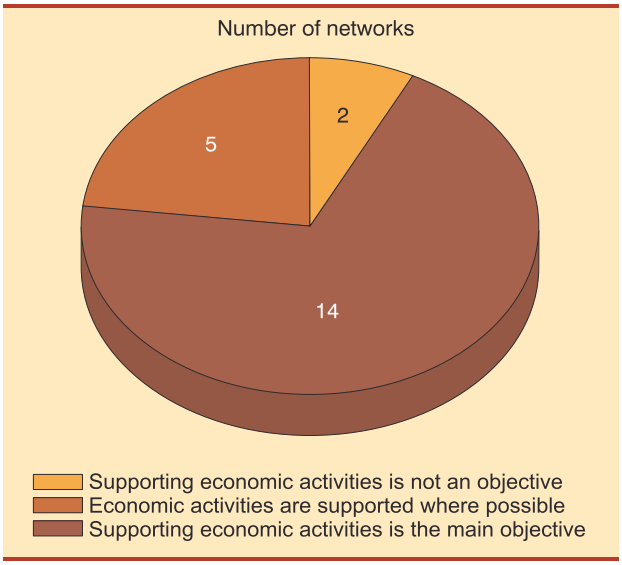
Those services are supported to a lesser extent with specific training or as part of other training courses. Specific training is mostly offered for "searching information", "creating websites", and "typing", and secondarily for supporting "job searching" and "employment opportunities", for conducting "business communications" and accessing "professional or occupational specific information". No telecentre network offers training in "banking", or "export/import and trade facilitation", and only one network offers training (as part of a broader training course) in conducting payments online.

Overall, there is limited explicit effort to build capacities in several business-related areas and to mainstream business-related training, the reasons probably being the greater complexity (telecentres have started by providing more basic services) and the specific knowledge requirements. Telecentre staff can provide adhoc support in a convenient manner, but it is unrealistic to expect that they can provide in-depth support in all the different areas. Rather, telecentres "in the future will not be a one-stop shop that requires a 'superman' office person, but a place where computing is a means for delivery of services from many back ends that support individual retail outlets" (John Sherry, quoted in Bell, 2006 p. 18). Some basic e-business training could be developed by the telecentre networks or integrated into more general ICT training courses (e.g. how to buy and sell online, online payments, etc.). Several telecentres are starting to include a wider range of specialized training services for micro-entrepreneurs. In Guatemala, Enlace Quiché (box 7.1), in collaboration with Fundación Omar Dengo, is developing a training course for small and medium-sized enterprises (SMEs) in Central America to support productivity, facilitate their administrative and productive processes and support the development of management capacities, including leadership, entrepreneurship and technical skills. Training of greater complexity, particularly when it deals with specialized topics (e.g. exporting and importing goods), may be better developed and provided in collaboration with specialized organizations such as trade-supporting organisations, business-promoting agencies, banks, and so forth. Later on, this chapter examines the type of organizations that telecentres are working with, providing an idea of which organizations could be further involved to support business-related services.

Often, as respondents concede, telecentres would like to offer business-related services, but they are limited by their "lack of resources and partners to support such projects" (Kenneth Chelimo, National Coordinator of Kenya's Network of Telecentres), and "the lack of information available in digital formats and the low levels of local business development and connectivity" (questionnaire respondent). There an expectation ("this is an area we have just started working in", Julia Pieruzzi, Uruguay National Director, CDI) that as networks acquire experience and as Governments develop online services, a wider range of business support services will be provided across the telecentres.

Chart 7.10

Extent to which supporting economic activities is an objective of the telecentre networks

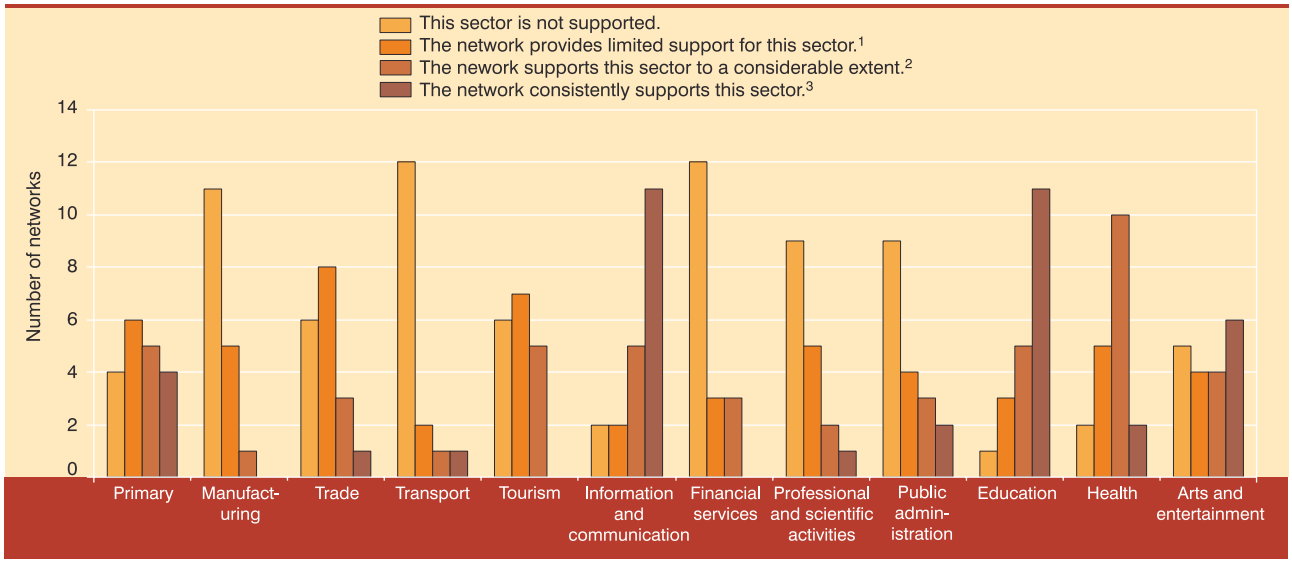


Economic focus: objectives and sectors

While most of the telecentre networks that have responded to the questionnaire support economic activities where possible (see chart 7.10), less than a quarter of the networks reported that supporting economic activities is their main objective. Two telecentre networks (Red Conecta and Fundación CTIC in Spain) have a clear mandate that does not include supporting economic opportunities beyond supporting employment access through the development of ICT skills and job advertising. Several telecentres stress the importance of their social and educational goals, and the relevance of services in those areas for developing economic opportunities. Thus, as supporting economic activities is not the main goal for many organizations, resources are often not focused in these areas.

Chart 7.11

Economic sectors supported or serviced by telecentre networks, by level of support



Notes: [1] The service is provided by < 25% telecentres.
[2] The service is provided by 25% – 75% of the telecentres.
[3] The service is provided by >75% of the telecentres.

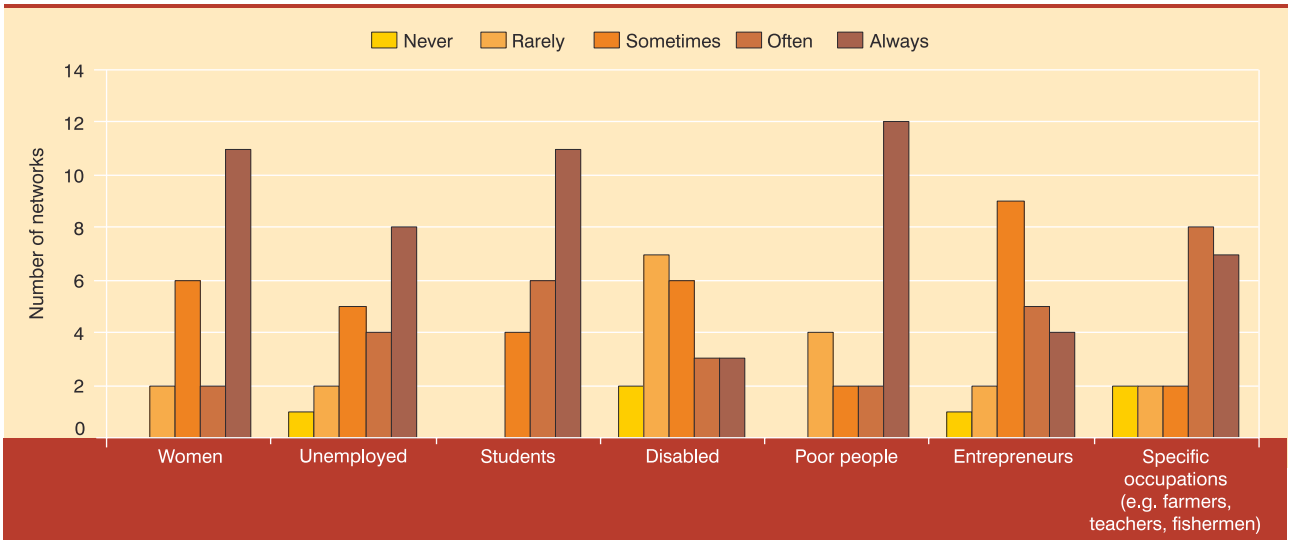
Telecentres have the potential to support different economic areas. For example, in the aboriginal northern communities of Canada, the Community Access Programme of Nunavut helps artists in the booming local crafts industry to create websites,[18] to sell their products and to trade through eBay. Users in the tourism sector use the centres to create websites for advertising purposes. As the Secretary-Treasurer of N-CAP explained (UNCTAD questionnaire, 2007), local business people who cannot afford a computer and visiting scientists needing connection to the Internet use the facilities to gather information and manage e-mails. The telecentres also support visiting scientific researchers in various ways and with some specific projects. Many telecentres offer basic literacy training and access to distance education, as well as access to both government and non-government health information. Several of the telecentres specialize in film production and editing.

The survey asked each telecentre network whether their telecentres provide support or offer services related to twelve broad economic sectors. The two economic sectors in which telecentre networks provide most support or offer most related-services are, obviously, the information and communication sector, and the educational sector. Those sectors are consistently supported or serviced by over half of the telecentres (chart 7.11). Another two widely supported sectors are arts and entertainment and the primary sector (agriculture, fishing etc.), which are consistently supported or serviced in, respectively, a third and a fifth of the telecentres. The health sector is supported in nearly all of the networks; however, only two networks support this sector in the majority of their telecentres. Rather surprising is the fact that only two networks consistently support the public administration sector and half of the networks still do not support it. The tourism sector is supported by over two thirds of the networks, but no network consistently supports that sector. Trade and tourism are supported to a limited extent in 40 per cent of the networks, a fact which indicates that there is potential for sharing practices among telecentres within the same network. The manufacturing sector and professional and scientific activities are rarely supported, and services or support regarding the financial services sector are scarcely provided. In general, the responses from the survey indicate that telecentres support some economic sectors, but there is potential to intensify the support and offer related services for a number of sectors, such as public administration, trade and tourism, and to explore opportunities for telecentres to provide services important for conducting business, such as financial services.

To understand to what extent people living in poverty benefit from the services offered by telecentres, the survey enquired how often, and how, services are targeted to specific vulnerable groups (women, the

Chart 7.12

Social groups targeted by telecentres



unemployed, the disabled, people living below the national poverty line), to businessmen/women, and towards specific occupations. Since several reports often suggest that a key user group is students (e.g. Kumar and Best, 2006), the UNCTAD survey also enquired about that group. Results confirm that students are the group most often targeted, as well as women and people living in poverty (chart 7.12). Over half of the networks always target their services to people living below the national poverty line, women and students. And over one third of the networks always target their services to the unemployed and to specific occupations. The groups that are less often targeted are disabled people and entrepreneurs.

An overwhelming majority (over 90 per cent) of the telecentre networks indicated that each of the following methods of targeting services is employed in their network:

- The training content is adapted to the target group.
- Courses take into account the needs of specific groups when designing the training (i.e. timing of the courses, location, etc).
- Some courses are specifically designed for the target audience.

However, only some networks (less than a third) offer financial support to target their services. Other methods of targeting services indicated by respondents, and not mentioned above, include targeted marketing and the fact that the courses are free for the users.

