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Report of the COPAC Open Forum

Cooperatives and Communication Technology

Montevideo (Uruguay)
2 December 1998

COMMITTEE FOR THE PROMOTION AND ADVANCEMENT OF COOPERATIVES
(C O P A C)
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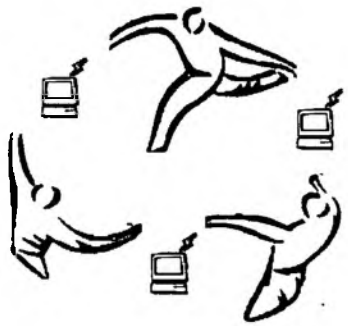

Cooperatives and Communication Technology

COPAC Open Forum

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A. Introduction

The Open Forum was held on 2 December 1998 at the Hotel Victoria Plaza in Montevideo, Uruguay in conjunction with the meetings of the ICA Regional Assembly and Regional Conference for the Americas.

The aim of the Open Forum was to share experiences and insights on how organizations are addressing the challenges of new information technology to reach members, markets and the general public. Themes addressed included how the Internet is being used for disseminating information, for cooperative education and research, and for engaging in electronic commerce.

In order to ensure the widest audience, the meeting was held in English and Spanish with simultaneous interpretation.

This report contains a brief summary of the presentations made during the Forum including a background document prepared by the COPAC Secretariat on the Cooperatives and Communication Technology. A number of the full presentations are also included in the annexes. Finally, a list of participants is included to allow participants to contact each other following the meeting to continue the sharing of information and experience.

B. Agenda of the Open Forum

Welcome and Opening Statements

Mark Levin, on behalf of COPAC Chairman, Coop Branch, International Labour Office ILO

Roberto Rodrigues, President, International Co-operative Alliance ICA

MaríaElena Chávez, COPAC Coordinator

Presentations

Cooperatives, the Internet and Development

Rosa Delgado, Chair, Internet Society Developing Countries Special Interest Group ISOC DevSIG / Business Planning Manager, SITA

The Cooperative Superhighway and Virtual Community for Cooperators

Mary Treacy, Director of Communications, International Co-operative Alliance ICA

CoopNet al Día: A Multimedia Information and Communication System

Roberto DiMeglio, CoopNet al Día Coordinator, International Labour Office ILO

Cooperatives and Provision of Internet Connectivity
Gabriel Sere, Neticoop (Uruguay)

Information and Communications Technologies for Sustainable Human Development
Atsuko Okuda, Programme Associate, IT for Development Programme, Bureau for Development Policy, United Nations Development Programme UNDP

Electronic Commerce: Threats and Opportunities (Comercio Electrónico, peligros y oportunidades)
Esteban Valenti, Regional Director for Latin America and the Caribbean, TIPS, UNDP

Digital Certification: A Must-Have Technology
Zahid Qureshi, Senior Vice President, Development and Communications, International Co-operative and Mutual Insurance Federation ICMIF

Managerial Capacity-Building: Brazilian Farmers' Use of Internet
Ildefonso Pinto Bezerra, International Affairs, Confederaçao Nacional de Agricultura CNA (Brazil)

Managerial Applications: Intranet Software – The CAYCU Experience (Uruguay)
Alejandro Tejerica, CAYCU (Uruguay) and Felippe Hill, Product Manager

Discussion

Closing

C. Summary of the Proceedings

Mr. Mark Levin of the Cooperative Branch of the International Labour Officer (ILO) opened the meeting on behalf of the COPAC Chairman, Mr. Joe Fazzio. He welcomed the participants to the Open Forum. Mr. Levin briefly presented the theme and noted the potential of using communication technology for not only facilitating communication, but assisting in providing training and education as well as doing business. Finally, he thanked participants for the interest they showed in the subject matter.

Mr. Roberto Rodrigues, ICA President, noted the importance of the Internet for cooperatives. This new communication technology not only allowed for the sharing of information among cooperatives but also allowed easy access to the general public. He urged cooperatives to use the Internet to increase the sharing of information, and to promote and improve the image of cooperatives. He noted that the Internet can also provide opportunities to cooperatives to improve services to their members, access to markets and trade opportunities.

The COPAC Coordinator, MariaElena Chávez brought the attention of participants to the background paper prepared for the meeting. It included background information on the Internet and some of the present uses of communications technology. Also of interest, was information included from cooperatives on their actual use of communication technology whether it be simple e-mail, web sites, discussion groups, on-line databases, etc. She noted that the presentations from the meeting would be made available on the COPAC web site as well as included in the final report. She urged participants to share their own experiences with communications technology, to ask questions and make comments. She hoped that by

the end of the meeting, participants would have a better idea of how communication technology could assist their cooperative serve its members more effectively.

The keynote speaker, Ms. Rosa Delgado of the Internet Society Developing Countries Special Interest Group DevSIG and SITA made a virtual presentation.[1] Her video presentation had been uploaded to the COPAC web site and was shown from the web site to participants of the Forum as a demonstration of one of the possible uses of the Internet.

Ms. Delgado focused on the development aspects of communication technology and its use. She highlighted why developing countries should be interested in adopting communications technologies and in particular the Internet. She noted that the increased use of communication technology was a global phenomena bring people closer together through networks whether it be with the Internet, through intra or extranets, LANs (local area networks) or e-mail based discussion groups. She stressed that the Internet in particular offered developing countries access to knowledge libraries and thus assisted in building local capacity and in providing trade opportunities. Ultimately, the Internet was a tool to generate economic well-being.

She identified some of the issues that required attention to enable developing countries to take advantage of the Internet. These included capacity, national infrastructure, cost of telecommunications, accessibility, legislation, etc. For example, in Africa, the high cost of Internet access was prohibitive to the majority of the population with prices ranging from USD 70 to USD 100 per month. Latin America by contrast had seen costs fall to approximately USD 10-30 per month allowing greater access. It was likely that as new technologies become more available and competition increase that prices would drop. For example in some countries, cellular phone usage is already less expensive than traditional phone connections. She also noted, that in some ways developing countries were at an advantage in terms of infrastructure as they are able to leapfrog directly into the newest technology. She cited the case of Germany and Chile. 80% of the phone lines in Germany are digital, while in Chile, 100% of the phone lines are digital.

The advantages of the Internet for cooperatives were numerous ranging from facilitating information exchange, promoting Cooperation in a multi-lingual environment and servicing members more effectively. Applications that could be useful to cooperatives include simple e-mail, mailing lists, e-commerce, tele-work, web technology for the publication of information including databases. Other future applications include the creation of cyber databanks and multimedia applications such as interactive television, video conferencing, voice and radio over Internet, etc. She also noted that cooperatives can also benefit from: catalogues, directories, software, books, virtual universities for human resource development already available over the Internet.

She cautioned however, one of the major problems with the Internet is the inability to ensure that information accessed is accurate. In order to combat the problem, she urged those organizations with web sites included updated and accurate information that is easily accessible and clear. She stressed that web presence was global, through it organizations talked to the world and therefore information should be easily accessible to an international audience - for example using country codes when noting telephone numbers, including the full name of countries in the mailing addresses and where possible offering multi-lingual sites.

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[1] See Annex 2 for more information.

She further urged organizations wishing to expand their use of the Internet to ensure that senior management understand the benefits of the Internet. It was important that the decision-makers be convinced that investment in communication technology is an investment in development and that they continue to support and promote the use of the Internet.

The organization whose aim is promoting and facilitating Internet use is the Internet Society or ISOC. She noted that ISOC held an annual meeting during which seminars and workshops were held which addressed technical issues, Internet policy issues, e-commerce as well as the impact of the Internet on society. She hoped that cooperatives would participate in future meetings. She also introduced SITA and their use of the Internet.

She concluded reiterating that the soon everyone will have e-mail; every enterprise will have a domain name; and everyone will be able to benefit from Internet access. However, success will depend on the adoption of appropriate legislation at the national and regional level (telecommunication rates, affordable electronic equipment, national education strategies, etc.), the resolve of participating institutions, and the active promotion of the benefit of the Internet at all levels of society – national and regional.

Following the keynote address, examples of Internet use by cooperatives and organizations assisting cooperatives were presented.

Mary Treacy, Director of Communications of the International Co-operative Alliance ICA, described the development of the ICA web sites.[2] She noted that ICA's Internet presence began in the mid-1990's with a gopher site developed in collaboration with the University of Wisconsin, Center for Cooperatives. It launched its web site in 1996. ICA's Internet programme was one way in which the ICA was implementing its Communications Strategy. The Strategy not only focused on elaborating a policy to promote a clear and uniform corporate image, but more importantly aimed at making useful information on cooperatives available to cooperatives as well as to the general public. One specific priority identified included the development of global and regional databases which will also soon become available on the ICA web site.

Ms. Treacy introduced the ICA web site and showed the progression of visitors to the site. She noted that interestingly that the largest users of the site were from the United States, Canada, the United Kingdom, Japan and Brazil. She noted also that 14% of requests can from educational domains, and that the majority were from commercial domain names.

Recognizing that the Internet was a useful tool for all cooperatives, ICA encouraged its members to use the Internet and develop their own web presence. However, given some of the difficulties in setting up a web site, the ICA offered web presence to its members who had not yet registered their own domains. The service provided to members entailed creating organizational pages containing basic information (name, contact, description of activities). ICA also monitored development with regard to electronic trade to ensure that members would take advantage of the new opportunities afforded to them by the new technology and had initiated work on establishing a trade site. One of the features of the trade site would be an e-commerce bulletin board.

Ms. Treacy then presented the Virtual Community of Co-operators or VCC, one of the newest additions to the ICA web site. The VCC is a database of information resources contributed by it members: cooperative leaders, educators, developers, researchers, learners and

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[2] See Annex 3 for more information.

communicators who are interested in Cooperation. It takes advantage of the multi-media platform provided by the Internet in order to offer innovative materials to the international co-operative community. The information available is presented in a variety of formats to suit different needs: web sites, text, images, photographs, videos, sounds, Java applications, etc. The VCC aims at regrouping and not duplicating information about people, resources, and events. Ms Treacy noted that the Forum of the VCC functioned like a discussion group allowing information to be shared in a more informal manner. Another feature included in the VCC was an interactive newspaper where articles could be contributed from members of the community. She welcomed participants to become members of the VCC and assist in the collection of information about cooperatives as well as participate in the discussion of issues effecting cooperatives.

Mr Roberto diMeglio, CoopNet Coordinator, provided information on how the CoopNet Programme of the International Labour Office ILO had turned to the Internet to promote interactive communication on themes relating to human resource development (HRD) in cooperative and associative enterprises in Latin America.[3] He explained that the CoopNet al Día web site was launched in 1996 in collaboration with the ICA Regional Office for the Americas primarily to address HRD issues. It now also includes information on gender, environment, and legal and economic frameworks. Despite constraints to Internet access in Latin America, the site had a steady progression of visitors from various countries in the region.

He noted that the site would be further developed to respond to the needs of its users. Statistical information on cooperatives would be expanded, electronic discussion groups would be created, and increased collaboration with universities would be sought to increase bibliographic information resources. He stressed that the aim of the site was to bring together existing networks and to more effectively share information to assist in the work of cooperatives.

Mr. Gabriel Sere presented the cooperative Internet service provider, Neticoop of Uruguay.[4] He briefly explained how the Confederation of Uruguayan Cooperatives CUDECOOP had created a service provider for the cooperative movement. He explained that Neticoop had been launched only 2 months prior to the meeting. The aim of Neticoop was to promote the use of new technologies especially the Internet for cooperatives. As such Neticoop provided connectivity as well as e-mail services, design and hosting of web sites. It also provided training and advisory services to cooperatives. Another feature of the Neticoop web site was information on the movement in Uruguay as well as basic information on what is a cooperative and to form a cooperative. Finally in response to member requests, it included password protected access to up-to-date information on economic indicators, statistics, legislation and administrative texts concerning cooperatives, a directory of cooperatives as well as chat area.

Ms. Atsuko Okuda from the IT for Development Programme of the United Nations Development Programme UNDP, noted that information technologies provided people in developing countries unequalled opportunities for development and empowerment.[5] However, she noted that information technologies not only assisted people in developing countries access information for other countries, but equally important assisted in the sharing and

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[3] See Annex 4 for more information.
[4] See Annex 5 for more information.
[5] See Annex 6 for more information.

preservation of local knowledge. It was for this reason that the UNDP created its IT for Development Programme.

One of the areas with the most promise for developing countries was Electronic Commerce or e-commerce. Although web shopping was mostly linked to industrialized countries, she noted that there were numerous examples of how even small companies in rural villages were able to sell their products to US and European markets through the Internet. This was the way of the future.

Ms. Okuda briefly touched on some of the advantages of the Internet for developing countries (falling cost, increased resources in languages other than English, introduction of new technologies and community connectivity versus individual connectivity). She noted however that developing countries also faced some serious challenges including gap existing between industrialized and developing countries in regards to infrastructure, equipment, capacity and availability of content.

