THE COMMONWEALTH OF LEARNING

Identifying Barriers Encountered by Women in the Use of Information and Communications Technologies (ICTs) for Open and Distance Learning in the South Pacific

Sponsored by
The Commonwealth of Learning and
The New Zealand Official Development Assistance of the
Development Cooperation Division – Ministry of Foreign Affairs and Trade

May 7 - 11, 2001
Wellington, New Zealand

SUMMARY REPORT

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Organised by: *The Commonwealth of Learning*

Local Host: *The Open Polytechnic of New Zealand*

Supported by: *The New Zealand Official Development Assistance of the*
Development Cooperation Division -
Ministry of Foreign Affairs and Trade and
The Commonwealth of Learning

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Foreword

Education and training opportunities provided through distance and open learning are one of the few educational areas in which women in the developing world are well represented. Flexible delivery methods help to overcome some of the challenges that women and girls face when the only other opportunities for education are provided through conventional means. However, with the increased use of the new information and communications technologies (ICTs) to deliver open and distance learning, it is feared that this trend may be reversed and that women may become marginalised in opportunities for open and distance learning due to issues related to access and ability to use the new technologies.

Further, the influx of the new technologies may have an impact on the staff employed to work in distance teaching environments. If women are disadvantaged in accessing and using the new technologies, they may be limited in the types of positions for which they are employed. In order to further explore these concerns, The Commonwealth of Learning (COL) contracted with a consultant to carry out an environmental scan on the research and information available on issues pertaining to women and their access to information and communications technologies, with particular regard to open and distance learning. The consultant found little research in this area, although some sources acknowledged that women might face barriers when accessing information and communications technologies, especially in parts of the developing world.

In view of this, The Commonwealth of Learning took the initiative to support regional symposia through which information and research data would be provided which would assist institutions when delivering education and training through distance modes, organisations and agencies concerned with women's access to information and communications technologies, government agencies, and others working in the field, in order to help ensure equal access regardless of the gender of the potential users.

Preface

In May 2001, The Commonwealth of Learning organised a symposium of persons from the South Pacific involved in women's issues, open and distance learning, the use of information and communications technologies, or a combination of the three. The symposium, which was supported by the New Zealand Official Development Assistance (NZODA) of the Development Cooperation Division, Ministry of Foreign Affairs and Trade (MFAT) and hosted locally by The Open Polytechnic New Zealand, focused on the identification of barriers to the use of information and communications technologies in open and distance learning encountered by women. Participants from the Commonwealth countries in the South Pacific, in addition to staff from selected educational institutions in the South Pacific, Australia and New Zealand, were invited to attend and a representative from each country presented a paper for discussion.

The country reports identified the extent of open and distance learning provision, the barriers to women's participation, possible strategies that could be employed to overcome the barriers and the perceived influence and affect of communications policies on women's participation in the use of information and communications technologies. It was anticipated that the meeting would provide a valuable forum for consultation and interaction among educators involved in open and distance learning in the region, as well as provide opportunities for strategies and recommendations to be put forward, and potential projects to be developed for implementation.

Acknowledgements

The Commonwealth of Learning is grateful for the assistance and support provided by the organisations and individuals who contributed to the success of this meeting. Specifically, COL would like to acknowledge:

- The New Zealand Official Development Assistance (NZODA) of the Development Cooperation Division, Ministry of Foreign Affairs and Trade (MFAT) for providing the funds to support the convening of the symposium.

- The Chief Executive Officer and staff at The Open Polytechnic New Zealand for the support provided in the lead-up to and during the symposium.

- The meeting participants, who gave their time to attend and provide insightful and interesting contributions to the proceedings.

- Ms. Ann Devoy of Whitireia Polytechnic New Zealand, who assisted in facilitation and summarised the meeting's proceedings and country papers for the final report; and Ms. Heather Thompson, of Whitireia Polytechnic, who facilitated the meeting.

- Ms. Nidhi Tandon, the consultant who completed the environmental scan.

The Open Polytechnic of New Zealand is a specialist provider of open and distance learning at the tertiary level. The institution aims to provide flexible, customised products and services to a diverse range of students and commercial clients, both in New Zealand and overseas. It currently offers programmes and courses, ranging from technical and vocational training to higher professional and continuing education. (Web site: www.topnz.ac.nz)

Whitireia Community Polytechnic, based in Porirua City is a New Zealand provider of applied vocational education and training. It is a multicultural institution, working with Pacific communities both within New Zealand and in the Pacific region. It is moving increasingly into flexible mixed mode delivery, and has for several years been using the Internet for the delivery of distance programmes. (Web site: www.whitireia.ac.nz)

The Pacific is the area of New Zealand's ODA emphasis; history, geography and immigration have given New Zealand close links with the region. The key objective of all Pacific Island Countries, as well as New Zealand, is that of a better quality of life for those who live in the region. That means safety and security, a preservation of personal and societal identity, and appropriate economic development to achieve freedom from hunger, adequate shelter, education and the opportunity to develop the human potential of all, including the marginalised. NZODA works through partnerships with NGOs, institutions, local agencies, and so on, to achieve these freedoms for the peoples of the Pacific region, through economic and social development programmes and initiatives. (Web site: www.mfat.govt.nz)

The Commonwealth of Learning is an intergovernmental organisation established by Commonwealth governments in September 1988, following the Heads of Government Meeting held in Vancouver in 1987. It encourages the development and sharing of open learning and distance education knowledge, resources and technologies. COL is headquartered in Vancouver and is the only Commonwealth intergovernmental organisation located outside of Britain. (Web site: www.col.org)

Abbreviations and Acronyms

AusAID	Australian Agency for International Development
COL	The Commonwealth of Learning
DFID	Department for International Development
DVD	Digital Versatile Disc
ESCAP	United Nations Economic and Social Commission for Asia & the Pacific
FINTEL	Fiji International Telecommunications Ltd.
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IFIP	International Federation for Information Processing
IMMARSAT	International Marine Satellites
INTELSAT	International Telecommunication Satellites
kbps	kilobytes per second
NGO	Non-governmental Organisation
NZODA	New Zealand Official Development Assistance
PC	personal computer
PEACESAT/TIPG	Pan Pacific Education and Communication Experiments by Satellite
PFnet	People First Network
PIRADE	Pacific Islands Regional Association for Distance Education
SICHE	Solomon Islands College of Higher Education
SIDAPP	Solomon Islands Development Administration Participatory Programme
TSKL	Telecommunication Services in Kiribati
TVL	Telecom Vanuatu Limited
UNDP	United Nations Development Programme
UNESCO	United Nations Educational Scientific and Cultural Organisation
USP	University of the South Pacific
USPNet	The University of the South Pacific Satellite Network

1   Introduction and Background

1.1   Background

In 1998, following discussions with various interested and concerned parties, The Commonwealth of Learning proposed to work with other agencies to develop strategies to increase the 'comfort level' of women using the new information and communications technologies in the open and distance learning arena. Through this initiative, a series of activities would be carried out to identify specific challenges that women face in the use of information and communications technologies and to propose strategies through which these obstacles might be overcome.

1.2   Rationale

Women are often well represented in the education and training opportunities afforded through open and distance learning delivery. This is especially true in developing countries where the characteristics of distance education overcome some of the challenges that women and girls face when education provision is limited to conventional means and institutions. With the rapid expansion of the use of new information and communications technologies for the delivery of open and distance education, however, it was feared that this trend could be reversed. Women could become disadvantaged in accessing education delivered by distance methodologies due to a variety of issues relating to the use of, or access to, these new technologies.

Additionally, the introduction of new information and communications technologies has implications for the staff employed to work in distance learning environments. If women are disadvantaged in accessing and using the new technologies this may influence the types of positions for which they are employed or decrease their chances of being hired for certain positions.

1.3   Project Methodology

1.3.1   Phase One – Regional Surveys

During the first phase of the initiative, preliminary surveys were distributed to key respondents in each of the four developing geographical regions of the Commonwealth – the Caribbean, the Pacific, South and Southeast Asia, and Africa. These surveys asked respondents to outline the way women use information and communications technologies for distance learning in developing Commonwealth countries. The regional survey for the South Pacific countries in the Commonwealth can be found in Appendix One.

Each regional survey also identified a series of questions to guide the content of country reports, which are intended to provide the background and context for discussions at subsequent regional meetings. The questions guiding the development of the country reports can be found in Appendix One – section six, *Questions that Country Reports Need to Cover: National Issues* (1998, 6.1).

1.3.2   Phase Two – Regional Meetings

Regional expert group meetings comprise the second phase of the project. It was anticipated that regional meetings would be held in each of the four developing geographical regions of the Commonwealth to identify the spectrum of information and communications technologies that

are, or are becoming, regionally prevalent for the delivery of education, and to outline barriers to their uses that girls and women face as both distance educators and as distance learners. The meetings would also deliberate on and identify possible strategies to overcome these barriers and would recommend courses of action to assist girls and women in accessing and using the new information and communications technologies.

Invited participants would have a background in women's issues, as well as in distance education and/or in the use of educational technologies and media. Before the meeting, key participants from each country would be identified to compile and present country reports addressing the list of questions posed in the regional survey. The country reports would identify the following:

- Barriers to the use of information and communications technologies women encountered generally and with respect to open and distance learning
- Strategies that have been used to overcome these barriers
- Examples of the effects of the implementation of technologies on female learners
- 'Lessons learned' as a result of these innovations
- Implications of a national telecommunications policy for women's access to information and communications technologies

Specialists in the field of information and communications technologies and education would be invited to attend the regional meetings to help facilitate and provide expertise as required.

This document is a report on the fourth, and final, regional meeting, which was held in Wellington, New Zealand in May 2001.

1.3.3   Phase Three – Publication of Findings

A proposed third phase of the project will involve consolidation of the reports from the four regional meetings into a publication outlining the current situation with respect to gender issues and the access to information and communications technologies. The report will also identify strategies to help increase access by girls and women to information and communications technologies for education and training purposes. It is anticipated that this final document will include examples of best practices from Commonwealth countries as a means of demonstrating initiatives, as well as proposed projects and activities that could be implemented to assist in improving access to information and communications technologies by women. This final document will be made available to:

- Distance education providers in Commonwealth (and other) countries
- Organisations and agencies interested in information and communications technologies issues for women
- Institutions involved in education provision to girls and women in developing countries
- International women's organisations' resource centres
- Those who attended, or otherwise contributed to, the regional meetings

Additionally, key findings and recommendations emerging from the overall project will be made available on COL's web site (www.col.org).

1.4   Meeting Outputs

The primary publication from each regional meeting will be a report summarising the discussions, identifying barriers to the use of information and communications technologies encountered by women, and outlining strategies to assist girls and women in overcoming these barriers. The reports will also include proposed future activities as well as lessons learned from across the regions about the integration or use of information and communications technologies in educational initiatives.

A second document will be the publication of the country reports.

It is anticipated that the regional meetings will also help to forge links between and among persons, institutions and agencies using open and distance learning techniques and methodologies, as well as information and communications technologies for the delivery of education to girls and women.

1.5   Beneficiaries

- Girls and women in the developing Commonwealth who must, or who would prefer to, undertake their education through alternative means such as open and distance learning.
- Professional women distance educators (trainers, tutors, managers, course developers and so on) who work, or are seeking work, in an educational environment employing the new information and communications technologies.
- Policy decision-makers interested in the interface among educational objectives including access, telecommunications policies and gender development.

2   Report of the South Pacific Regional Meeting

2.1   Background to the Meeting

In May 2001, The Commonwealth of Learning organised the fourth, and last, regional symposium to *Examine Barriers Encountered by Women to the Use of Information and Communications Technologies for Open and Distance Learning* in Wellington, New Zealand. The symposium was funded by the New Zealand Official Development Assistance of the Development Cooperation Division, Ministry of Foreign Affairs and Trade (MFAT) and hosted locally by The Open Polytechnic New Zealand.

In preparation for the symposium, participants from the Commonwealth countries in the South Pacific, as well as a representative from the University of the South Pacific, were invited to prepare sector reports. These reports provided background information about the country, as well as its education system, telecommunications policies and the extent of provision of open and distance learning. In addition, writers were asked to identify barriers to women's participation in the new information and communications technologies and in training and capacity-building strategies, and to discuss how the presence or absence of communications and gender-sensitive policies affect the provision of education through open and distance learning for women and girls. Report guidelines, including a list of the questions to be addressed (see section six of Appendix Eight), were provided to help ensure similarity in content across the reports. The country papers are not included in this report, but are summarised in Section 3.0 Highlights of Country Reports. It is intended that the country papers will be published in a separate document.

The symposium provided a forum for sharing expertise and knowledge concerning the use of information and communications technologies in open and distance learning among the participants, as well as an opportunity for consultation and discussion on the barriers women face in the various countries represented at the meeting. It was hoped that as a result of the forum, there would be further in-country discussions initiated by the participants as well as continued sharing and involvement in cooperative activities proposed during the symposium's proceedings.

2.2   Profile of Participants

The participants invited to the five-day symposium were all involved in some aspect of open and distance learning, women's issues, telecommunications, or any combination of these interests in their various countries. Most of the participants were also the authors, or co-authors, of the country papers. In all, seven countries were represented at the meeting: Kiribati, Nauru, Solomon Islands, Samoa, Tonga, Tuvalu and Vanuatu. In addition to these countries being represented, staff from the University of the South Pacific located in Fiji, staff from the Adelaide College of TAFE in Australia, as well as staff from the local host institution, The Open Polytechnic New Zealand, were also at the symposium. Two staff members from Whitireia Polytechnic, New Zealand, in addition to the COL staff responsible for the project, worked together as resource persons and facilitators for the meeting. A detailed contact list for the participants is provided in Appendix Two.

2.3   Summary of Meeting Agenda and Methodology

It was anticipated that the participants at the five-day symposium would identify the spectrum of information and communications technologies prevalent in their country for the delivery of education as well as the perceived barriers to their access that girls and women encounter in their roles both as distance educators and as distance learners. The participants were also expected to deliberate on and identify possible strategies to overcome the barriers identified and to recommend courses of action to assist girls and women in accessing and using the new information and communications technologies.

During the first two days, following the Opening Ceremony, presentations of the country reports were delivered to the meeting. The third day was spent in discussing and identifying the barriers to access, and during the fourth day, strategies and initiatives that could be implemented to overcome these barriers were proposed and discussed. The final morning focused on clarifying the initiatives proposed, making recommendations, and identifying the next steps. A detailed agenda of the proceedings is provided in Appendix Three.

2.4   Opening

2.4.1   Welcome

The symposium was formally opened on Monday May 7th at 9 am with words of welcome from Ms. Shona Butterfield, CEO of The Open Polytechnic of New Zealand and New Zealand board member of the Commonwealth of Learning. Ms Ruth Holland welcomed the participants on behalf of the New Zealand Official Development Assistance (NZODA), which funded the symposium, and commented on the value of having a wide range of participants from the Pacific in the discussions to follow, from government officials to grassroots educators. Ms. Susan Phillips of The Commonwealth of Learning (COL) welcomed the participants, and outlined the work of COL and its role in this project. The participants at the symposium then briefly

introduced themselves. On behalf of the participants, Mrs. Piula Fukofuka of Tonga thanked the speakers and concluded the opening ceremony with a prayer.

This brief opening ceremony was the first of three receptions hosted for the symposium participants. A traditional Maori powhiri (welcome ceremony) was held at Whitireia Community Polytechnic in Porirua City at the end of Monday's working sessions during which Mrs. Deirdre Dale, CEO of the Polytechnic gave a formal greeting to the forum participants. A special Pacific Island feast followed the ceremony and Maori and Pacific Island students of the Whitireia Performing Arts programme provided entertainment.

On Tuesday evening a reception was held in Wellington, hosted by The Open Polytechnic of New Zealand, and attended by New Zealand's Minister of Education, the Right Honourable Trevor Mallard, members of Parliament's Education and Science Select Committee, officials from the Ministry of Foreign Affairs and Trade, and the Fijian and Australian Ambassadors.

2.4.2   Introductory session: process and expectations

The first working session began with Ms. Susan Phillips giving a brief outline of the outcomes of the three previous regional meetings, held in Africa, Asia and the Caribbean (see Section 2.5).

After the process to be followed during the symposium had been outlined, the participants were given the opportunity to describe their expectations of the meeting. Expectations covered a range of areas, including awareness-raising, networking, funding, greater understanding of ICTs and ODL, and research.

Most participants expressed their desire for outcomes that resulted in constructive action rather than just fine words. Many felt working together and using The Commonwealth of Learning as a resource to make things happen could achieve this.

Some participants wanted confirmation they would personally receive the published symposium report and country papers; that these would not languish on officials' desks but could be used to raise awareness of the issues.

Many participants wished to work together on projects and ODL programmes. A post-symposium network could enable them to keep up-to-date, extend their contacts, and share experiences at grassroots level. A network in the Pacific about ODL programmes, wider than the current University of the South Pacific network, would be useful.

Most participants wanted to identify sources of funding that might be available from New Zealand and Australia. Funding was viewed as necessary in order to move forward on ICT and ODL initiatives for formal and informal education and training.

A number of participants hoped they would learn more about ICTs and how they could be used effectively in education during the symposium. A variety of needs were mentioned by different members, which the symposium could support and help resolve. These included: the need to upgrade the skills of teachers, technical help to get computers into schools and the curricula, assistance for the conversion of courses to ODL using ICTs, help in setting up telelearning centres, and so on.

Some participants hoped the symposium would help draw attention to the need for research and identify specific areas where research was required.

**2.5	Summary of Reports from the Earlier Regional Meetings**

Ms. Susan Phillips provided brief summaries on the previous three regional meetings held to examine the barriers to the access to information and communications technologies women encounter in open and distance learning.

2.5.1	Commonwealth Asian Region Meeting

The first meeting, a three-day meeting held in Delhi, India and sponsored by The Commonwealth of Learning and the British Council, was convened in November 1998. Participants attended from the Commonwealth Asian countries of Bangladesh, India, Malaysia, Pakistan, and Sri Lanka.