The only obvious conclusion that can be drawn from those responses is that telecentres use a variety of methods to target their services, but not financial support. Telecentre networks would need to conduct more specific and local analyses to be able to assess how effective the different methods are in targeting different community groups.

The environment: important factors and challenges

The context in which telecentres work shapes their role and ability to support livelihoods. For example, the regulatory environment and the quality of the general infrastructure condition the type of technologies that are available in a community and their affordability. The level of development of the private sector, the public sector and civil society conditions the range and type of services that are available and can be offered through the telecentres.

The survey asked network leaders to identify which factors are important for a telecentre with regard to supporting livelihoods and to what extent they are in place. Charts 7.13 a, b, c and d show how different environmental factors were rated. The brown shape shows how important a factor is believed to be, while the orange shape indicates the extent to which it is present. The closer the brown/orange shape is to the outside of the net, the more important the factor is or

Chart 7.13 a, b, c, d

Environment conditions: their importance and the extent to which they are being met

Chart 7.13a Environment

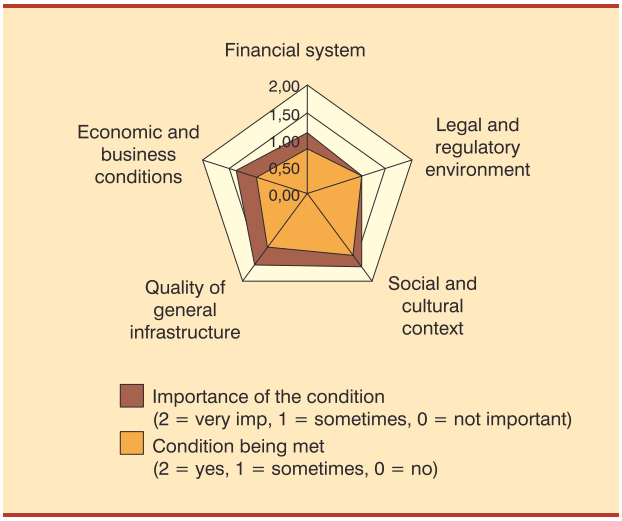


Chart 7.13b Skills and use

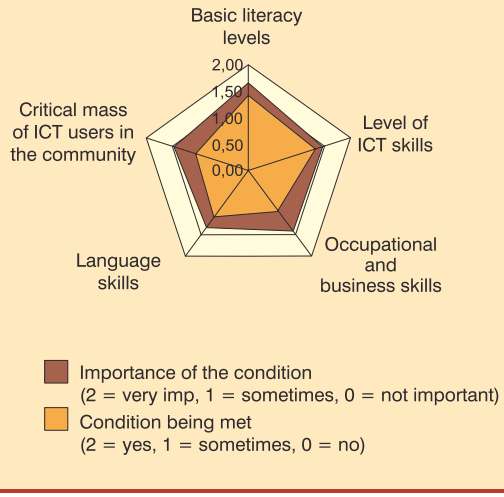


Chart 7.13c Telecentres

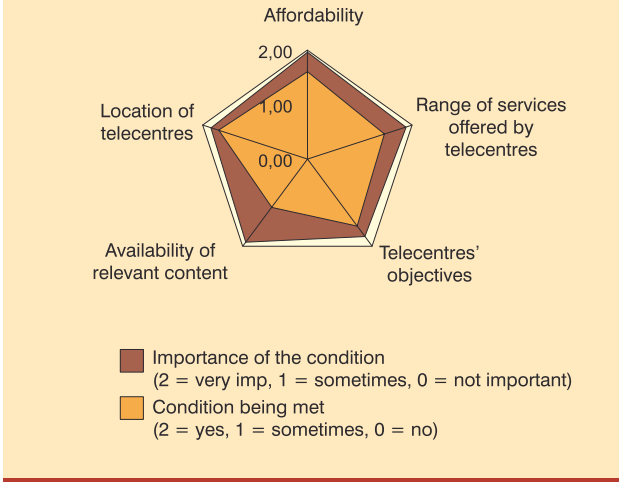
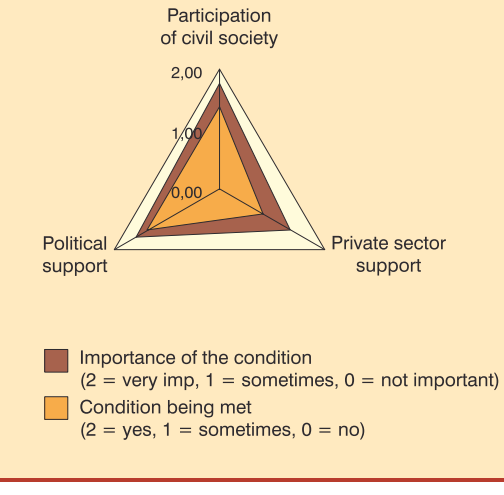


Chart 7.13d External support



the more it is present. Thus, the brown area surface between the two shapes highlights the relative extent to which a particular condition is being met. In other words, the larger the surface, the greater the impact of improvements in the environment factor will be. The charts present average opinions and they may thus mask substantial differences across different networks.

Regarding the broader environment (chart 7.13a), responses highlight two issues as important and not being met: first, the quality of the general infrastructure and, second, the economic and business conditions. Interestingly, telecentre leaders do not consider the legal and regulatory environment as important as other general broad conditions. This may be explained by the fact that telecentre leaders may be inclined to consider more important those issues that are closer to their daily obligations and their area of influence.

Chart 7.13b, which looks at the skills available and at ICT use in the community, points out that basic literacy skills (the ability to read and write), ICT skills, and language skills (other than with regard to the mother tongue) are factors that, although important, are currently present, while the areas that would require more attention are the development of occupational and business skills and the development of a critical mass of ICT users in the community. The development of a critical mass

of ICT users, which is non-existent particularly in rural areas, is an obstacle that telecentres themselves try to address by providing training in ICT skills.

Telecentre features (such as the objectives of the telecentres, their location, the range of services offered and their affordability) and the availability of relevant content are considered highly important by telecentre leaders (chart 7.13c) – which is logical given their closeness to them. More importantly, respondents highlight the lack of relevant content as a condition not being met to support livelihoods, followed then by the range of services offered by telecentres and affordability. The fact that telecentre leaders consider that there is a greater gap in the provision of relevant content than in the affordability of telecentres reinforces the observation that "the content and services sector supporting village computing is still in its infancy" (Bell, 2006, p. 24) and the importance of having locally developed content, which is of good quality, and relevant to the livelihoods of the users. "Content and services that are particularly relevant and that have an increased potential to generate revenue are those that are integrated into business and trading activities" (Bell, 2006, p. 24).

Chart 13.d explores the type of support important for telecentres. The participation of civil society (ownership of telecentre programmes) is rated as the most important, followed by political support. However, the greater gap is in the support received from the private sector. Chart 13.d confirm the importance of local ownership (Amariles et al., 2006) and political support[19] for creating an enabling environment (e.g. Gerster and Zimmerman, 2003) for telecentres, but also highlight the fact that there is scope for engaging further with the private sector.

Most telecentre networks receive some form of government support. However, public financial support is not available for telecentres in poorer countries (e.g. Bangladesh, Congo, Kenya, Nepal, Mali, United Republic of Tanzania). The ministries that most often provide support are the Ministry of Telecommunications or ICT, followed by the Ministry of Education, the Ministry of Social Affairs/National Development and the Ministry of Agriculture.

Among respondents, Chile – a State with a strong government vision to promote and adopt ICT (EIU, 2007, p. 3–4) – is the country where most ministries are involved in supporting telecentre networks. For instance, only respondents from Chile acknowledge receiving support from the Ministry of Finance/Economy/Trade.

The Partnerships for e-Prosperity for the Poor (Pe-PP) in Indonesia is a programme funded by the United Nations Development Programme (UNDP) and implemented by the National Development Planning Agency. The national Government provides strategic support, involving many ministries, such as the Ministry of Communication and Information, the Ministry of Research and Technology, the Ministry of Education and the Ministry of Agriculture. It also collaborates by sharing content, training programmes, and networking telecentres and by funding buildings, operational costs (that is, Internet connection) and human resources. One of the objectives of the Pe-PP is to mainstream ICT for poverty reduction in the national poverty reduction programme

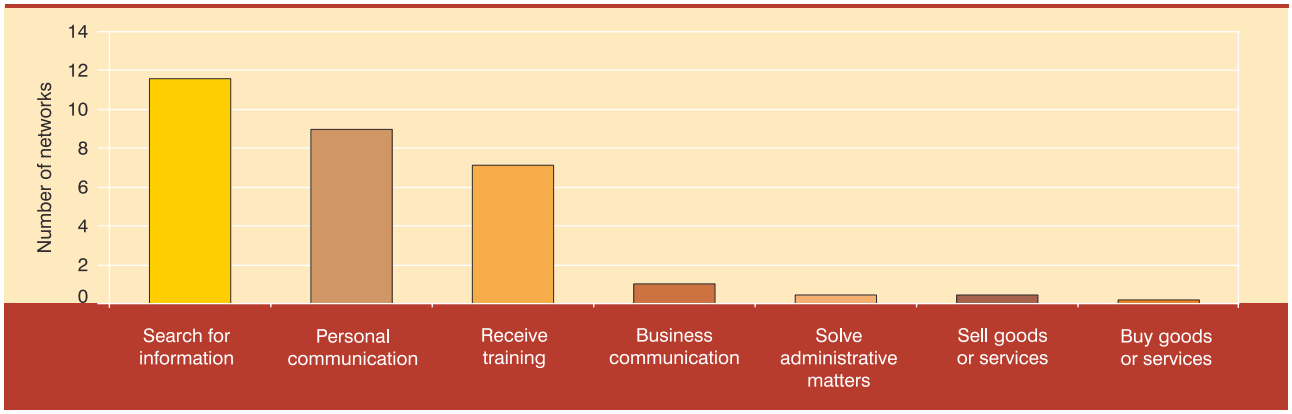
Use and impact

To understand the impact of telecentres, the survey asked telecentre leaders about the purposes for which the different user groups use the telecentre, and about their perception of the positive and negative impact that telecentres may be having in the community.

In terms of use, the responses were very clear. The three more common purposes of using a telecentre are "personal communications", "searching for information" and "receiving training". Other purposes, including "buying and selling goods and services", "business communications" and solving "administrative matters", are rarely perceived as one of the two key purposes (see chart 7.14). This is consistent with other findings. A study of Chilean telecentres (SUBTEL 2005) shows that according to users, telecentres' main impact on their quality of life was in the area of information and knowledge, as well as communication. Another study, this time of telecentres in five African countries[20] (Etta and Parvyn-Wamaliu 2003), noted that they were mainly used for communication and entertainment, rather than for economic purposes. More specific analysis will be necessary in order to understand why in some cases telecentres mainly support informational and entertainment activities (Is it because of a lack of services available and a lack of support for conducting economic activities? Is it because there are other local organizations better placed to support such activities?), and to explore the scope and mechanisms for promoting a more varied and deeper use of telecentres.