To address some of the difficulties of developing countries in fully utilizing these new technologies, the IT for Development Programme has provided assistance to developing countries. In addition to policy advise of the design of effective policies, it has focuses on connectivity, content and capacity building. One of area of work of possible interest to the cooperative movement was the development of digital community centres. Centres are set up to allow connectivity to a community rather than simply an individual. The centres conduct programmes on content creation through training as well as serving as platforms to launch applications such as distance education, telemedicine, employment, the empowerment of women etc. The centres also provide improved communication services and opportunities for networking in rural areas. Two pilot projects involving digital community centres in Egypt and South Africa were introduced.

The Technology Access Community Centres (TACCs) in Egypt are owned and operated by the local community. They provide training and skill development in computer literacy and web page creation, with specific courses on desktop publishing, PC applications and maintenance. Also offered are distance learning programmes including literacy and life-long learning programmes.

The Telecentres of South Africa were owned and operated by the private sector. Ms. Okuda explained that a number of models were being tested in South Africa to ensure that the particular needs of each community were addressed. In many, telephone connectivity was a key component in addition to ICT applications and training.

Finally, Ms. Okuda presented the INFO 21 programme which offers access to sustainable human development tools and best practices. The INFO 21 web site included information on Y2000 problem, e-commerce, Internet Governance and Human Rights and the Internet. It also included a unique collection of Latin American resources.

Mr. Esteban Valenti, Regional Director of the TIPS Regional Centre briefly presented the TIPS programme - Technological Trade Information and Promotion System.[6] Created in 1986 by the UNDP with the support of the Italian Government, it is currently backed by the European Commission (EC) through its AL-INVEST Program and the Dutch and Austrian governments. TIPS is operated and managed by the DEVNET Association, an international non-governmental organization with consultative status with UN ECOSOC.

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[6] See Annex 7 for more information.

Mr. Valenti noted that the main objective of the TIPS Network is to enhance competitiveness particularly among small and medium sized business firms (SMEs) from developing countries, providing them a key instrument for business management and information. As such TIPS processes and disseminates bids from companies -particularly SMEs.

TIPS is today one of the largest integral and informative e-commerce networks available for doing business. It produces 40 services in the fields of commerce, technology, finance, economy, clean-production and business events, in Spanish, English and Chinese. Its services especially those dealing with e-commerce are designed based on the needs of businesses, and are continuously evolving through the incorporation of the latest technologies.

One of the services provided by TIPS is the production of training materials. Mr. Valenti presented the prototype of their newest product, a training CD-ROM incorporating the latest multimedia techniques. The highly sophisticated and user-friendly training tool, was designed to enable business people to be have a comprehensive introduction to e-commerce and computerized tools for business management.

Mr. Valenti noted that a number of cooperatives were already part of the TIPS network and welcomed others to join TIPS to gain access to a trade community for the marketing of their products and to benefit from the services it provides.

Mr. Zahid Qureshi, Senior Vice-President for Development and Communications of the International Cooperative and Mutual Insurance Federation ICMIF made a presentation on Digital Certification on behalf of Shaun Tarbuck, Vice President of Membership & Finance, who was unable to attend.[7] Mr. Qureshi noted that if only three years ago, people were sceptical about the Internet, today it was changing business culture in the same way the telephone and the fax had done. However, as more and more businesses turn to the Internet for their activities, security will become an increasingly important issue to be addressed. The ICMIF had held a seminar on security issues for IT managers of insurance cooperatives where IT managers were shown how easy it was to hack into each of their site, and how equally easy it would be to destroy all the information on the site, including databases. From that moment, security became a real issue for these IT managers and one requiring serious and immediate attention.

Mr. Qureshi noted that although the credit card industry has adopted the SET protocol, due to its inflexibility and slowness, it was likely that digital certification would soon be the new standard able to address all security issues. It would very quickly become an essential must-have technology. He presented a number of the solutions available: cryptographic technology provided through software solutions as well as the digital certification solution, working on a Public Key Infrastructure (PKI) system and explained how each functioned.

He noted that the ICMIF began researching the feasibility of become a Digital Certification Authority to be able to provide corporate branded digital certificates to its members at a reasonable cost. A pilot project was in the process of being initiated. If successful, digital certificates would be offered to all ICMIF members. They would also seek to provide digital certification services to other cooperatives through the ICA.

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[7] See Annex 8 for more information.

He stressed that it was essential to adopt these new technologies early to enable cooperatives and mutual insurers to gain a competitive advantage. He concluded by saying that with future developments in the technologies, digital certification will likely become common place in the next 18 months.

Mr. Ildefonzo Pinto Bezerra of the Conferaçao Nacional de Agricultura CNA of Brazil presented information on how Brazilian farmers were using the Internet to improve production and marketing of their products.[8] In 1995 farm leaders were asked to list the services they would like receive via the Internet. Based on their replies, a web site was created. However, recognizing that not all farmers had the necessary equipment and training to enable them to benefit from the web site, CNA entered into agreement with SEBRAE to enabled member farmer unions to obtain computer and access to the Internet. Individual farmers who did not own computers could go to their local unions to access the site and desired information. He noted that an estimated 800 farmer unions in Brazil now have Internet access.

Mr. Bezerra introduced the CNA's two web sites - an information site and a trade site. Together the sites included a wealth of practical information for farmers such as monthly updates on the selling prices of agricultural commodities by region of the country as well as the purchasing price of agricultural inputs. Also included were tailor made weather forecasts for farmers for each region of the country as well as actual and forecasted harvests. Finally, basic legislative text concerning farmers: labour laws, social security, agricultural product classifications, animal health, seed, etc as a well as a calendar of agricultural events had also been included.

The Chairman invited participants to raise questions or make comments. The COPAC Coordinator asked if any of the participants could report very briefly reported on how they were using the Internet. Mr. Néstor Wassaf of the Instituto Movizador de Fondos Cooperativos and Banco Credicoop of Argentina, noted that the Banco Credicoop had created an extranet to engage in business-to-business e-commerce. The Bank was interested in Digital Certification and had been investigating the possibility of participating in a certification scheme being developed by the International Confederation of Popular Banks. He noted that the Federación of Cooperativas Agrarias (Federation of Agricultural Cooperatives) had established an intranet connecting its 100 cooperatives to share financial information and information on the grain market. He was also aware that DATACOOP, a telephone cooperative in Argentina formed in last 12 months, was also initiating e-commerce activities in partnership with a private international company.

Some participants noted that they did not yet have e-mail or a web presence while others reported having well developed e-mail systems and organizational web presence.

Participants from Argentina also noted that chat or discussion groups had been formed, however they were not actively being used.

Some participants noted that they were actively investigating the possibility of doing business through e-commerce.

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[8] See Annex 9 for more information.

Given time restraints, the Chair asked the speakers to remain after the session so that participants who still had questions or comments could do so. He thanked participants for their attention and for staying into the early evening to hear the presentations of all of the speakers. He hoped that the information presented during the Forum would be useful to participants in developing and/or enhancing their Internet strategies.

In closing, he thanked the Coordinator for organizing the meeting as well as the technicians and the interpreters for their assistance in making the meeting successful.

D. Annexes

Annex 1
COPAC Open Forum Background Note
Cooperatives and Communication Technology

MariaElena Chávez. COPAC Coordinator

Contents

1) Introduction

Cooperative enterprises are increasingly using the latest communication technologies to reach members, markets and the general public. The Internet is one of the communications technologies which is attracting the attention of cooperatives as a means for increased communication through low-cost electronic mail (e-mail), and access to and dissemination of vast amounts of information. It is also being used through the World Wide Web for trade, marketing/advertising, education/training, lobbying and providing general information on cooperatives to educate the general public, decision-makers and the media on the important economic and social contributions that cooperatives make to society.

The Open Forum is being organized as a way for cooperators to share experiences and insights on how cooperatives are addressing the challenges of new information. It will address issues such as connectivity and accessibility, e-commerce, and education.

Given that there exist vast amounts of information on information communication technology (ICT) including the Internet and its impact, this paper will very briefly present some background information on the Internet and a number of issues which cooperatives may wish to address. It will also provide a listing of sources of information for more detail on the issues presented.

2) Internet Background

a) What is the Internet?

Technically, the Internet is

... the global information system that -- (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.[9]

The Internet is a global network of networks enabling computers of all kinds to directly and transparently communicate and share services throughout the world. It consists of a variety of information and communication components including e-mail, text documents, databases, discussion and news groups, listservers, real time chat, video and audio conferencing, and search engines.

Its origins trace back to the early 1960's with academic research funded by the United States Department of Defense to develop communication protocols which would allow computers to communicate transparently across multiple linked packet networks. The precursor of the Internet, ARPANET or Advanced Research Projects Agency Network was established in 1969. It led to the development of e-mail (the first of was sent in 1972), allowed on-line discussions, access to databases and file transfers. During the 1980s the TCP/IP protocol was introduced as a standard for sending information across networks. By 1985, Internet was well established as a technology supporting a broad community of researchers and developers, and was beginning to be used by others for daily computer communications.[10]

With the advent of the World Wide Web (WWW or simply the Web) developed by CERN researchers in 1989 and commercialized for public use in late 1993, the Internet came into public view. The Web, officially known as a "wide area hypermedia information and retrieval initiative" for the first time allowed the integration of graphics to display information. It allows users to move from one page of data to another with a simple mouse click, thus making access to huge amount of information fast and easy. Today, there are an estimated 1.5 million web sites consisting of 350 million web pages (excluding databases) accounting for 75% of all Internet traffic.[11]

However, many would argue that Internet is less about computers than about people and increasingly about business and development. The Internet uses the power of technology to

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[9] Internet definition as per US Federal Networking Council in its resolution adopted 24 October 1995. http://www.fnc.gov/Internet_res.html

[10] Vinton Cerf. **A Brief History of the Internet and Related Networks.** http://www.isoc.org/internet/history/cerf.html

[11] Statistics reported during the Plenary Session of the Internet Society's INET '98. (July 1998).

empower people (knowledge = power), the challenge is to make use of the technology for economic and social development.

The Internet has revolutionized the computer and communications world like nothing before. The invention of the telegraph, telephone, radio, and computer set the stage for this unprecedented integration of capabilities. The Internet is at once a worldwide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location.[12]

b) What is the reach of the Internet today?

In 1991 the number of users of the Internet had reached 4.5 million, recent surveys compiled by the NUA Ltd. Internet Consultancy and Developer estimated that there were 130 million users world-wide:[13].

World Total	**130 million**
Africa	0.80 million
Asia/Pacific	19.3 million
Europe	31.7 million
Middle East	0.75 million
Canada & USA	70.0 million
South America	7.25 million

OECD countries are by far the largest of users of the Internet accounting for nearly 97% of all users. Iceland leads Internet use with nearly 45% of its population presently on-line.[14] In the United States, 32% of the adult population is estimated to be on-line.[15] In contrast over 80% of the users in Africa are found in South Africa where they account for only 1.7% of the population; and together Kenya, Cameroon and Nigeria have less than 10,0000 users.[16]

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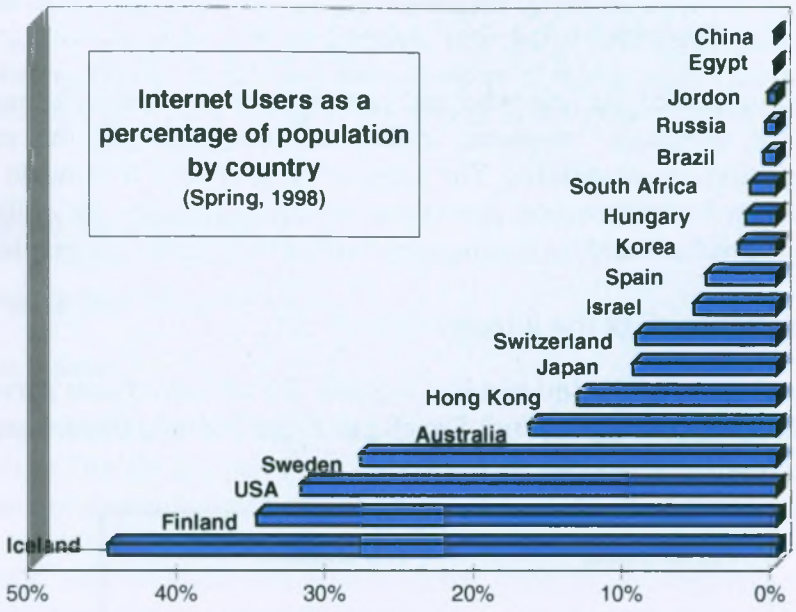
[12] Barry M. Leiner, Vinton G. Cerf, David D. Clark, Robert E. Kahn, Leonard Kleinrock, Daniel C. Lynch, Jon Postel, Larry G. Roberts, Stephen Wolff. **A Brief History of the Internet (version 3.1)**, http://www.isoc.org/internet/history/brief.html, February 1998.