The barriers women encounter when accessing information and communications technology that were identified at this meeting included:

- Access to the technology (hardware) itself
- General literacy levels and the language used
- Costs
- Lack of training
- Institutional barriers
- Infrastructural barriers

Major recommendations that emerged at the meeting included:

- Increased awareness-building through various activities including publishing reports and case studies on related Web sites
- Capacity building through the support of local groups and project development
- Arrangements for subsequent meetings should encourage more involvement at all levels and sectors

Three project outlines were developed and presented to the Delhi meeting as a whole:

- The establishment of community radio stations
- Conducting national surveys on open and distance learning for women
- Convening regional training workshops for distance education providers and distance learners who are women

2.5.2	Commonwealth Caribbean Countries Meeting

The second regional meeting to examine the barriers to women using information and communications technologies was held in Barbados in November 1999 in conjunction with the international conference, *TEL-isphere '99.* Representatives attended this meeting from Barbados, Belize, Dominica, Guyana, St. Kitts and Nevis, St. Lucia, and Trinidad and Tobago.

Three issues emerged from this meeting:

- Consideration of gender differentials with respect to information and communications technologies should encompass issues for both men and women in the Caribbean context

- Women and men cannot be categorised into gender specific, homogeneous groupings. Educational experiences and needs vary depending on social and economic circumstances and country contexts
- Information and communications technologies are neutral tools. They cannot, nor should they be, considered in isolation from the varied purposes, philosophies, and contexts for learning that they enable

Possible projects and activities that were proposed at the meeting in Barbados included:

- Conducting national surveys and carrying out research on learner needs, and on the provision of information and communications technologies and their appropriateness for open and distance learning in the Caribbean context
- Convening regional training workshops for educators, teacher educators, and educational policy makers in the use of information and communications technologies to support teaching and learning, as well as in personal and professional use
- Establishing pilot media centres to increase access for those living in rural communities

2.5.3   Commonwealth African Countries Meeting

The third regional meeting was held in Zanzibar, and was attended by representatives from Botswana, Ghana, Kenya, Lesotho, Mozambique, Namibia, Senegal, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The Acacia Initiative of the International Development Research Centre, which is headquartered in Ottawa, Canada, provided partial funding support for the symposium.

The barriers identified through the country papers to the access to ICTs included:

- Lack of education and training opportunities
- Lack of technical and educational infrastructure
- High costs
- Socio-cultural issues
- Paternalistic attitudes
- Health and resources
- Governance issues
- Rural/urban split

Which, when grouped together, all fit into one of the four following categories:

- Socio-cultural Barriers
- Political Barriers
- Economic Barriers
- Education and Training Barriers

When reviewed, it did not appear that this group would be able to have much affect on some of the barriers. As a result, it was agreed to focus on the barriers about which the meeting participants could have some influence, such as:

- The lack of access
- Lack of ICT trainers

- Lack of coordination among O/DL providers
- Absence of appropriate curriculum materials

The recommendations that eventuated from the meeting included:

- The report on the symposium should be widely circulated, and government officials should be briefed as to the proceedings and outcomes.
- COL should establish a *listserv* in order to facilitate on-going communications between and among meeting delegates.
- A series of case studies on the access to ICTs by rural women should be undertaken, preferably one in each country, and reports should be made available to all participants through the *listserv*.
- A Pan-African association should be formed to coordinate related activities.

In view of the proceedings, the following next steps were identified:

- COL will publish a report on the symposium, as well as the country papers and send copies to Ministry officials as well as to the delegates that attended.
- The participants at the symposium will brief Ministry officials about the proceedings, and particularly the outcomes and recommendations.
- Participants will provide COL with information about open and distance learning associations currently in existence in the region.
- Participants will identify and provide COL with information about national telecommunications, media and Internet service providers in order that COL can send copies of the report to them.
- COL will establish a *listserv* to facilitate communications.
- Participants will undertake case studies in rural areas to determine the training needs and ICTs available to women in remote/isolated areas.

Note: Complete meeting reports of the earlier regional symposia and publications of the country papers are available from The Commonwealth of Learning.

3.   Highlights of South Pacific country reports

Working sessions during the first day and a half of the symposium consisted of presentations of the individual country papers. Introductory speakers started by drawing attention to some major problems Pacific countries have in common. Most have small populations and a low GDP, and consist of many small islands scattered over a wide area, and thus face many difficulties in the areas of education and ICT use. Many are undertaking educational reforms but as yet have no ODL or ICT policies.

A synopsis of each paper is given below, followed by a summary of the discussions that occurred during and after the presentations.

3.1   Kiribati

Mrs. Kateata Binoka, Senior Education Officer in the Ministry of Education, Training and Technology, presented the country paper for Kiribati.

Kiribati consists of 33 small coral atolls in three main groups scattered over three million square kilometres of ocean, with a total landmass of only 810 square kilometres. The population is approximately 81,000, of which 30,000 live in the capital, South Tarawa. Geographical isolation and vulnerability to climatic conditions, as the atolls are only five to six metres above sea level, present major barriers to Kiribati's ability to develop and maintain an infrastructure that supports access to ICTs and education.

Radio is the most common and popular form of communication in Kiribati, and is used at the primary education level to provide four hours of educational programmes a day. There is no television service, although people do have access to videos. The Telecommunications Services (TSKL) provides email and Internet access for the public; however, this service is expensive so few can afford to use it. Because of cost and the misuse of email and the Internet in Government offices, the Government only allows access in its Ministries.

Education is now compulsory from primary level up to junior secondary level (form 1-3). This has influenced the number of female students continuing their studies. However, attending senior secondary school requires any students from outlying islands to board at a secondary school on one of the main islands. This disadvantages females in rural areas, as families are often reluctant to send their daughters away to school because of cultural and social beliefs. Only a small number of students continue on to tertiary education because of cost and limited availability.

The main tertiary education institution providing ODL is the USP Extension Centre in South Tarawa, although the Tarawa Technical Institute offers a Japanese Language course for Fisheries Training students (all male) by distance learning using print-based material, audio and video cassettes. Admission to the USP Centre is based on grades acquired in Form Seven, with admissions for 2001 being 56% female and 44% male.

The USP Centre is the only institution in Kiribati that is well equipped with ICTs. Through USPNet it provides Internet access and video conferencing, and it also supports its educational provision with computers, telephone, video and tape recorders. However, only students studying on the main island are able to access the Internet and email, and the regular users of the system in 2001 consist only of the 18 students studying computer-related papers at USP, of which 60% are female.

Social and financial barriers are the biggest hurdles for Kiribati women who want to continue their education. It is a traditional belief that once a woman is married that is the end of their education. Most women do not have money to pay for course fees, and women on the outer islands also face prohibitive travel expenses. There are also many women who are illiterate, mainly in the rural areas and outer islands. Even in those areas where access is not a problem, many women are not motivated to try because the facilities are inadequate. Other barriers are a lack of technical help, and facilitators to teach computing literacy skills.

3.2   Nauru

Ms. Clara Alefaio, Third Secretary (Education, Trade, Health and Consular matters), Nauru High Commission in Fiji, presented the Nauru country paper.

Nauru differs considerably from the other Pacific nations involved in this symposium in two important ways. Firstly, it is a single small island of only 21 square kilometres; and secondly, it has a very high GDP due to the revenue received from phosphate mining. Government expenditure per capita is 10 to 20 times that of the other Pacific countries. Nauru has a population of approximately 11,280, of which 8280 are indigenous Nauruans.

Although Nauru has a reasonably sound infrastructure the full impact of the Internet revolution hasn't touched the island yet. This is due to the stagnant nature of the telecommunications industry. Only a privileged few, mainly in government or education, are able to benefit from the new ICTs. Women do not appear to be more disadvantaged than men in their access to ICTs; in fact the Computer Bureau of Nauru is managed by a woman and the majority of its staff are women. Working women have the opportunity to enhance and upgrade their skills, knowledge and access to ICTs because Nauru has modern working facilities.

Education is free, but a high percentage of youth do not participate in higher education. The Youth Affairs Department provides non-formal education for young people who dropped out of the formal education system. The Youth Affairs Department and the Nauru Vocational Centre are equipped with computers to cater for these young people. The Education Department has also provided all secondary schools with computers.

Distance learning is offered through the University of the South Pacific. The Nauru USP Extension Centre provides preliminary, foundation, vocational, degree and childhood education courses. According to available data, a majority of students enrolled at the USP Centre are women. This distance learning is the only means to realise and develop Nauru's human resource capacity without its people going overseas to study as they all had to in the past. There is a need for post-graduate level courses through ODL and informal courses including workshops for women at grassroots level. The increased use of ICTs such as the Internet and audio or video conferencing for satellite tutorials, communication, and delivery of learning materials and assignments, is a priority.

Capacity building to enable more women to access ICTs can only be done through more informal education programmes that will allow women to take part in less expensive training schemes. These should target women and girls who do not have access to ICTs but could nevertheless derive benefits from ICTs to improve their living standards. However, a serious problem is the lack of qualified personnel to run tutorial sessions and training programmes. Cultural barriers also impede women's progress, because of traditional norms and values and resistance to change. For example, Nauruan women are still expected to perform housewife roles while at the same time they are expected to work in paid employment to contribute to household living expenses.

Although Nauru is equipped with the technologies to provide ODL using ICTs, certain mechanisms such as policies, structures and programmes to enhance the viability of ODL need to be developed. Nauru shares with the rest of the developing nations their concerns about the need for more collaborative work towards developing ODL to serve the needs of its people to create and widen their access to quality educational opportunities through the use of ICTs.

3.3   Samoa

Ms. Nina von Reiche, of the Women in Business Foundation, and Dr. Emma Kruse Vaai, Academic Director of Samoa Polytechnic, presented the Samoa country paper.

Samoa consists of two main volcanic islands and a number of small islands, only two of which are inhabited. The population at the time of the 1991 census was 161,298, of which 76,697 were female and 84,601 were male. It is a comparatively young population with 50.7% less than 18 years of age. Samoa has a low GDP of US$940 per capita (1992). Inherent problems include: dependency on ill-defined markets, high cost of public utilities and infrastructure, as well as vulnerability to natural disaster. There is a heavy dependence on remittances and donor assistance. Although agriculture is the main means of livelihood it is regarded as a low-prestige occupation and there is a high level of rural to urban migration.

Education is provided by the government and churches. Girls' participation and success is equal to or better than that of boys; for example, at University Preparatory Year level (UPY) girls have outnumbered boys every year for the past ten years, except in 1993. However, the number of students who start education far outweighs the number (only 125 females and 82 males in 2000) who reach this point. The education system is focussed on formal education and white-collar skill acquisition, which exacerbates a "brain drain" as many migrate for work or educational opportunities overseas. A greater emphasis needs to be placed on vocational and informal training to meet the needs of the economy and the wider population, including those living in rural areas.

Current distance education provision is largely restricted to the formal tertiary sector. The main distance education provider, the USP Extension Centre, has made limited use of audio conferencing but its distance provision is still largely print-based with face-to-face tutorial support. However, ICT use is becoming more widespread, through overseas institutions and recently through a National University of Samoa online video-conferencing link with American Samoa.

Two groups of women users of ICTs were identified: women using it in employment, including office secretaries, and well-educated women using ICTs for education. Having acquired first degrees they then utilise ICTs for further education by distance. Currently nine women, supported by AusAID scholarships, are studying at Masters level through Australian institutions. For these women the ability to study at this level and be able to stay in their home environments is crucial; they can continue to fulfil vital family and community obligations. However, isolation and the pressures of these obligations are heavy loads to carry.

Current educational priorities as expressed in the Institutional Strengthening Project are targeted to improve basic services in the country, and distance education and ICT use are not included; they are not as yet regarded as having the potential to meet basic needs. Cost, weak infrastructure, lack of technology skills, and lack of computers are all barriers to the access of ICTs for educational purposes. This lack of resourcing is particularly serious for rural communities, as there is a bias towards urban schools and higher education. The lower quality of schooling that results from this bias exacerbates the rural to urban migration, as parents wish to send their children to "better" urban schools. ICTs and ODL do offer the potential to overcome some serious problems, especially in such areas as teacher upgrading, access to information, and widening the curriculum. The increased use of more traditional and readily available technologies, especially radio, should not be overlooked.

Non-government women's organisations and churches could have an effective role in providing access to ICTs and training. Churches are still central to most villages and many have computers, so they could perhaps facilitate access in the same way as in the past they were instrumental in achieving a 90% literacy rate. However, even if access can be provided there are other serious barriers such as attitudes towards technology and lack of skills. There is gender bias in curriculum areas so few girls take computer studies, many women do not perceive the need and benefits of ICTs, and most lack competency in ICT skills.

3.4   Solomon Islands

Ms. Irene Henson, Continuing Education Coordinator at the USP Solomon Island Centre, presented the Solomon Islands country paper.

The Solomon Islands consists of an archipelago of mountainous islands and coral atolls, with a total land area of 28,000 square kilometres. The population according to the 1999 census was 409,042 of which 48% were females. The Solomon Islands has a relatively young population with 41.5% of the total population being under 15 years of age.

Communication is limited in rural areas, with electricity and telephone services restricted to provincial centres. Internet and email access is restricted to Government offices and a few private businesses and educational facilities. However, the Solomon Islands Government, in conjunction with the United Nations Development Program, has recently set up a website to support rural development, and an Internet café in Honiara, the capital, which provides Internet and email access for the public at a relatively cheap rate. This Internet café is to be the central hub of the planned PeopleFirst network of 26 rural email stations.

Only 39.4% of the school age population (ages 5-29 years) are participating in primary, secondary, or tertiary education, as education is still not compulsory. Of the population attending school 45.5% are female; 78.8% of these are in primary school education, 16.4% in secondary school, 0.28% vocational and 0.95% in tertiary education. Due to the lack of compulsory schooling 40.6% of the total female population are illiterate.

There are two main institutions that provide Distance Learning both of which are based in Honiara. These are the USP Extension Centre, and the Solomon Islands College of Higher Education (SICHE). The Distance Education Centre (DEC) of SICHE also has 25 study sites throughout the provinces to allow more face-to-face interaction. There are significantly fewer female students than male students studying through these institutions; in 2000 females made up 24.5% of enrolments at the USP Centre. The majority of students are self or privately sponsored, with only 15.7% of total enrolments on scholarship (and most of these are males). Ethnic unrest has caused a major drop in the number of enrolments over the past three years.

The USP Centre provides free access for its students and staff to audio and video conferencing, Internet and email as well as online courses. The DEC of the SICHE communication network is based more on the "learning isolate" system, with students communicating with their tutors through post, telephone, two-way radio and facsimile. Each study centre was originally equipped with phones and teleconferencing equipment, donated by the Commonwealth of Learning. However, due to lack of technical know-how the equipment has not been maintained and students now rely on paid telephone.

At present the impact of ICTs for women's educational purposes is minimal, with the majority of the populace having no access to ICTs. It is estimated that approximately 90% of the female

population are ICT illiterate. Of the women who do have access to ICTs, most are in paid employment in Honiara. However, access to ICTs at work is not gender equal as they are usually only available to those in the top positions, most of whom are men.

The SIDAPP (Solomon Islands Development Administration Participatory Programme) website and planned rural network offer the potential for links with SICHE and women's organisations to provide awareness-raising and training programmes to rural women. An increased use of radio communications could also prove effective in these areas. However, major barriers such as cultural attitudes which disadvantage women and the high cost of education and ICTs will also need to be overcome before women can benefit from such initiatives. Government will need to come up with clear policies on how it will provide equal education opportunities for its citizens and encourage more women to participate effectively.

3.5 Tonga

Mrs. Peaua Tu'ipulotu Heimuli, Deputy Director of Education (Secondary Schools and Professional Services), presented the Tonga country paper.

The Kingdom of Tonga is an archipelago consisting of 171 islands, 36 of which are inhabited, with a total population of 97,446. Tongatapu is the largest of the islands with 38% of the land area and 68.7% of the population. Tonga provides access to education for all its population and has a very high literacy rate. English, the second language of the country, is the medium of instruction at secondary and post-secondary levels and is the dominant language in government and business.

Education is free and compulsory from age 5 to 12 years, with a national entrance examination at the end of Class 6 determining entry to the secondary level. Both government and non-government (church) schools provide education. Since 1963 the Ministry of Education has provided up to 5 hours per week of distance education by radio through its Schools Broadcasting Division. In addition it provides some educational TV programmes, assisted by sponsorship from local business enterprises.

There are several post-secondary educational institutions; government currently provides 53% of the facilities and training, with 47% provided by private sector and church organisations. Several of these offer some distance education, mostly by traditional print-based means. A Diploma in Education is offered in distance education (DE) mode, with about 70% of the participants being women. The Distance Education and Communication Centre (DECC) is responsible for the development of DE programmes at the higher educational level. Currently it only offers training programmes in information technology in conventional delivery form for the Ministry of Education, government departments, private sector agencies as well as the general public. This centre urgently needs skills development in flexible delivery systems to provide a range of training programmes. There are plans to provide DE units on each of the three main island groups in order to extend educational opportunities, and also increase the number of women involved in technical and vocational education.

Tongan women are subservient to their spouses and in-laws. Their purpose is generally defined as threefold: marriage, producing children, and domestic duties. Boys and men are more highly valued, and more investment is made in their education, health and future income earning potential. Even so, in 2001, the population of Tonga High School, the most elite school, was two-thirds females. Female students outnumber males in most secondary and tertiary institutions. Nowadays a few are far better educated than their husbands; some are the only breadwinners in

their families. Half of the eight government secondary schools have female principals, and there is an equal number of male and female Deputy Directors of Education. And yet a closer look would still find them subservient to males.

