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Gender, ICTs and Agriculture

A Situation Analysis for the 5th Consultative Expert Meeting of
CTA's ICT Observatory meeting on Gender and Agriculture in the Information Society

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Any omissions or errors in this report are of course the responsibility of the authors.

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Foreword

The world today is an "information society". There is an ever-increasing use of information in all aspects of human activity. This also means that there are many technologies that assist in providing information in a timely manner. Historically, food security and economic development depend on access to information, and learning through knowledge management and exchange. While information has always been indispensable in processes of political, economic, and social development, the way in which information is accessed and controlled is widely debated. In recent years, there is much discussion about the 'digital divide', in which some members of society or areas of the world are left behind others who have access to new information and communication technologies.[1] The poor, illiterate, displaced or disabled persons, racial and ethnic minorities, any of these social groups could be left behind by the information society.

This report, and the effort of CTA to examine gender, ICTs and agriculture recognizes the digital divide that exists between developing nations of Africa, the Caribbean and the Pacific and the rest of the world. More specifically, it argues that within the ACP countries both obstacles and opportunities exist in the use of ICTs by resource-poor farmers, women and youth. Attention is directed to how ICTs can help to reconstruct gender relations so that the needs of all groups in the information society are met. In this respect, CTA's task is to mainstream gender issues into its work.

The report begins with an introduction to gender, ICTs and agriculture for rural development in ACP countries. Section 2 presents an overview of the major gender issues within agricultural and rural development. Section 3 considers the current background to ICTs and agricultural development. Section 4 outlines important gender issues in ICTs in developing countries. Section 5 identifies key initiatives around the world relevant to gender responsive use of ICTs for rural development. It captures innovative projects as well as the activities of multilateral, bilateral and nongovernmental organizations, corporations and academic institutions. Section 6 presents a summary of efforts, ideas and recommendations on gender, information, communication and agriculture in ACP countries generated to date by CTA and its stakeholders. Finally, Section 7 of the report provides some suggestions for CTA's efforts to mainstream gender in its strategy and actions for the future.

Overall, the report offers a situation analysis of gender, ICTs and agriculture that anticipates continued discussion. It challenges CTA to be as relevant as possible to the information and communication needs of resource-poor producers and consumers, especially rural women, in ACP nations.

[1] Even within industrialized OECD countries, "The digital divide may be said to be growing, as the access gap between those with the highest and lowest levels of access is increasing." (OECD. 2002. *Information Technology Outlook 2002: ICTs and the Information Economy*).

1.0 Introduction

1.1 Background

According to its mandate, CTA, the Technical Centre for Agricultural and Rural Cooperation (ACP-EU), established in 1979, seeks to promote dialogue and the exchange of information between different and disparate bodies and professionals in ACP States. Since 1998, an annual ICT Observatory meeting has been held to focus on specific information themes to enhance the capacity of ACP stakeholders to make decisions and create partnerships that sustain information exchange and capacity building. In 2001, the theme of the Observatory concentrated on the technological aspects of ICTs, and, specifically, the potential of wireless technologies in agricultural development (Engelhard, 2001).

In 2002, the specific focus is on *gender issues* in the use of information and communication technologies for agricultural and rural development. In truth, the excitement of new and emerging ICTs is tempered by old and enduring problems of social disparity and gender inequality in development processes. In posing the "gender question" yet again, and this time with respect to ICTs and agriculture, the emphasis is on the importance of the "C" in ICT, which stands for social and human communication and the associated learning processes that bring about rural development.

1.2 Key definitions

Throughout the paper, a caveat is inserted where the term **women** is used because women are not a homogenous group. Differences in age, class, race and ethnicity and disability status cut across gender and affect status, power, access and resources. However, in rural areas of the ACP countries there is no question that women are most likely to be poor, isolated, and poorly educated (IFAD, 2002).

Gender is used in this paper to refer to the socially constructed relations between women and men in a particular society. These relations and the roles that women and men may assume are culturally and institutionally embedded. Whereas biological sex (being male or female) is not easily altered, gender as a social identity changes over time (historically) and space (geographically). Therefore, gender roles of men or women in one society may differ from another.

Gender is a development issue because social considerations are not easily incorporated into institutions such as policies, laws, markets and organizations. This process is often referred to as the '**mainstreaming**' of gender in development institutions. Studies confirm that without direct intervention, gender mainstreaming will not occur (Kimani, 2000; IFPRI, 2000). Given that female education is the single most effective way of reducing poverty, the United Nations in 2000 designated gender equality and empowerment as the 3rd Millennium Goal.

A key term that is used throughout this paper is **ICTs**, or information and communication technologies. These are individual or sets of technologies that include both new and not so new equipment for human and digital communication. ICTs include for example:

- digital communications, and specifically satellites, mobile telephones, wireless local loops and digital radio

- computers, personal data assistants (PDAs), email, speech recognition technologies, global positioning systems (GPSs) and of course the Internet
- delivery mechanisms (e.g. public access, rural information centres and telecentres, mobile Internet vans, village kiosks, rural radio broadcasting, including farmer listening groups)
- computer-assisted distance learning

It is also useful to point out that CTA uses the term information and communications management (ICM) to reflect the importance of managing knowledge and to focus beyond the physical equipment often associated with information technology.