[13] NUA Ltd. **How Many On-line? Survey**, August 1998. http://www.nua.ie/surveys/how_many_online/index.html

[14] Gallup (Iceland)"45 percent of Icelanders are Online" in **NUA Analysis**. 24 April 1998. http://www.nua.ie/surveys/index.cgi?service=view_survey&survey_number=717&rel=no

[15] IntelliQuest Survey, August 1998. http://www.intelliquest.com/index2.html

[16] Tom Butterly. "Constraints to the Development of the "Wired' Economy in Africa" in **Nua Analysis**. 10 August 1998. http://www.nua.ie/surveys/analysis/african_analysis.html



Source: NUA: How Many on-On-line users?

Although 150 countries now have direct access to the Internet, the geographic distribution of connections still heavily favours developed countries. Developing countries have limited access with many countries still having access only in national capitals or major cities. Poor connectivity (access) and high cost continue to be major barriers for a more equitable use of the Internet. However, given the growing interest in Internet, the liberalization of telecommunications markets and advances in technology which are already allowing Internet connection through radio and satellite rather through traditional telephone lines, it is expected that the real growth of Internet use will come from developing countries. Optimists believe that ultimately developing countries may have better telecommunications infrastructure than those now found in the developed countries. For example today, Chile has a 100% digital telecommunication network, while Germany is only 56% digital.

Language is also cited as a barrier to using the Internet. English continues to dominate the Internet. It was estimated that in February 1998, 71% of web sites were in English, 5% in Japanese, 4% in German, 2% in French and Spanish, 1% in Chinese and Italian and 14% in other languages.[17] However, analysis of recent trends shows that as the Internet grows, there is marked increase in uses of other languages such as Spanish, Portuguese, German, Japanese, Chinese and the Scandinavian languages. For example, Internet content in Spanish is now growing faster than in English.[18] In addition, there are services on the Web that instantly translate web pages (such as the Alta Vista site: http://babelfish.altavista.digital.com/cgi-bin/translate?). Although the translation is not exact, it provides a general of idea of the information provided on the page.

It is estimated that Internet use will grow exponentially by the end of the year 2000. Conservative estimates expect 300 million users with over 350 million web pages published on the Internet, however, others are predicting nearly 1000 million users.[19]

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[17] Agence de la Francophonie (ACCT) et Centre international pour le développement de l'inforoute en français (CIDIF). **Les langues sur le Web (février 1998)**. http://inforoutes.cidif.org/tableaux/index.cfm?menu=table

[18] Reported at INET '98 Developing Countries Networking Symposium, July 1998.

[19] Estimates reported during the Plenary Session of the Internet Society's INET '98, (July 1998).

3) Cooperatives and the Internet

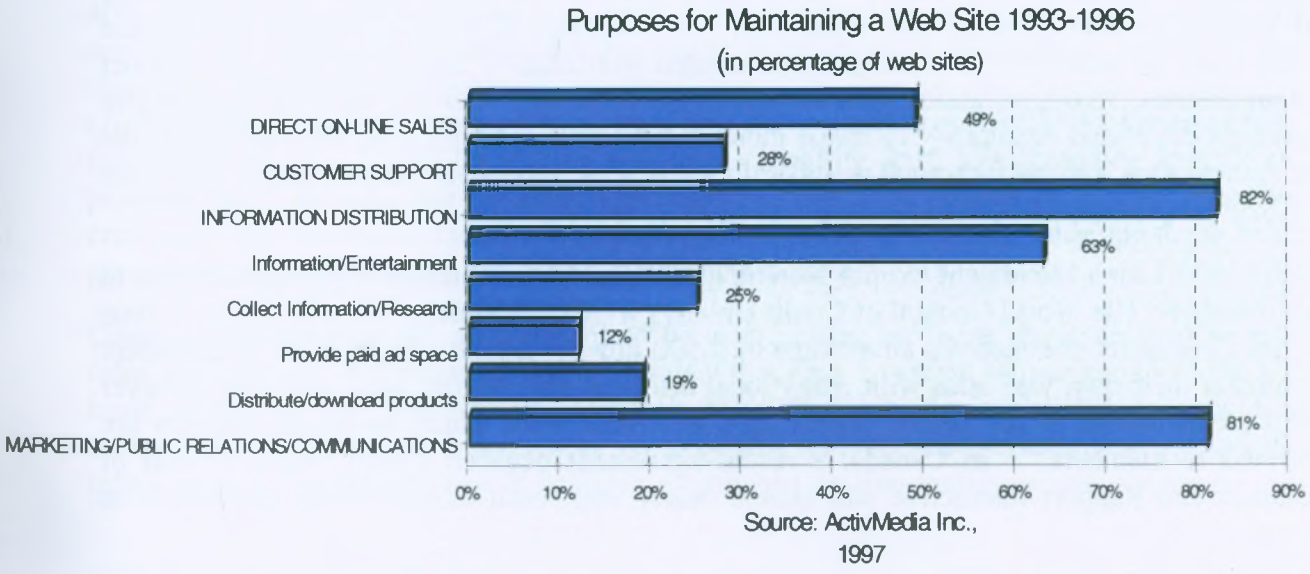
a) What are the potential benefits to cooperatives being on the Internet?

Added value to membership is the principle reason of why cooperatives are using the Internet, whether it be used for low cost communications using e-mail, for accessing and disseminating information via the Web or maintaining databases accessible via Internet.

> The basic idea (for going on-line) was to strengthen the competitive edge of the individual farmer as well as the competitive edge of Swedish agriculture: [20]
>
> *LRF - Sweden*

> We use our web site to expand the influence of our organization in rural and urban areas by introducing our enterprises, providing information on Cooperation and attracting foreign investment...Internet is also the best way to share information with our member organizations.[21]
>
> *All China Supply and Marketing Cooperatives ACSMC*

> Aside from our home page giving us an on-line presence internationally, it also allows us to respond more efficiently to our members and others interested in discovering more about the World Council.[22]
>
> *World Council of Credit Unions WOCCU*



Cooperatives on the Internet benefit from access to a global resource of information without regard to geographical location. They are able to draw from the information available on the Internet as well as contribute to the content available to a global audience of users.

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[20] Information provided by LRF, August 1998.
[21] Information provided by ACSMC, August 1998.
[22] WOCCU Perspectives. " World Council launches home page on the Internet". May/June 1996.

> At ICA we are convinced that one of the most promising directions for the future is the information super-highway. On the one hand, it builds upon a traditional co-operative strength: a non-hierarchical, bottom-up structure. On the other, it helps to compensate for a major cooperative weakness: its decentralised, diversified structure, which makes information-collection and information distribution both expensive and difficult.[23]

b) What type of cooperatives on the Internet?

Cooperatives from countries on all continents and all sectors of the economy are already using the Internet. Not only are international and national cooperative organizations on the Net but regional and even local coops are using the Internet to access information and communicate more effectively. There are those that use e-mail exclusively, those who publish web pages, have on-line databases, maintain listservers or discussion groups and do business on the internet. They make information available in a variety of languages including: English, Spanish, French, Japanese, German, Italian, Malay, Portuguese, Chinese, Polish, Swedish, Norwegian, Danish, Finnish, etc. Cooperative web sites vary in complexity from basic text sites to very sophisticated sites using the latest technologies. Many have public sites, other maintain intra and/or extranets as well. [24] The diversity of use and experience with these new technologies reflect the diversity of the Movement itself.

A Few Examples:

When the International Co-operative Alliance (ICA) established Internet presence in September 1995 with web pages hosted on one of its member organizations' server only a few members were using the Internet. In February 1996 it established its own site and today receives more than 8,500 hits per week from over 600 users. ICA members have also created their sites. In mid-1997 27 members had created web sites. [25] Today, of the 235 member organizations, 56 organizations from all sectors maintain web sites and an additional 58 also have access e-mail accounts. To assist those members who do not have yet web pages, the ICA includes a web page on each member on the ICA site to enable them to have a minimum of Internet presence.

The Credit Union Movement too has seen increasing use of the Internet to provide services to its members. The World Council of Credit Unions (WOCCU) launched its web site on 1 June 1996. Today its site receives an average of 7,500 hits per month. Eight of its 20 members maintain their own web sites with many local affiliates also having sites. For example over 950 credit unions in the United States have web sites from which numerous services are offered to members.[26] In Canada, a recent agreement between Credit Union Central of Canada and Rapport Interactive will enable nearly 900 credit unions to use technology to

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[23] ICA. The Information Super-Highway Opportunities for Co-operatives, 26 October 1995. gopher://wiscinfo.wisc.edu:70/00/.info-source/.coop/.issues/.info/.oppor

[24] An "Intranet" is an internal Web site. Many organizations and companies use Intranets to share information with their employees or branch offices. An "Extranet" is the use of web technology for sharing information among small groups of companies or organizations for example linking suppliers to producers.

[25] ICA News. "Co-operatives and the Internet". No. 4.1997

[26] Information compiled from the CUNA Credit Unions of On-line database, August 1998. http://www.cuna.org/data/consumer/culinks/cu_search.html

allow members to access their accounts by a variety of new communication technologies including the Internet, interactive television or interactive touch screen kiosk.[27]

In addition, an extranet[28] for credit union members will be launched on 15 October 1998. The Global Credit Union Network or GCUN will give authorized users access to three private web sites: CUNA & Affiliates, Australian Credit Union League (CUSCAL) and WOCCU.

Banking cooperatives like credit unions are also harnessing the Internet to provide services to its customers and members. For example. the Co-operative Bank in the UK also offers its personal account holder access to "Internet Banking", a full on-line banking service enabling account holders to check their balance and carry out transactions. [29]

Cooperative insurers too are using the Internet to provide services to members as well as attract new members. At the beginning of 1996 there were only a few members of the International Co-operative and Mutual Insurance Federation (ICMIF) with web sites. At the end of 1997 more than 30 of the 104 members had web sites[30], while in 1998, the number rose to 53.[31] Individual insurance cooperatives too have seen increasing use of the Internet. For example, NTUC Income Insurance Cooperative (Singapore) reported that it began web development in 1995. In 1996 it created an Intranet which is used by 700 staff members and 1000 of its 4000 insurance agents. Its web sites receive over 3000 hits per day.[32]

Farmer cooperatives are using the Internet to strengthen the competitive edge of the individual farmers. For example, the Federation of Swedish Farmers LRF initiated a project in 1996 aimed at increasing the percentage of connected farmers and of farmers with computers. At the start of the project 30% of farmer members owned a computer with only 1% connected to the Internet. Today, over 60% of its over 200,0000 members have a computer and over 40% of these are connected to Internet. LRF is also establishing an Intranet for its employees and will be examining ways of also becoming a certification authority to enable secure electronic commercial transactions in the future.[33] JA-Zenchu, the farmers' cooperative organization in Japan has reported that 130 of its 1,800 primary agricultural cooperatives have their own web sites for public relation activities, recruiting staff, and marketing agricultural products, etc.[34] In India, the National Agricultural Cooperative Federation has not opted for creating a web site, but including a web page on an existing agricultural trade site to put out a global tender for importing a series of agricultural products [35]

Consumer cooperatives are also present on the web. Some are using the Internet to provide sales and services. For example, despite the fact that only 5 percent of households in the UK have access to the Internet, the Co-operative Wholesale Society CWS is providing comprehensive consumer information on products and services in addition to specific information for members only. It has also established on-line trading where consumers can

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27 WOCCU Perspectives. "Canada Extends Home Banking" March/April 1998.

28 An **"Extranet"** is the use of web technology for sharing information among small groups of companies or organizations.

29 Co-operative Wholesale Society CWS. "In the Net!" in **Members**. Autumn 1998.

30 ICMIF Network. "Internet Workshop planned with IT Networking Meeting". No. 4, 1997.p12.

31 ICMIF Member Directory, 1998.

32 NTUC Income. "Marketing on the Internet". Presentation to the ICMIF Internet Workshop, 19-20 May 1998.

33 Information provided by LRF Sweden, August 1998.

34 Information provided by JA-Zenchu, September 1998.

35 http://www.agroindia.org/aichome/cloves.htm

purchase domestic appliances, travel services and wines from their web site with members benefiting from discounted prices. [36]

Organizations providing general information on cooperatives from a development perspective too are making useful information available on the Internet. The Coop Branch of the International Labour Office (ILO) established its site providing on-line publications and information on its development programmes receives nearly 800 hits per month. Similarly the Food and Agriculture Organization (FAO) recently reported that its site received over 2 million hits per month[37] with over 3,500 visitors accessing news, reports and analysis on cooperative issues. The COPAC site, which provides links to information on members as well as general information on cooperatives including links to cooperative legislation and projects, receives over 6000 hits per month from nearly 500 users from all over the world. These statistics demonstrate the information on cooperatives is sought and that cooperatives and organizations supporting cooperatives are providing a valid service.