Chart 7.14

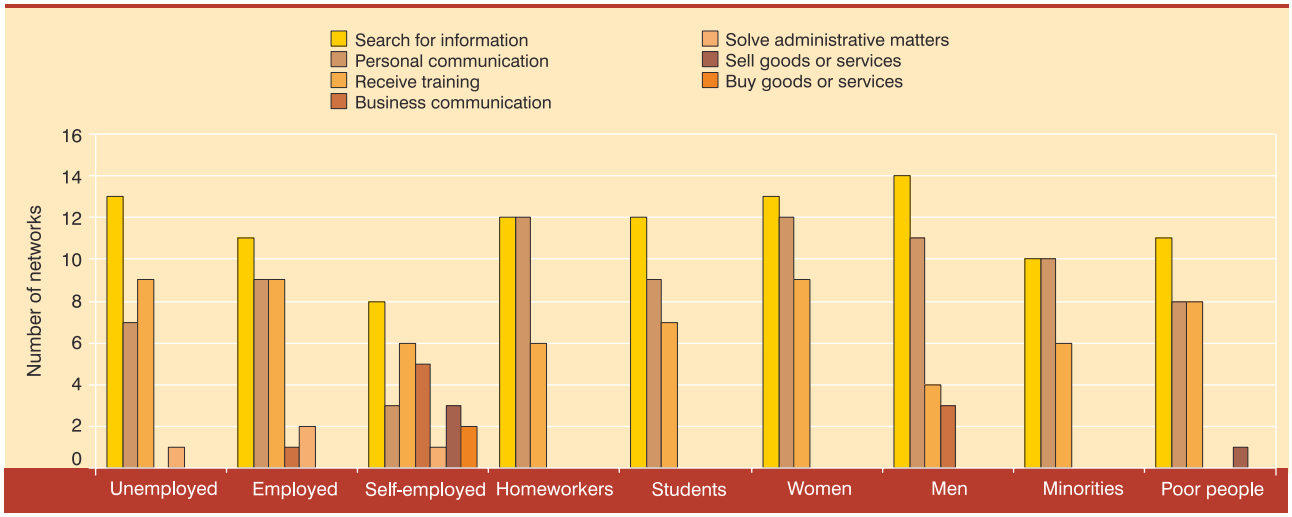
Key purposes of using a telecentre



***Note:** respondents had to select two key purposes for using the telecentres. The chart shows the average number of networks that highlighted the purpose as one of the 2 key purposes for using the telecentre

Chart 7.15

Key purposes of using a telecentre, by user group



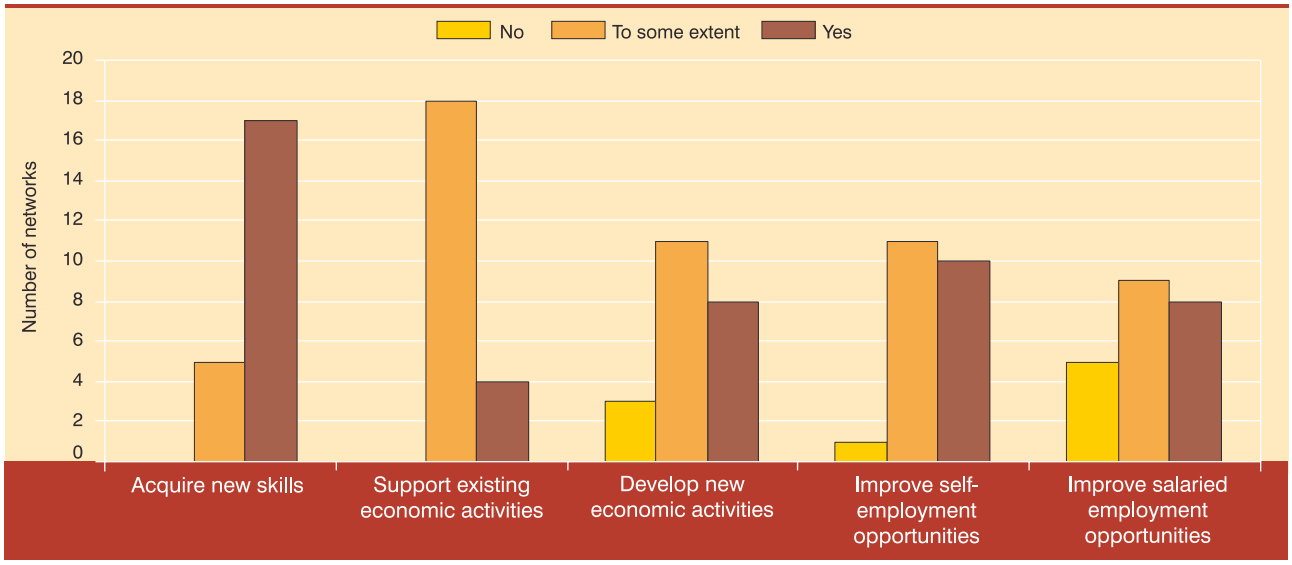
***Note:** respondents had to select two key purposes for using the telecentre. The chart shows the number of networks that highlighted the purpose as one of the two key purposes for using the telecentre.

By user group (see chart 7.15), the perception is that self-employed users make more diverse use of the telecentre, and that for that group "business communications" are more important than "personal communications". Other groups perceived as having, to a limited extent, other key purposes besides "personal communication", "searching for information" and "training" are the unemployed ("solving administrative matters"), the employed ("solving administrative matters" and "conducting business communications"), men ("conducting business communications"), and people living in poverty ("selling goods and services" and "solving administrative matters"). People engaged in family duties, students, women and minorities are perceived as having only three key purposes (the above three common ones) for using the telecentre. The perceived differences between use by men and use by women are that (a) men may have as a key purpose to conduct business communications, but not women; and (b) women are more interested in receiving training than men.

These results are based on the perceptions of telecentre leaders, and may differ from the actual situation. Being aware of those perceptions is valuable because perceptions guide the decisions that telecentre

Chart 7.16

To what extent the telecentre networks help users to…



leaders make. However, all telecentre managers should corroborate perceptions with actual information, and telecentre networks should monitor on a regular basis the purposes for which different groups use the telecentre.

To understand what type of impact telecentres have in supporting the economic activities of their users, the UNCTAD questionnaire (2007) asked telecentre leaders to what extent telecentre networks help users to:

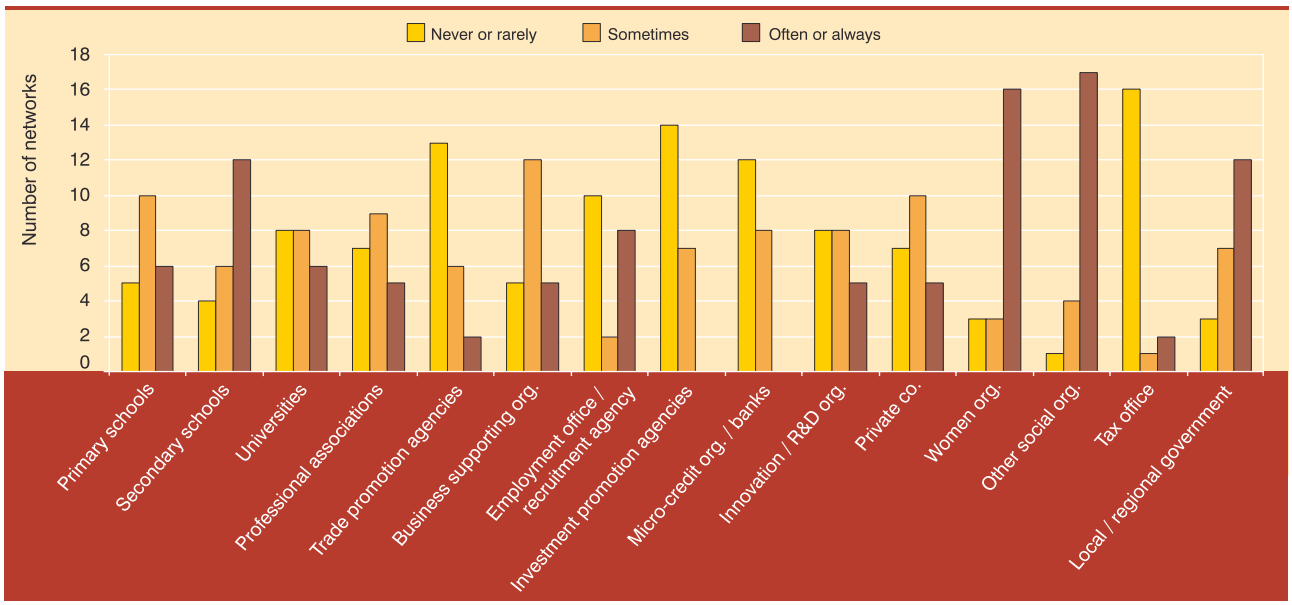
- Acquire new skills;
- Support existing economic activities;
- Develop new economic activities;
- Improve self-employment opportunities;
- Improve salaried employment opportunities.

According to telecentre leaders, the greatest impact comes from the acquisition of new skills, followed by improvement in self-employment opportunities (chart 7.16). Over three quarters of the respondents are confident that telecentres are helping users acquire new skills and nearly half of them indicated that telecentres are improving self-employment opportunities. All respondents stated that telecentres are supporting existing economic opportunities, while three of them indicated that telecentres are not supporting the development of new economic opportunities. There are substantial differences in the perception of the extent to which telecentres improve salaried employment opportunities: according to nine respondents, telecentres are improving salaried employment opportunities, while for five respondents they do not. That difference can be partially explained by the context in which the telecentre operates: telecentres operating in more developed economies can better support salaried (often formal) employment opportunities, while telecentres operating in informal economies will have fewer opportunities to provide access to salaried employment opportunities.

Participants were also asked about changes observed in the lives of telecentre users, including changes in income levels and distribution, quality of life, access to public goods and services, coverage of basic needs (i.e. housing, health, nutrition), consumption, social relations and confidence levels. Most respondents highlighted improvements in confidence and changes in behaviour regarding the use of ICT. Half of the respondents cited improvements in income levels and employment, as well as in skills development. Seven respondents cited improvements in the coverage of information needs, and four mentioned improved access to public goods and services. For example, the Grameenphone Community Information Centres provide income opportunities for the entrepreneur managing the telecentre, who is able to recover his investment in one year, and for the end-user, who gets a fairer deal in economic transactions where the middleman is eliminated (AMM Yahya, Director of the GPCIC, UNCTAD questionnaire, 2007). With increased income, people can afford basic necessities such as food, shelter, health facilities and education. Also, information on public goods and services is

Chart 7.17

Organizations telecentres work with



now available, and access to digitized forms used by the Government has been enhanced. There is also the possibility of accessing information on housing opportunities (real estate, house-building loans) as well as health information and services (AMM Yahya, Director of the GPCIC, UNCTAD questionnaire, 2007).

Most respondents did not indicate any negative impact of telecentres in the community. Those that indicate such an impact highlighted access to pornographic sites and cybercrime and "creating another area of necessary spending" (Joseph Sekiku, Interim Chairman, Tanzania Telecentre Network). A more precise analysis could identify other less visible negative impacts that may have important implications for broader community development, including further marginalization of non-users where "the learning obtained by those closest to the Telecentre in itself becomes another expression of power and control that interferes with the participation of those in the community that need it most" (Mardle, 2003).

Telecentre management: partnerships and assessments

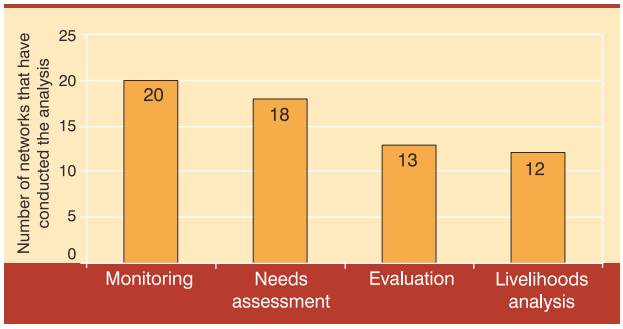
As telecentre networks are too often short of financial and human resources, and their capabilities rest on the ability to work in partnership with other organizations and to leverage support, an examination of the organizations that telecentres work with provides a good indication of the areas in which telecentres can support services. The findings of the survey show that over two thirds of the networks work regularly (that is, often or always) with social and women's organizations (chart 7.17). Over half of the networks regularly work with the regional or local government and with secondary schools. Over a third of the networks work regularly with the employment office/a recruitment agency, but only two networks always do so. Only around a quarter of the networks work regularly with primary schools, universities, professional associations, business-supporting organizations, private companies and innovation organizations. And only a very limited number (or none at all) work regularly with trade promotion agencies, microcredit organizations, the tax office or investment promotion agencies.