Tongan women are just beginning to use ICTs. However, the cost of computers, modems and Internet access means only middle class and women in management posts have access to the Internet and email. Furthermore, telephone services and electricity supply are unreliable and there is a lack of access to training, technical information, computer parts and repair services. High rates of technological obsolescence and lack of management expertise are other problems.

These barriers to ICT use are exacerbated for women as a result of their lower economic and social status, their lack of computing skills and English literacy (English is the dominant language for ICT use), their lack of autonomy and their lack of time. Women who hold low level positions do not gain access to computer equipment even if they have more ability and need for it. Social influences also affect women's attitudes towards ICTs. Despite their greater numbers in higher education generally, the tendency to direct women into non-technological professions means that women often feel fear and embarrassment when dealing with ICTs. The information technology scene is still predominantly male oriented and often a forum for gender discrimination, intimidation and even harassment. Studies showed that men continue to crowd out women's access to the training required for higher skilled work.

The Government has initiated a number of strategies to support women's development. The Prime Minister's Office coordinates women's activities in Tonga and a unit to work for women's activities has been established and is in the process of setting up the National Committee on Women's Affairs. Since the establishment of a Langafonua National Women's Council the interaction between Government and women's NGOs has increased. The rapid growth of women's NGOs at all levels (owing to more frequent participation in international fora) and their demonstrated ability in development education, training, community and business activities, make them a key element of any strategy to encourage women's participation in ODL and the use of ICTs. They are generally trusted by local communities and church organisations, are flexible in operation and have demonstrated great innovation and creativity in framing and organising development projects. However, a lack of networking and information exchange among women such as secretaries, activists, educators and researchers, continues to create barriers to the best use and circulation of information for women's empowerment.

3.6   Tuvalu

Mrs. Elenisi Malona, Senior Education Officer (Curriculum), Department of Education, presented the Tuvalu country paper.

Tuvalu consists of nine small and fragmented atoll islands, with a total land mass of 26 square kilometres. The present population is estimated to be approximately 12,000. Transport and communications are limited; however, radio is available on all the islands. The Government, which is the major employer in Tuvalu, owns most of the country's computers. Internet and email access is limited, with the Government having no formal policy on telecommunications or any signed agreement with a telecommunications provider. However, it has an agreement with a U.S. company over the rights to the Tuvalu Internet domain suffix (.tv), from which it gains considerable revenue.

There are 10 primary schools in Tuvalu, one on each outlying atoll and two on the main island of Funafuti, providing for a total of approximately 1,500 pupils. Eight of the schools have been

given one computer each by the government. The one secondary school in Tuvalu is situated on Funafuti, so students from outlying atolls are required to board if they want to continue their education. There are at present 558 students, of which 48.2% are female. The school has five computers, but computing is not part of the present school curriculum.

There are two commercial schools on Funafuti which provide vocational skills, mainly for women, in areas such as office management, clerical, secretarial and computing skills. These schools cater for between 20-30 students, and have the highest computer to student ratio (approximately 1:3.5) of any of the educational facilities in Tuvalu. The only tertiary ODL provider is the USP Extension Centre on Funafuti. At present there are 230 students enrolled, of which 61.3% are female. Tutorials at the USP centre are done mostly by audio and video conferencing, and although use of the Internet and email is available it is limited and requires a substantial fee. Tertiary study courses are only available to those who can pay the fees. However the government encourages further study by refunding course fees to students who successfully complete their courses, and students who complete three or more courses can apply for a scholarship from the government to continue study overseas. At present over half the 301 students studying overseas on scholarships are female.

The Tuvalu government now supports gender equality in education. However, females are still disadvantaged by cultural attitudes. Because of past attitudes regarding female and male roles, almost all government employees are male. Due to family and household commitments women still find it hard to have access to education. The barriers include the location of the educational facilities, which disadvantage women on outlying atolls, as well as the time and financial commitments the courses require. Few women have access to computers, so most women in Tuvalu remain computer and ICT illiterate, which makes distance education hard for them.

3.7   Vanuatu

Ms. Jane Kanas and Mr. John Gideon, Department of Education, presented the Vanuatu country paper.

The Republic of Vanuatu is an archipelago of eighty volcanic islands, with the twelve largest accounting for most of the land area. The 1999 national census recorded a population of 186,678. The indigenous people of Vanuatu are Melanesian and call themselves Ni Vanuatu. There are 109 Melanesian languages spoken as well as English and French for education, and Bislama, a dialect of Melanesian Pidgin English, as a lingua franca. Communication and transport infrastructure such as telephones, tar sealed roads, airports and shipping services, are still largely absent in most islands, and electricity is non-existent in rural areas.

In Vanuatu, basic education is still a luxury. The Ni Vanuatu child receives 6 years of "free" primary education before sitting a national examination. Only the selected few enter one of the 58 secondary schools, all of which require substantial fees. From there, a further filtering of students takes place and only the successful can enter the senior cycle, sitting the New Zealand Bursary examinations which qualifies them for further studies through government or overseas funded scholarships. Because of cultural attitudes that favour males, 43% of the women and girls have participated in education at some level from kindergarten to tertiary. Of this number, 3.8% have attended junior secondary school while only 0.6% makes it through to senior secondary level.

Currently in Vanuatu, the only institution providing ODL is the University of the South Pacific through its regional Extension Centre and its School of Law, Emalus Campus, both based in Port Vila. At the USP Centre there are about 65% males and 35% females studying, although this gap

is narrowing slowly. There is a considerable degree of gender bias in courses chosen so scholarships for women in the non-traditional areas of science and technology, such as those sponsored by AusAID and NZODA, are extremely valuable. Of the 35% females doing courses through distance, less than half will successfully complete their programmes of study due to factors such as age, marital and parity status, health and nutrition, low educational level, occupation, ethnicity, area of residence, size of household, access to household amenities, household income and community issues including financial support.

The ICTs offered by USP in Port Vila include audio and video conferencing, the Internet and email services. The Law school utilises the Internet through its own website and email to provide courses to its students. The Vanuatu USP Extension Centre has two sub-centres in the north and south of the country, but only email is available and only for staff members' administrative purposes. All forms of communication are expensive in Vanuatu, thus despite increasing awareness in the efficiency and power of ICTs, rural Vanuatu is not yet in a situation to fully utilise these options and any intentions for outreach into these areas must recognise that conventional ways of learning are still applicable.

For Vanuatu, the urgent task is to spread education out into rural areas for girls and women. Under the auspices of the Vanuatu National Council of Women, women's groups within the village or church level can be very effective in disseminating new ideas and technology. Although the Government has, at present, no formal policies regarding ODL and ICTs, some development is occurring and there are plans to establish telecentres in some areas.

3.8   University of the South Pacific (Fiji)

Dr. Esther Williams, University Librarian at the USP Laucala Campus, presented the USP paper, with additional contributions from Ms. Ruby Va'a, Director Designate of the USP Centre Samoa.

The University of the South Pacific is the largest provider of ODL courses in the region, offering a total of 250 distance courses from preliminary, foundation to degree level, with a total of 4204 external enrolments in 2000. A high 48% of these were women. The USP is owned by 12 island nations, which have established USP Extension Centres in their capital cities and towns to support students participating in distance study courses provided through the central University Extension service based at the main USP campus in Suva, Fiji.

Preliminary and foundation courses are offered entirely by distance mode, and by supplementing national institutions' responsibilities for the two final years of secondary education (6th and 7th Form) this distance mode option has enabled many women to complete their secondary education. The University offers courses through distance using print, and supports this with multimedia, satellite tutorials and discussions using its own USPNet.

The paper was based on research into the barriers to the use of ICTs faced by women students of USP. Using a methodology of a questionnaire and personal interviews, the paper reports on some specific and general findings and categorises barriers into three groups: those experienced by students, those by academic staff and those that can be considered administrative and caused by infrastructure weaknesses.

Students enrolling in courses through the USP are very diverse and the range of needs, skills, and experiences, as well as demands, reflect this diversity. While many still rely on printed materials for their education a high number of the women who participated in this survey stated that they prefer to use the new technologies for their education. This dispelled the view that women might

feel uncomfortable using new technology. The major barrier according to the study was access. Eighty-five percent of students didn't have access to computers at regional centres when they needed them, because of small numbers of computers, aggravated by lack of maintenance skills, staff using them for their own work, and the centres' restricted hours. Ninety-five percent of students did not have computers at home. For 75% of students, transport costs prohibited their attendance at tutorials, while slow and unreliable links created great difficulties in downloading material and participating in online discussions. 80% indicated a lack of computer literacy and appropriate training was a barrier.

Academic staff lacked ICT skills, and also needed training in adapting distance learning material to the new electronic media, and in their new roles of teacher, facilitator and mentor. Most did not have a computer at home and the high price of computers was a prohibitive factor. Like students they had problems with the lack of technical support and low speed modem communication due to low bandwidth.

Providing courses through ODL mode requires a high degree of organisation and commitment. Support services in the Pacific need to be improved, especially in the regional centres. In the study a high percentage of the respondents agreed that to break down the barriers to the use of ICTs for ODL more awareness-raising and training programmes need to be put in place or undertaken by the institution. However, the high cost of telecommunications in the region is a major barrier, while weak and unreliable infrastructures also hinder development. While between 39-44% of people in Australia and New Zealand are on the Internet, only between 0.28 and 1.58% of people in the Pacific island nations are.

According to Ruby Va'a, appropriate technology in the Pacific context means the latest technology which has proven to be the best, most affordable, longer lasting, low maintenance, and which reaches the bulk of the people. For women in rural areas print packages are still the best mode for learning, and radio delivery methods also provide a viable alternative. In the future telecentres may provide isolated populations with access to ICTs. In this study the message was clear: there was strong support for the use of ICTs and a combination of delivery methods for education. Faced with the difficulties of work, family, scarcity of time and poor technology access, women preferred a more mixed mode of learning, which would include face-to-face and online delivery and communication. What is feasible and interesting is the merging of the traditional and modern communication systems for learning.

In conclusion, the paper presented a range of possible approaches to overcome barriers, grouped into three main areas of concern: access issues, economic and cultural issues, and policy and planning issues. The latter highlighted the need for policy over a number of areas including copyright and gender issues, and also pointed to the need for research into various areas such as women in education, training and capacity building, ICT use and ODL.

3.9   Summary of discussion following presentation of reports

It is clear from the country reports that education in the Pacific faces many critical problems. Most are common to all countries, such as a weak infrastructure and the extremely high percentage of children who leave school before mid-secondary level. Some problems, however, are more extreme in some countries. For example in the Solomon Islands and Vanuatu, traditional gender bias reduces girls' and women's participation in higher education much more severely than in the other countries.

The wide-ranging discussion that took place during and following presentations of country papers has been grouped into six topic areas.

3.9.1   Gender inequalities

Although in a number of Pacific countries the success of females in higher education appears to equal that of males, gender equity issues greatly affect the ability of girls and women to participate on equal terms in these strongly traditional societies. Key points that were raised during the discussion were:

- It is necessary to change cultural attitudes that favour male children, but this may be a slow process. In some countries gender equity is not possible yet: this will occur slowly through generational change when younger women with less traditional attitudes become mothers. This change is occurring in urban areas, but it will be slower in rural areas where traditional values are still strong, and when parents have had little or no education.
- Many women don't perceive the need for higher education: rural women have busy lives within their family and community with clearly defined roles.
- More role models for girls are needed. When families see direct advantages that education can bring their girls they will change their attitudes.
- It is important that policies and strategies are in line with culture, but sometimes culture has to change. Education policies that ensure there is no gender discrimination are important.

3.9.2   Secondary level schooling

Participants felt it was important to move the focus from tertiary education and spend more time considering whether distance education at school level is viable.

- There is potential for ICTs to provide open schooling; the Commonwealth of Learning is encouraging projects that increase access to education at secondary level through ODL.
- Most rural children have to leave home to go to secondary school; many Pacific children spend half their childhood away from parents and villages. The lack of schooling in remote areas, and the cost of sending children away to urban areas to board, is a major reason why so many children drop out of school at the secondary level. ODL would assist to provide secondary education for all.
- There is a need to change attitudes, however. Many parents think village schools are second-rate, and choose to send their children to "better" urban schools. ODL won't necessarily change these attitudes, although it may help to overcome the serious problem of poor resourcing of village schools. If rural schools are upgraded and have facilities such as ICTs parents are more likely to want their children to attend them.
- There would be social benefits from an increase in provision of quality education in rural areas. It could help alleviate the problem of urban drift, and would reduce the social problems that can occur when rural children move to urban areas for schooling; some get into trouble, and others have to stay with extended families who regard them as a burden.
- During times of political disturbance schools have closed - distance education would mean provision could continue.
- Consideration needs to be given to the support of learners studying by distance. Students may not have the self-motivation and skills to cope with study by distance. Also, families may increase their difficulties by expecting them to do errands and work when they should be studying. So ODL for individual students is not necessarily a good model; it would be better to provide ODL within the context of group study.

- ODL provision would be the most successful if based within a community group or school environment, and students are more likely to succeed if they have human contact, qualified teachers and ICTs.
- More technical and vocational programmes should be provided at the school level.
- Vanuatu is planning Learning Resource/Telecentres in rural areas which will provide a range of programmes including those for secondary school students.

3.9.3   Post-secondary informal education and community activities

A considerable amount of discussion took place on the value of informal education and training for women within their communities, and the potential ICTs has to increase and widen the scope of such provision by non-government organisations.

- Many community non-formal training programmes (health, food safety) can be provided by non-government organisations.
- There is a need to raise awareness of the potential benefits that ICTs can provide, such as better access to education, before women will be interested in gaining ICT skills.
- ICTs must be available; but even one computer in a village would enable provision of services and training. Other centres such as schools may have computers that could be used by the wider community.
- Women with access to ICTs don't always take up the opportunities. Without providing assistance and skills, and changing attitudes at the grassroots level, no benefits will accrue. However, even traditional women will pick up the challenge and use new technologies when they perceive a need or benefit. An example of this can be seen in the use of ATMs.
- Lack of literacy may prevent many women from taking up opportunities.
- We should be sensitive to the needs of men also, as they may be equally lacking in skills and access to ICTs.

3.9.4   Post-secondary formal education

The country papers focussed mainly on ODL and the use of ICTs in higher education, as that reflects current use. Perhaps because of that, less time was spent during the discussion on issues relating to formal tertiary provision. Some important issues that did get aired were:

- The current system is inflexible, usually demanding full-time study. This places a heavy burden on women who work full-time and study full-time, plus have domestic duties.
- The duration of programmes can be a barrier for women: short courses may be best for many purposes, such as training programmes.
- Lecturers themselves are frequently uncomfortable with new technologies being used in education.
- Even where ICTs are available, such as at the USP campuses, many students can still have access problems due to distance and lack of transport, availability, inflexible hours, and so on.

3.9.5   Socio-economic issues

Social and cultural attitudes and economic issues are closely related. Some interesting points were raised during the discussion:

- Many parents place a high value on education and will struggle to find the money for good or high status education, either in urban centres or overseas. In Samoa, for instance, parents want their children to become professionals such as lawyers and doctors, and regard higher education study overseas as high status.
- Less value is placed on vocational training in many Pacific countries, so students may feel they are failures, when the fault really lies with social attitudes and a very narrow curriculum.
- Emigration and remittances can be considered as either problems or benefits. In some countries, such as Samoa, the considerable level of emigration is a problem - a brain drain. However, there is also some level of prestige attached to living overseas, and when people return home to their islands they may bring benefits of education, skills and resources.
- The remittances sent home from family members overseas don't just sustain many families in the Pacific, they can form a considerable proportion of some countries' GDP. In spite of these major benefits, some countries are concerned about negative aspects, as a reliance on remittances can encourage apathy and lack of drive in island villages, and hardship for the families overseas. Reliance on remittances also holds a danger for the future when third or fourth generation family members overseas may not be so generous.

3.9.6   Communications and ICTs

The range of issues discussed covered the following points:

- It may be worthwhile to examine traditional communication systems, such as village meetings, church and radio, and research how they can be used for furthering education. People will listen to those who address their community groups through traditional systems, so there may be considerable value in using modern communications to complement rather than replace the traditional.
- In many outer islands and rural areas throughout the Pacific the infrastructure is still so poor that telecommunications and electricity are not available. Urban centres are advantaged, with money going to maintaining/repairing urban infrastructure rather than extending services to rural areas.
- Weather is a barrier, with problems caused by floods, cyclones, dust, salt and humidity. These increase the difficulties of maintaining technology.
- Research is needed into the cost of education delivery using ICTs compared with more traditional approaches. Assumptions that it will be cheaper are not necessarily correct. Proposals to use ICTs in education need to be realistic, taking into account the limited infrastructure and resources, and examining ways to get around these limitations. Innovative small initiatives should be considered, such as the radio in a suitcase African project supported by The Commonwealth of Learning, and a computer lab on wheels (operated from a generator in a van).
- Censorship and copyright issues are important. In some Pacific countries the governments still do not allow television, even though video and radio use may be widespread. In Kiribati only Cabinet ministers have internet access, following instances of "misuse".
- An understanding of the potential of ICTs is becoming more widespread, with many families keen to access email to correspond with those overseas as it is more affordable.

4.   Discussion of barriers and strategies

4.1   Identification of barriers

Working sessions on Tuesday afternoon and Wednesday morning were focused on identifying the barriers encountered by women in the use of ICTs for education.