Finally, discussion groups on cooperative issues allow for the provision and retrieval of information from a community of cooperators. A number of these exist for general cooperative issues (cooperative business listserver, alt.coops, coopcon[38]) credit unions (Credit Union Talk[39]), women cooperators (WICEN[40]), youth, trade and communication network technology and national level discussion groups such as Coop-Net in the United Kingdom[41]. These can also be used to assist in lobbying efforts. For example the cooperative business and credit union listservers have been a means for people to get up-to-date information on the recent attack on credit unions by the banking industry in the United States. Members were mobilized to send letters to decision-makers, contact the local media and sensitize the public. One very recent example of mobilizing support for cooperatives, is the appeal posted on a variety of cooperative discussion groups to assist in the rebuilding of the financial co-operative movement in Kenya. The ICA established a solidarity fund in Geneva which is receiving contributions from both large and small cooperatives world-wide and posted information on the specific needs of the three hardest hit cooperatives: Ufundi Savings and Credit Co-operative, the Co-operative Bank, and Co-operative Insurance Services.

c) What are the applications of the Internet?

Innumerable applications of the Internet exist including education; community development; telemedicine; the creation of new livelihoods; telework, trade, scientific cooperation; safeguarding of cultural heritage; media including lobbying; digital libraries including on-line databases; governance and a variety of sector specific services such as home banking, etc.

d) What are the major challenges for cooperatives on the Internet?

Convincing people that the Internet will be useful in providing innovative member services, investment requirements for equipment, human resources and training; e-commerce and security issues, access of members to Internet resources are a few of the challenges to which cooperatives are now responding.

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[36] Co-operative Wholesale Society CWS. "In the Net!" in **Members**. Autumn 1998.
[37] FAO. Use of FAO web Site Increases Sharply. Press Release 98/29.
[38] http://csf.colorado.edu/co-op/ccce/info.txt
[39] http://www.enterweb.org/cu-talk.htm
[40] WICEN. http://www.wisc.edu:/uwcc/info/wicen.html
[41] http://homepages.tcp.co.uk/~total/Co-opNet/

i) Investment

Using new communication technology involves cost both in terms of finances and human resources. Hardware is constantly being upgraded with new processing capacities (faster computer chips are introduced several times a year) and this despite promises of lower cost hardware with increasing demand.

> Many business users seek faster systems to increase productivity. Others shun low-end systems to avoid rapid obsolescence. Although low-cost PCs run today's software adequately, firms looking to upgrade to Windows NT and other advanced software in the future might not be able to afford the limitations of a sub-$1,000 PC. These systems also lack expansion slots in some cases, giving new meaning to the term "fixed asset".[42]

Software applications promising better productivity - new or updates are also constantly changing, and people must be able to acquire the skills to allow them to use the new technology in an effective manner. Continual investment in Information Technology (IT) and training for staff and members must be foreseen at adequate levels in order to be effective.

Internet service provider (ISP) fees too must be considered. Although as mentioned above the telecommunications market is being deregulated and new technologies are being introduced at decreased cost, access fees can still vary substantially by country. For example in South Africa the average monthly dialup fees for Internet access fees excluding actual set up and usage charges is USD 18, while in Latvia they are USD 35 and USD 150 in Burkina Faso. Fees are higher for a leased line - a superior high-speed line for full-time, dedicated Internet access for multiple users - averages USD 500 per month excluding set up charges.

For those wishing to create web sites, one or more domain names should be registered. Various Network Information Centres, or NICs register domain names, on a first-come, first-served basis. Once a domain name has been reserved, it is no longer available to others. There is an initial set up fee plus an additional annual charge.

Other issues which cooperatives will need to determine when developing a site is whether to opt for an in-house server/s, a tele-housed server/s (a server that is owned by the cooperative and housed with an ISP which allows accessibility from anywhere on the Internet, connected directly to the ISP) or a web site hosted by an ISP (rented space for a web site that is on a server owned by the ISP). Security issues including building firewalls need also be considered when deciding on how to set up a server or servers. Maintenance of a site must also be considered - whether the site is maintained and developed internally to the organizations, outsourced to specialists or a mix of the two. Although it is difficult to estimate costs, a recent article in the Credit Union magazine estimated that in the United States creation of a basic web site could be developed for USD 1000, while a web site that is secure and interactive could cost more than USD 30,000 for hard and software to host the site and a separate server to secure the site. [43] When on-line banking security is used the total system cost can reach USD 47,000.[44]

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[42] Microprocessor Report Editorial: Myths About the Sub-$1,000 PC, Vol. 12, Issue 3, March 9, 1998. http://www.chipanalyst.com/q/@7776076nmlhwm/mpr/editorials/edit12_03.html

[43] Peterson, Anne Hayes. "A presence on the Web" in **Credit Union Magazine**, March 1998. pp. 65

[44] Ibid. pp. 66

ii) Creating Accessible Web Sites

Another challenge to cooperatives is creating and maintaining effective web sites. Sites require good content, a clear presentation and easy accessibility (low download time, easy navigation, and good presentation in a number of web browsers), so as to ensure the maximum possible audience for their Web pages.

> Two years ago, Internet and marketing experts urged credit unions to create a "presence" on the World Wide Web...Today, those same experts have a slightly different message: Create a presence on the Web, but make sure it's functional and interactive. If you don't, members will access a competitor's page for the services you aren't offering.[45]

There are numerous books in print and sites on-line that provide information on web site development and provide information on the latest technology being used by web site developers. One that may be particularly useful is the World Wide Web Consortium W3C site (http://www.w3.org/). It provides a wealth of information for developers and users of the Web, including designing tips for accessible web sites and a free validation service which checks HTML documents for compliance with W3C HTML Recommendations and other HTML standards.[46] Another useful service for checking pages is Doctor HTML, a Web page analysis tool which retrieves an HTML page and reports on any problems that it finds. The primary focus of this tool is to provide a clear, easy-to-use report of information that is relevant for improving web pages (http://www2.imagiware.com/RxHTML/).

Another useful resource for credit unions is "How to Build a Web site: A Guide for Credit Unions" published by Credit Union National Association (CUNA) in the United States. For educational sites, UNESCO has made available an simple guide at http://www.unesco.org/webworld/infotraining/.

iii) E-Commerce

Electronic commerce or e-commerce is formally defined as trade undertaken by the use telephone, fax, television, electronic payment and money transfer systems, Electronic Data Interchange. However, e-commerce is generally used to describe trade over the Internet.[47] Experts agree that electronic commerce will provide many opportunities both to large and small and medium enterprises.

Businesses began using the Internet for commercial transactions with their business partners only two years ago. The focus for business-to business e-commerce is to lower the cost of running their purchasing operation, and lowering cost of goods purchased by increased competition between suppliers. Early users already report significant productivity improvements from using electronic networks to create, buy, distribute, sell, and service

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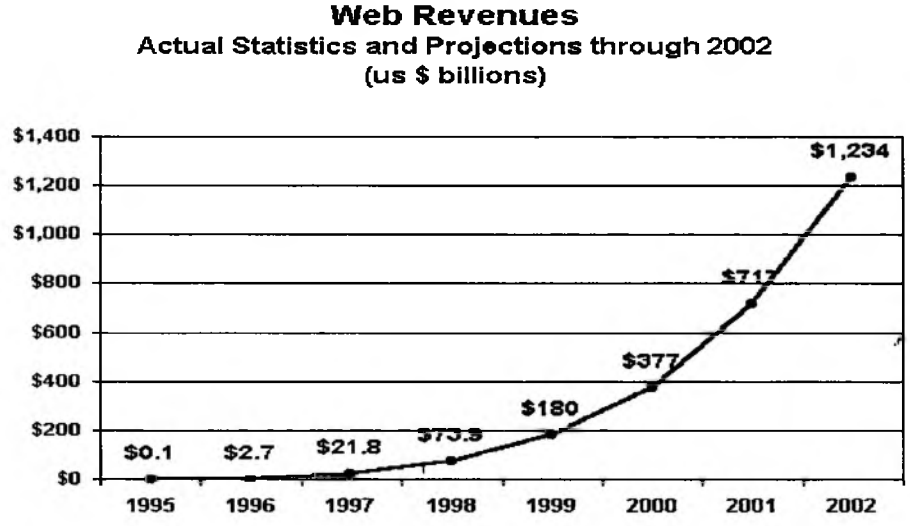
[45] Ibid. pp 64.

[46] The W3C was founded in October 1994 to lead the World Wide Web to its full potential by developing common protocols that promote its evolution and ensure its interoperability. We are an international industry consortium, jointly hosted by the Massachusetts Institute of Technology Laboratory for Computer Science [MIT/LCS] in the United States; the Institut National de Recherche en Informatique et en Automatique [INRIA] in Europe; and the Keio University Shonan Fujisawa Campus in Japan. Services provided by the Consortium include: a repository of information about the World Wide Web for developers and users; reference code implementations to embody and promote standards; and various prototype and sample applications to demonstrate use of new technology.

[47] WTO. Electronic Commerce and the Role of the WTO. 1998. pp. 23.

products and services. E-commerce is also being used by consumers to conveniently access products sold over the Internet through catalogues and on-line shops. In both types of e-commerce, products and services can be delivered electronically over the Internet including software programmes, newspapers, music CDs and even approval of bank or credit union loans. Other tangible goods and services can be ordered and paid for over the Internet and be physically delivered.

According to the ActivMedia Research, in 1997 sales on the web reached USD 21.8 billion. Average monthly sales were over USD 18,000 per site, up from USD 4,200 in 1996 as web users became more accustomed to shopping online. Other surveys show that 27 percent of Latin Americans have already made purchases over the Internet, compared with 48 percent in the United States.[48] Although Internet sales are less than 1 percent of total retail sales today[49],



Source: ActivMedia. "The Real Numbers behind Net Profits" 1998.[50]

ActivMedia predicts that Web-generated revenues could exceed USD 1.2 trillion by 2002.

A recent meeting of experts on electronic commerce concluded, that "electronic commerce had the potential to be a powerful motor for development with special potential to held small and medium enterprises (SMEs) for less developed countries to enter global trade".[51] However, there is general agreement that Internet will supplement rather than supercede existing sales channels and is one more way of promoting,, marketing and selling products.

Cooperatives are also beginning to do business over the Internet whether it be member farmers purchasing agricultural inputs electronically, consumers ordering groceries from their local food cooperatives, cooperative banks and credit unions allowing their members obtain loans or purchase mutual funds, or cooperative insurers offering policies on-line. Like other

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48 The ISOC Forum. "Web Activity Explodes in Latin America". , Vol. 4, No. 02, 23 February 1998.

49 Secretariat for Electronic Commerçe, U.S. Department of Commerce.
The Emerging Digital Economy. http://www.ecommerce.gov/danc1.htm

50 http://www.activmedia.com/restricted/rn/98exec.html

51 UNCTAD Commission on Enterprise, Business Facilitation and Development. Report on the Expert Meeting on Capacity-Building in the Area of Electronic Commerce: Human Resource Development. Document TD/BCOM.3/13-TD/B/COM.3/EM.6/3 of 29 July 1998. Para 27.

enterprises, few are reporting major gains on the Internet, but they are using the Internet to present information on their products, establish databases on present and potential members (marketing) and they are actually selling over the Internet. For example NTUC Income Insurance Cooperative (Singapore) reported in April 1998 that it received an average of 20 e-mail messages requesting product information and concluded between 5 and 10 on-line sales of policies. [52] JA-Zenchu (Japan) reported that some members are involved in e-commerce, but that turnover is presently extremely small (i.e. 600,000 of a total of 7,300,000,000 yen).[53] LRF in Sweden has reported that it too has established Internet shops for their member farmers. In December 1997, the Pennsylvania State Employees Credit Union (USA) approved 50 loan applications for USD 460,000 and added 21 new members through their Internet service.[54]

One noteworthy initiative for cooperatives, is the Consumer Electronic Commerce for Development Countries Pilot Project implemented by the International telecommunications Union (ITU), a United Nations agency. The project focuses on helping small and medium enterprises initially in Africa become active in electronic commerce by providing technical advice for the creation of web-based shops and facilitating on-line payment systems. ITU specifically notes "it is hoped that cooperatives and other commercial entities will be interested in following up the pilot phase to provide wider implementation of electronic commerce".[55]

The United Nations Conference on Trade and Development (UNCTAD) in cooperation with the United Nations Development Programme (UNDP) and other UN system organizations are developing training materials for the "e-Trade Initiative". Four training kits are presently being prepared:

> *Getting Competitive:* Covering the basic needs of enterprises to operate effectively at a local level with traditional tools;
>
> *Going International:* to improve the skills needed to enter international business;
>
> *Going On-line:* to improve competence in the use of information and communications technologies; and
>
> *Going e-Trade:* to help more advanced enterprises to master the use of electronic commerce in the international environment.[56]

iv) Security Issues

Cooperatives, like other enterprises are also increasingly aware of the need to address security issues as they increasingly develop advanced web sites. Web security is a complex topic, encompassing computer system security, network security, authentication services, message

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[52] NTUC Income. "Marketing on the Internet". Presentation to the ICMIF Internet Workshop, 19-20 May 1998.