In general, telecentre networks work with social and educational institutions and, to a lesser extent, with organizations that promote economic activities (such as professional associations or business-supporting organizations). Therefore, there is scope for working with the latter organizations (for example, chambers of commerce or Trade Points[21]) in order to, for instance, share/provide training programmes and business-related services.

However, where the local and regional development of economic organizations is very limited – for instance, a respondent indicated that "some of the

Chart 7.18

Analysis conducted by telecentre networks



above organizations are hardly present at the regional even national level" – it will be unrealistic to expect telecentre networks that have no specific objectives with regard to supporting economic opportunities and that are not embedded in an economic activity to successfully provide services in those areas.

Evaluations, assessments and monitoring reports help understand what are the needs of a community, how well a telecentre is performing and who is using the service. They are important in designing and upgrading the activities of the telecentres. Moreover, they provide an indication of telecentres' objectives and management style and, in particular, of how they are supporting economic activities. The UNCTAD survey asked telecentre networks whether they had undertaken any study in any of the following areas:

- Needs assessment (an assessment of the needs of the community);
- Monitoring (assessing who uses the telecentres and for what);
- Evaluation (a study of the effectiveness, sustainability and impact of the telecentres);
- Livelihoods analysis (understanding the livelihoods of a community).

The large majority of networks have conducted an assessment of the needs of the community and have monitored who uses the telecentres, and for what (chart 7.18). A smaller number of telecentre networks, although still the majority, have undertaken an evaluation or a livelihoods analysis. For instance, the Grameenphone Community Information Centre in Bangladesh has conducted several studies to understand the economic sector, business patterns, information gaps, what are the sustainability factors, which services are in demand, and what is the contribution to livelihoods, and it has a monitoring system.

Several networks conduct studies on an informal basis (for example, they are conducted by students or at the local level). Only five networks reported having the studies disaggregated by gender, income/poverty levels, education levels and/or occupation, and one respondent highlighted the difficulties in having data disaggregated by income levels. Those results raise questions about the ability of telecentre networks to target their activities without disaggregated data. Thus, as suggested earlier, it is important that monitoring activities and evaluations disaggregate data by gender, education, occupation and income/poverty levels. Telecentre networks can prepare some guidelines on how to collect disaggregated data, particularly by income/poverty levels, using some of the tools used by other developmental programmes and the telecentre's collective experience.

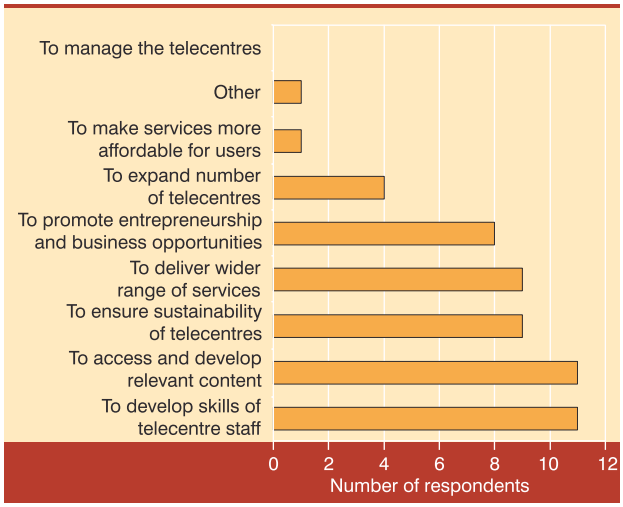
Telecentre networks were asked to describe the results of their studies. The responses were too limited, but some of the highlights were as follows:

- Networks located in developed countries, where the formal economy is more developed, noted that telecentres have provided employment-related skills (ICT skills, job searching).
- Community needs are great and the capacities of telecentres limited; thus, it is important to work with others.
- Two networks (in two developing countries) reported that beneficiaries are younger, educated males, while in more advanced economies they where reported to be unemployed aboriginals, and/or low-income rural dwellers and people with disabilities.
- There are difficulties in capturing the specific contribution of telecentres in terms of improvement of livelihoods, including limited resources to capture that impact at the household level.

Without more information on the outcomes of the evaluations carried out, it is not possible to assess the contributions that such evaluations make to understanding how telecentres support livelihoods. Nevertheless, the responses show that telecentres have different capacities with regard to undertaking monitoring and evaluation activities that affect the ability to target services and thus to have an impact on the livelihoods of men and women.

Chart 7.19

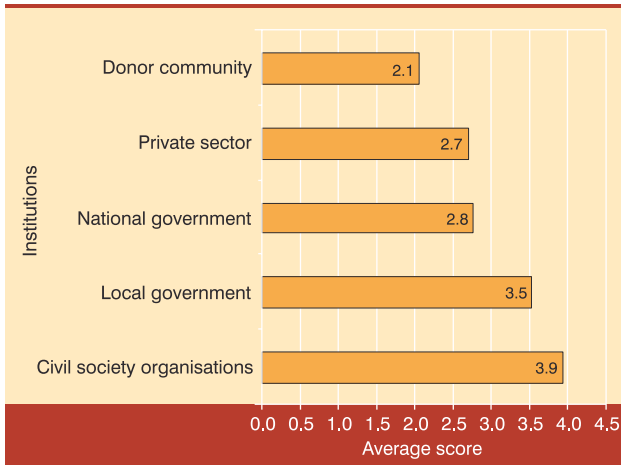
Key areas in which network leaders would like to receive more support



Note: number of respondents that selected the area as one of the three areas in which they would like to receive support.

Chart 7.20

Which institutions should be further involved to improve livelihoods?



Note: priority ranking of institutions that should be further involved to improve livelihoods (5 highest priority - 1 lowest priority).

The future

The survey asked telecentre network leaders to identify three areas in which they would like to receive more support (chart 7.19). The two areas selected most often were: support for developing the skills of telecentre staff, and support for accessing and developing relevant content. The latter was consistent with earlier responses that identify the availability of content as an important condition not being met. Half of the leaders would also like to receive support for ensuring the sustainability of telecentres and delivering a wider range of services. Eight respondents would also like to receive support for promoting entrepreneurship and business opportunities. Telecentres leaders are not particularly interested in receiving support for making services more affordable for users, a finding that is not consistent with the earlier finding that affordability is an important condition not fully met.

These responses tend to highlight the interest of telecentres in providing a more in-depth and quality service, rather than in expanding the telecentre network. The sections that follow provide some suggestions about how to support access to relevant content, deliver a wider range of services, and promote entrepreneurship and business opportunities.

Telecentre network leaders believe that the institutions that should be further involved in improving livelihoods are primarily civil society organizations and local governments (see chart 7.20). Respondents gave a lower priority to the involvement of the private sector and the national Government. This result is somewhat inconsistent with earlier responses stating that the private sector is an important condition not being met. A possible explanation may be the lower levels of confidence regarding the likelihood of private sector involvement. In any case, a more detailed analysis would be necessary in order to ascertain what specific support may be required from different institutional actors for a given context. For example, in Chile, telecentres are strongly supported by the national Government, and stakeholders would like to see greater involvement of local governments and civil society organizations.

In summary, the survey's findings show that telecentre networks come in different sizes and formats but are mostly rural and multi-purpose, providing access to a range of services. Computer access is widely offered, while access to the Internet, particularly broadband, is more limited. Most telecentres provide training in basic ICT skills, few provide advanced ICT skills training, and a number of networks consistently support the development of basic literacy skills. Training to develop general business, specific e-business and occupational skills is provided consistently in a small number of networks and to a limited extent in others. The business-related services most often supported, generally through telecentres providing the service themselves or offering adhoc support, are searching for information, searching for employment and access to government services. Specific training in business-related services is mostly offered for searching for information, creating websites and typing. The three

key purposes of using a telecentre are searching for information, personal communications and receiving training.

The majority of networks support economic activities where possible, but this is not their main objective. The main economic sectors serviced by telecentres are the ICT and the educational sectors. With regard to supporting livelihoods, the single most important factor that needs attention is the availability of relevant content. Other key factors requiring support are the quality of the general infrastructure and of economic and business conditions, as well as the development of a critical mass of ICT users, of a wider range of services and of occupational and business skills. There is also scope for greater involvement of the private sector, in particular business-supporting organizations, and civil society, in that order.

3. Best practices and opportunities

On the basis of the above findings, as well as available literature on telecentres, this section provides an overview of best practices for supporting livelihoods, particularly economic activities, through telecentres. The approaches highlighted may not necessarily apply to all telecentre contexts but provide an indication of how livelihoods can be better supported.

Making life easier: facilitating livelihood strategies

Successful innovations and business propositions are those that make life easier for users and customers. Telecentres can make life easier and provide value added for their users by supporting their economic activities and livelihoods strategies. To do so, they must focus on the provision of services rather than on the provision of connectivity.

Value can be created by providing facilitated access to information and to more or enhanced government services, and by allowing transactions (Fillip and Foote, 2007). By providing access to government services such as land records in India (Harris and Rajora, 2007), offering customized services (such as specific agricultural information in the Pallitathya Kendra in Bangladesh) or saving time spent in acquiring market information in rural Nepal (ENRD, Nepal UNCTAD questionnaire, 2007), telecentres make life easier. The services that provide value added depend on the context. Some may already be offered satisfactorily by other institutions or their provision may be determined by other institutions (such as, e-government services). "ICTs alone cannot improve the service delivery to rural poor. Significant re-engineering of backend processes and introduction of services that directly contribute to the poverty alleviation are needed to make such initiatives sustainable" (IIM, 2003).

Telecentres unable to provide value-added services become irrelevant. For example, an evaluation of the Gyandoot telecentre network in India showed that the rural poor did not perceive the telecentre as a platform for seeking government services, because there were alternative and preferred ways for them to obtain those services (Conroy, 2006).

Responses from UNCTAD questionnaire (2007) show that there is scope for providing a wider range of value-added services. For instance, the availability of training to develop skills important for undertaking economic activities (such as e-business skills) is still limited (see section 2.3). To continue providing value, telecentres have to plan on providing a continuum of services, from basic ICT skills to more specialized training, and support customers in using those skills and trying out improvements in their daily activities. In summary, telecentres can offer additional value by providing e-business skills training, supporting the use of ICT for specific or sectoral activities, and facilitating access to markets, finance and knowledge relevant to the livelihoods of the community.

Embedding ICT in economic activities

E-Choupal is one of India's most successful programmes using ICT to support the economic activities of people living in rural areas. Through "network orchestration"[22] it caters for underserved rural markets and helps farmers halve transaction costs. E-Choupal[23] is a commodity services programme that supports farmers through over 5,000 information kiosks providing real-time information on commodity prices, customized agricultural knowledge, a supply chain for farm inputs and a direct marketing channel for farm produce. Because the network is strongly embedded in a specific economic activity, it enables its participants to derive economic opportunities.

A similar project increasingly embedding ICTs in economic activities relevant to the poor – although not strictly a network of telecentres – is the Dairy Information Service Kiosks (DISK). DISK is a pilot programme that supports milk cooperatives in making

better use of existing information on the quality, quantity and price of the milk created by automated machines of dairy cooperatives, as well as in improving access to information on dairying and milch cattle, as well as other services.

Both networks are based on market approaches supported by a larger organization (the private ITC and the Anand District Milk Cooperative). In a vertical integration model, the fact that there is a telecentre is secondary. The focus is rather on the exploitation of ICTs to support a specific economic activity, whether trading commodities or supplying milk. E-Choupal has developed a one-stop shop offering a wide range of services for farmers. The downside of telecentres embedded in one particular economic activity is that those not part of the activity will be excluded, and unless the services offered are expanded to support other areas, the benefits are limited to the specific economic activity.[24]

None of the telecentres that responded to the UNCTAD questionnaire (2007) are strongly embedded in one specific economic activity. Except when an existing economic organization such as an occupational association (i.e. a fishermen's association) or a private business, launches it, telecentres follow a more diversified strategy for supporting economic opportunities. In this case, providing value-added services (see earlier section) and developing niches of economic opportunities (see next section) are the two options to strongly support economic opportunities.