4.1.1   Initial categorisation

The first session started with participants drawing up a quick list of barriers so that categories could be clarified to facilitate more detailed small group discussions. Some debate took place as to whether financial barriers should be considered as a separate category, however the consensus was that financial constraints impinged on every area. The following four broad categories were established:

4.1.1.1 Policy/Planning/Politics

Examples of barriers identified in this category included:

- Lack of data collection
- Lack of government support for ODL and ICT use
- Lack of formal policies for ODL and ICT use
- Perception of ODL as second choice

4.1.1.2 Access/Infrastructure

Examples of barriers identified in this category included:

- Absence of adequate telecommunications infrastructure in many rural areas and outer islands
- Geographical spread of many very small islands over huge areas
- Weather and atmospheric conditions: cyclones, floods, salt, dust
- Women's lack of access to ICTs

4.1.1.3 Society/Culture

Examples of barriers identified in this category included:

- Gender inequity in access to higher levels of education: differences between countries were noted
- Gender bias in attitudes towards technology use and education
- Brain drain
- Time constraints in women's lives
- Attitudes and perceptions towards ICTs: those who are exposed to them want more but those who haven't experienced them don't see a need

4.1.1.4 Education/Training

Examples of barriers identified in this category included:

- Lack of trained teachers, technicians, end users

- Cost of ICTs: initial cost and ongoing maintenance
- Lack of appropriate curriculum and resources
- Lack of language literacy
- Lack of computer literacy

4.1.2 Discussion of barriers

Small-group discussions were aimed at identifying barriers in more detail within the broad categories, and determining which ones could be considered as actionable. It was accepted that some barriers would have to be left in the "impossible" or "too hard" baskets, and that the next stage of the meeting, namely identification of strategies to overcome barriers, would be most usefully spent on those barriers that participants felt could be more readily overcome.

4.1.2.1 Policy/Planning/Politics group discussion:

The following barriers were considered to be actionable.

Lack of data collection:

It was agreed that in the Pacific there is inadequate data collection in all education sectors: tertiary, secondary, primary and non-formal. This is a hindrance to effective policy-making and planning. The group considered the types of data that would be of value, and listed the following:

- Base line data needed in all areas
- Gender breakdown in all relevant data
- Success and completion rates
- Fees and scholarships
- Social factors
- Profiles of students
- Tracer studies
- Time/use studies

Ways in which data could be collected were considered. The University of the South Pacific, education departments and ministries, and non-governmental organisations are all potential sources of information and data. They could also be considered as database stakeholders; access to comprehensive and reliable data and research is important to their decision-making. The establishment of a Pacific-wide database would be of greatest benefit. This would require support from within each country and also from organisations operating across the Pacific. There were a number of barriers that could hinder data collection, such as a lack of collaboration between government departments and organisations, and also the fact that some countries are sensitive about the release of unfavourable data.

Policies for education and training:

There is a current lack of government policies regarding distance education and the use of ICTs. The group agreed that specific policies are needed to support the development of ODL and facilitate increased use of ICTs in education. There is also the need for policies to ensure gender and age equity in these areas, so that girls and women participate in technology education and have equal access to ODL programmes. The current lack of policies reflects perceptions that

ODL is not of equal value or status to traditional face-to-face educational delivery, and that ICT is a male domain.

Further barriers to women identified by the group were the lack of scholarships available or awarded to women, and the lack of women tutors as role models, especially in areas such as technology. To overcome these barriers it is very important for more women to reach decision-making positions.

4.1.2.2 Access and Infrastructure group discussion

Geographical factors present a huge problem, with a small population scattered over a vast area of ocean with many tiny islands. Even those Pacific countries with larger islands face problems of isolated rural communities. A weak infrastructure is a major barrier to technological development throughout the Pacific. In most rural areas and outer islands, electricity and telecommunication services are poor and subject to frequent outages, and in more remote areas they may be lacking completely. The cost of or lack of transport between urban and rural areas also hampers development. Damage to infrastructure through extreme weather conditions and natural disasters such as cyclones, floods, landslides and earthquakes, is not uncommon, and such damage has often led to long-term or permanent loss of facilities. Dust, salt and humidity also present major problems for the maintenance and sustainability of technical equipment and services.

There is a lack of facilities in many areas: radio is commonly available, but telephones, television and computers are frequently lacking outside of urban areas. The high cost of infrastructure, hardware, software and maintenance are major barriers. Even where Internet access is available, the cost and slow speed of response are barriers. The slowness caused by the lack of bandwidth is so acute that many users have to start work at a very early hour: for example, USP library staff start at 4 a.m. Busy women find that a slow response time wastes their time and keeps them from other duties.

The group felt that, within the terms of the current COL initiative, most of these barriers would have to be regarded as non-actionable; although a consideration of strategies that could lead to an increase in facilities would be worthwhile.

Barriers to access which could realistically be considered actionable were identified. These were:

- Lack of facilities, especially computers in education
- Lack of awareness about the use and potential of ICTs
- Lack of technical skills: to support infrastructure, for computer and equipment maintenance, and for users
- Illiteracy: a lack of English and technical language prevents many from being able to access technology

4.1.2.3 Society/Culture group discussion

Many attitudes and perceptions within society towards women, education and technology need to change before progress can be made. The group felt that many perceptions that hinder women's progress are due to information poverty, and therefore appropriate strategies could overcome them.

In some Pacific countrie s (especially those of Melanesia such as Vanuatu and the Solomon Islands) traditional cultural attitudes discriminate against women having access to education and technology. Parental attitudes still determine that many girls have only limited education (primary or mid-secondary), and girls are encouraged to take any jobs available rather than seek higher education. The perception that girls and women cannot both study and be employed or married is widespread. This is particularly true of the urban poor and rural populations. These attitudes are perpetuated by the fact that education is expensive.

Partners' attitudes can also be a barrier to women. Many men favour traditional roles, and perceive a woman's place as being restricted to home and family. Most women who succeed outside these boundaries have supportive husbands and families; this observation was borne out by the experience of the women attending the symposium.

Professional women can themselves deter or restrict other women's progress by holding on to their own power instead of sharing. They may overlook the needs of disadvantaged women outside their own professional and personal realms, and not perceive the crucial role they can have in national development by a taking a pro-active role in supporting women.

The brain drain from rural to urban areas and overseas causes problems in most Pacific countries. The majority of those that leave (including teachers) do not return to their rural communities to work. This leaves rural villages depleted of educated people, and socio-cultural attitudes towards girls and women are less likely to change in the absence of role -models. Educated people who seek higher education or work overseas are no longer available to contribute to their countries, so scarce education dollars spent on them may produce no benefit unless they contribute through remittances.

Finally, the group discussed a range of attitudes towards education. The group agreed that barriers to progress are caused by perceptions of technical and vocational education being less valuable than formal university education, rather than it being of crucial importance to the nation's development. Informal education and training such as that provided by non-government organisations in many areas of great importance, such as health, are also under-resourced.

4.1.2.4 Education/Training group discussion

The group reflected similar concerns to the other three groups' in their discussions of barriers which relate to education and training. The four main obstacle s to be overcome in this category were perceived to be: a lack of training for teachers and technicians; a lack of use of ICTs for formal and non-formal education; general illiteracy; and computer illiteracy. These were all viewed as being actionable.

Discussion also took place on the current problem within education and training caused by economies of scale, whereby study programmes are often dropped because of insufficient student numbers. It was felt that greater emphasis on ODL could help alleviate this.

4.1.3   Final categorisation of barriers

During the groups' report-back session it became obvious there was considerable overlap in the discussions. A final categorisation of the actionable barriers identified during the discussions was drawn up, to facilitate the next stage, namely the discussion of strategies to overcome these barriers.

1. Lack of government policies: -   for ODL
                                   -    for ICTs in education
                                   -    for gender equity in education
                                   -    for gender equity in employment

2. Lack of data/information: -   necessary to inform and support policy and
                                        planning

3. Infrastructure: -   high cost; unreliable; low bandwidth
   (telecommunications, electricity, roads) -   lack of basic infrastructure in rural areas

4. Lack of resources   -   lack of computers in education
                                   -    high cost
                                   -    sustainability/maintenance

5. Training and education   -   lack of awareness of ICTs and ODL
                                   -    lack of ICT skills: teachers, learners, technicians
                                   -    illiteracy
                                   -    narrow curriculum: lack of computer studies
                                   -    course cuts (economies of scale)

6. Attitudes and perceptions   -   discrimination against women's access to
                                        education
                                   -    vocational education and ODL perceived
                                        inferior
                                   -    gender bias in subject choice
                                   -    urban poor and rural attitudes to women's roles

7. Brain drain   -   from rural to urban areas
                                   -    overseas
                                   -    loss of people with ICT skills

8. Lack of finance   -   impinges on all areas

4.2   Discussion of strategies

During the working session on Thursday morning the eight categories listed above were used as the basis of a detailed exploration of strategies to overcome barriers. Participants discussed a wide range of possibilities and preferred options, and also identified specific areas of action they felt could be undertaken as projects.

4.2.1   Strategies to overcome lack of government policies

The following strategies were proposed:

Each government is encouraged to establish policies on the use of ICTs for education and training systems at all levels.

Each government is encouraged to:

- establish policies to ensure gender equity in technology education at compulsory and post-compulsory levels
- establish policies on participation by women in tertiary education (higher education and vocational training)
- make available specific scholarships and/or reduction of fees for women in non traditional areas of study, particularly relating to ICTs
- establish strategies to facilitate mentoring/role modelling by successful women to encourage women into decision making roles, into careers that use ICTs, etc.
- use positive discrimination to ensure that the number of women in senior decision making positions equals that of the number of men
- put in place mechanisms to ensure women enter parliament in proportion to their number in the population.

Each government is encouraged to establish policies and mechanisms to ensure quality assurance for the education and training system at all levels.

Each government is encouraged to give equal value to all educational methodologies including open and distance learning, face-to-face and other flexible learning methods.

4.2.2   Strategies to overcome lack of research and data

The following strategies were proposed:

Each government's education ministry is encouraged to develop a database which includes comparable indicators on education and training in the Pacific.

Research and data collected should include: base line data, percentage of women, completion rates, fees, scholarships, social factors, student profiles, tracer studies, time/use studies.

Project: USP should develop a regional database which includes comparable indicators on education and training.

4.2.3   Strategies to overcome lack of infrastructure, including telecommunications

The following strategies were proposed:

Governments, organisations and institutions should:

- negotiate reduced telecommunications costs for all education participants.
- develop and/or activate policies to ensure reliable electrical supply to all areas of the country.
- explore the (increased) use of solar and hydro power and other alternative resources to provide reliable and cost effective electricity to villages and rural areas.
- reduce impact of climatic conditions on technology by supplying buildings and equipment designed to minimise the impact of climate.
- establish telecentres in villages, towns and cities equipped with ICTs and resources to support education, business and community initiatives.
- provide and improve road access, air and sea transport to remote areas.

Project: Establish pilot telecentres in conjunction with the private sector.

4.2.4   Strategies to overcome lack of resources

The following strategies were proposed:

Governments and /or industry are encouraged to:

- reduce or eliminate taxes on educational hardware to ensure hardware costs are reduced.
- minimise freight costs to ensure hardware costs are reduced.
- approach diplomatic missions for appropriate technological support and equipment.
- Educational institutions should:
- increase the number of skilled technicians by establishing "train the trainer" programmes and other appropriate accredited courses.
- purchase and/or develop training packages for technicians and ICT users.

Project: Approach companies such as Microsoft for free hardware and software for educational use.

4.2.5   Strategies to overcome barriers in training and education

The following strategies were proposed:

Increase access to education by providing open schooling in villages, using distance learning materials and ICTs such as radio, TV, audio and videotapes.

Establish telecentres as learning and resource centres in rural areas, to provide:

- resources to meet the needs of formal and informal education, and community groups, such as faxing facilities, spirit duplicators, photocopiers, telephones, Internet access
- a wide range of study programmes and support for formal secondary and post-secondary education, including technical and vocational programmes, and informal training and education opportunities for women
- in-service training for teachers

Provide training workshops in technical skills, and the use of resources such as CD-ROMs.

Establish ICT scholarships and fellowships for women.

Provide basic literacy programmes for women, supported by teachers in villages.

Projects: Establish Learning and Resource Telecentres in rural areas; Develop "Train the trainers" programmes to increase numbers of trained technicians, including at least 50% women.

4.2.6   Strategies to overcome attitudes and perceptions that act as barriers

The following strategies were proposed:

Introduce the use of ICTs and ODL initially to supplement traditional learning, so new methodologies and technologies are appropriate and sustainable.

Use traditional means of communication such as radio and village meetings to increase awareness and provide information.

Establish telelearning centres with church involvement.

Project: Use traditional means of communication to publicise and change stereotyped perceptions about ODL and education for girls and women

4.2.7   Strategies to overcome brain drain

The following strategies were proposed:

Provide more education opportunities in local communities through the use of ODL and ICTs, so people don't have to move away to study.

Raise awareness in local areas about the possibilities for local income generation and community and business development through the introduction of ODL and ICT use.

4.2.8   Strategies to overcome lack of finance

The following strategies were proposed:

Governments and organisations should allocate funding for ICTs and ODL in all education sectors, with particular emphasis on education targeted at girls and women.

Governments should look for external funding to focus on ODL education for women and girls.

Governments and NGOs should establish loan schemes for women to use for educational purposes as an alternative to overseas scholarships.

Project: Contact Asia Development Bank for ICT/ODL financial support.

4.3   Identification of projects

During the discussion on strategies it became apparent that some needs are fundamental to progress being made in the provision of wider and better educational opportunities for girls and women. One such need is for better data and information, without which government policy decisions are unlikely to be made. Second, it is clear that if the potential of ICTs to increase access to education is to be realised, teachers and end-users need appropriate technical/computing skills and technicians must be available for support and maintenance. Third, with high costs and weak infrastructure some way of increasing access to ODL and ICTs in rural areas needs to be found, and the concept of establishing telecentres was explored in some detail.

Learning and Resource Telecentres based within village communities were seen as having the potential to help resolve many problems, and therefore aroused much interest and discussion. The services and programmes offered by such centres could differ according to the needs of the local community or country, but it was felt that communities should own and be responsible for them and women should have full or prominent management and decision-making roles. Telecentres could not only meet a wide range of formal and informal education and training needs, but could also increase employment opportunities through the provision of services, access to information

and communications technologies, and vocational training. Fees charged for commercial use could generate funds for maintenance and resources. By providing a focus and resources for education and productive activities such centres could influence social and cultural attitudes, strengthen rural communities and reduce the brain drain, and improve the lives of women.

The inter-related nature of the three major areas of need identified above was noted. For example: sound data and research is necessary to identify training and education needs for women and communities; telecentres and support for ODL will require teachers and technicians with ICT skills; and telecentres will in turn provide access to training. This discussion confirmed to participants the value of producing project proposals for each area.

5.   Outcomes and recommendations

5.1   Project proposals

During the working sessions on Thursday afternoon and Friday morning some time was spent discussing possible projects in the Pacific region that could provide concrete outcomes. On the basis of these discussions a diagrammatic plan of the proposed projects was put forward (Appendix Four) and outline project proposals were drafted. The three projects areas identified were:

1. A regional database to provide information on ODL and the use of ICTs in Pacific island countries, with particular emphasis on women and girls (Appendix Five).
2. Training programmes to provide the skilled technicians necessary to establish and maintain ICTs in telecentres and other organisations; and training programmes to develop ICT skills for teachers and users in telecentres and other organisations. The training projects should allocate at least 50% of the places in the programmes for women, and scholarships and/or fellowships for women should be established (Appendices Six and Seven).
3. The establishment of pilot Learning and Resource Telecentres to provide access to ICTs for communities, especially rural communities and for women, for educational and capacity building purposes (Appendix Eight).

It was agreed the following statement should appear on all project proposals, to provide an over-riding rationale: "These projects need to be considered as a package to ensure sustainability."

The suggestion was made that the connected nature of the proposed projects could be shown in a timeline, in which the first phase would be the collection of data, as this would provide accurate and gender-specific information to guide decision-making for the other projects. The following phases would incorporate training and the establishment of telecentres. However, links between these two developments, and the need for immediate action, would indicate that they should be undertaken with a degree of concurrence.

5.2   Discussion of follow-up to meeting

Participants were concerned to get the best possible outcomes from the symposium, and discussion took place during the Thursday morning session on how this could be achieved. It was noted that two important meetings were taking place in Auckland, New Zealand, in the following week:

- the USP Council meeting
- the first Forum for all South Pacific Education Ministers (including those from New Zealand and Australia)

It was agreed that a statement and recommendations from the symposium should be distributed to Ministers attending the Forum, with staff of MFAT being asked to undertake this task. Ms. Clara Alefaio, the symposium participant from Nauru, offered to take copies of the recommendations also, as she was planning to attend the meeting. Dr. Esther Williams would take the recommendations to the USP Council meeting, which she was attending.

Ms. Susan Phillips indicated that the President and CEO of The Commonwealth of Learning, Professor Gararaj Dhanarajan, may also be willing to forward the recommendations from the symposium direct to each country's Minister of Education.

Discussion took place about the value of distributing the symposium report and recommendations as widely as possible to aid agencies, government and non-government organisations, and also of participants taking every opportunity to raise the issues discussed during the symposium.

The importance and value of continuing to network was recognised, and Ms. Susan Phillips offered The Commonwealth of Learning's services in setting up a *listserv* to facilitate this and allow an exchange of information, including updates on the project proposals. It was agreed that steering committees could be established to move the projects forward.

Further follow-up action by The Commonwealth of Learning will include:

- distribution of the symposium report
- publication of the Pacific Country Papers, in paper format and also on the COL website
- organisation of a Summary Meeting for the four regional meetings in February 2002, to include two to three participants from each of the four regions (Africa, Asia, the Caribbean and the Pacific). During this meeting participants will review the symposia reports and consider project proposals
- possible support for a conference on "Narrowing the digital and gender divides", to follow the Summary Meeting
- assistance in gaining project funding from aid/development agencies

5.3   Recommendations

During the final working session on Friday morning a number of recommendations were agreed, to be presented to governments, development agencies, non-government organisations, educational institutions and the Commonwealth of Learning, for them to implement or support, as appropriate and feasible.

Policy development

Policies should be implemented to:

1   facilitate the increased usage of information and communication technologies (ICTs) by women and girls for education and training systems at all levels.
2   give equal consideration to all educational methodologies including open and distance learning and other flexible learning methods.