[53] Information provided by JA-Zenchu, September 1998.

[54] Peterson, Anne Hayes. "A presence on the Web" in **Credit Union Magazine**, March 1998. pp. 65.

[55] Information on the ITU EC-DC Pilot project can be obtained from Mr. Lucio Goelzer, Head, ITU Information Services Department, Place des Nations, 1211 Geneva 20, Switzerland. E-mail goelzer@itu.int or from the web site http://www.itu.int/ecdc/

[56] UNCTAD Commission on Enterprise, Business Facilitation and Development. **Report on the Expert Meeting on Capacity-Building in the Area of Electronic Commerce: Human Resource Development**. Document TD/BCOM.3/13-TD/B/COM.3/EM.6/3 of 29 July 1998. Para.18.

validation, personal privacy issues, and cryptography (i.e. locks and keys enabling individuals and businesses to protect sensitive information as it is transmitted over the Internet).

> Most presently deployed encryption systems support rather than hinder the prevention and detection of crime. Encryption helps to protect burglar alarms, cash machines, postal meters, and a variety of vending and ticketing systems from manipulation and fraud; it is also being deployed to facilitate electronic commerce by protecting credit card transactions on the Net and hindering the unauthorized duplication of digital audio and video. However, the deployment of encryption (and other information protection mechanisms) is still patchy. Most automatic teller machine transactions are protected by encryption, but transactions made by bank staff (which can involve much larger amounts of money) are often not protected. Most Internet electronic mail is still sent "in the clear" and is vulnerable to interception. Most cellular telephone calls in the U.S. are still sent over the air without the benefit of strong encryption. The situation is similar in other areas. [57]

The most common security protocol SSL or Secure Sockets Layer is used extensively by web browsers to provide secure connections for transferring credit cards numbers and other sensitive data, however, for many the level of security is insufficient. SET (Secure Electronic Transaction) is emerging as the Internet standard for credit card transactions with endorsements by companies such as VISA, MasterCard, IBM, Hewlett-Packard, and most recently by Microsoft [58] SET works with digital or electronic credentials or digital Ids. [59] These ensure that electronic transactions are carried out in terms of authenticity, confidentiality, integrity, and nonrepudiation safeguards. One of the difficulties encountered when using digital signatures is that of ensuring that the identity of a person who holds a pair of encryption keys is accurately known. This service is offered by trusted third parties called certification services (CSs) or. Certificate authorities (CA) which certify and guarantee that a public key belongs to the supposed owner.[60] It is widely believed that the development and use of certification services and authorities will be essential for secure and trusted electronic exchanges -- and, consequently, will become a prerequisite to participation in electronic commerce and online communications. [61]

Below is an example of what is involved in a SET transaction over the Internet.

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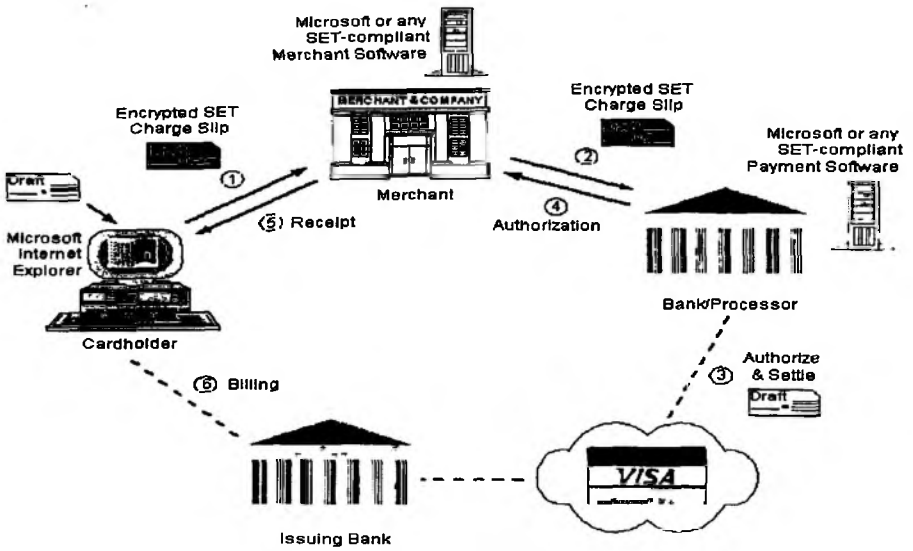
[57] Hal Abelson, Ross Anderson, Steven M. Bellovin, Josh Benaloh, Matt Blaze, Whitfield Diffie, John Gilmore, Peter G. Neumann, Ronald L. Rivest, Jeffrey I. Schiller, Bruce Schneier, **The Risks of Key Recovery, Key Escrow, and Trusted Third-Party Encryption.** June 1998. http://www.cdt.org/crypto/risks98/

[58] SET Press Release. "SET Continues to Gain Industry Support". 1 September 1998. http://www.setco.org/press19980901.html

[59] SET. "SET™ Certificate Authority". http://www.setco.org/certificate.html

[60] Isabel Hernando. "Security and Confidence in Electronic Commerce: Certification Authorities". Paper presented at INET '98, July 1998.

[61] Op cit. **The Risks of Key Recovery, Key Escrow, and Trusted Third-Party Encryption.** June 1998. http://www.cdt.org/crypto/risks98/



Source: ICMIF

As noted above a number of cooperatives are examining the possibility of becoming certificate authorities for their members including ICMIF[62] and LRF. ICMIF recently reported to its members that individual certification could be costly with an estimated USD 75,000 as an initial set up fee with added annual subscriptions and charges per user. It has proposed that it become a Global Certification Authority to reduce cost for members.

v) Member Access

However, cooperatives need to be wary of simply designing web sits for public relations. As noted many times above, Internet presence must bring value to membership. Therefore, one issue that all cooperatives will need to face is how many of their members are actually using their web site and the services provided on it.

As noted above, some cooperatives such as LRF (Sweden) have programmes which assist members obtain the necessary hard and software to enable Internet access. Others provide advice on to members. However, given he cost issues and connectivity issues, Internet access continues to be limited for many members of cooperatives especially those in rural areas.

A number of international and national development organizations are active in supporting organizations get access to the Internet. The United Nations Research Institute for Social Development (UNRISD) has compiled a list of both organizations and projects on information technology projects as part of its programme on Information Technology and Social Development.[63] The underlying premise of the programmes undertaken is that information technology can be used as a tool for development. Some focus on promoting community access to the Internet through the telecentre approach, which provides connectivity, access, capacity building and content creation, rather than focusing on providing access for individuals. The idea being that if community telecentres could be established, access could be provided to a large group of people at low cost.

A Community Network, via online technology, is an association that serves the communications and information needs of a group of people who have a common interest.

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[62] ICMIF. ICMIF Internet Workshop, 19-20 May 1998.

[63] http://WWW.UNRISD.ORG/infotech/links/projects.htm and http://WWW.UNRISD.ORG/infotech/links/orgs.htm

Like many Internet Service Providers, Community Networks provide Internet access and e-mail. They also provide information resources for their communities. A community network must fully be a part of the physical community by integrating with the cultural, economic, environmental, political and social fabric. Community networks facilitate communities as a geographically situated place, but provide an interactive communications medium that is not limited by time, space or geographical boundaries. ...

Community networks provide a solution for the isolation of rural areas, for home-based businesses, for greater economic opportunity, and the opportunity to explore and compete in the global community. [64]

Telecentre services might include basic communication such as voice, fax, e-mail, Internet access, etc.; public and quasi-public sector services such as tele-medicine, distance education, municipal governance services, etc.; and private sector services like news distribution, tele-commuting services, training, information on markets, crops and much more.

For example in Malaysia, the Government has brought the Internet to rural areas with the logic that "Rural people are the ones who need it most". The Ministry of Education with its programme of "Smart Schools" is using the Internet for distance learning.[65]

The idea of community telecentres may be an attractive idea for cooperatives that wish to extend Internet access to members in remote or rural areas and is coherent with the last Cooperative Principle of "Concern for Community".[66] A number of organizations are presently supporting the creation of telecentres including the UNDP with their IT for Development Programme which has undertaken pilot projects in Egypt and South Africa.[67] The International Development Research Centre (IDRC) of Canada has begun implementing the Acacias Project (Communities and the Information Society in Africa) with initial focus on Mozambique, Senegal, South Africa and Uganda.[68] Other organizations are also coordinating development work on information communications technology including a telecentre work programme is the Partnership for Information and Communication Technologies in Africa (PICTA) which brings together agencies including ITU, IDRC, UNESCO, ECA, CISDA, World Bank, UNDP, and Pact. [69]

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[64] Cyd Strickland. " Aspects of Diversity, Access, and Community Networks". Paper presented at INET '98, July 1998.

[65] Thomas Fuller. "Bringing the World to Malaysia's Rural Poor" in the **International Herald Tribune**. 20 August 1998.

[66] ICA Statement on the Co-operative Identity. 7th Cooperative Principle. **"Concern for Community**: Co-operatives work for the sustainable development of their communities through policies approved by their members."

[67] Pilot Projects by UNDP's IT for Development Programme: http://www.undp.org/undp/info21/pilot/pi-main.html

[68] Acacias Web Site: http://www.idrc.ca/acacia/

[69] PICTA Web Site: http://www.bellanet.org/partners/picta/

4) Conclusions

The challenge is to harness the technologies in a timely and cost effective manner, yet with the readiness to experiment with new modalities and approaches.[70]

The spread of communication technology and in particular Internet service (the World Wide Web, audio and tele-conferencing, on-line databases, etc.). will change the way people communicate and do business. If cooperatives are to continue to meet the needs of their members, then they will need to adopt the latest technology to not only communicate with members but also provide them with the best possible services and respond to the challenges of globalization with increased competition.

However, cooperatives will need to be wary of adopting these new technologies without ensuring that adequate resources are allocated to its development. Human and financial resources are needed as well as ability to adopt and adapt to new ways of communicating and doing business, and in particular new ways of not only responding but also imposing change.

Although there is no one source of expertise on how to best adopt and use communication technology especially with regard to access to the Internet; certainly the experience of others may provide insights so as to know what issues need to be addressed. Looking to cooperatives in one's own community, country and region will no doubt be useful for getting started and sharing information on a sectoral basis may prove useful especially with regard to the possibility of engaging in e-commerce. Creating partnerships may be the most cost-effective way of introducing these innovations.

A number of cooperatives have risen to the challenge and have proven that their communication strategies with Internet as one of the principal components does provide added value to membership and improve their ability to serve their members.

Other Useful Resources:

- The Internet Society (http://www.isoc.org) too provides useful information both to members and non-members on issues that confront the future of the Internet including new on the Internet, links to sites on Internet security and market research, legal issues, standards and codes of conduct.
- UNESCO. Short Internet Guide. In French and English http://www.unesco.org/webworld/decouvrir/guide.htm
- Information Technology in Education (A guide on tools for developing an educational web site) http://www.unesco.org/webworld/infotraining/
- The HTML Guru! http://members.aol.com/htmlguru/
- IDRC Unganisha Project. A Survey of Collaborative Internet Technologies. http://www.idrc.ca/unganisha/document/collab/
- Links to Pages Explaining How to Cite Internet Sources. http://www.aitech.ac.jp/~iteslj/Links/citing.html, 4 June 1998.
- Digital Equipment. http://www.digital.com/internet/
- IMB Global Services. http://www.ibm.com/Services/

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[70] UNDP and Communications Technology. http://www.undp.org/undp/comm/index.html

Annex 2
Cooperatives, the Internet and Development
Video Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Rosa Delgado, SITA/Internet Society Special Interest Group for Developing Countries ISOC
Geneva, Switzerland

NOTE: This presentation originally was made in Spanish by video (Real Audio off the Internet). The visual aids used are translated from Spanish and are included below.

1) What is SITA (Société National de Téiécommunication Aéronautique)

- SITA is the world's leading provider of global telecommunications and information solutions to the air transport industry, serving more than 650 customers in 220 countries and territories, over the world's largest, most advanced voice and data network.
- It provides solutions based on the TCP/IP protocol.
- SITA has been providing effective and secure telecommunication services since its foundation in 1949.

2) Aims of Emerging Nations

- Fast and effective information flow in all sectors
- Introduction of appropriate telecommunication technology
- Improve the daily lives of citizens through modern technology
- Promote local culture (Language, tourism, etc)
- Create a image of confidence which ensure economic well-being

3) Facts

- Users in all parts of the world can buy local products. The Net offers services to formal and informal producers enabling them to reach the international marketplace.
- The Net has placed a tool in the hands of developing countries to generate economic well-being.
- Development is not only about feeding the hungry today, but learning to how to solve the problem.