Developing niches of economic opportunity

One way of creating economic opportunities is to support clusters of economic activity. By developing support and knowledge in one area, a telecentre can, by virtue of concentrating resources and developing specialized know-how, provide additional economic opportunities.

Telecentres can play a role in developing clusters of economic opportunity by providing access to knowledge and opportunities for the development of expertise and relationships. For example, in Clyde River, a small impoverished community of 820 people in Nunavut (Canada), nearly two thirds of the adults have not finished high school and are not working in salaried positions nor are they self-employed. As Darlene Thompson, Secretary-Treasurer of N-CAP, explains, "following an increased interest in film production and edition, the telecentre looked for additional funding to purchase filming equipment and provide sector-specific training. As a result, there is a core group of young people trained in the industry, and film companies are taking an interest in using this community for making films given the availability of trained personnel." In response to growing demand from community members and visitors, and to an increasing number of job opportunities, the network has also developed a programme to support scientific research work, which offers services for visiting researchers (such as access to the Internet, rental of wireless modems, printers) and training in basic research methods, including logistical coordination and global positioning systems, for community members.

Other responses from the survey (UNCTAD, 2007) provide examples of economic sectors in which telecentres are working, but there is not much evidence about telecentres specializing in key economic sectors other than ICT and education. As indicated earlier (section 2.4), there is scope for expanding support to sectors such as trade and tourism. Developing niches of economic opportunities for the local community can help provide a reason for using the local telecentres and can thus help reinforce their sustainability. If specific know-how and valuable services were developed, users would be ready to pay more for them.

Providing specific support for those that need it most

If telecentres are to support people living in poverty, market approaches alone will not suffice. Specific efforts are needed to support those in weaker positions. For instance, "the poor are under-represented in accessing the MSSRF knowledge centres in India, as information about crop production and market prices is of interest mainly to landowners and not to the poor, who are predominantly landless" (Conroy, 2006, p. 25). Specific support to those that need it most can be in the form of infomediaries, specific programmes targeted to groups in a disadvantaged position and diversification of services to support the economic activities of the poorest.

Community infomediaries are the linkage between the knowledge and content available through ICTs and individuals. They are familiar with the Internet and ICT and help translate specific needs into information needs and solutions. In Indonesia, each telecentre of the Partnerships for e-Prosperity for the Poor has a manager, an IT administrator and a community development specialist (infomobilizer) that helps

integrate "access to information and communication technology with community empowerment activities" (Pe-PP, 2007, p. 2). In Bangladesh, D.Net works with infomediaries recruited locally and trained in basic ICT issues, documenting processes, mobilization and marketing the telecentre. It helps villagers ask the help desk questions about their livelihood, or they may themselves look for answers in the content database (Hasan, 2006). Infomediaries are particularly important in communities with low literacy levels, strong preferences for face-to-face communications[25] and greater needs for accompanied support.

Specific programmes targeted at disadvantaged community groups are necessary in order to support equality of benefits and prevent exclusion patterns from being exacerbated. For example, women are often at a greater disadvantage than men in benefiting from ICT, and thus specific efforts are needed. In addition to mainstreaming gender concerns in telecentres – by, inter alia, ensuring balanced participation in telecentre use and management – there is scope for providing specific training and services for women and for working with institutional mechanisms that are gender-sensitive, such as women's self-help groups (Roman and Colle, 2002).

Supporting access to relevant information and knowledge.

Information and knowledge provide the foundation for economic development. Providing access to information and supporting the development of information and knowledge remain a key pillar for supporting livelihoods.

To facilitate access to relevant information some telecentre networks have focused on developing content for users. For instance, the Swaminathan Foundation's village computing project in India devotes specific efforts to creating, repackaging and disseminating content to its telecentres (Bell, 2006). The Manage cyber extension initiative in India (Conroy, 2006) has developed CD-based learning packages for, inter alia, making pickles, and women are now able to sell pickles in the local market. Other networks, such as the Grameenphone Community Information Centre (GPCIC), work with third-party content providers (AMM Yahya, Director of the GPCIC, UNCTAD questionnaire, 2007).

Telecentre networks can also facilitate access to relevant content by supporting users in developing their own content. For example, Biblioredes in Chile supports users in developing their own websites, and provides free web hosting services in the network portal www.biblioredes.cl. "The web sites created by users, see for example www.biblioredes.cl/atr.cl, allow users to participate in networks, communicate with people with similar interests and share local content of high relevance for their communities" (Enzo Abbagliati, National Coordinator, Biblioredes, UNCTAD questionnaire, 2007)

Users often require support and/or have specific needs for information and knowledge not readily available. To help meet those needs, several initiatives have put in place help desks. For example, in Chile, SERCOTEC, a public institution supporting SMEs with telecentres integrated into its support offices developed in 2002 an online advisory service[26] enabling users to post online specific questions to advisers. The latter are committed to answering those questions within 48 hours. The questions and their answers, as well as users' evaluation of the latter, are posted online (i.e. relevant questions are stored in the frequent asked questions section) in order to promote a wider dissemination of knowledge and greater accountability. Collaboration agreements with other organizations (such as universities, government institutions, banks and business-related associations) have brought in experts able to advise a wider range of specialized subjects, including taxation, employment legislation and financial services. The online help desk is embedded in the institution and its development costs (for the last version of the portal) were around $60,000 and the annual operation costs are around $35,000 (excluding staff salaries). Outside advisers work on a pro-bono basis.

Using experience to advocate for an enabling environment for economic activities

Telecentres often operate in less than ideal environments with inadequate regulations for conducting e-business or, more generally, inappropriate telecommunications regulatory environments and trade regimes. Telecentre networks can use their experience and advocate for policy changes. Networks in Nepal and India are advocating for changes in government policies to promote a more conducive environment enabling users to benefit from ICT and participate in the information economy.

In India, to operate in a particular state, e-Choupal needs to ensure that the Agricultural Produce Marketing Committee Act is reformed before it can

purchase grains directly from the farmers. The Act requires that certain grains be purchased from the official middleman (mandi). ITC, the parent company, has successfully convinced policymakers in different states to amend or allow specific exemptions to the Act since farmers can be better served by e-Choupal (Harris and Rajora, 2007; Conroy, 2006).

More broadly, in Nepal, ENRD has lobbied the Government to deregulate the import and use of the industrial, scientific and medical bands, so as to make VoIP free, at least for calls from computer to computer and from computers to Nepal Telecom landline telephones. It has also argued for decreasing ISPs' license fees, so that small business entrepreneurs can start ISP companies also in rural areas, and for subsidizing in each district of Nepal an organization willing to establish a community internet service provider (CISP) and use wireless technology to connect remote villages (Pun et al., 2006).

Developing a holistic but precise understanding

To support economic opportunities, a holistic but precise understanding of community livelihoods and economic activities is essential. Most telecentres have developed some type of monitoring or assessment of their activities. Networks that are able to fully understand the environment and community needs, as well as the impact of their activities, can confidently provide relevant services. Understanding how ICT services support local economic activities is a first step. An evaluation of the Solomon Islands' People First network (PFnet), a rural connectivity project, showed that there is scope for promoting PFnet services for business activities that enable users to earn a livelihood, by creating awareness and training people in new ways of accessing information and opportunities" (Chand et al., 2005).

Understanding who benefits and how from a telecentre programme is also indispensable for supporting the livelihoods of men and women living in poverty. For instance, field evidence from Uganda reveals that "the use of ICT facilities was and is male dominated with women often focusing on uses that integrate ICT in their already existing purposes more than for entrepreneurial activities. The latter uses are known to generate higher returns than the former" (Mandana and Amuriat, 2006).

Survey responses (UNCTAD, 2007) and the material provided indicate that telecentres often still have to develop a more precise understanding of the impact of their activities on different groups. For instance, six out of 23 respondents did not provide the percentage of female users. Consequently, there is room for concern about how a telecentre can support the livelihoods of men and women without having basic data on who is using the telecentre.

Financial and human resources constraints are often a deterrent with regard to carrying out monitoring activities, assessments and analytical studies. However, several networks (e.g. ENRD in Nepal) work with postgraduate students to carry out monitoring and evaluation studies. Similarly, there are universities that are carrying out studies on, and supporting, the work of telecentres. In Chile, the Instituto de Educación Informatica in the Universidad de la Frontera[27] has supported the design, development and evaluation of a regional telecentre network (Red de telecentros de la Araucanía).

4. Major barriers and challenges

What barriers prevent telecentres from effectively supporting the livelihoods of people living in poverty? This section examines the challenges faced by telecentres in promoting economic opportunities, elaborates on the conditions enabling telecentres to support livelihoods and highlights the role of national and local governments in the elimination of those barriers.

The capacity of telecentre networks remains a main challenge

Capacity issues, including financial sustainability problems, already overstretched managers or limited human resources capacities, are a constraint on the expansion of telecentre activities and the provision of business-related services. Although not addressed in this chapter, the shortcomings of telecentres, as well as a wide range of best practices and opportunities, have been widely debated and illustrated in many studies.[28] As Proenza (2003) puts it, "Installing a telecentre is easy, the hard part is to keep it running".

Many telecentres are still in the process of being established and require time to build experience, diversify activities and accumulate knowledge on the developmental impact of their activities before moving into more complex activities. In that regard, telecentres

can benefit from working in partnership with other organizations and networking with other telecentres. For example, in order to be sustainable, the Community Learning and Information Centres (CLIC) of Gao and Mopti in Mali share their broadband connection with other NGOs in the village (UNCTAD questionnaire, 2007). In more concrete terms, telecentres could share resources, such as training material and know-how, in the specific area of supporting economic activities. Older telecentre networks, on the contrary, can benefit from experience and their continuing existence. For example, the Government of Chile has included in the terms of its latest subsidies offer for the establishment of telecentres a new requirement, namely that awardees spend one year building up and supporting the transfer of the telecentre to a local organization (SUBTEL 2007). This new element has been incorporated on the basis of evaluation findings that indicated that local ownership was very important for the sustainability of the telecentre and that local organizations had limited capacities. For the telecottage network in Hungary, drawing support from the private sector became easier once the programme was present in 5 to 10 per cent of communities, and much easier when the Government decided to support and use the network (UNDP, 2006).

Governments can play a key role in building capacities, even when not directly sponsoring a telecentre programme – first, by facilitating the establishment and functioning of telecentres; and secondly, by supporting the development of ICT skills directly relevant for economic activities. To support the spreading of the benefits of ICT for economic activities, Governments could mainstream e-business skills training programmes (as some Governments, for example the Government of Chile, have done for digital literacy) for telecentre managers and for telecentre users.

Limited availability of content and services, and limited capacity of the Government to develop e-government services in the short term

Survey responses (UNCTAD questionnaire, 2007) indicate that the availability of content relevant for supporting livelihoods is one of the crucial factors still not satisfied with regard to supporting livelihoods (see section 2.5) "The content and services sector supporting village computing is still in its infancy" (Bell, 2006, p. 24).

The private sector has yet to become a significant provider of content for rural economic activities. Telecentres with insufficient economies of scale are unable to develop, and maintain, relevant content. Furthermore, although Governments are responsible for developing e-government services to provide wider access to Government services, facilitate economic activities, and increase accountability and transparency, they often do not have the means to do so.

Developing content is costly. For example, Chile's SERCOTEC online help desk costs $35,000 a year, while the total annual operation costs of half of the networks that responded to the questionnaire is below $50,000. That means that maintaining an online help desk is the equivalent of at least 70 per cent of annual operation costs, an expense which many cannot afford. The cost of developing and accessing content gives rise to two problems, namely:

(a) Some Governments charge, and allow others to re-charge, for accessing government e-services, such as downloading official forms. While this may make sense in terms of financial sustainability, it hinders the spread of government services to those that need them most.

(b) Telecentre managers, as in the case of CLIC in Mali, may be "under pressure to sell services that bring in revenue and have little incentive to focus on content dissemination" (Bell, 2006).

The broader economic and business structures and conditions are not present

Survey responses (UNCTAD questionnaire, 2007) highlight economic and business conditions, as well as the quality of the general infrastructure, as the key environment factors that are not in place (see section 2.5).