3   decrease taxes, and work with industry to reduce telecommunications, hardware and freight costs.

4   Increase participation by women in senior decision making positions through:

a.   affirmative action designed to ensure that the number of women in such positions equals the number of men

b.   establish mechanisms which ensure women enter parliament in proportion to their representation in the population

c.   facilitate mentoring and role modelling by successful women to encourage increased participation in these positions by women.

Education and training

Activities should be supported that:

5   ensure quality in education and training systems at all levels

6   raise awareness about the use of ICTs to increase access to education and training opportunities in rural and other distant communities

7   provide ICT training for technicians, teachers, and end-users

8   increase participation by women and girls in higher education and in technical/vocational education and training, through the availability of scholarships/reduction of fees/loan schemes for women in non-traditional areas of study.

9   examine alternative methodologies for the delivery of education and training at all levels to disadvantaged communities.

Infrastructure and communications

Initiatives should be implemented through which:

10   data is collected and a regional database is established for informing education and training policy and decision-making with respect to issues which impact on women and girls.

11   infrastructure (telecommunications, roads, electricity) for facilitating the use of ICTs for education and development is improved.

12   community resource and learning centres are established in villages, towns and cities which are equipped with telecommunications capabilities, computers, and other appropriate technologies for ODL.

13   communication linkages necessary for the implementation of the recommendations, projects and strategies proposed during the symposium are assisted by:

a.   making USPNet accessible to the symposium participants

b.   creating a listserv group through COL.

For their part, the participants undertook to advance, by all possible means, the strategies, projects and recommendations developed during the symposium.

5.4   Closing session

Ms. Shona Butterfield formally closed the symposium and thanked the participants for attending and working so hard during the week. Mrs. Piula Fukofuka thanked Ms. Susan Phillips, the sponsors and the facilitators on behalf of the participants, and everyone for the sharing and fellowship that had resulted in such a worthwhile activity.

DISTANCE EDUCATION IN COMMONWEALTH COUNTRIES

SOUTH PACIFIC REGION

**A Survey on Gender Differentials in Access to Information and
Communication Technologies**

Distance Education in the South Pacific Region
A survey of Gender Differentials in Access to Information and Communication Technologies

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References and Further Reading

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Table 3: Information Technology Access

Annex 1:

International Telecommunication Union, Telecommunication Development Bureau: World Telecommunication Development Conference (WTDC 1998) - Proposal for the adoption of a resolution addressing gender and telecommunications policy in developing countries. March 1998

Annex 2:

Glossary of terms

Introduction

This report is one in a series of four regional surveys of the uses of ICTs in the delivery of distance education programmes, and the particular gender considerations around access to these technologies. While this survey focuses on distance education in the South Pacific region, examples of difficulties in access and strategies to overcome or redress these obstacles are Commonwealth-wide, as this offers a means to exchanging case examples and practices across regions and continents.

While ICT has emerged as a common acronym for Information and Communication Technologies, in fact the range of technologies covered by the term is very much open to interpretation. Technologies are usually defined in terms of their properties, and can also be defined in terms of their appropriateness to specific contexts - which implies that the definition of technologies is reflected in their specific contexts and uses. If there are two defining characteristics of ICTs, they are[1]:

- the relative strengths of the various technologies (telephones, radios, television, pagers, the Internet) as synchronous and/or asynchronous communications channels and workspaces, and
- the rapid growth of the wireless component (such as wireless phone systems).

For the purposes of this paper, references to ICTs will focus primarily on the "new information and communication technologies". These include the developing technologies of telecommunications, computing and microelectronics and their convergence which has created a range of new possibilities for information collection, manipulation, transmission, storage and presentation and through these possibilities have created a whole new industry in the service of education and training. Current developments in digital communications and the convergence of telecommunications technologies exemplified by international standards such as ISDN[2] make audio, video, graphic and data communication available through an ordinary telephone line on a desk top computer. Older technologies such as television and radio which are used in innovative ways through their combination with newer devices are called "user devices" - these include optical and video disks.

There is a seamless spectrum of communication technologies which are progressively converging and integrating with each other to serve distance education needs - computer mediated communications (CMCs); low lying satellites; radio and television broadcasting; telnet; and technologies using alternative sources of energy. Some of these uses of information technology will be mentioned in the series of reports as examples of the adaptability of the new technological wave of ICTs.

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[1] Correspondence with Sam Lanfranco, Bellanet, Canada, June 1998

[2] Integrated Services Digital Network

1 Some Preliminary Notes

1.1 Trends in Education

World-wide demand for education by working adults is growing exponentially, it is being driven by a number of factors including globalisation, the need for continual re-training, and the complexity of employment requirements in the age of Information.

"In 1997, the 74 business schools in Asia -Pacific ... reported a record 170,000 applications for the 11,000 full time MBA degrees in English that they will award in 1999" [3]

In response to this need, academic and private sector initiatives are burgeoning everywhere to capitalise on the use of communication technologies to link courses and trainers with the largest possible number of students. In most cases, the easiest and most profitable way to do this is to link "established brand-name" universities with technology firms who then cater for students already in the education pipeline.

The market for education, however, is very large and fragmented with only a fraction of demand for education being met by current educational systems. Within that fraction, even less attention is directed towards girls and women. Given its experience and its commitment to a whole range of education and skills development for Commonwealth citizens, The Commonwealth of Learning needs to consider where its own capacities lie in order to address some of the specific needs of people who might otherwise be marginalised by both:

- the new education and information technologies, and
- the course content delivered through this medium.

Women who have been cut off from educational resources in the past, have an uncertain future on the Internet. If men continue to dominate the computer labs, access to computer skills and related employment opportunities - which is a likely scenario since men are mostly the gatekeepers, the future of women in the Information Age may suffer. (see Table I: Gender Disparities).

1.2 Telecommunication Policies and Gender Equity - New Resolutions

There now exists substantive documentation addressing the gender policy issues related to the evolving information technologies. Notable amongst these are:

- *Gender Equity, Telecommunication Development and the ITU* (International Telecommunication Union) - submission to the Session on Gender Issues, in conjunction with ITU's WTDC 98, March 23-April 1998, prepared by CIDA
- *Gender and Telecommunications, an Agenda for Policy* prepared by the United Nations University Institute for New Technologies UN/INTECH and the United Nations Development Fund for Women (UNIFEM).

The first paper notes that "...in order for telecommunications to contribute most effectively to its broader purpose of increasing socio -economic development, the needs and priorities of both women and men have to be taken into account, as well as a recognition of the different, gender-based constraints on access to and benefits from technologies".

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[3]   Asia Inc.' Sept. 1997 - there were no statistics for proportion of women students.

Both papers were fed into the most recent ITU conference which held a special session on gender issues and telecommunications. As a result of the gender session, the main conference adopted a detailed resolution addressing gender and telecommunications policy in developing countries. A task force will be established within the ITU with representatives from Member States and others including NGOs (see Annex I).

The members of the task force are expected to participate in ITU-Development activities to ensure that a gender equity perspective is included in its policies and work programmes, including human resource development activities, study groups, seminars, conferences and workshops. Their focus will be two-fold:

- ensuring that the benefits of telecommunications and the emerging Information Society are made available to all women and men in developing countries on a fair and equitable basis, and
- encouraging the recruitment, employment, training and advancement of women throughout the telecommunications field.

1.3   *ICTs are no Quick Fix*

While the new wave of developments following the evolving information and communication technologies (ICTs) are exciting and hold great potential, the technologies themselves do not present a quick fix to deeply entrenched development problems. ICT tools are important when they serve to overcome physical, material and technical obstacles to teaching and learning, but in themselves are insufficient as tools aimed at improving the quality of education and its output.

It is sometimes difficult to distinguish between problems that may follow in the wake of a new technology and problems that existed before the technology was introduced. An assessment of access issues that prevent women from using one form of an education delivery system cannot be isolated from an assessment of the overall system that limits women's education opportunities in the first instance. In other words, access to ICTs is only a small aspect of a much deeper and systemic problem around the provision of education to girls and women (see Table 2: Education Trends).

As well, ICTs are just one of the tools of education delivery, the benefits of introducing expensive ICT tools need to be carefully evaluated on a country by country basis. Where it is too expensive to be efficient, then concentration on enhancing current delivery systems is just as, if not more, important in the short term.

As such, this report's focus on the gender differentials to ICT access, while important - is narrow and needs to be read with the wider context in mind.

1.4   *The Technology is Constantly Evolving*

As the Web matures, the technical aspects tend to be far more advanced than what exists on the Net. This suggests that any strategy on the technical capacity building side of things needs to be as far-sighted as possible. As an example, one research survey in Africa found that even during the first year of the survey, there was a major migration of subscribers of the former Fidonet nodes toward providers of full Internet access. Within the same year, full Internet access, and even competing commercial providers of access, had appeared in two countries, Uganda and Zambia, and were emerging in a third one, Senegal. Originally, the survey had intended to consider exclusively the use of electronic mail through store-and-forward systems.

Mid-way through the survey however, the scene of electronic communications had transformed, electronic mail was now possible with a much more powerful technology, thus transforming the users' experience and possibly their appreciation of the outcomes.[4]

Even in a country like Australia, where education institutions recognise the importance of having an information technology plan, it is difficult to keep the plan up to date due to the rapid changes occurring in the technology field.[5]

It pays to know what the range in options of technology are - a comprehensive overview of the structure and basic function of telecommunications such as satellite technology, electrical information access networks, telephony, wireless radio, and other multimedia such as television, audio/video reproduction is needed. Particularly important is an update assessment of the availability of basic connectivity through electronic mail. Communities are better equipped then to make an informed choice about which of the options most closely relates to their immediate needs and what options might be open to them in the future.

1.5   *Characteristics of ICTs in Developing Countries*

At the drawing board level, it is expected that the convergence of broadcasting technology with telephony will open up all kinds of opportunities for education development. It is also expected that the benefits of economies of scale in running all types of communications through the same "pipe" are especially realisable in Commonwealth developing countries where the bulk of the population has still to be wired for television and telephones.

At the ground level, however, the rate of change in ICT development ranges from country to country - much depending on the supporting infrastructure base. Historically, technological developments have tended to have both positive effects on, say production, in terms of rate of growth and cost reduction, and negative effects through marginalising or excluding whole sections of the population from those benefits. In the case of the information and communication technologies (ICTs), this is particularly true in developing countries because most telecommunications infrastructure or connectivity is inherently urban-biased. This urban bias especially affects women because they usually constitute the majority in rural areas.

"In a context of large disparities of wealth and access to services - the introduction of new technologies is likely to benefit those who are already privileged and thus deepen the gaps between the haves and have-nots. Access to electricity, phone lines, money and security play a major role in determining who can enjoy the advantages of the new opportunities opened by technology". [6]

The rationale for using educational technologies is different for developed and developing countries. Developed countries have well established schooling systems and high enrolment levels. They primarily use technologies to improve the effectiveness of teaching and learning, to individually tailor instruction, and to provide specialised education to small groups of learners. In developing countries, on the other hand, where good schools are affordable only to the relative few, policy makers seek alternatives that make significant improvements in

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4   ECA/IDRC ongoing research project: Electronic communications in African development: tracking their impact (1st phase) http://www.bellanet.org/partners/aisi

5   Delaney, Bernadette and Dyson, Chloe. Women: Creating the Connection, Women and Information Technology in the Vocational Education and Training Sector, Dept of Education, Australia. 1998

6   Ran Greemstein - on-line narrative report on ICT and Education, Education Policy Unit. University of Witwatersrand, South Africa, 1997

educational and research effectiveness, while at the same time increasing access to education, particularly at the secondary and tertiary levels, at lower cost per student.

The managerial and technical capacity for implementing educational innovations has increased in many developing countries. In addition, the infrastructure necessary for using more sophisticated technologies is steadily being strengthened. Availability of electricity, telecommunications, and computers is generally on the increase. Therefore, in spite of educational and technological differences between low- and high-income areas, the introduction of interactive educational technologies will ultimately become more feasible in developing countries[7]. It is a question of time.

Table 3: Information Technology Access, gives the most recent figures that show the disparities in computer access and Internet connectivity within various countries. For example, in the Caribbean, Guyana - a low income country, has no available data on either internet service providers (hosts) or estimated users of the Internet. In Trinidad and Tobago, an upper middle income country, there are 55 hosts, just under 2000 Internet users and just under two computers available for every 100 people. Somewhere in between the two countries, lies Jamaica, a lower middle income country, which has more hosts per population but only 1600 users.

What these figures show is that developing countries are at very different levels of internet connectivity and one has to be careful about making generalisations even at a regional level. The figures by themselves probably need to be combined with the socio-economic data of each country to present the actual distribution and spread of computer access. This extends to an analysis of women's access to ICTs, as a middle income country is more likely to have a higher literacy rate and a higher proportion of women taking up education and employment opportunities than a low income country.

In Nattering on the Net, Spender notes that women's marginalisation from the new communication technologies is "less to do with women and more to do with computers" which she argues are the sites of wealth, power and influence[8]. I would suggest that this is probably true to varying degrees in developing countries. In the Cook Islands, for instance, it is apparent that a majority of the women who participate in distance education, come from households where the amenities and telecommunication technologies are modern. Their higher standard of living is also reflected by the fact that the vast majority are employed and thus have a considerable degree of economic independence. In addition, many come from relatively "smaller" families, in the sense that the extended family concept is a diminishing phenomenon.[9]

Suffice it to say, that even if we agree that there are very specific gender differences in access to and use of ICTs, these differences will probably be somewhat modified or influenced by national infrastructure and national income levels.

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[7]   Bojana, Boh. Interactive Educational Technologies in Higher Education, ESP Discussion Paper Series, Education and Social Policy Department, The World Bank 1994

[8]   Spender, Dale. Nattering on the Net - Women, Power and Cyberspace. 1995

[9]   COL and University of South Pacific- South Pacific women in distance education, 1995

1.6   Aspects of "Access"

I suggest that there are three aspects to the term **access.** One is the physical proximity to the technologies, or connectivity - a case of 'you cannot teach them if you cannot reach them'. Then even once women are ideally located to the technologies, they may not be able to use them because they do have the capacity. This implies that women need to be encouraged and trained to use, and to adapt, ICTs for their own purposes. The other is about access to affect content - which suggests that women are not just receivers of information and knowledge, but are agents of influence and change to the content delivered by the technologies to make them more culturally or otherwise relevant.

In this report, most of the statistical evidence is only available for the first aspect of access, i.e. connectivity. There are a few anecdotal examples of how women's capacities to use or adapt the technologies are being enhanced. I was not able to find evaluations of women's access to designing course content and left this aspect out altogether.

2   Regional Profile and Growth Trends of ICTs Available for Education Delivery in the South Pacific

There can be no question that the education sector is one of the potentially most important beneficiaries of ICTs. The whole area of application of interactive technologies to education, however, is relatively new and still at an experimental/developmental stage. As such, it is difficult to draw any distinctive conclusions or evidence on the growth trends of ICTs in distance education other then to note their growing popularity and adaptability for use in different contexts. It is also evident that where there is research on the use of ICTs in distance education, very little exists on the specific needs or interests of women. COL's initiatives in this area therefore, is timely.

The U.S. National Centre for Education Statistics has just released a major survey on Distance Learning in Higher Education in the USA in which it was recorded that 57% of distance education was delivered by two-way interactive video, and 52% by one-way pre-recorded video. Only about 25% of the institutions used two-way audio with one way video, and computer-based technologies other than two-way on-line interactions (e.g. the Internet). Three quarters of the institutions surveyed reported that they were planning to offer distance education courses with increased use of computer based technologies in the next three years[10]. This is of relevance to this report because even in North America, where the telecommunications infrastructure "backbone" is well established and extensive, ICTs are still the relatively unexplored phenomena in distance education delivery.

From the review of literature and current research it appears that no parallel national survey has been conducted in Commonwealth countries.

At the time of writing I had not come across any conclusive work on the use of ICTs in the South Pacific region. Papua New Guinea, Vanuatu and Western Samoa have no available data on internet connectivity. The ITU internet access figures (see Table 3) estimated 70 internet users in 1995 for Fiji and just 10 for Tonga.

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10   "Distance Education in Higher Education Institutions" by the US Department of Education. 100 page PDF file. Available at: http://nces.ed.gov/pubs98/distance/index.html

The University of South Pacific established the first satellite network (USPNET) in 1974, using a 24 hour a week transmission time on the NASA ATS-1 satellite. In 1985, the university got a permanent access to INTELSAT. The satellite is being used for distance teaching by teleconferencing (enabling students and their lecturers to discuss matters regarding courses, and providing a communication link between university professors and local tutors in the region), as well as for administration programs and regional meetings.[11]

In the area of telecommunications development, telecommunication indicators show that, over the last decade, the Asian-Pacific region has experienced a steady growth of 7% per year which has led to an increase of 70% in the number of main lines. In recent years, main lines growth in the dynamic Asian economies of Hong Kong, Singapore and the Republic of Korea has been twice this rate at around 14%. The data for international telephone traffic confirm the growing importance of trading links within the region. For instance, within-region calling accounts for around 55 per cent of all traffic originating in Asia-Pacific. This is higher than for the North American Free Trade Area (NAFTA) and is the same as the European Community (EC) despite the larger distances in the Asia-Pacific region.

These figures may be misleading, however, as Asia-Pacific is a region of great contrasts: between large continent-sized nations and tiny Pacific atolls; between rapidly expanding cities and remote rural areas; between free-enterprise city-states and centrally-planned republics. For instance, the three Member countries of the OECD in the region account for 70 per cent of the wealth (expressed in terms of GDP) and more than 50 per cent of the telephone lines, even though their population is just 5 per cent of the total. Equally, two countries (China and India) account for just 12 per cent of the wealth and telephone lines while having two-thirds of the region's population. The investment required in the lower income countries to reach a teledensity of 10 lines per 100 inhabitants (a medium teledensity for Asia-Pacific) would be almost US$ 400 billion.[12]

3   Gender Differences in Access to ICTs, Reasons and Short Term Trends

Understanding the gendered nature of the social, economic, policy and technology systems which frame opportunities for women is key to assessing and promoting women's access to and use of ICTs. Women's needs for information are often influenced by their gendered roles and responsibilities, which in turn affects their use of and response to ICTs.