4) Past trends

- Deficient quality of service
- Centralized systems and incompatible technologies
- Lack of training in modern technologies
- Lack of development planning
- High costs of communication services

5) New Trends

- Universal Access
- New services at low cost

- Decentralized systems
- Use of standard systems and therefore compatible systems
- Internetworking (Exchange of information)

6) Information Systems

- Benefits of Computerization :
- Competitiveness at national and international level
- Access to libraries of knowledge and new technologies at global level
- Fast and efficient socio-economic development
- Non-computerization reinforces the differences between rich and poor countries

7) Computerized Networks

Individuals connect to the networks via: the Internet: E-mail, Web, dial-up (PPP access), Intranet and Extranet; Wide area network (WAN), Metropolitan area network (MAN) y LANs with PC (software), a modem (high speed), a telephone line and user -id (ISP). Monthly costs for 10 hours of use (i.e. traffic via a telephone line and ISP) averages about USD 20 – 40.

8) What is the Internet ?

- A democratic system
- The largest network of computers connect via telephone lines, cables or satellites
- A wealth of free information for a global audience
- A group of interconnected computers which uses the transport control protocol/Internet protocol (TCP/IP)

9) Advantages and Disadvantages of the Internet for Countries in the South

Advantages:

- Promote development technologies (i.e. cellular telephones will become more affordable than traditional systems)
- Little training is needed

Disadvantages

- More costly technologies in countries of the South (PCs, modems, etc);
- Depends on telephone rates which are not always affordable
- Depends on adequate telephone lines and electrical supply.

10) Who governs the Internet ?

- No single authority governs the Internet
- The Internet Society (ISOC) is the international organization for open sytems and Internet coordination, technology and applications.

- Based in Reston (USA) ISOC organizes an annual conference . INET. The next will be held in June 1999 - INET'99 (San José-California) - http://www.isoc.org/inet99

11) Internet and Cooperatives

- Facilitates access to information for all cooperative members on an equal basis
- Creates an international presence on the Internet (multilingual);
- Promotes global collaboration between members of cooperatives, the private sector, international organizations and governments, etc.;
- Creates the Internet culture among members.

12) Internet Applications and Cooperatives

Applications are unlimited

- E-mail, forums, mailing-lists (e-commerce, distance education, tele-work, etc
- Web applications: publications, access to information
- Databanks, directories
- Multimedia (radio, VoIP, interactive TV and video-conferencing);
- Access to libraries, catalogues, news, documents, software, electronic books;
- Personal development

13) Concerns for Cooperatives

- Security (information and infrastructure)
- Lack of confidence of developing country entities
- Secure electronic transactions
- Lack of local training in rural areas
- Connectivity (in rural areas)
- Competition (improvement of services and costs)

14) Conclusion

The Internet is an indispensable tool for research, trade, education, medicine, banks and cooperatives.

Its success will depend on the adoption of appropriate legislation at the national and regional level (telecommunication rates, affordable electronic equipment, national education strategies, etc.), the resolve of participating institutions, and the active promotion of the benefit of the Internet at all levels of society – national and regional.

Annex 3
The Cooperative Superhighway and Virtual Community for Cooperators
Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Mary Treacy, Director of Communications
International Co-operative Alliance ICA, Geneva, Switzerland

NOTE: The speaker introduced the two web sites noted below and provided commentary on the contents of each site.

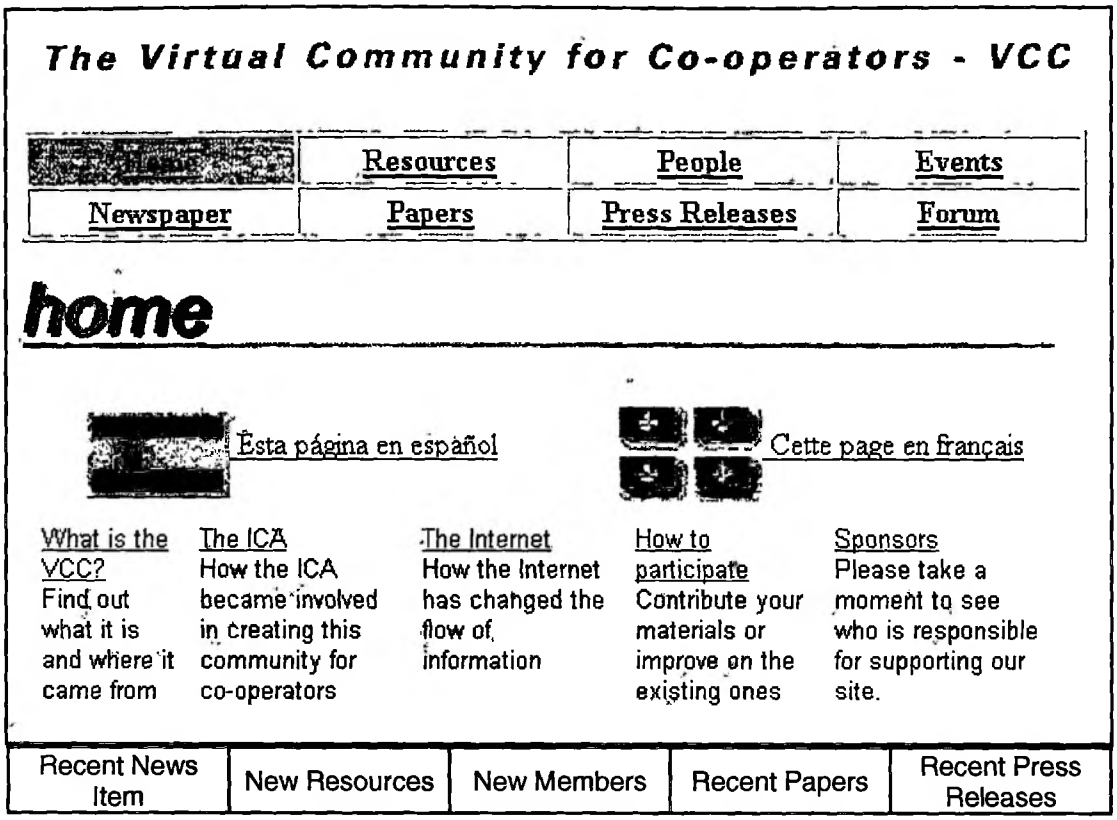
- **http://www.coop.org**

Welcome to the Co-operative Information SUPERHIGHWAY

Click on a link to cruise any of the following databases and websites

ICA WEB SITE
ICA PRESIDENT
COMMUNITY
INFO-CENTRE
RESEARCH
GUEST SITES
COOPS 4 KIDS
DATABASE
TRADE
NEWSPAPER

- **http://edu.coop.org/**



1) Introduction

The Virtual Community for Cooperators (VCC) is a free association of cooperative leaders, educators, developers, researchers, learners and communicators collaborating for the advancement of the cooperative ideal. It is an on-line database for information on cooperatives and supports discussion group facilities (Forum).

The VCC web site contains a treasury of materials relevant to and valuable towards the development of the cooperative movement. This site aims to benefit from the Internet's multi-media platform in order to offer innovative materials to the international cooperative community. The information available is therefore presented in a variety of formats to suit different needs: web sites, text, images, photographs, videos, sounds, Java applications, etc.

As in real cooperatives, members can jointly invest so that all can benefit. Membership is free and open to anyone wishing to make use of and contribute towards this treasury of cooperative materials.

2) Resources

Resources in the VCC are any material or information which is of interest to the cooperative movement, from a cooperative video or publication to a web site containing information on cooperative legislation. The resources added are in the form of a link to a web site containing the actual information, or to a contact name/e-mail address from where that information can be accessed. The VCC is thereby not infringing upon any copyright rules and not reproducing nor duplicating information belonging to others or available elsewhere. This section of the VCC serves to promote existing information and encourage the cooperative world to share

information in order to increase the intellectual capital and performance of the cooperative movement.

3) People

This Community is made up of real people... Becoming a member means contributing your knowledge, resources and abilities for the benefit of other members within the community.

4) Events

Members are encouraged to include information on upcoming events. The information can viewed by month.

5) Forum

This section is currently under development in order to provide the cooperative community with a networking platform for different discussions, general exchange of ideas, requests, and solutions. This is the place where networking and discussions take place, where problems are solved and where people meet.

6) Newspaper

This section includes articles submitted by members.

7) Papers

Members are encouraged to submit the full text of documents which may be of interest to other cooperators.

8) Press Releases

This section is to enable members to share their latest press releases.

Annex 4
CoopNet al Día: A Multimedia Information & Communication System
Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Roberto DiMeglio, CoopNet al Día Coordinator,
International Labour Office ILO, San José, Costa Rica

NOTE: This presentation was made in Spanish. An English translation to the presentation is provided here.

CoopNet al Día promotes interactive communication on themes relating to the development of human resources in cooperative and associative enterprises in Latin America. It also addressed themes such as gender, environment, legal and economic frameworks at the macro and local levels.

Presentation – Editorial - Publications – Perspectives – Internet – Archives
Events - Cooplinks – Statistics - Digital Forum

1) CoopNet Publications

- Educar para la cooperación, formadores para una economía fraternal: "Reconversión mental cooperativa" (Editor: MBA. Juan Diego Pacheco)
- Cooperativas, democracia, recursos humanos y género : ¿Qué tiene que ver el uno con el otro? (Editor: L.Daeren, Experta OIT en Genero)
- DRH y cooperativas: su importancia y su respuesta ante las circunstancias cambiantes (Editor: Sr. Yehuda Paz)
- Retos y Desafíos de la Educación Cooperativa hacia el Siglo XXI. Editor: Mark Levin, Coop Branch, ILO Geneva
- ¿Como enfrentar la desigualdad? Una parte de la respuesta es,sin duda alguna, con mas educación. (Editor: COOPNET AL DIA)
- Cooperativas enfrentando el desempleo (Editor: COOPNET AL DIA)
- ¿El modelo cooperativo un fenómeno histórico? El caso de Cuba. (Editor: COOPNET AL DIA)

2) CoopNet Support for Meetings and Publications

- Conferencia Regional 1998 de la ACI : Negocios y Comercio Cooperativo: el Rostro Humano de la Economía. Uruguay, 2-3-4 de diciembre 1998
- La planificación estratégica: una herramienta necesaria para consolidar la identidad, reafirmar la cultura empresarial e interactuar en forma coherente Costa Rica, 5,6 y 7 de mayo 1998 (Organizadores: COOPNET, PROGRESS y CONACOOP)
- El nuevo contexto para el tercer milenio: "la oportunidad para la empresa solidaria" Editor: Dr. Ing. Rubén Emilio Zeida, Presidente, Cooperativa El Hogar Obrero

3) CoopNet on the Internet (http://www.oit.cr/hp-coop/coopdia.htm)

- 2200 Mensajes por correo electronico
  2200 E.mail messages
- 100 Usuarios inscritos
  100 Registered users
- 1500 Usuarios no inscritos
  1500 Unregistered users
- 300 Rechazados por el sistema
  300 Rejected by the system
- 300 Rechazados por el Destinatario
  300 Returned by recipients

a) Trafico en el sitio / Traffic on Site

1998	23-31/07	1-12/08	13/08-21/09	22-30/09	1-31/10
Pagina solicitadas por día Pages requested per day	32	148	n/a	31	36
Maxima Maximum	63	482	n/a	61	163
Minima Minimum	4	7	n/a	9	0

País/ Country	No. pet/ Hits	País/ Country	No. pet/ Hits	País/ Country	No. pet/ Hits	País/ Country	No. pet/ Hits
CR	241	?	1667	?	157	?	1504
n/a	127	ar	839	com	142	net	275
com	91	com	528	cr	129	cr	269
py	43	uy	402	do	64	mx	242
arpa	43	net	350	it	41	com	228
net	42	cr	345	co	38	ar	150
it	35	it	337	br	33	cl	138
do	32	br	292	mx	27	se	131
ar	29	org	274	ar	24	co	119
co	29	es	168	bo	18	es	118
br	25	co	118	net	16	edu	69
edu	17	cl	95	ch	12	uy	62
mx	17	mx	75			do	60
cl	15	ni	50			br	56

b) Desarrollo del Sito CoopNet al Día
Future Development of CoopNet al Día on the Net

- Mayor atención directa a las solicitudes de los usuarios
  Greater attention to requests from users;
- Servicio de Tecnologías Internet voz, vídeo, data
  Internet services including voice, video and data transmission;

- Servicio de Información sobre Consultores
  Information service on consultants;
- Alianzas estratégica con Universidades
  Strategic alliances with Universities;
- Servicio de Información Bibliográfica
  Bibliographical information service;
- Servicio de Programas Educativas
  Education programme services ;
- Servicio de Promoción de Eventos
  Services to promote events;
- Estadísticas relevantes por país
  Relevant statistics by country;
- Cursos de formación a distancia
  Distance training courses;
- Materiales didácticos en línea
  Educational materials on-line;
- Servicio de Foros Electrónicos
  Electronic fora services;
- Versión en idioma ingles
  English version of the site.

c) Conectividad al Internet en la región
Internet Connectivity in the region

Abril/April 1998	Computadoras conectadas Number of Connected Computers			Servidores WWW WWW Servers		
CRNET/Aceso *CRNET Access*	Oct 96	Abril/April 98	Crecimiento Increase	Oct 96	Abril/April '98	Crecimiento Increase
Costa Rica	2978	5324	179%	118	346	293%
Panamá	418	1338	320%	7	32	457%
Guatemala	204	1087	533%	20	112	560%
Nicaragua	420	913	217%	39	107	274%
Honduras	225	872	388%	22	157	714%
El Salvador	7	234	3342%	2	53	2650%
Total	4252	9768	300%	208	807	388%

Annex 5
Cooperatives and the Provision of Internet Connectivity
Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Gabriel Sere, Neticoop, Uruguay

NOTE: The original presentation was made in Spanish. The speaker introduced the web site noted below and provided commentary on the contents of the site.