The expansion of ICT-enabled economic opportunities requires specific skills and infrastructure (i.e. online payment systems, transactions platform, access to microfinance) that are often not present. In the poorest countries, "the formal private sector hardly exists in many districts, and where it does it is also struggling" (respondent, UNCTAD questionnaire, 2007). Telecentres in more isolated areas with limited economic infrastructure and institutional presence may find it more difficult to find partners to develop economic activities.

In that regard, Governments play a major role in developing a general enabling environment conducive for e-business and for telecentres to support economic activities. Governments can encourage the development of general infrastructure by, inter alia, developing policies that support a competitive telecommunications market and establishing incentives or obligations to serve marginal areas. Governments influence broader economic and business conditions and, more specifically, the development of business-supporting services and the provision of information crucial for developing economic activities (such as the SERCOTEC help desk in Chile). They can assist sectors that are of interest to those living in rural areas and telecentre users, and, as major economic actors, they can support the development of SMEs by putting in place mechanisms that facilitate State purchases from SMEs.

While some telecentre programmes, for example e-Choupal, are effectively lobbying public institutions to make changes to the regulatory framework in order to develop a more enabling environment for e-business, smaller telecentre networks or those with limited presence at the regional/national level may have difficulties in promoting a more enabling environment.

Ensuring equality of benefits

ICT benefits derive from the appropriation of technology, rather than from the consumption of technology products. When e-business services have attached a fee and/or are embedded in a particular economic activity there is a risk that only some groups will benefit from the telecentres. For example, it emerged from a survey of pro-poor ICT projects in India that users did not believe that the benefits were evenly spread among the member communities (Harris and Rajora, 2006, p. 3). To ensure equality of benefits, ICT policies and programmes must support the development of e-business skills and capacities, increase access to e-government services and expand ICT programmes to different fields of activity.

While the findings of the report (Harris and Rajora, 2006). draw attention to the possibility of unequal benefits, the statement is based on the perceptions of a group of users, and not on empirical data. The availability of data, both quantitative and qualitative, is important and necessary to ensure equality of benefits. The collection of basic data on access to telecentres, their use and their impact, disaggregated by gender, age, income and social background, can still be improved. For example, the survey (UNCTAD, 2007) indicates that there are gaps in the availability of basic data such as gender-disaggregated statistics on telecentre access. Only 16 out of 22 telecentres provided user data disaggregated by gender.

In their study of five telecentres in Tamil Nadu (southern India), Kumar and Best (2006) note that telecentre users are overrepresented by younger, educated, male, Hindu users and (in some of the telecentres) by the more socially and economically advantaged castes. Using the diffusion theory of technological innovation, they suggest that to support the adoption of the technology (that is, the use of telecentres) by a broader set of community members, telecentres must:

(a) Address their lack of perceived compatibility with the situation of local women (by ensuring that both content and institutional settings are adequate for women and other marginal groups);

(b) Redress the perceived complexity by providing user-friendly content and services;

(c) Strengthen the way in which innovation is communicated and shared within the communities, by working through local champions from the marginalized community groups and targeting marginal communities in their marketing efforts.

To include those with fewer resources and capacities, complementary efforts (including human and financial resources) are required. Reaching the poor involves additional resources for adapting content and activities (for example, adapting content to other formats more suitable for the illiterate), diversifying the areas of activity (so that activities relevant to the poorest are also provided), working with community infomediaries and reaching local champions, changing perceptions that ICT are for the wealthy and educated, and conducting assessments on the socio-economic impact of the telecentres on the different groups in the local community.

The next section provides a checklist of key factors influencing telecentres' ability to support livelihoods and provides recommendations for policymakers and telecentre managers that build on the findings of the questionnaire and the best practices and challenges presented.

C. Recommendations to support livelihoods through telecentres

Checklist of important factors for telecentres to support livelihoods

This chapter has explored how telecentres can support economic activities and the livelihoods of people living in poverty, and chart 7.21 provides a checklist of factors that policymakers and practitioners should consider for telecentre networks to support livelihoods. The checklist develops the commerce dimension of UNCTAD's 12 Cs pro-poor ICT framework,[29] and suggests that to support livelihoods through telecentres action is needed at three levels:

- At the micro level, it will be necessary to conduct livelihood assessments to understand the

Chart 7.21

12 Cs pro-poor ICT framework

Exploring the C of Commerce

	Connectivity	Content	Community	Commerce	Capacity	Culture	Cooperation	Capital	Context	Continuity	Control
MACRO LEVEL				**Policies & programmes supporting economic activities** ● Enabling environment: regulation and policies promoting an enabling environment for economic development in marginal urban and rural areas. Legislation enabling online transactions; policies promoting rural entrepreneurship ● Direct support programmes: economic development programmes, e-business skills literacy programme ● E-government services and content: development, customization, cost of access ● Policies supporting equity of benefits, including female participation and control in economic activities							
MESO LEVEL				**The telecentre network as an institution supporting livelihoods** ● Area of influence: rural/urban, economic sectors ● Scope of influence: mandate, resources (staff, budget), support received ● Business-related services & training provided (e-business, entrepreneurship, occupational) ● Use: who uses the telecentre and for what purposes? ● Impact and assessments (livelihoods assessment, monitoring, evaluation) ● Relationship with other institutions supporting economic activities (private sector, civil society, donors, government departments)							
MICRO LEVEL				**Assessing local livelihoods** ● Assets (human, financial, social, physical), capabilities and activities of communities' members ● Vulnerabilities ● Institutions (Government, market) ● Organizations ● Social relations (gender, power relations) **Exploring how a telecentre can support those specific livelihoods**							
Vision				◆ Is supporting economic opportunities a goal of the network?							
Assumptions				◆ E.g. Telecentres can effectively support livelihoods and economic opportunities ◆ E.g. Different community groups can benefit from the activities of the telecentre							
Conflicts				◆ **Telecentre model:** Which telecentre model best serves the livelihood strategies? What are the implications for other dimensions of the framework? ◆ **Scaling-up:** When? How? How many services can/should the network provide? ◆ **Different needs:** Whose economic activities should be supported? ◆ Government support: Open content or fee-based content and services?							

Source: UNCTAD.

livelihood strategies that vulnerable communities follow.

- At the meso level, an assessment of the role that the telecentre network as an institution has in supporting such livelihoods is needed – namely, an evaluation of the telecentre's scope, mandate, resources and impact, as well as of the relationships with other organizations, to highlight the areas in which the telecentre network is best placed to support livelihoods, and the options available for cooperating and collaborating with other institutions.
- At the macro level, the different policies and programmes help telecentres support livelihoods should be considered, including:
  - E-business capacity-building programmes;
  - E-government content and services;
  - Policies promoting an enabling environment for economic development in marginal areas;
  - Telecentre programmes.

Additionally, policymakers and telecentre managers should consider the vision of the telecentre and to what extent the role of the telecentre is to provide economic opportunities. They should also be aware of the assumptions that the telecentre programme departs from (for instance, the telecentre network as public service should benefit different community groups). Finally, they should consider the key conflicts arising from the choices made such as the model of the telecentre, the approach to scaling up activities, the priority needs to be addressed, and the type of government support to be provided. This would, therefore, require consultations with all stakeholders to assess the role and limitations of telecentres in supporting livelihood opportunities for people living in poverty.

The 12 Cs pro-poor ICT framework does not prescribe any specific course of action; rather, it is a tool to help stakeholders examine and debate how telecentres (or other ICT policies and programmes) are supporting or can support livelihoods and economic opportunities.

Main findings on how telecentres are supporting livelihoods

Results from the survey conducted among telecentre networks and a review of the literature show that most telecentres' efforts have focused on providing access to ICTs and developing basic ICT skills. The key purposes of using telecentres are searching for information, personal communications and training. While survey findings show that telecentres are primarily used for informational and educational purposes, telecentres are also being employed for economic purposes. There are some good examples of how telecentres are providing access to business-related services, most notably access to government services, employment-related information (in more developed economies), sector-specific information and business communications.

Those programmes embedding ICT in existing economic activities provide most economic opportunities as they make improvements in the supply chain, facilitate access to specialized knowledge and reduce transaction costs. As these programmes may benefit specific community groups (i.e. farmers with access to land, workers in the formal economy), the telecentre networks need to make additional efforts to reach other vulnerable community groups and those working in the informal sector.

There are opportunities to provide support for using ICT for economic activities by expanding training in occupational and e-business skills, providing a wider range of services such as access to finance or sectoral expertise, enhancing access to public services in general, and supporting services in a broader range of economic sectors relevant for different groups in the community. The availability of information and services in appropriate format is the single most important element impacting on telecentres' ability to support livelihoods.

Key recommendations to Governments and telecentre networks

How can international organizations, national Governments and civil society further support livelihoods through telecentres? Bearing in mind the results of the questionnaire and the best practices described earlier, what follows are a number of policy recommendations to improve ICTs' impact in providing economic opportunities. The recommendations are addressed to Governments and to telecentre networks separately. However, both groups of stakeholders, and other players such as local civil society organizations, donors or business associations, may have a role to play in some of the recommendations. For instance, recommendations addressed to telecentre networks

may be taken up by those Governments, donors or civil society organizations directly sponsoring and supporting telecentres networks. Regarding recommendations addressed to Governments, actors from the telecentre movement have a valuable role to play in advocating and supporting government policies through the provision of inputs, including studies on local needs, for policy development and the implementation of such policies. Similarly, business associations can make valuable contributions to the development of e-business skills and services.

Recommendations primarily addressed to telecentre networks (meso and micro levels)

1. Provide value-added services that have a direct impact on the livelihoods of the local community, and develop telecentres' capacity to support economic activities by offering access to business-related services and by developing the capacities of telecentre staff in the field of e-business. Survey findings (UNCTAD, 2007) indicate that there is scope for expanding the range of business-related services offered (e.g. to include support for conducting payments, accessing microcredit or buying and selling) and the sectors supported (e.g. to expand support for the trade and tourism sectors). Where possible, develop niches of economic opportunities based on the potential of the local context. Develop staff's capacities in the niche area and partner with experts and organizations in that field.

2. Mainstream e-business skills programmes to develop entrepreneurship and business-related skills. Provide a wider choice of training, including training in e-business skills, occupational skills and general business skills, relevant to the local livelihoods, to promote the development of entrepreneurial skills and support specific sectors of interest to the local economy. Network leaders can support the adaptation and replication of training already provided in some telecentres to the rest of telecentres in the network.

3. Enhance the understanding of the local context and livelihood needs and strategies, as well as the potential that ICTs offer by carrying out, together with other local development players, livelihood assessments. Continue to support the use of ICTs for poverty reduction by commissioning, and sharing, independent evaluations of the impact of telecentres in local livelihoods on a regular basis. Use such studies to advocate for an enabling business and telecommunications regulatory environment and structures.

4. Ensure that the activities of telecentres also support the economic activities of those in weaker positions, including women, and employ community infomediaries to reach more vulnerable communities or groups. Develop and provide specific targeted training and services for those at a disadvantage. In that regard, partner with civil society leaders, including those from women's organizations, and with champions from vulnerable groups who could become involved in the work of the telecentre and make a valuable contribution to the assessment and design of services relevant for supporting livelihoods and creating awareness of the economic opportunities that telecentres can offer. Telecentre networks where female users represent less than 40 per cent of the total number of users should pay particular attention to ensure that women are able to use the services of the telecentre.

5. Engage with organizations supporting economic activities. Survey findings (UNCTAD, 2007) indicate that there is scope for engaging with a wider range of organizations, such as universities and organizations supporting economic activities (e.g. professional associations, business-supporting organisations, micro-credit institutions). Support the development of linkages with the private sector, including increased collaboration with micro-finance institutions, and promote the contribution of industrial sector actors. Similarly, work with other telecentres to share resources and expertise for supporting local livelihoods; in particular, as some telecentres develop business skills training programmes, consider sharing curricula and materials for business skills development.