In the education sector, women tend to have less access to education and training, those who continue in school tend to keep to socially accepted or peer-group non-technological streams - all this has long term implications for continued gender differences in access to and use of ICTs.

A joint publication by the University of the South Pacific and The Commonwealth of Learning is one of the few good comprehensive surveys on South Pacific distance education and the barriers that women face.[13] Although this is a generalisation, the survey reports that women in the Melanesian countries (Fiji, Solomon Islands, Vanuatu) are less likely to enrol in

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11   Bojana Boh: Interactive Educational Technologies in Higher Education, Education and Social Policy Department The World Bank ESP Discussion Paper Series

12   ITU : The dawning of the Pacific telecommunications century, April 1993

13   Bolabola, Cema and Richard Wah. South Pacific women in distance education: studies from countries of the University of the South Pacific. The University of the South Pacific and the Commonwealth of Learning, 1995.

distance education programmes than women in the Polynesian countries (Cook Islands, Tonga, Niue and Western Samoa). Some of the barriers to women enrolling in extension studies include:

- family commitments,
- not knowing the enrolment procedures,
- not having access to information on the courses,
- English perceived as not being up to standard,
- perceived inability to cope with university requirements,
- unfamiliarity with programme of study,
- negative attitude of spouse,
- financial limitations.

While the numbers of women enrolling for distance education programmes is almost as high as the numbers of men, in fact there are numerous socio-economic factors which mitigate against female students completing their studies.

I was not able to find any substantive work on the access to ICTs at the University of the South Pacific.

In Australia, a recent literature survey on how women use information technology in the education and training sector showed that women do not seem to be attracted to the technical roles in information technology. Currently 22% of all enrolments in computer science and information technology courses in Australia are women. Studies of the computer service industry indicate that only 28% of the full time workers are women. Studies of Internet usage indicate that women only make up 15.5% of users.[14]

4   Barriers to Women's Use of ICTs, Strategies to Redress These

Due to limited mobility, double workload, and lower education levels, women are traditionally not the first to gain access to, use and experiment with available technologies.[15] Cost-related issues also impede progress and discriminate against non-elite women who have less financial resources than men. According to the 1997 APC Women's Networking Support Program survey [16] on women's experiences with electronic networking, lack of training and the cost of equipment to get connected rank highest as barriers to women getting on-line. The specific barriers women face vary regionally. Southern participants, for example, listed poor infrastructure, recurring charges for E-mail or Internet usage and lack of appropriate training and support systems as barriers they encountered.

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[14]   Delaney, Bernadette and Dyson, Chloe. Women: Creating the Connection, Women and Information Technology in the Vocational Education and Training Sector, Dept of Education, Australia. 1998

[15]   Gender and Telecommunications, an Agenda for Policy prepared by the United Nations University Institute for New Technologies UN/INTECH and the United Nations Development Fund for Women (UNIFEM) 1998

[16]   The Women's Networking Support Program of the Association for Progressive Communications (APC) 1997 Countries that participated in the survey were Cameroon, Nigeria, Senegal, Tanzania, Zimbabwe, Australia, India, Japan, Malaysia, Philippines, Croatia, Russia Federation, Ukraine, Austria, Belgium, France, Ireland, Italy, Netherlands, Switzerland, UK, Brazil, Colombia, Ecuador, Mexico, Peru, Uruguay, Jordon, Canada and the U.S.

Women also identify lack of time and human resources as common barriers. As one woman wrote: "in some ways the Internet is a tool for those with lives of leisure." Another recurring theme relates

to the issue of one computer and/or one modem per office which means that competition for existing technology becomes a limiting factor.

In order for women to benefit most from use of ICTs, and, therefore, for them to be able to use ICTs to the fullest, the following barriers to women's use of ICTs need to be addressed:

4.1   Access to the Technologies

Apart from the more obvious issue of Internet connectivity to established education institutions, alternative means for enabling women to access the existing information and communication infrastructure are being explored.

Community Access Points, telecentres or Multipurpose Information Centres are community focal points to empower historically disadvantaged communities to collect, analyse and share information related to their development needs, typically through the practice of development support. The centres are of particular importance to rural and peri-urban communities who can be empowered to begin communicating with their own environment. Relatively expensive equipment can also be made available to women and their communities through centres visited by students and mobile equipment such as computer bus classrooms.[17]

To ensure that these community centres will benefit women, the following factors need to be taken into account:

- availability of women support staff and trainers to help women use the technologies; and
- establishment of information centres within or as part of community locations where women have other tasks or are taking advantage of other resources, such as health centres, libraries, women's NGOs, etc.

A Canadian initiative in Northern Alberta embraces the concept of "community access points" or CAPs. Their definition of a CAP is a physical location within a community intended to function as an educational centre for all adult learners in the community. Communities are designated as CAPs through a self-nomination and qualification process, which includes a requirement for a minimum of local financial investment. Following this designation, CAPs are eligible to receive a threshold level of equipment (e.g., multimedia PCs with scanners, cameras, desktop video-, audio- and audio graphics conferencing capability) along with a threshold level of telecom services. CAPs will be electronically connected to the seven NAPSIS[18] institutions and to each other so that a wide range of educational programs and services can be delivered to the community.

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17   UNESCO. Information and communication technologies in development: A UNESCO perspective. 1996

18   Northern Alberta Post-Secondary Institutions Society

Plans are to designate several CAP sites each year, up to approximately 150 northern communities over the next few years. During 1996-97, 23 communities have been designated CAPs.[19]

A further aspect to "physical access" is that of bridging the connected with the unconnected. From the experience of a number of African women's groups, multi-media is a 'de-facto' means to accessing, translating and distributing information using more traditional mediums of newsletters, radios, meetings and workshops. In the distance education sector, multimedia applications are continuously being improved, these include interactive videodisks (IVD), Compact Disks - Digital Audio (CD-DA), Photo CD, CD-ROM and CD-ROM XA, Digital Video Interactive (DVI), Compact Disk Interactive (CDI), Video Information Systems (VIS), electronic books and virtual reality. This range of technologies serves to show that they can be adapted and developed to meet the specific needs of the intended beneficiaries and stakeholders.

4.2 General Literacy and Language

The higher rate of illiteracy among women means that ICT projects will need to be integrated with literacy education in many areas. This can be done by integrating literacy programmes with micro-credit and small business programmes for women. One example is INFOLIT, an information literacy initiative aiming to promote information literacy in the Western Cape Region of South Africa. At the moment it mainly serves higher education, but is extending its work to schools and communities to ensure that it develops a framework for lifelong learning for all, irrespective of gender and class.

We believe that in developing information infrastructures, we must ensure that people have the abilities to use information critically and to produce their own knowledge. Our primary activities are in the field of educating people in the use of the new ICTs and, most importantly, in the critical use of the raw materials of information. Our challenges have included how to extend information competencies to all subordinated groups so that the new skills are distributed among all people and do not remain only in the hands of an elite.[20]

The Internet has the potential to reduce illiteracy and step up agricultural productivity. Products like "Virtual farmer schools" could be developed, and be made accessible to women farmers with no formal training in agricultural skills. This service would also link community telecentres in Africa and provide for South-South dissemination of indigenous knowledge, sharing of resources, ideas, experiences and success stories. Web pages of agricultural stakeholders could be published and this would avoid duplication of effort and enhance co-operation. Where rural women farmers are not able to directly harness the benefits of the Internet, NGOs, extension departments, rural women's associations and unions that serve them can take advantage of the technology and repackage critical information for the rural stakeholders.[21]

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[19]   W. Leigh Hill, Alberta North: Enhancing Adult Distance Learning Opportunities

[20]   correspondence with Cathy-Mae Karelse, INFOLIT, cmk@grove.uct.ac.za, April 1998

[21]   Hilda Munyua: Application of Information Communication Technologies in the Agricultural Sector in Africa: a Gender Perspective with Special Reference to Women. Paper presented to the UN Economic Commission for Africa, May 1998

4.3   Cost

Cost issues of ICT access especially affect women. They are generally lower paid than men and often do not have control over their income. Their family responsibilities, such as health and education of children, are the primary priorities for the income they do earn, so that often there is little left for other less-immediate needs. Strategies to assist women include:

- training users in these areas and supporting them with equipment and installation subsidies;
- addressing the needs of those without computers through the establishment of shared community telecentres and promotion or support for wireless link alternatives where necessary, promotion of improved interfaces for the non-literate and less educated such as text to voice output, touch screens, webTV, and voice recognition; and
- improvements in existing technologies rather than entirely "new" technologies that can best be used to meet the needs of learners. For example, the new compressions and digital transmission technologies can give new life to "traditional" education television by permitting many more channels to be broadcast over a given bandwidth at a much lower cost per channel, and, in the case of direct-broadcast satellite, over a wider geographic area.

4.4   Technical Training

Compared to men, women generally have less access to training, and less opportunity to learn the skills necessary for participation, including basic technical skills, technical repair, and language training (for those whose first language is not English). Women are unacquainted with ICTs and uncomfortable with using them. They need to be supported in learning to work with, and to feel confident in their ability to use these technologies productively. Capacity building and training are important components in the promotion of information technologies amongst women. The lack of basic computer skills is the first step in discouraging women from using e-mail.

Training in ICTs for women will need to be gender-sensitive, and offered by women trainers as much as possible. In addition, relevant training guides, documentation and on-line tutorial software to support trainers have been insufficiently developed.

To facilitate the adoption of computer communication technologies, the APC survey respondents anticipated different kinds of training needs. In addition to basic training, many respondents called for customised training in information facilitation skills, building and maintaining Web sites or bulletin boards, HTML design and programming, setting up and running mailing lists, and exploring other (and new) Internet tools and resources. Technical training for trouble-shooting was also raised, particularly from women in the South. As one woman from Malaysia wrote:

"technical knowledge in computer technology so that we are capable of identifying computer problems and solving the basic ones minimally, rather than waiting for technicians."[22]

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[22]   Association for Progressive Communications. Global Networking for Change: Experiences from the APC Women's Programme, 1997

4.5   Institutional Barriers

The low level of computerisation in many organisations exacerbated by the high price of equipment relative to the available resources and the ensuing competition for access, affects women adversely. Scarcity of computers and the small base of skills also contributes to the low level of institutionalisation of much of the networking activity. E-mail and Internet access is usually limited to those with the most resources, very often to people with international projects and contacts.

4.6   Infrastructural Barriers

The high price of Internet services in most developing countries coupled with the absence of local dial access outside almost all of the capital cities, severely limits access for the bulk of those with computers.

In some cases, because of saturated public telephone exchanges, the difficulty in obtaining large numbers of local telephone lines to maintain the desired ratio of 10-15 users per modem has limited the accessibility of ISPs during periods of peak demand as all the available dialling lines quickly become occupied. In the same fashion, users requiring telephone lines to access the Internet have faced problems in obtaining new telephone lines. That is why there is some argument to be made for alternatives to telephone lines. Some have suggested the equivalent of the existing community radio stations in Latin America, which are collective, independent and service-oriented. The model for the future community Internet could be based on radio more than on telephone.

5   How and Why Women are Using ICTs, with Particular Reference to Electronic Communications

5.1   What Existing Research Shows

According to the APC surveys' initial findings, women are increasingly active in using electronic communications, and many tools such as electronic mail have become a routine part of their day-to-day communications activity. Increasingly, women are experimenting with on-line conferences, mailing lists and web sites. At the same time, the survey showed that women continue to face barriers in using the information superhighway, such as lack of training and the high cost of equipment and, in some places, getting connected.

Networking has been recognised by female scholars as a tool for women's empowerment, and women have taken to the Net to create a "cyberspace of their own." In many places, women writers, editors, news directors and lobbyists, are not only surfing the Net, but have become active in establishing numerous WWW sites of special interest to women. Women's sites cover subjects such as gender and sexuality, feminism, women's health, women in computer science, engineering, women's studies, women in academia and women in industry.

Research carried out for the UN Division for the Advancement of Women found that women face two particular challenges in their use of computer networks. The first is to master access tools so they can make the best use of ICTs. The second is to use the new Internet publishing tools to develop their own publishing and media activities on the networks as paradigms of gender-sensitive media products.

5.2   Particular Advantages of ICT use for Women Distance Learners

Until the advent of telecommunications technologies, distance educators were hard pressed to provide for two-way real time interaction. With the development of synchronous (two-way, real time interactive technologies) such as audio teleconferencing, audio graphics

conferencing and video conferencing it became possible to link learners and instructors who were geographically apart. Now, the asynchronous (time-delayed) feature of computer-mediated communications (CMC) offers more advantages in that the CMC class is open 24 hours a day to accommodate the time schedules of distance learners. Any technology that offers flexibility in location and in time allocation tends to be woman-friendly.

CMC systems provide an important medium for facilitating co-operative group work among distance learners. This seems to fit in well with the ways in which women learn. As well, CMC systems arguably provide simple on-line training along with accessible and easy sources of trouble shooting. Through differentiation, specificity, and better learner and teacher control, ICTs should be able to accommodate the individual needs of most users.

5.3   Existing Data on ICTs Being used for Distance Education

Given that distance education is expected to take off with the advent of the new ICTs, it is surprising how little data there is on the trends and future of ICT use as a medium of education delivery. Most of the available detailed information on distance education development trends is from the U.S.[23] Even less available are statistics on how many women are accessing education programmes through ICTs[24].

The Satellite Telecommunications Educational Programming (STEP) network [25], a division of Educational Service District 101 in Spokane, Washington, was developed to provide equal learning opportunities for all students regardless of geographic location or educational resources. In 1990, STEP joined with state education agencies from Alaska, Idaho, Montana, Oregon, and Washington to form the Pacific Northwest Star Schools partnership to provide distance education services to the five-state region. Using federal funds, STEP enhances and expands distance learning in a region connected by culture and economy. The program offers telecast courses on a wide range of topics including foreign languages, mathematics, and science in support of federal policy initiatives. Distance education is provided to approximately 500 schools serving some 6,000 students in middle and high school in the five states. Participating schools receive start-up equipment (e.g., satellite dishes, computers, modems, and scanners) through federal funding. A predominant majority (90%) of the participating schools are located in rural areas. The average program site is approximately 80 miles from the nearest university or college. A survey conducted in 1994 indicated that a predominant majority (72%) of the STEP/Star students were in high school grades, and there were slightly more female students (57%) than male students (43%).

Certainly in developing countries there needs to be more gendered needs assessment and more statistics tracking on the numbers of women learners coming through distance education programmes.

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[23]   As in US Department of Education 1998 survey, op. cit

[24]   Although I am waiting for some figures on first year Ugandan students linked to the Africa Virtual university

[25]   Kim O. Yap. Distance Education in the Pacific Northwest: Program Benefits and Implementation Barriers, Northwest Regional Educational Laboratory (NWREL) 1997

6.   Questions that Country Reports Need to Cover: National Issues[26]

6.1   Impact of ICTs on Distance Learning - a Gendered Status Report

- Is there any education or training provided through open/distance learning (ODL) in the country? If yes, generally at what levels, and provided by which institutions? Is the ODL education/training provided by publicly or privately owned institutions?
- What are the present national priorities in ODL, and the resulting implications for women in this regard? (levels of training, subject-areas, skill training, delivery modes, etc.)
- What might be the priorities with respect to the needs of women?
- Are the new ICTs being used for the delivery of, or for supplementary purposes for ODL? If for supplementary purposes, in approximately what proportion in terms of the overall delivery? If ICTs are being used, identify which ones.
- What local institutions have access to ICTs which might be applicable to ODL? (schools, clinics, chambers of commerce, churches, etc.) To what extent are these institutions supportive of ODL?
- Is there data available that indicates how many women distance learners register and complete programmes by ODL? Is there data available showing how many learners use ICTs in ODL and what proportion of these are women?

6.2   Widening Women's Access to ICTs for Education Purposes

- Are there barriers encountered by women and girls to the access of ICTs for ODL? If yes, what are these barriers? Have there been any initiatives or strategies put in place in an attempt to overcome these barriers? If yes, what are these?
- Does the increased availability and use of the new ICTs impact on women teachers, instructors, tutors, etc.? If yes, in what ways?

Recognising that access to computers remains beyond the means of certain areas and certain marginalised people:

- What are the best practices or examples where ICTs have been found to be useful, particularly in reaching out to women and to those who have difficulty accessing education?
- With particular regard to rural women and girls, what are the implications with respect to the increased used of ICTs to deliver education and training?

As the user-profile of the new technologies continues to be dominated by men and persons with higher education and income:

- Are there particular programmes that could be developed to support training of women in the use of the new ICTs?
- Are there ways to ensure that women are not further disadvantaged or marginalised?

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26   The questions that follow are compiled from Cavan agh, C: Adult Learning, Media, Culture and New Information and Communication Technologies, CONFINTEA, Fifth International Conference on Adult Education, July 1997 and from a series of questions posed to the Global Knowledge in June 1997 by the Independent Committee on Women and Global Knowledge. They are not comprehensive but are meant to guide country report authors on the kinds of issues which might be relevant.

- In identifying the socio-cultural constraints that prevent women from accessing education programmes, note:
  - special features of women students
  - affordability and time issues
  - physical location (in relation to educational institutions, etc.)
  - attitudes
  - skills and literacy

- Are there ways in which the increasing power, accessibility and decreasing costs of the technologies can assist women to overcome these constraints?
- If so, how can ODL programmes ensure that women's needs are being met, using the capacities of the new technologies?
- Can problems of illiteracy be overcome using these new information delivery systems? If yes, in what ways?