- **http://www.neticoop.org.uy**

neticoop

Las cooperativas en Uruguay

información general
directorio
¿cómo crear una cooperativa?
guía de negocios

Servicios Neticoop

conectividad internet
diseño web
hosting y dominio propio
capacitación y asesoramiento

- escritorio del usuario
- autoregistro de usuarios
- neticoop digital a 56K!!!

Servicio de información para cooperativas

Presentación
acceso al sic (restringido a usuarios)

Annex 6
Information and Communication Technologies for Sustainable Human Development Presentation to the COPAC Open Forum Montevideo, 2 December 1998

Atsuko Okuda, IT for Development Programme,
United Nations Development Programme, New York USA

NOTE: The information contained in visual aids used during the presentation precedes the actual text of the speaker.

United Nations Development Programme
Sustainable Human Development

1) Introduction

Thank you for giving me the opportunity to make a presentation at this Open Forum. I am delighted to be able to talk about information and communications technologies in the region where the Internet is growing faster than any other region and where people are enthusiastic about it.

2) What is UNDP?

- Established in 1965
- The largest source of grant assistance for development in the UN system
- Country offices in 134 nations and territories
- Projects in more than 170 countries
- Five Focus Areas :
- Poverty Alleviation, Good Governance, Protection of Environment, Livelihood Creation, Empowerment of Women

The United Nations Development Programme UNDP was established in 1965 as the largest source of grant assistance for development in the UN system. We have an extensive network of country offices in 134 nations and territories, conducting projects in more than 170 countries. We have five focus areas poverty alleviation, good governance, protection of environment, livelihood creation, empowerment of women. Through our IT for Development programme, UNDP promotes the applications and use of ICT for sustainable development.

3) Why Information and Communications Technologies (ICT)?

- new communication channels: e.g. using satellites, cable, and radio
- access to the global knowledge base: information on
- health services
- water and forest management
- natural disaster alert
- human rights

- networking and information-sharing
- and therefore help social integration and combat exclusion
- local knowledge mining and creation

Information technologies provide people in developing countries with unequalled opportunities to tap into various online resources, empower themselves and leapfrog. Today, the communities which do not have telephone lines can use satellites to connect to the rest of the world and the Internet. By being on the Internet, they are able to acquire information which is crucial to their lives, that is, information on health services, water and forest management, natural disaster alert, human rights, business activities and trends, and education. ICT also assists people to network and share information, through which social integration can be promoted. At the same time, local knowledge can be unearthed, reproduced and preserved electronically and shared with the rest of the world.

4) E-commerce

- The Internet is changing the way business is conducted
- Efficiency and cost-effectiveness
- Online market is expanding: 10,3 million people bought online 1n 1997 (6,3 million in 1996),
  - $ 5,1 billion spent by American and European users this year
  - 300 million Internet users, e-commerce transactions valued at USD 300 billion a year by the year 2001
- opportunity to expand business and create livelihood and employment

One of the examples of how ICTS can help people in developing countries can be fond in e-commerce. The Internet is dramatically changing the ways products and services are planned, produced, ordered, delivered and purchased.

A recent study concluded that the Internet can cut distribution cost by 5% and companies gain efficiency for as much as 0.75% of GDP. Accordingly, some industries, such as publishing, computer hardware and software and the airline industry have been witnessing dramatic changes in their business environment. A travel agency in Los Angeles (USA) attributed

10-15% of sales to the Internet. At the same time, online software and hardware companies in India and Taiwan are thriving.

Web shopping is increasing in many parts of the world. According to research don by Jupitar Communications, 10-3 million people bought online in 1997, up from 6.3 million in 1996. Goods and services sold online to the US and European buyers are expected to exceed US$5.1 billion this year, more than double last year's figure. The World Trade Organization WTO estimates that by the year 20001, there will more than 300 million Internet users worldwide and the value of e-commerce transactions will amount to US$300 billion a year.

This is not a phenomenon found only in industrialized countries. E-commerce is permeating economies in developing countries too. An Internet connection set up in a Peruvian village held the community to establish a partnership an see agricultural products to a New-York-based company. With the speed and geographical reach, with the availability and decreasing cost of equipment, the Internet connectivity provides an unparalleled opportunity to people in remote areas to reach the other side of the world and expand their business in a cost- effective way. At the same time, it creates employment and livelihood opportunities. The online market is expanding and this will be the way future business is conducted.

5) Advantages for Developing Countries

- The costs of hardware and software are falling
- Linguistic aspect: more and more non-English contents and tools available
- New technologies: videoconferencing, chat and speech recognition
- Community connectivity, rather than individual connectivity

6) Challenges for Developing Countries

- Infrastructure
- Equipment
- Capacity
- Availability of content

There are enormous advantages developing countries can enjoy. The costs of the hardware and software for establishing Internet connection is falling rapidly, while different communications channels and methods become available. The linguistic barriers are also disappearing. The proportion of content crated in other languages than English is increasing and at the same time, more and more innovative tools for creating content in various languages are being introduced on the market. New multimedia technologies, such as video-conferencing, chat and speech recognition will help people communicate with each other in a more comfortable manner.

However, the challenges facing developing countries are numerous and the gap existing between industrial and developing countries in terms of infrastructure, access, equipment, capacity and availability of content is widening. With the infrastructure limited in many developing countries, we realize that we have to focus more on community connectivity, which comprises the core of our digital community centre projects in South Africa and Egypt.

7) About IT for Development Programme

Objectives:

- Raise awareness to promote the application and use of ICTs for development
- Partnership with Global Knowledge Partnership and Information Imperative
- 3Cs: connectivity, content and capacity-building
- Physical and material access through digital community centres
- Help develop local contents
- Help build individual and institutional capacity through training and skill development
- Empowered people can participate in the decision-making at all levels
- Facilitate partnerships and alliances with public and private sectors and NGOs and CSOs

To help tackle these challenges, help advance Sustainable Human Development SHD and empower people at the local, national and global levels with ICTs, UNDP created the IT for Development Programme. One of the objectives of the programme is to raise awareness to promote the application and use of ICTs for development. By formulating visions and strategies regarding the role and impact of ICTs, we held developing countries to design effective policies. We have been partners of the Global Knowledge Partnership and Information Imperative, both of which facilitate dialogues and discussions on these issues.

UNDP also focuses on the three Cs: connectivity, content and capacity building. They are indispensable in order for the people to access and use information and knowledge. We provide physical and material access to telecommunications infrastructure through digital community centres. We help development local contents, reflecting the linguistic and cultural aspects of the areas and at the same time help build individual and institutional capacity through training and skill development. The people empowered with knowledge will be able to participate and be involved in decision-making at all levels, which gives them control over their lives.

UNDP also facilitates partnerships and alliances with public and private sectors, NGOs and civil society organizations. The task of mainstreaming ICTs use in developing countries can be done only through many types of partnerships of different organizations.

8) Digital Community Centres

- promote connectivity, access, capacity-building, content creation, communications and networking in rural areas
- serve as a platform to launch applications on:
- distance education, telemedicine, protection of environment, natural resource management, good governance, empowerment of women, employment and livelihood creation, support to SMEs and micro-credit enterprises, demonstrate feasibility, sustainability and impact of ICTs for development
- test different modalities
- owned by the communities and sought to be self-reliant and self-sustained

To pursue these objectives, our programme has launched a number of initiatives. One of them is the digital community centre project implemented in South Africa and Egypt. Through the community centre approach, we promote connectivity, access, capacity building and content creation as well as communications and networking in rural areas. By conducting these projects, we will demonstrate the feasibility, sustainability and impact of ICTs for SHD. Telecentres will serve as a platform to launch various SHD-related applications, such as distance-education, telemedicine, the protection of environment, natural resource management, good governance, the empowerment of women, employment and livelihood creation, support to SMEs and microcredit enterprises. It is expected that they will function as access points to information, communication hubs and networking and capacity building centres.

We also test different modalities: technology access centres in Egypt are owned and operated by the local community, while telecentres in South Africa will be managed by private sector companies. The last important characteristic of the digital community centre is that it is owned by the community and seeks to be self-reliant and self-sustained.

9) Technology Access Community Centres (TACCs) in Egypt

- focus on capacity-building: training and skill development in computer literacy, web page creation,
- desktop publishing, PC applications and maintenance contents in Arabic created and shared with other Arab countries
- offer distant learning programmes, including literacy and life-long learning programmes
- meet a growing demand of SMEs and local community groups

Technology access centres (TACCs) in Sharkeya, Egypt, focuses on capacity building by offering systematic training and skill development in computer literacy, web page creation, desktop publishing, PC applications and maintenance and technical support. Through this initiative, it is anticipated that SHD-related Internet content in Arabic will be produced and shared in the Arab region. TACCs will also offer distance-education programmes for a variety of audiences and purposes, including literacy and life-long learning programmes and will meet a growing demand of SMEs and local community groups by providing access to the global knowledge base.

10) Telecentres in South Africa

- Several different telecentre models and configurations
- Provide telephone connectivity, access to ICT applications and training
- Establish 2 women centres with the Commission on Gender and Equality of South Africa and SangoNet
- Special attention to local knowledge mining and creation
- will serve as models for similar sub-regional initiatives in Southern Africa

In South Africa, our programme provides funds for several different telecentre models and configurations in various communities. The telecentres model offers not only telephone connectivity to rural areas with limited telecommunications infrastructure, but also access to ICTs applications and training of communities and civil society. Together with the Commission on Gender Equality and SangoNet, UNDP is partnering to establish two women centres. The telecentres will serve as models for similar sub-regional initiatives in Southern Africa.

11) INFO 21

- offers access to various SHD-related contents, tools, best practices and special issues and features:
- Y2K and Developing Countries, E-commerce, Internet Governance and Human Rights and the Internet
- Resources in Latin America
- Regional Bureau for Latin America: Plaza 21 for environmental networking
- URL: http://www.undp.org/info21

Our programme also maintains a web site, INFO21, which offers access to various SHD-related contents, tools, best practices as well as special issues and features, such as the Year 2000 problem, e-commerce, Internet Governance, and Human Rights and the Internet. This site serves as a one-stop shop for a variety of resources, tools and contents useful to community centres. It has a unique collection on Latin America resources. The UNDP Regional Bureau for Latin America is also planning a "Plaza 21" which will link environmental institutions. Suggestions and possible partnerships for the programme in the region are most welcome. Other pilot projects in India, China, Ukraine and a number of African countries are also presently under preparation.

Annex 7
Electronic Commerce: Threats and Opportunities
(Comercio electrónico, peligros y oportunidades)
Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Esteban Valenti, Regional Director for Latin America and the Caribbean
TIPS, UNDP

NOTE: The original presentation was made in Spanish. The presentor gave a demonstration of the prototype of a Computerized Training System for distance training using CD-ROMs, "Use of the Internet and Electronic Commerce".

http://www.tips.org.uy - http://www.tips.org - http://www.redtips.org

1) Presentation of TIPS

The Technological and Trade Information Promotion System TIPS was created in 1986 by the United Nations Development Programme (UNDP) with the support of the Italian Government. It is currently backed by the European Commission (EC) and the Dutch and Austrian governments. The EC's support - by way of its AL-INVEST Program- was decisive in the Network's development in Latin America. TIPS is operated and managed by the DEVNET Association, an international non-governmental organization with consultative status with UN-ECOSOC.

The main objective of the TIPS Network is to contribute o enhance competitiveness particularly among small and medium sized business firms (SMEs) from developing countries, providing them a key instrument for business management – Information. TIPS processes and disseminates offers and demands gathered directly from companies and aimed at companies -particularly SMEs. These represent opportunities for trading, transferring technology, contracting services, comparing alternative business opportunities, planning and improving the management skills and competitiveness of businesses.

TIPS is the largest integral and informative E-Commerce NETWORK available for doing business. It has over 40 services dealing with commerce, technology, finance, economy, clean-production and business events, in Spanish, English and Chinese.