Recommendations primarily addressed to Governments (macro, meso and micro levels)

The following recommendations address the role of the Government in setting out a conducive environment for the development of e-business among smaller and rural enterprises and in providing direct financial support for telecentre networks. Public financial, and non-financial, support can, in conjunction with the virtuous circle of offering additional value-added services, play a crucial role in ensuring the sustainability of telecentres and thus the continuation of services of public interest.

1. Develop and promote relevant e-government content and services that support economic activities and livelihoods. First, develop services to support economic activities, in particular those of SMEs and micro-entrepreneurs. Increase the number of services related to enterprises (tax declarations, inscriptions, trading documents etc.) available through the Internet and/or the telephone, and strive to streamline back-end processes and reduce red tape. A comprehensive national e-government strategy can provide the overall framework for improving access to public services, and should include specific plans to support the facilitation of economic-related activities. Governments should support the areas of e-business, e-trade and e-finance, and not only e-education and e-health.

   Secondly, develop sectoral information strategies (for example, as an element of e-government strategies) and, on the basis of best practices, put in place different mechanisms, such as help desks or information centres, to develop and provide relevant and customized information. The specific sectors to be supported as a matter of priority should reflect the needs and economic activity of telecentre users.

2. Support the development of e-business skills. As the findings of the questionnaire shows, digital literacy programmes are broadly available through telecentres. However, there is still limited support for developing e-business skills. Establish an e-business skills capacity development programme that includes specific support for trainers (i.e. telecentre staff). The curricula of the e-business skills capacity development programme should contain specific modules on e-business, such as conducting transactions online, accessing services available online (e.g. e-banking, trade facilitation services, taxation), web creation and design, advertising and content development, as well as accessing relevant information sources online. The programme may also include broader business skills modules (e.g. accountancy, trading), modules to develop entrepreneurship skills (e.g. project management) and modules to develop sector-specific skills relevant to the livelihoods of telecentre users.

3. Develop appropriate conditions for e-business in rural and marginal urban areas by putting in place appropriate business-supporting structures (e.g. rural business information centres and extension workers/infomediaries) and by facilitating the development of complementary services (e.g. access to finance). More generally, support the development of infrastructure to increase the benefits and reduce the costs of using ICTs to develop economic activities in rural and marginal areas. Those two recommendations aim at addressing the two environmental factors, namely economic and business conditions, and general infrastructure, highlighted in the findings of the questionnaire (UNCTAD, 2007) as critical for telecentres to be able to support livelihoods.

4. Provide strategic financial support for telecentre networks to scale up their activities and develop value-added services, such as e-business training or customized support through community infomediaries, that support the economic activities of local communities. Provide seed money to enable telecentres to develop expertise in an economic activity, as in the example of the CAP telecentre in Nunavut, Canada, that can support local livelihoods.

Through the experience of telecentres the chapter has highlighted two processes whereby science, technology and knowledge are disseminated. The first process involves existing economic activities, for example the Indian examples of e-Choupal and the Dairy Information Service Kiosks, where ICT embedded in agricultural and economic activities has facilitated access to knowledge and increased benefits. The second process involves shared ICT access models, for example the telecentre Muneng in Indonesia, which enable access to knowledge and innovation. However, the dissemination of knowledge using ICT and participation in the development of knowledge are far from automatic. The Internet revolution can benefit poorer community only when it offers access to relevant content and knowledge, when it is affordable to use, when it is accompanied by relevant applications and when its dissemination is supported through skills development efforts.

In conclusion, telecentres are a valuable institution for supporting sustainable livelihoods. However, their ability to do so depends on their capacity to become an institution supporting local development, and not only access to ICT. Survey findings show that those telecentres that are capable of drawing strategic support from a wide selection of stakeholders, for example the public sector, civil society and business associations, and involving and catering for the local community, and that have particular expertise are able to support livelihoods.

Annex 7.1

ICTs and poverty reduction. Case study: Chilean telecentre network

Overview of respondents

Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Job title	Regional Operation Manager, Biblioredes	Regional Operation Manager, Biblioredes	Executive Director	Regional Technical Secretary	Regional Technical Secretary	Laboratory Manager, Biblioredes	User, Biblioredes	Coordinator	Telecentre Manager, Biblioredes.	Coordinator, National Programme for Telecentres	Information Systems Manager	Public Administrator ICT Area	Head of Programmes	Regional Adviser	Telecentre Manager
Organization	DIBAM	DIBAM	Corporación Maule Activa	SUBTEL	SUBTEL	DIBAM	DIBAM	La Araucanía	DIBAM	SUBTEL	INJUV	Ministry of Education	INJUV	SUBTEL	Corporación Maule Activa
Works at the following level	Regional (Region VII)	Regional (Region II)	Regional (Region VII)	Regional (Region IV)	Regional/ Local (Region X)	Local	Local	Regional (Region IX)	Local	National	Regional	National	National	Regional/ local (Region IX)	Regional/ local (Region VII)
Works with	Biblioredes Region VII	Biblioredes Region II	Maule Activa Network	Region IV telecentres	Region X telecentres	Biblioredes	Biblioredes	La Araucanía	Local library	National Telecentres Network	INJUV	National ICT Literacy Campaign National telecentres and specific networks Other stakeholders	INJUV	Region IX telecentres	

Annex 7.2

UNCTAD questionnaire

Promoting men's and women's livelihoods through ICTs: the case of telecentres

Note: You are not obliged to answer all the questions. This questionnaire has been drafted thinking in a broad number of telecentres networks with different characteristics. If you feel that a question is not relevant to your context, you can leave it blank.

To answer the questions: follow the instructions in orange, mark your answers with an X and delete what is not appropriate.

Please return the completed questionnaire by Monday, 23 April 2007

Definitions

Livelihoods: The skills, resources (both material and non-material) and economic activities (self-employment and/or wage-employment) necessary to fulfil the needs of person or family.

ICT: Information and communication technology.

A. ABOUT YOUR TELECENTRE NETWORK

A.1 Which year was your network established? [Select one]

O 1980	O 1981	O 1982	O 1983	O 1984
O 1985	O 1986	O 1987	O 1988	O 1989
O 1990	O 1991	O 1992	O 1993	O 1994
O 1995	O 1996	O 1997	O 1998	O 1999
O 2000	O 2001	O 2002	O 2003	O 2004
O 2005	O 2006	O 2007		

A.2 Composition of the network

Total number of telecentres participating in your network	[nº]
Number of telecentres located in **rural** areas	[nº]
Number of telecentres located in **urban** areas	[nº]
Number of **basic** telecentres (telecentres that only offer access to telephone, computer, internet and/or radio)	[nº]
Number of **multipurpose** telecentres (telecentres that only offer access to telephone, computer, internet and/or radio)	[nº]

A.3 Staff

Total number of staff across the network	[nº]	
Estimated % of female users	[nº]	per cent

A.4 Users

Estimated number of annual users across the network	[nº]	
Estimated % of female users	[nº]	per cent

A.5 Please briefly describe your network. Which are the main objectives and features of your network ?

[Write here]

A.6 Which is the annual cost of running your telecentre network (including individual telecentres) ? Select one

O < 10,000 USD

O 10,000 USD - 50,000 USD

O 50,000 USD - 250,000 USD

O 250,000 USD - 1 million USD

O 1 million USD - 5 million USD

O > 5 million USD

A.7 Main sources of finance. Indicate estimated percentage (e.g. 30% users free, 70% government grant / subsidies)

Government grant / subsidies	[nº] %
International / national financial donor support	[nº] %
User fees	[nº] %
Sales of value-added services (i.e. sales of training, business services, etc.)	[nº] %
In-kind donations	[nº] %

B. SERVICES OFFERED BY TELECENTRES

B.1 General services: Are the following services offered across your network ? Select one answer for each service

	Service not provided	Service provided by < 25% of telecentres	Service provided by 25% - 75% of telecentres	Service provided by > 75% of telecentres
Telephone	O	O	O	O
Fax	O	O	O	O
Computer	O	O	O	O
Photocopier	O	O	O	O
Dial-up Internet (Total capacity in both directions < 256 Kps)	O	O	O	O
Broadband Internet (Total capacity in both directions = or > 256 Kps)	O	O	O	O
Radio broadcasting	O	O	O	O

Additional comments: Please comment or give examples of how these services support livilihoods

[Write here]

B.2 Training services: Does your network offer training services to develop the following skills? Select one answer for each service

	Service not provided	Service provided by < 25% of telecentres	Service provided by 25% - 75% of telecentres	Service provided by > 75% of telecentres
Basic ICT user skills (to use generic tools (e.g. e-mail & web, word processors, spreadsheets, presentation tools))	O	O	O	O
Advanced ICT user skills (to use advanced / sector specific tools & advanced functions of the generic tools)	O	O	O	O
ICT specialist skills (to develop, operate & maintain ICT systems)	O	O	O	O
e-business skills (to exploit business opportunities provided by ICTs (e.g. to buy & sell online)	O	O	O	O
Basic literacy skills (read & write)	O	O	O	O
Occupation-specific skills (e.g. farming, crafts, tourism...)	O	O	O	O
Business skills (e.g. marketing, management)	O	O	O	O

Additional comments: Please comment or give examples of how these training services support livilihoods

[Write here]

B.3 Business support services: Do the telecentres provide training or other forms of support for any of the following services ? Select one option. How are these services supported ? Select all the answers that apply for each service

	Service supported by... Select one option				How is the service supported ? Select all the answers that apply for each service			
	Service not provided	Service provided by < 25% of telecentres	Service provided by 25% - 75% of telecentres	Service provided by > 75% of telecentres	With specific training	Service is supported in other training courses	Staff answer users' questions on an ad hoc basis	The telecentres provide this service
Searching for information	O	O	O	O	❑	❑	❑	❑
Business communications	O	O	O	O	❑	❑	❑	❑
Access to professional / sector-specific information	O	O	O	O	❑	❑	❑	❑
Typing	O	O	O	O	❑	❑	❑	❑
Web creation & design	O	O	O	O	❑	❑	❑	❑
Advertising	O	O	O	O	❑	❑	❑	❑
Content development	O	O	O	O	❑	❑	❑	❑
Accountancy	O	O	O	O	❑	❑	❑	❑
Banking	O	O	O	O	❑	❑	❑	❑
Microfinance (access to)	O	O	O	O	❑	❑	❑	❑
Buying & selling	O	O	O	O	❑	❑	❑	❑
Payments	O	O	O	O	❑	❑	❑	❑
Business opportunities	O	O	O	O	❑	❑	❑	❑
Export-import / trade facilitation services	O	O	O	O	❑	❑	❑	❑
Job searching / advertising	O	O	O	O	❑	❑	❑	❑
Employment opportunities	O	O	O	O	❑	❑	❑	❑
Tax filing	O	O	O	O	❑	❑	❑	❑
Access to government services	O	O	O	O	❑	❑	❑	❑
Data storage & management	O	O	O	O	❑	❑	❑	❑
Innovation / research & development opportunities	O	O	O	O	❑	❑	❑	❑

Additional comments: Do you offer business support services ? Please describe them

[Write here]

B.4 Do the telecentres provide support or offer services related to the following economic sectors ? Select one answer for each sector

	No	In < 25% of telecentres	In 25% - 75% of telecentres	In > 75% of telecentres
Primary (agriculture, fishing, etc.)	O	O	O	O
Manufacturing	O	O	O	O
Trade (wholesale & retail)	O	O	O	O
Transportation	O	O	O	O
Tourism	O	O	O	O
Information and communication	O	O	O	O
Financial services	O	O	O	O
Professional & scientific activities	O	O	O	O
Public administration	O	O	O	O
Education	O	O	O	O
Health	O	O	O	O
Art & entertainment	O	O	O	O

B.5 How often are services targered to the following groups ? Select one answer for each group

	1. Never	2. Rarely	3. Sometimes	4. Often	5. Always
Women	O	O	O	O	O
Unemployed	O	O	O	O	O
Students	O	O	O	O	O
Disabled	O	O	O	O	O
People living below the national poverty line	O	O	O	O	O
Businessman / businesswomen	O	O	O	O	O
Occupations (e.g. farmers, teachers, fishermen)	O	O	O	O	O

B.6 How do the telecentres target their services ? Select all the options that apply

- O Training content is adapted to the target group
- O Courses take into account the needs of specific groups when designing the training
- O Some courses are specifically designed for the target audience
- O Financial support
- O Other (please specify_____)

C. THE ENVIRONMENT

C.1 Which of the following conditions are important for a telecentre to support livelihoods? Are these conditions being met ? For each condition, indicate its importance and to which degree the condition is being met

	Condition important ?			Condition met ?		
	1. Not important	2. Sometimes	3. Very important	1. Not	2. Sometimes	3.Yes
Basic literacy levels	O	O	O	O	O	O
Level of ICT skills	O	O	O	O	O	O
Language skills (other than mother tongue)	O	O	O	O	O	O
Occupational & business skills	O	O	O	O	O	O
Legal & regulatory environment	O	O	O	O	O	O
Quality of general IT infrastructure	O	O	O	O	O	O
Economic & business conditions	O	O	O	O	O	O
Financial system	O	O	O	O	O	O
Social & cultural context	O	O	O	O	O	O
Location of telecentres	O	O	O	O	O	O
Range of services offered by telecentres	O	O	O	O	O	O
Affordability of telecentres' services	O	O	O	O	O	O
Critical mass of ICT users in the community	O	O	O	O	O	O

Availability of relevant content	O	O	O	O	O	O
Political support	O	O	O	O	O	O
Private sector support	O	O	O	O	O	O
Participation of civil society	O	O	O	O	O	O
Telecentre objectives	O	O	O	O	O	O

Any additional comments on the factors that are important for your network of telecentres ?