6.3   *Training and Capacity Building*

- Are there ways in which women's and girls' awareness of the potential benefits of ICTs and their confidence in their ability to use them can be increased?
- Do working women have the opportunity to enhance or upgrade their skills, knowledge and access to ICTs?   If yes, in what positions, careers, professions, etc?
- Are there existing examples of initiatives to build capacity through ODL programmes, such as:
  - development of courses and programmes which use gender sensitive training methodologies, materials and language?
  - learner support that particularly encourages interaction between learners, and between learners and tutors?

- How can ICTs contribute to three chief concerns for women as defined by the Platform for Action of the Fourth UN World Conference on Women:
  - education and appropriate technical training;
  - school curricula that encourage girls to enter technology and science related areas; and
  - support of women organising and mobilising for empowerment?

6.4   *Is Public Policy Working for Women?*

- Is there an understanding of what national telecom policies might comprise? What are the implications of the liberalisation of the telecommunications sector?
- What are the national (telecommunication) policies in the education section? on distance education? How do these policies address the issue of technologies for ODL?
- Does public policy address gender differentials in the education sector? What are the opportunities offered by ICT policy to address gender differentials in the education sector?
- Do education and telecommunication policy makers collaborate to support women's use of ICTs? Do current policies enhance and build on each other's objectives? If not, how can this be changed?
- Are the national policy makers aware of the latest International Telecommunication Union resolutions on gender and development in the telecommunications sector?

7   Questions that Regional Meetings Need to Address: the Wider Issues

In addition to the questions covered in the national reports, regional issues should include:

7.1 Infrastructural Framework

- What is the current technological infrastructure that delivers education in the region?
- Does the current system integrate different levels of education, formal and non-formal, and different academic institutions? If not, why not?
- Which is the most Internet-connected country in the region, which is the least? What bearing, if any, does this have on access issues for women?

7.2 Regional Integration

- How are distance education projects co-ordinated at the regional level?
- What mechanisms are in place to ensure circulation of existing country studies and research to provide more detailed information for determining distance learning needs and strategies in the region?

7.3 Potential of ICTs in the Region

- What proportion of current distance education programme content is developed within the region? What proportion is developed outside the region?
- What kind of partnerships can be established between educational institutions to support the evolution of these new technologies?
- Has there been any evaluation of the successes, failures and effectiveness of general distance learning initiatives in the region? How might ICTs build on current successes through extending reach?
- What are the key differences between countries in the region, in terms of need for distance education programmes, particular needs of women, rural and urban differences, etc? How might regional distance education programmes bridge these differences?

8   Some Key Web Site References.

Distance Education Clearinghouse   http://www.uwex.edu/disted/home.html
Distance Learning Resource Network   http://www.wested.org/tie/dlrn

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**Pacific Region Symposium on
Identifying Barriers Encountered by Women to the Use of ICTs for ODL
May 7-11, Wellington, New Zealand**

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As a lecturer based at Adelaide Institute of TAFE, Elizabeth Pohl initially developed videos
and created external study materials. More recently, Elizabeth managed the Comtech Centre,
which involved her leading a team of lecturers in delivering corporate and public computer
training. This year, Elizabeth has changed her focus and is now working full time as an
online course materials developer, something she has been doing part-time for a number of
years.

<u>**Fiji – representing The University of the South Pacific**</u>

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Esther Batiri Williams is University Librarian at the University of the South Pacific, and holds a Ph.D in Government from the University of Queensland, St. Lucia, Australia with specialisation in information technology and communication studies. She has planned, set up and managed libraries and information networks in the region and lectured in library and information studies. She has undertaken consultancies and written widely in these areas. In semester 2, 2000 she taught at the International Women's University, University of Hamburg in the area of information as a social resource. She headed the team that conducted the Fiji Election Study in 1999 and will engage in another study in August 2001 when Fiji again goes to the polls. She also conducted the Election Study for Samoa in March 2001.

Kiribati

Mrs. Kateata Binoka
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Baneawa Benati is an Education Officer for Tertiary Education within the Ministry of Education, Training and Technology. She has special responsibility for tertiary training, especially in matters rela ting to education scholarships for students, both within and outside the country. In this role she visits students several times a year to provide support and advice.

Nauru

Ms. Clara Alefaio
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Clara Alefaio attended secondary school and business college in Australia. She graduated in 2000 from the University of the South Pacific with a Bachelor of Arts in Management and Public Administration and Sociology. After three years as an administrative assistant for Nauru Television Network and one year teaching, Clara worked from 1994 to 1999 as Youth Projects Officer for the Nauru Government Department of Youth Affairs. In 1999 she was appointed to the Nauru High Commission in Suva, Fiji, becoming Third Secretary to the Nauru High Commissioner in 2000. Clara has represented Nauru at many regional meetings,

including Pacific Regional Trade Agreement (PARTA) meetings and the Commonwealth Ministers for Education meeting in 2000.

In July 2001 Clara moved to Canberra, Australia where she is studying for a Masters degree at the National University of Australia.

Mrs. Margo Deiye
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Mrs. Margo Deiye attended secondary school in Australia. She graduated from the University of the South Pacific in 2000, with a Bachelor of Education in Secondary majoring in Marine Biology. She tutors adult student in Biology after school hours at the U.S.P. Nauru Centre.

New Zealand

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Ann Devoy manages the Resource Development Centre at Whitireia Community Polytechnic and since 1997 has been responsible for the Polytechnic's flexible and online learning development, website and intranet development, and staff training in ICT-related areas and education design. Ann is a graduate of Victoria University with a BA in linguistics, post-graduate Diploma in Teaching English to Speakers of other Languages (Dip TESL), and graduate Diploma in Education Technology. Before joining the ESOL unit at Whitireia in 1991 she was involved with small business development, and worked with Samoan and Maori community groups.

In August 2001 Ann is taking up a new position in the Centre for Continuing Education, Victoria University of Wellington.

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Heather Thompson graduated from the University of Otago with a BSc in 1973. She gained a Diploma in Secondary School Teaching from Christchurch College of Education in 1973 and taught science mathematics and dance in secondary schools until 1980. Heather has worked in the Polytechnic sector in New Zealand since 1981, initially at Wellington Polytechnic with

life skills and literacy programmes. She completed a postgraduate Diploma in Communications from Victoria University in 1987 and since 1989 has been developing, coordinating and facilitating staff development programmes at Whitireia Community Polytechnic in Porirua. She is currently the National Women's Representative for the Association for Staff in Tertiary Education.

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Jenny Williams has a TTC from Dunedin Teachers College, a BA from Victoria University in Wellington and an MEd in adult learning theory from Victoria University in Manchester. She has worked as a primary and secondary teacher, lectured at Teachers College, and been a tutor in the Advanced Studies for Teachers Unit. Jenny moved into a management position in public service training in 1983 and to The Open Polytechnic of New Zealand in 1991. At The Open Polytechnic she works as a manager in the Course Design Unit which designs and develops open and flexible learning packages.

In August 2001 Jenny is to be seconded to manage some projects in the Pacific for COL.

Samoa

Dr. Emma Kruse Vaai
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Dr. Emma Kruse Vaai is a graduate of Victoria University Wellington New Zealand. Her PhD was obtained from the University of New South Wales, and study for this was largely via distance mode. Emma took up the position of Academic Director and Deputy Chief Executive Officer at Samoa Polytechnic early in 2001. Before this she was a Senior Lecturer in the English Department of the National University of Samoa. She is the current Vice President of the Samoa Association of Women Graduates. Emma is also a Samoan writer and poet, with her work mainly published in New Zealand. She is married with four children and one grandchild.

Ms. Nina von Reiche
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Nina von Reiche is Program Manager for the Samoan Women in Business Foundation. She is also a part-time lecturer in the English Department of the National University of Samoa, and a writer. Nina holds a post-graduate diploma in International Development Studies from Deakin University, Australia.

Ms. Ruby Vaa
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Ruby Vaa is a graduate of Auckland University (BSc) and the University of the South Pacific (USP) (MPhil). Prior to taking up the position of Centre Director of the University of the South Pacific Centre in Samoa in July this year, Ruby spent 19 years at USP's Laucala Campus, Fiji, where she was involved in science education, distance education, and women's issues. Ruby taught science and biology at high school in (Western) Samoa before joining the USP biology department in Fiji in 1982. From 1986 she was involved in the distance programme of the university, first as a course developer-instructional designer then manager of the course development section. In the latter half of the 90s while in the management team of the section as Deputy Director, she was on the planning team for the USPNet. She has coordinated several publications for University Extension, the Pacific Island Regional Association for Distance Education (PIRADE) and the Fiji Association of Women Graduates. During 1999-2000, she undertook a consultancy on Appropriate Telecommunication and Learning Technology for Distance Education in the Pacific. Ruby has 5 children and 3 grandchildren and has been a distance education student herself when she did a postgraduate diploma on distance education part time with the University of Australia.

Solomon Islands

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Irene Henson graduated from the University of the South Pacific with a Bachelor of Science degree in 1995. She then joined the School of Education of the Solomon Islands College of Higher Education as a science lecturer in 1996. In 2000 Irene left the College to join the USP Centre in the Solomon Islands as the Coordinator for Continuing Education.

Tonga

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Peaua Tu'ipulotu Heimuli was first appointed to the Ministry of Education in 1979 as a science graduate teacher at Tonga High School. She was transferred to Tonga College in 1984, then to the Tonga Institute of Education as Head of Science in 1985. She was promoted to Acting Deputy Principal at 'Eua High School in 1986, a post she held for two years, before being appointed as Senior Education Officer in the Curriculum Development Unit as the head of the US/Tonga Science Project. In 1988 she was appointed Acting Principal of Tonga High School, and then in 1990 Peaua became the Acting Deputy Principal of the Tonga Institute of Education. In 1992 Peaua achieved her Masters of Arts degree in Educational Reform and National Development from York University in the UK. Upon her return, she was appointed Deputy Principal at Tonga High School and in 1995 she was confirmed as Principal of the school. Peaua was transferred in 1998 to be Principal of the Tonga Institute of Education, and in 2000 she was promoted to become on of the four Deputy Directors in the Ministry of Education, with current responsibility for the Secondary School Division.

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Piula Fukofuka began teaching in 1975 as a junior English teacher. In 1986 she graduated with a BA in English. She was Head of the Language Department in Tonga College for six years before being transferred to the position of Head of the Language Department at the Tonga Institute of Education for two years. In 1994 she was transferred to work at the Tonga Ministry of Education's Curriculum Unit in the Language Section. While there, Piula continued as a part-time English lecturer at the Tonga Institute of Education. In 1995 she was transferred again, to the Community Development and Training Centre where she held the position of Planning, Curriculum and Examination Officer. She co-ordinated three full-time programmes of study and managed a Commonwealth of Learning funded programme to upgrade certificated Tongan primary school teachers to Diploma level through a distance mode of learning. In 2000, she graduated with a Masters of Arts in Distance Education from the Indira Gandhi National Open University, and was transferred to the Tonga Institute of Education as Deputy Principal, a position she continues to hold.

Tuvalu

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Elenisi Tekaai Malona is the Curriculum Officer in the Department of Education, Tuvalu. Her main responsibility is the planning and development of subject curricula in Tuvalu at all levels from pre-school to secondary. Elenisi is a graduate from Massey University, Palmerston North in New Zealand (1999) with a Masters Degree in Educational Administration. She did her undergraduate degree (BA GCEd) in History, Politics and English Language at the University of the South Pacific, graduating in 1986.

Vanuatu

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Jane Kanas graduated from the University of the South Pacific with a BA in Language Literature and History Politics, and a Post Graduate Diploma in Linguistics. She is currently writing a MA thesis on Bislama, the pidgin English of Vanuatu, to be submitted in July 2001. Jane has been a tutor in the areas of her majors at the USP Centre in Port Vila since 1993. She has a passion for women's issues and hopes to be a good role model to women of Vanuatu. She is married with two sons.

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John Gideon holds a Bachelor of Arts Degree with a double major in Management and Public Administration and Geography, which was obtained from the University of the South Pacific, Laucala campus, Suva, Fiji. He started work in the Department of Education after University studies in 1997 as Education Officer (EO) Projects. In December 1999 John was promoted to Senior Education Officer (SEO) Projects. His areas of responsibilities include: Coordinator of UNESCO Programmes and Projects; National Associated Schools Project Network Coordinator; Official Liaison Officer for the New Zealand Education Assistance Programme in Vanuatu (NZEAP).

Pacific Region Symposium on
Identifying Barriers Encountered by Women to the Use of ICTs for ODL
May 7-11, Wellington, New Zealand

AGENDA

Main venue: Angus Inn, Lower Hutt City

Day 1: Monday 7 May 2001

9:00	Opening ceremony and introductions
10:00	*Morning tea/coffee*
10:30	Context of this symposium
11:00	Clarification of roles and process
	Expectations of participants
11:30	Country presentation: Vanuatu
	Open discussion
12:15	*Lunch*
1:00	Country presentations: Tuvalu, Tonga, Solomon Islands
2:30	Open discussion
3:00	Adjournment
3:30	*Bus to Whitireia Community Polytechnic*
5:30	*Welcome ceremony (Powhiri), Pacific entertainment and dinner*

Day 2: Tuesday 8 May 2001

9:00	Summary of previous day
9:15	Country presentations: Samoa, Nauru, Kiribati
	Open discussion
10:45	*Morning tea/coffee*
11:15	Presentation: University of the South Pacific
	Summary and open discussion
12:30	*Lunch*
1:30	Identification of common themes and barriers
	Group tasks defined and groups identified
3:30	*Afternoon tea/coffee*
4:00	*Bus to Turnbull House, Wellington*
5:30	*Reception with Minister of Education*
7:00	*Dinner hosted by the Open Polytechnic*

Day 3: Wednesday 9 May 2001

8:45	*Bus to the Open Polytechnic of New Zealand*
9:15	Barriers: group tasks
10:15	*Morning tea/coffee*
10:30	Group reports on identification of barriers
11:30	Country papers: discussion on preparation for publication
12:30	*Lunch with Open Polytechnic staff and guests*
1:30	*Visits to Open Polytechnic departments*
2:30	Presentations by Open Polytechnic and Adelaide TAFE staff
3:30	*Bus returns to Angus Inn*
	Free afternoon/evening for shopping, theatre etc

Day 4: Thursday 10 May 2001

9:00	Outcomes of symposium: open discussion
9:30	Strategies and initiatives: gr oup tasks
10:00	*Morning tea/coffee*
10:30	Strategies and initiatives: group tasks
11:15	Group reports on Strategies
12:00	*Lunch*
1:00	Open discussion on Strategies
1:30	Project proposals: selection of projects
2:00	Project proposals: group tasks
3:00	*Afternoon tea/coffee*
3:30	Groups report on project proposals
4:15	Adjournment
5:00	*Visit to Te Papa, the National Museum of New Zealand, Wellington City (Optional)*

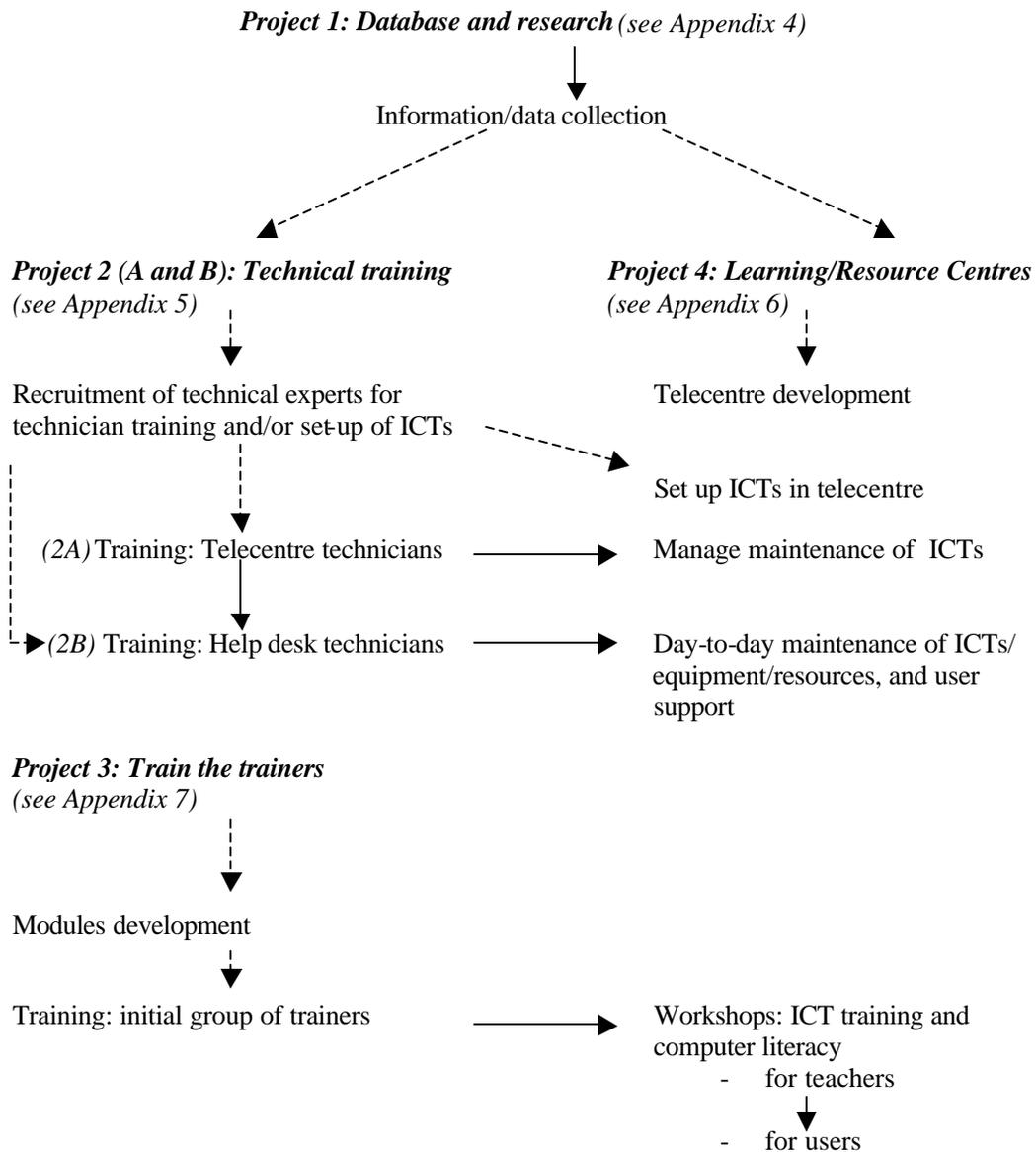**Day 5: Friday 11 May 2001**

9:00	Follow-up to symposium: open discussion
9:30	Project proposals: final discussion
10:00	*Morning tea/coffee*
10:30	Development of Recommendations
12:00	Closing ceremony: formal
12:30	*Lunch*
1:30	Distribution of Recommendations
	Closing speeches: informal

Project Proposals: Diagrammatic plan indicating linkages and timeline

Rationale: These projects need to be considered as a package to ensure sustainability.