TIPS' services are directly connected with Electronic Commerce and are presented in three modes: business-to-business, business-to-client and government-to-business. This novel service -which can be visited through the Internet nodes network- was designed specifically for small and medium sized firms.

2) Presentation of CD-Rom – "Use of the Internet and Electronic Commerce"

TIPS plays a role in Electronic Commerce in terms of concept development and critical analysis, and because it designs and operates its own integral Electronic Commerce systems. Among its activities include the development of electronic tools - Computerized Training Systems CTS– on (CD-ROMs) for training at-a-distance. These incorporate multimedia techniques, integrated exams and tests with remote evaluation and monitoring.

The CTS on the Use of the Internet and Electronic Commerce will enable businessmen, without leaving their offices, to receive training in the operation of all the electronic and telematic tools available to carry out business management and performance activities.

3) Opportunities and Dangers

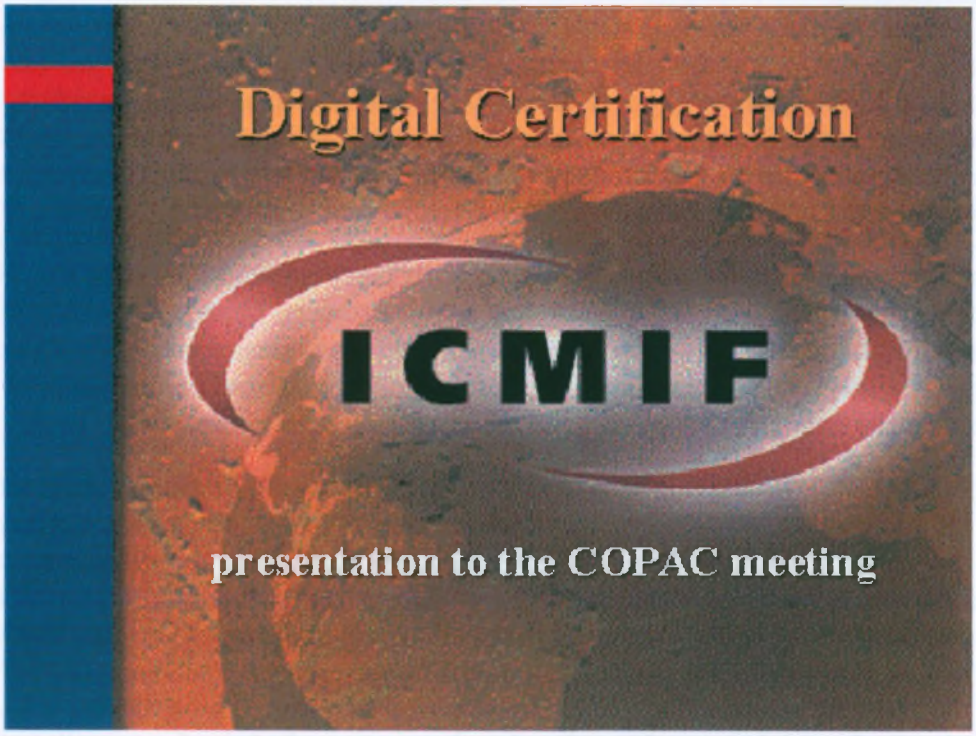
Information -among today's most innovative and dynamic fields- is one of the main driving forces behind production, trade, investment and transfer of technologies. Information technology promotes an information society and produces innovative technologies for such uses as E-Commerce and training. Th dangers of the information technology are that of being left behind, for information is, in short, the engine of business.

The future won't wait. Be a part of it.

Annex 8
Digital Certification: A Must-Have Technology
Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Zahid Qureshi, Senior Vice President, Development and Communications,
International Co-operative and Mutual Insurance Federation ICMIF, on behalf of
Shaun Tarbuck, Coordinator of the ICMIF Certification Authority Project

NOTE: The information contained in the visual aids used during the presentation prefaces the actual text of the speaker.



1) Introduction

- Electronic communication and e-commerce are firmly established as a technology
- Security is now the big issue
- Banks have SET, the insurance industry is slower to react
- Digital certification will become an essential technology

Three years ago many people were sceptical about the Internet or e-mail, just another IT fad they said. It will disappear after a few years. Now there can be no dispute that the Internet is here to stay and is changing business culture in the same way as the telephone and fax did.

Now that businesses are encompassing the Internet and electronic communication into their business strategies, the next major issue will be security of that information.

The banking industry has been one of the first to look at security as a serious issue. Visa and Mastercard have already introduced SET (Secure Electronic Transfers). Unfortunately, this

product may soon disappear because it is slow and inflexible. In addition, the banks sees credit card companies as competitors and are now looking for alternatives to SET. Many other industries including the insurance industry have been much slower to react to the security risk of the new technology.

Digital Certification is the technology that will counter security risks and will quickly become an essential must-have technology.

2) What are the dangers and where do they come from?

- Hackers
- Who are the hackers?
- IT Network was shown how easy it was to hack into mainframe systems
- What hackers can do once access is gained
- A solution was offered to the IT Network
- Hardware (firewall) and software (Cryptography)

We have all heard of the term hackers. Hackers take many different forms: joyriders, vandals, spies, scorekeepers, etc. They each have different aims, but ultimately they can cause damage to your business unless the proper security is in place. They use various methods to attack your system including a Trojan horse, viruses, bacteria, bomb, salamis, and worms.

In order to combat hackers, it helps to understand who they are and why they act. They are usually intelligent loners who have a grudge against society of big business. They see themselves as the Internet's answer to James Bond fighting against corrupt governments. To them this is a challenge. Although they have not yet fully capitalized on the financial rewards or fraudulent use of their knowledge, this too is likely to come in time.

In May 1998 the ICMIF organized a session for its Network of Senior IT manager in insurance on security issues. During the session, each of the participants challenged our consultant to see if he was able to hack (break) into their mainframe system, each one thinking theirs was safe. None were! We showed them what hackers could do once they had gained access into their systems – the most destructive and easy thing to do was to bring their systems down or damage their web sites causing PR and marketing problems as well as loss of face in the business community. The Trojan horse, a software programme, could be the most damaging in financial terms. It can be placed on a server by a hacker to collect whatever information it is programmed to collect. In some case, this can include streams of 16 digits (credit cards) or word searches on "merger" or "confidential". The software is very difficult to detect because it is disguised as a utility package.

The solution to these threats is twofold. Hardware using specific firewall configuration and software using cryptography technology.

3) Software solutions

- Cryptographic technologies
  1. I only want you to read your email
  2. I need you to know that I really sent it
  3. I need to know that what I sent is what you got
- Digital certificates for authenticity using Private Key Infrastructure (PKI)
- Encryption for integrity - uses digital signature which signs and secures the message digest (MD

The hardware solution is the responsibility of each organization. But the software solution could be a collective solution. The ICMIF therefore began researching the issue with a view of developing a joint project.

Cryptographic technology provides the software solutions. For example, when using e-mail, the following questions may arise – security issues:

- I only want you to read your e-mail (i.e. not intercepted)
- I need you to know that I really sent it (i.e. that it is I that sent it and not another person for example a competitor)
- I need to know that what I sent is what you got (i.e. that the message has not been tampered with or amended)

Digital certificates can be the answer to those questions. Digital certificates work on a Public Key Infrastructure (PKI) system. The owner has two keys, a public key available to the world and a private key which he alone has. A digital certificate provides the owner with a unique digital signature which authenticates who they are. This signature together with the PKI will provide the assurance to the first and second points previously mentioned.

The digital signature is also used in the encryption of the text message within the e-mail, thus protecting the integrity of the message (point 3 above). This is done by digitally signing the message digest (MD). The MD is a selection of letters chosen at random from the text which when opened /unlocked must match the text. If it does not, then you know the text has been tampered with.

4) Why do we need cryptography?

- Confidential information internal
- E-mails, claims data, policy sales, broker info
- Confidential external info
- Medical records, e-mails, internet sales, credit card info, policyholder data
- Protection against disgruntled employees
- To ensure we give the correct information to the right person

Cryptography is needed for a variety of reasons. If e-mail is used for confidential information, it must be secure. For example, e-mail messages which contain sensitive internal information such as a company restructuring with lists of department to be cut or messages referring to external information such as mergers and acquisitions could be disastrous if it leaked. Insurers using electronic communication for transmission of claims data, policy sales and broker information, all of which is confidential, could face negligent liability claims if the information became public. Other areas where cryptography is important is in e-commerce – purchases over the Internet and e-business such as providing policyholders details.

5) ICMIF Certification Project

- IT Network requested we research the project
- VeriSign - chosen pilot partner
- Considerable savings for ICMIF members
- Allows corporate branding of certificates
- Control of issuance lies with members

- Pilot run among Network members
- Roll out to other members after 3 months
- Can benefit small members as we

After the session in May, the ICMIF IT Network requested that research be undertaken on a certification solution on their behalf. Research and negotiations are still on going. Contacts for a pilot project have been made with VeriSign, the industry leaders with over 90% of the server certification market at the global level. ICMIF is negotiating for a collective solution and has found that considerable saving can result of the negotiating power that all ICMIF members collectively offer – approximately 31 %. The solution being examined would allow corporate branding of certificates and web sites that support the issuance and revocation of certificates. Control of the certificates would lie with the member; they would effectively act as a certification authority. ICMIF plans initially on running the project on pilot basis for 3months prior to opening it up to all members. Allowance has been made for small members to issue a minimum of 50 certificates through an ICMIF centralized certificate authority.

6) Future Uses

- Entry now will provide more opportunities in the future; ahead of the pack
- Cross selling of other insurance products made easier
- Cross selling of any related products
- All PC's will have swipe cards in 18 months
- Swipe card technology and digital certificates will be the access keys for all digitally stored information

Because of the fact that business applications vary with each industry, the future uses of this technology are almost limitless.

Entry into this field will put you ahead of the pack and will provide a competitive advantage. We anticipate that most of the certificates will be given free to policyholders. The financial rewards for the insurers will come in the form of reduced costs for policy servicing, reduced marketing costs, and increased sales because the market is more targeted. For the insurance industry it will provide an increase as well as a more secure way of cross selling products. In addition, given that many of our members are now financial services organizations and not only insurers, it will allow them to sell related products securely.

The technology for the use of digital certificates is also evolving. Within 18months all PC's will be sold with swipe cards attached, thus facilitating the use of certificates.

It is therefore clear, that this is a must-have technology for which the cooperative and mutual insurers will be able to gain a competitive advantage through ICMIF. This in turn may be able to become a service extended to our cooperative partners through the ICA.

Annex 9
Managerial Capacity-Building: Brazilian Farmers' Use of Internet
Presentation to the COPAC Open Forum
Montevideo, 2 December 1998

Ildefonso Pinto Bezerra, International Affairs
Confederaçao Nacional de Agricultura CNA (Brazil)

NOTE: A background document was prepared for the meeting in Spanish. A translated version of that document is included below. The speaker introduced the two web sites sites noted below and provided commentary on the contents of each site.

- **http://www.siagro.com.br**

- **http://www.senar-rural.com.br**

SENAR SERVIÇO NACIONAL DE APRENDIZAGEM RURAL

1) Introduction

The National Confederation of Agriculture CNA of Brazil has a membership made up of 2000 rural unions, 27 agricultural federations representing more than 2 million farmers in Brazil.

2) CNA on the Web

CNA maintains two web sites: **http://www.siagro.com.br** and **http://www.senar-rural.com.br.**

In 1995, participants of a Congress of farm leaders and farmers were asked to list the services they would like receive via the Internet. Based on the replies, a first public web site was designed – http://www.siagro.com.br – which included the information which had been identified by farmers. A cooperation agreement between CNA and SEBRAE enabled member farmer unions to obtain a computer in order to access the Internet. Individual

farmers who did not own computers could go to their local unions to access the site and desired information. It is estimated that 800 farmer unions in Brazil have Internet access.

3) Practical Services offered to farmers on the http://www.siagro.com.br

- Farm prices from a various regions of Brazil.
  Information on the prices to purchase agricultural inputs as well as commodity prices are included. The server for this service is based in Brasilia with prices being updated remotely on a monthly basis by each of the 27 agricultural federations.
- Basic texts including legislation concerning labour, social security, agricultural product classifications, animal health, seeds and farm enterprises.
- Agricultural events
- Weather forecasts tailor-made to farm needs each of the regions of Brazil.

4) Other relevant practical services

- Classifieds to facilitate the buying and selling of land and used agricultural equipment; technical articles on areas of interest in the field of agricultural and livestock development;
- Statistical data on actual and forecasted harvests;
- Important governmental decisions concerning the agriculture and livestock sectors;
- Information by region to promote the collection of information at the local, regional and national level on soil use in each region.

5) Trade site for farmers http://www.siagro.com.br

- Services offered by SIAGRO (Sistema de Agronegocios or Agri-Trade System) were launched in July 1997.
- There are over 200 visitors per day to the site.

Annex 10
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