[Write here]

C.2 What type of government support does your network of telecentres currently receive ?
Describe the type of government support you receive and from which institutions.

Government institutions that provide support (i.e. Ministry of telecommunications, Ministry of Social Affairs, tax office etc.)	**[Write here]**
Type of support each of these institutions provides (strategic support, financial support, specific collaboration, training etc.)	**[Write here]**
Level of government support (local, regional, national)	**[Write here]**

D. THE MANAGEMENT

D.1 How often does your network work the following organizations ? Choose one answer for each type of organization

	1. Never	2. Rarely	3. Sometimes	4. Often	5. Always
Primary schools	O	O	O	O	O
Secondary schools	O	O	O	O	O
Universities	O	O	O	O	O
Professional / industry associations	O	O	O	O	O
Trade promotion agency	O	O	O	O	O
Business supporting organizations	O	O	O	O	O
Employment office / recruitment agency	O	O	O	O	O

Investment promotion agency	O	O	O	O	O
Micro-credit organization / bank	O	O	O	O	O
innovation / research & development promotion organizations	O	O	O	O	O
Private companies	O	O	O	O	O
Women's organizations	O	O	O	O	O
Other social organizations	O	O	O	O	O
Tax office	O	O	O	O	O
Local / regional government	O	O	O	O	O

Additional comments: Describe your relationship with those organizations that are important for your telecentre network. Do you work with other organizations not listed here ?

[Write here]

D.2 Have you undertaken any study of...
Please select one option for each type of analysis

	Yes	No
... the needs of the community (needs assesment)	O	O
... who uses the telecentres and for what ? (monitoring)	O	O
... the effectiveness, sustainability and impact of the telecentres ? (evaluation)	O	O
... the livelihoods of a community ? (livelihoods analysis)	O	O

D.3 Please briefly describe the results of the analyses

[Write here]

If possible, please send a copy of these analyses to marta.perez.cuso@unctad.org

D.4 Are these analyses disaggregated by gender, income / poverty levels, educational levels and/or occupation (student, employed) ?

[Write here]

D.5 To what extent supporting economic activities is an objective of your network ?

Select one

O (a) Supporting economic activities is not an objective

O (b) Economic activities are supported where possible

O (c) Supporting economic activities is the main objective

please explain your answer

[Write here]

E. THE USE AND IMPACT OF TELECENTRES

E.1 Who are your main groups of users ? (e.g. unemployed, employed, self-employed, students, retired, people engaged in family duties, women, men, etc.)

[Write here]

E.2 For which purposes do the following groups use the telecentres ? Select the 2 most important purposes for each group

	Personal communication	Business communication	Buy goods or services	Sell goods or services	Search for informantion	Solve administrative matters	Receive training
Unemployed	O	O	O	O	O	O	O
Employed (salaried)	O	O	O	O	O	O	O
Self-employed	O	O	O	O	O	O	O
People engaged in family duties	O	O	O	O	O	O	O
Students	O	O	O	O	O	O	O
Women	O	O	O	O	O	O	O
Men	O	O	O	O	O	O	O
Minorities	O	O	O	O	O	O	O
Users living below the national poverty line	O	O	O	O	O	O	O

E.3 Would you say that your network helps users to...
Please select one option

	No	To some extent	Fully
... acquire new skills ?	O	O	O
... support existing economic activities ?	O	O	O
... develop new economic opportunities ?	O	O	O
... improve self-employment opportunities ?	O	O	O
... improve salaried employment opportunities ?	O	O	O

E.4 What changes have you observed in the lives of telecentres users ? (e.g. changes in: income levels and distribution, quality of life, access to public goods and services, coverage of basic needs (housing, health, nutrition), consumption, social relations, confidence etc.)

[Write here]

E.5 Please describe a best practice example of how your network (or a telecentre in your network) is supporting livelihoods

[Write here]

E.6 Have you observed any negative impact of the telecentres on the local communities (both users and non-users) ?

[Write here]

E.7 Please name 3 areas in which you believe the network could strongly promote livelihoods in the next two years

[Write here]

E.8 In which of the following areas would you like to receive more support ? Choose **3** areas

O Support to promote entrepreneurship and business opportunities

O Support for ensuring the sustainability of telecentres

O Support to develop the skills of telecentre staff

O Support to expand the number of telecentres

O Support to deliver a wider range of services

O Advisory support on the management of telecentres

O To make services more affordable for users

O Support to access and develop relevant content

O Other (please specify_____)

E.9 Please rank in order of priority the institutions that should be further involved to improve livelihoods through your network of telecentres (1 = highest priority, 5 = lowest priority). Please ensure each institution has a different rank

Civil society organizations / local community	[Rank]
Local governments	[Rank]
National Government	[Rank]
The private sector	[Rank]
The donor community	[Rank]

E.10 Any other comments or information you would like to share with us ?

[Write here]

F. YOUR DETAILS

F.1 Please tell us about yourself

Name	[Write here]
Surname	[Write here]
Position	[Write here]
Telecentre network	[Write here]
Country / countries	[Write here]
Telephone	[Write here]
Telecentre network website	[Write here]

F.2 PRIVACY STATEMENT

UNCTAD and telecentre.org will keep confidential all information that might identify a respondent with his or her responses, unless the respondent waives confidentiality for specified uses.

Do you give us permission to individually identify you or your network ?

IMPORTANT: THIS IS A COMPULSORY QUESTION TO ANSWER

o Yes o No

Thank you for your collaboration. Your insights are very valuable for this study, and I will shortly share and discuss with you the preliminary findings.

Annex 7.3

Telecentre networks that completed the questionnaire

Telecentre network	Country	Website
GPCIC (Grameenphone Community Information Center)	Bangladesh	www.gpcic.org
Pallitathya Kendra	Bangladesh	www.pallitathya.org
Learning Enrichment Foundation	Canada	www.lefca.org
N-CAP	Canada	nu.e-association.ca
Programa Biblioredes, DIBAM	Chile	www.biblioredes.cl
Red de Telecentros de La Araucanía	Chile	www.redcomunitaria.cl
Réseau des Télécentres Communautaires du Congo	Congo	
Principado de Asturias	Spain	www.asturiastelecentros.com
Red Conecta (Fundación Esplai)	Spain	www.redconecta.net
Ajb'atz' Enlace Quiché	Guatemala	www.enlacequiche.org
TARAhaat	India	www.tarahaat.com
Partnerships for e-Prosperity for the Poor (Pe-PP)	Indonesia	www.ict4pr.org
Kenya Network of Telecentres (KenTel)	Kenya	www.ken-tel.org
FETEMA	Mali	www.fetema.org; www.afriklinks.org
DidiBahini	Nepal	www.didibahini.org
E-Network Research and Development (ENRD)/Nepal Wireless Networking Project	Nepal	www.enrd.org
Philippine Community eCenter Network	Philippines	under construction
GDCO	Sudan	www.gedarefcity.org
Telecenter for Development	Sudan	
Tanzania Telecentre Network	United Rep. of Tanzania	
CDI - Comité para Democratización de la Informática	Uruguay, Brazil, Chile, Ecuador, Mexico, Argentina, Colombia	www.cdi.org.uy
Plus 1 network that preferred not to be individually identified		

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Notes

1. As of 2006, 44 per cent of Governments had introduced a national ICT plan, and another 20 where in the process of preparing one (UNCTAD 2006a).

2. See chapter 3, Pro-poor ICT policies and practices, in UNCTAD's Information Economy Report 2006.

3. For a detailed presentation of the sustainable livelihoods framework, see DFID (1999)

4. For further information on how ICTs can support sustainable livelihoods, see Chapman, Slaymaker and Young (2001) and Ducombe (2006).

5. See chapter 3, Pro-poor ICT policies and practices, in UNCTAD>s Information Economy Report 2006.

6. For instance, for the Government of Chile community access points are a key strategy for ensuring universal access to ICT (Grupo de Acción Digital, 2004; Gobierno de Chile, 2001).

7. For further information on best practices to support telecentres> sustainability, see telecentre.org, Bell (2006) and Fillip and Foote (2007).

8. Annex 1 provides an overview of the respondents.

9. Telecentre.org is a collaborative initiative that supports and strengthens the telecentre movement. Launched in 2005 with the support of Canada's International Development Research Center (IDRC), Microsoft and the Swiss Agency for Development and Cooperation (SDC), it acts as a «connecting point» among dozens of telecentre networks.

10. A telecentre network is an interconnected group or system of telecentres.

11. Suggested by telecentre.org.

12. The percentages provided refer to the telecentre networks that responded to the individual question.

13. Figures provided are based on a simple average per network, and not on absolute figures.

14. Weighted average (per number of telecentres) among the 15 networks that provided data.

15. Dial-up access is when the total Internet capacity in both directions is below 256 Kbps. Broadband access is when the sum of the Internet connection capacity in both directions is equal to, or greater than, 256 Kbps (based on ITU definition; see ITU, 2007).

16. Training to develop basic ICT user skills to use generic tools such as e-mail, web browsing, work processors, spreadsheets and presentation tools (see OECD, 2004).

17. To exploit business opportunities provided by information and communication technologies (for example to buy and sell online).

18. See www.najuqsivik.com/gateway/arts-crafts/index.htm.

19. Others, notably Proenza (2003), have highlighted the importance of independence from political interference.

20. Mali, Mozambique, Uganda, South Africa and Senegal.

21. See, for example, www.tradepoint.org.

22. See e-Choupal (2006).

23. See chapter 2 of UNCTAD's Information Economy Report 2006, e-Choupal (2006) and Conroy (2006).

24. See the recommendation to expand e-Choupal>s activities into one-stop shop where villagers can also obtain other services, such as e-government services, e-education and e-health services (Fillip and Foote, 2007, p. 66).

25. A study (CTO, 2005) of a project funded by DFID in India, Mozambique and the United Republic of Tanzania shows how communication flows are much slower to change than communication technologies and highlights the importance of established and trusted communication patterns.

26. For more details on this programme see Proenza (2006).

27. See www.iie.cl.

28. See Bell (2006), Fillip and Foote (2007) and UNDP (2006).

29. For a better understating of the 12 Cs framework and practical examples of how it is used to assess to what extent an ICT policy or programme supports poverty alleviation, see chapter 3 of UNCTAD>s Information Economy Report 2006.

30. The date in square brackets at the end of most entries is the date on which the text was accessed.