Project 1: Database and research *(see Appendix 4)*

Information/data collection

Project 2 (A and B): Technical training
(see Appendix 5)

Project 4: Learning/Resource Centres
(see Appendix 6)

Recruitment of technical experts for
technician training and/or set-up of ICTs

Telecentre development

Set up ICTs in telecentre

(2A) Training: Telecentre technicians

Manage maintenance of ICTs

(2B) Training: Help desk technicians

Day-to-day maintenance of ICTs/
equipment/resources, and user
support

Project 3: Train the trainers
(see Appendix 7)

Modules development

Training: initial group of trainers

Workshops: ICT training and
computer literacy
-    for teachers
-    for users

Key:

------► Initial development (project)
——► Continuing development (post-project)

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Project Proposal 1: Data Collection and Database Creation

Title
Establishment of a regional database on ODL and ICTs in Pacific island countries, with particular emphasis on women and girls

Rationale
There is a lack of research studies and data on the needs of women and girls in the South Pacific in the use of ICTs for ODL. The data collected will assist and support decision making in ODL and ICTs.

This project will provide access to a database and pool of information on ODL and ICTs which will inform and strengthen decision making on the education and development of women and girls, particularly those that are disadvantaged, the urban poor and or living in rural communities

Goals
To provide baseline data in a whole range of areas so as to inform and assist Pacific Island governments, institutions, organisations, stakeholders and the community in future decision making and policy formulation on ICTs and open and distance learning in both the formal and non-formal sectors. Particular focus will be on women and girls in urban poor and rural communities.

Phase 1: feasibility study of data needs requirements
Phase 2: analysis of data, and report
Phase 3: establishment of database
Phase 4: maintenance of database - ongoing

Objectives
1. To undertake a comprehensive review of existing studies available on ODL and ICTs
2. To identify national priorities and needs for ICT use in ODL for women and girls in the formal and informal sector
3. To identify areas of research on ODL and ICTs focusing on women and girls
4. To identify how and where people get information on ODL courses and ICTs
5. To establish the role and possibilities of traditional communication systems in this process of awareness raising and development in ODL and ICTs
6. To establish, manage and coordinate a database on ODL and ICTs, with a specific focus on women, girls and gender issues
7. Data to include: gender, completion rates, courses, success rates, quality assurance, areas of study, levels of study, retention rates, resources, age, fees, information on financial assistance and awards, number on awards, national priority areas of study, employment rates, staff, institutions, ICTs availability and use for ODL, Internet, telecommunication fees, radio, other ICTs.
8. All data to be gender differentiated

Outputs/Products
1. Strengthen the information system and knowledge of ICTs and ODL in the Pacific region overall, especially on women and girls
2. Identify the gaps in data collection and importance of conducting research on ODL and ICTs focusing on women and girls
3. Report on national priorities and needs for ICT use in ODL
4. Identify areas in which research should be conducted including academic, psychological, emotional, social, economic needs of women and girls in ODL and their use of ICTs

5. Identify training needs for women in the use of ICTS for ODL thus creating an enabling environment for women to use ICTs and become more ICT oriented and skilled
6. Establish a regional information database of ICTs and ODL available online and in the different formats (CD-ROM and print-based)
7. Assist governments in making better informed decisions
8. Raising awareness and in particular provide women and girls and other users information on ODL providers, courses, ICTs in the region and career opportunities
9. Provide up-to-date and accessible information on women and girls in ODL and ICTs

Beneficiaries
1. Women and girls – will create and develop awareness on the accessibility of education; have access to information to assist them in making decisions on courses, institutions and areas of assistance. This will increase the number of women and girls in bettering their education and learning in both the formal and informal sectors
2. Government – will provide the necessary information to make well-informed decisions and planning on education especially ODL at all levels, telecommunication and development plans
3. Schools – provide information on what exists and assist in planning for open schooling and use of ICTs
4. Public sector areas, such as agriculture, tourism, national planning
5. Private sector
6. NGOs, particularly to access data in areas of needs, such as, income generating projects, workshop areas, financing in this area, and resourcing women and girls for particular projects and studies

Methodology/Process
Feasibility and study of needs:
1. Establish taskforce comprising a regional project co-ordinator and national co-ordinators for each country, to prepare project proposal to seek external funding
2. Preparation, testing and finalisation of questionnaire and interviews
3. Conduct feasibility studies and surveys to include government line departments: Women's Affairs, NGOs, Statistics, National Planning, Telecommunications, Public Service Commission etc., and the private sector
4. Information gathering virtually and by travel within country

Database:
1. Taskforce - prepare parameters for database
2. Develop draft terms of reference for seeking tenders/proposals

Executing partners:
Regional education institutions (all possible) and national institutions

Timeframe
Phase 1: 2001

Month 1	Set up regional coordinating agency and task group – virtual and face-to-face
Month 2	Establish and agree to methodology and approach
Month 3	Preparation of questionnaire and ethnographic review – use cyberspace ethnography and personal interviews
Month 4	Test questionnaire
Month 4	Conduct feasibility study
Month 9	Complete study and report

Phase 2:
Year 2   Begin work on database

Estimated Budget

Item	Cost USD	Comments
Phase 1		
Taskforce: Regional coordinator National coordinator	15,000	Use existing regional and national institutions so as to reduce costs and ensure the project is implemented. Will need government support and approval
Questionnaire preparation	2,000	An important task and needs to be coordinated and prepared well
Research assistants	20,000	For national collection of data and interviews. X number per country – to be decided
Photocopying of questionnaires and letters	3,000	Number of copies to be determined by the taskforce
Report and distribution	15,000	Publication and number of copies to print and distribute
Travel and meetings	15,000	In-country travel and one regional meeting
Phase 2: Database		
Meeting to discuss database	10,000	Virtual and one meeting face-to-face to decide on database parameters, program, indicators, etc.
Program software	To be determined	May be able to use existing systems.
Maintenance of database	25,000 annual	Regional institution responsibility so as to ensure sustainability and to feed into international COL database
Production of database	15,000	On CD-ROM and paper versions
Information awareness program	15,000	Radio programs, leaflets, online information on ODL focusing on women and girls and boys: graphics, printing, audio.

Project Proposals 2 A and B: Technical training

Project Proposal 2A: Technicians

Title
Training for information and communication technologies (ICT) technicians

Rationale
One of the major barriers identified during the symposium was the lack of technical skills to set up and maintain ICT equipment in learning environments.

There is also a lack of women and girls participating in technology education, and consequently few role models with ICT skills.

Goals
This project is designed to increase the numbers of ICT technicians in Pacific countries, particularly women, and thus give each of the countries access to a wider range of learning possibilities especially in rural and distant communities.

The project will develop, pilot and evaluate a training programme to provide technicians with the skills needed to set up, maintain and update ICTs in Learning and Resource centres. They will also be available to advise and train help desk staff for centres and other organisations.

Time frame
This training is likely to take a minimum of 2 years for trainees who begin as non-users or those with limited ICT experience.

Objectives
- To develop a programme that meets the technical management and support needs of Pacific learning and resource centres.
- To deliver a pilot programme in an identified Commonwealth Pacific island nation.
- To ensure the programme participants include two trainees from each of an identified number of Commonwealth Pacific nations.
- To ensure the programme structure is designed to be inclusive of women participants, and at least 50% of the participants are women.
- To ensure the programme uses a range of training methodologies, including work placement.
- To provide scholarships to encourage women to train in this non traditional area.
- To evaluate the training and provide recommendations for further training programmes.
- To ensure that any qualification gained from the programme has regional recognition.

Outputs
- Skilled technicians accessible to learning centres and schools throughout Pacific countries.
- Sustainable access to ICTs that are set up, updated and well-maintained.
- Access to tertiary learning by a wider range of learners and community groups.
- Increased technical capacity in communities.
- Trainers for help desk technicians in local communities.

Beneficiaries
- Communities and schools, who will have access to technical support for ICT
- Women trained in a non-traditional area

- Girls and women who will have role models in a non-traditional area
- Pacific nations, who will have increased technical capacity.

Process/ Methodology
1. Seek sponsorship/funding for development of training programme
2. Liaise with governments and aid agencies to gain scholarships for training
3. Establish location/venue in Pacific for training programme
4. Develop profile and job description for, and contract with developer/s of training programme
5. Conduct needs analysis to identify skills required
6. Develop training programme: considering appropriate qualification, available packages, and placement (fellowships and job attachments) component
7. Liaise with governments and educators and communities to recruit trainees
8. Implement training programme
9. Evaluate training programme

Project Proposals 2 A and B: Technical training

Project Proposal 2B: Help Desk Technicians

Title
Training for ICT 'help desk' technicians who will provide day to day technical support for users of Learning and Resource centres.

Rationale
One of the major barriers to the use of ICTs identified was the lack of technical skills to maintain ICT equipment in learning environments.

There is also a lack of women and girls participating in technology education, and consequently few female role models with ICT skills.

Goals
This project will provide support technicians to assist users of ICTs and ensure that the use of computers and other technologies will be sustainable as the equipment will be regularly and well maintained.

The project will develop, pilot and evaluate a training programme that develops the technical skills necessary to provide day-to-day support for the users of ICT in learning centres, and to perform duties associated with the control and maintenance of equipment and software.

Time frame
This training is likely to take a minimum of 1 year for trainees who begin as non-users or have limited ICT experience.

Objectives
- To develop a training programme for help desk technicians which will enable them to support the use of ICTs in learning and resource centres.
- To deliver a pilot programme in an identified Commonwealth Pacific island nation.
- To ensure the programme participants include at least two trainees from each of an identified number of Commonwealth Pacific nations.
- To ensure the programme structure is designed to be inclusive of women participants, and at least 50% of the participants are women.
- To ensure the programme uses a range of training methodologies including work placement.
- To provide scholarships to encourage women to train in this non traditional area.
- To evaluate the training and provide recommendations for further training programmes.
- To ensure that any qualification gained from the programme has regional recognition.
- To ensure the training programme can be the first step towards a Technician qualification.

Outputs
- User-support technicians accessible to learning centres and schools throughout Pacific countries.
- Sustainable access to ICTs that are well-maintained.
- Increased access to learning by a wider range of learners and community groups.
- Increased technical capacity in communities.
- Increased employment potential for trainees.

Beneficiaries
- The trainees
- Women trained in a non-traditional area

- Teachers and learners wishing to use ICTs
- Communities and schools, who will have access to support for ICTs
- Users of Learning and Resource centres for educational, personal and business use
- Girls and women who will have role models in a traditionally non-female area
- Pacific nations, who will have increased technical capacity.

Process/ Methodology
1. Seek sponsorship/funding for training development
2. Liaise with governments and aid agencies to gain scholarships for training
3. Establish location/ venue in Pacific for training programme
4. Develop profile and job description for, and contract with developer/s of training programme
5. Conduct needs analysis to identify skills required
6. Develop training programme: considering appropriate qualification, available packages, and placement (fellowships and job attachments) component
7. Liaise with governments and educators and communities to recruit trainees
8. Implement training programme
9. Evaluate training programme

Project Proposal 3: Train the Trainers

Title

Train the Trainers programme for computer literacy and ICT skills, including the development of flexible training resources.

Rationale

A major barrier to the use of computers in schools, and the use of information and communication technologies (ICTs) to enhance and extend distance education opportunities, is the lack of ICT skills amongst teachers and learners. There is also a lack of women with computer and ICT skills to act as role models and teachers to encourage girls to participate in technology studies.

Goals

This project will provide flexible training modules to be used in a training course for teacher-trainers. The project is the start of a process that will result in increased numbers of skilled women and teachers in schools, Learning and Resource and other education centres, who are able to disseminate computer and ICT skills widely.

Objectives

- To develop, pilot and evaluate flexible training modules to provide computer literacy and ICT skills relevant for educators and for users of Learning and Resource centres.
- To ensure the training modules are designed to be inclusive of women participants.
- To provide a training programme for a core group of women teacher-trainers from at least seven identified Commonwealth Pacific nations, based on the use of the training modules.
- To provide skilled trainers who will adapt and use the modules for teacher training in their own countries, so that these teachers will in turn be able to train student users of computers and ICTs.
- To evaluate the training and provide recommendations for further training programmes.

Outputs

- Teachers with computing and ICT skills in schools throughout the Pacific.
- Teachers with relevant computer and ICT skills to support users of Learning and Resource Telecentres.
- Availability of a wider range of flexible learning packages appropriate for the local Pacific context.
- Access to tertiary learning by a wider range of learners and community groups.
- Learners with computer literacy
- Increased technical capacity in communities.

Beneficiaries

- Teachers, learners
- Users of centres
- Communities and schools, who will have access to persons with the skills to use ICTs for communication, education and enterprise

Process

1. Seek sponsorship/funding for resources and training development
2. Develop profile and job description for, and contract with developers/trainers of module programme
3. Conduct a needs analysis to identify skills required and determine the modules needed, such as word-processing, email, Internet, research skills, videoconferencing, and so on

4. Identify core group of participants for initial training programme and the venue for the training
5. Develop modules, with input where possible from initial training programme participants
6. Implement the "Train the Trainer" programme
7. Evaluate the programme, and particularly the modules developed
8. Assist in the adaptation, where necessary, of the modules for local implementation
9. Support delivery of the programme in other locations

Project Proposal 4: Telecentres

Title
Learning and Resource Telecentres

Rationale
ICTs have great potential to increase access in rural areas and outer islands to ODL and facilities that can support local community enterprise and training. Major barriers identified during the Pacific regional symposium included the unavailability and/or unreliability of telecommunications in rural areas, and the high cost of ICT equipment and maintenance. It is difficult for educational providers to establish and maintain ICTs because of cost and lack of technical staff.

The establishment of telecentres within rural communities could overcome these problems and provide Learning and Resource Centres where ICTs can be shared for education and community activities, and where the availability of trained staff would ensure sustainability.

Goals
This project will promote equitable, sustainable and self-directed development of disadvantaged and rural communities, and especially women and girls within those communities. The telecentres will provide access to telecommunications, computers and information technologies to facilitate open and distance learning activities (ODL) in the formal and informal education and training sectors. The telecentres will support local and national capacity-building and empower communities economically by increasing access to resources and training courses, and increasing the scope of community and business activities through the use of ICTs.

Pilot telecentres will be established in at least five Pacific nations, including Samoa, Tonga, Kiribati, Tuvalu and Vanuatu. If possible they will be developed from an existing school or community base.

Objectives
- To increase access to education so that children and adults do not have to leave their communities to participate in quality education and training.
- To provide access to ICTs that will enable and support ODL at secondary and tertiary levels relevant to local area needs, including vocational education and teacher training.
- To increase the numbers of girls and women participating in non-traditional areas of study such as technology.
- To facilitate the provision of non-formal education and training programmes, such as short courses and workshops for youth and women run by non-government organizations.
- To provide access to resources and ICT facilities, including communications technologies such as email, that will support and enable local business initiatives and community activities.
- To ensure sustainability of telecentres and their ICT facilities by providing staff with the necessary administrative, teaching and technical skills.

Outputs
- More children and adults participating in education and training
- Less migration from the villages and reduced brain drain
- Greater academic success for students
- Access to information and communications facilities and resources by the community, especially women and girls

- Increased employment and vocational skills, job creation and income generation
- Increased community interaction and involvement
- Increased responsibility and ownership by the local community
- Second chance education and training for school drop-outs

Beneficiaries
- Rural communities who are currently disadvantaged
- Rural schools who currently have no access to ICTs and can only offer a restricted curriculum
- Girls who currently face gender and economic barriers limiting their access to education particularly in non-traditional areas of study
- Women who wish to participate in education and training while remaining within their own communities
- Non-government organisations, including women's groups, who wish to have access to ICTs for training and community activities
- Local and community businesses who wish to have access to information sources, communication facilities, other resources and training facilities
- School drop-outs who wish to participate in second chance education and training opportunities.

Process
1. Develop project proposal document: gather information (ref Project 1) and liaise with government, non-government and community organisations to clarify the needs that should be addressed by the establishment of Learning and Resource telecentres.
2. Secure financial resources from government, donor agencies, business and industry, community organizations.
3. Establish project working group to consist of regional project co-ordinator and national co-ordinators for each country.
4. Conduct feasibility studies within chosen rural communities to: identify infrastructure requirements; identify local organisations, including women's groups, schools and churches that could provide management and facilities such as buildings; identify the ICT facilities and other resources required.
5. Establish management structure for telecentres and recruit technical personnel to advise on and set up ICTs (ref Project 2).
6. Set up telecentres: purchase equipment and resources; install ICT; recruit administrative, teaching and technical staff as required; establish financial, maintenance and security procedures.
7. Report on project; evaluate pilot telecentres and outcomes.