1.3 Assumptions

Several assumptions underlie the focus on the theme of gender, ICTs and agriculture and the CTA Observatory meeting. They are:

- ICTs can and do make an important contribution to agricultural and rural development.

- The consideration of gender in ICTs as tools for rural development comes from several sources:

  - **The "greatest good**." As women are the majority of the population in the rural areas and highly significant in food production in ACP regions, consideration of their involvement is a quantitative imperative.

  - **The business case**: recent development research has shown that development projects that take gender relations into account are more likely to achieve their objectives than those that do not (Murphy, 1997).

  - **Elimination of poverty**: There is also a growing and compelling body of evidence that shows that women's empowerment is a central precondition for the elimination of poverty. ICTs are important resources to address the concomitants of poverty: lack of access to education and health services, lack of productive opportunities, lack of information and isolation.

  - **The equity argument**: Women are active participants in development and carry a triple role for productive, reproductive and community work (Moser, 1993). As noted, Goal 3 of the United Nations Millennium Development is the promotion of gender equality and the empowerment of women. Gender equality is integral to a human rights-based approach to development.

All of these assumptions can be argued depending on the context to which they are applied. The point is that issues of gender are relevant to ICTs and agriculture from economic, political and ethical perspectives. There is a need, however, to get at the core of this association and to determine why an organization like CTA and its stakeholders should be concerned about gender.

2.0 Gender Issues in ACP Agriculture[2]

Agriculture has not always remained high on the agenda of international development assistance. However, there are signs that international development agencies are returning to recognize the important role in which agriculture plans in rural and national development efforts. In many developing countries, around one quarter of total output depends on their agricultural sectors. The World Bank is urging rich countries to stop spending $1 billion a day on agricultural subsidies, to accelerate the transfer of new technologies, and to provide more aid, particularly to Sub-Saharan Africa (World Bank, 2002).

There is a strong relation between gender and agriculture in ACP nations. According to the United Nations report on the status of the world's women (2000), women are twice as likely to be involved in agriculture-related activity as men. National averages of women in the agricultural labour force vary, but globally they have a principal role in agribusiness, food processing and consumer-related activity. For example, in sub-Saharan Africa household studies have identified that 90 per cent of women are farmers (Henn, 1984; Boyle, 1988; Lele, 1990). They perform the bulk of the subsistence production (70 per cent) and reproductive work (Bryson 1981; ILO 1984; Boyle 1988). As producers, women's work in the field helps them feed their families but goes beyond farming alone. Women's rural activities in many parts of Africa range from agricultural production and food processing to food provision, marketing, and crafts.

Women, however, lack influence over the agricultural research and development agenda, and seek accountability for their concerns. Many rural women are systematically denied access to land, credit, extension services, and technology (ILO, 1984). Women's subordinate position with regard to control over resources and decision making is a gender relationship and is reinforced by legal and educational systems, the media, and family planning programmes. Such stereotypes shape development thinking and policies despite the fact that one-third of the world's households are headed by women whose productive and reproductive responsibilities provide for the entire family (Moser, 1993: 137).

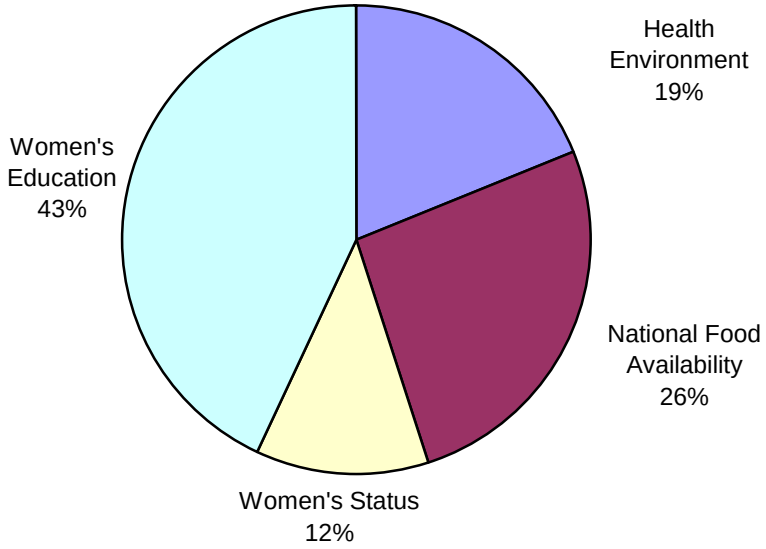
2.1 Women as stakeholders

Debate concerning food security and poverty alleviation in many ACP nations has recently increased (FAO, 2002c and World Bank, 2002c). Some 815 million people worldwide suffer from chronic malnutrition. Whereas in the Pacific, one in six people are estimated to be malnourished, the figure is as high as one in four in sub-Saharan Africa (Pinstrup-Andersen, Pandya-Lorch and Rosegrant, 1999; FAO, 2002a). Lack of adequate nutrition saps the economic productivity of individuals and undermines the economic health of nations. It is now widely recognized that women and children's endemic anaemia and vitamin deficiencies are indicators not only of persistent food insecurity, but women's declining status, lack of education and overall rural poverty (Smith and Haddad, 1999).

[2] This section is based on Hambly Odame (2002).

Figure 2.1: Factors Contributing to Child Nutrition in Developing Countries (1975-95)

Source: IFPRI, 2000



The recent food security debates have called attention to the important demographic shifts occurring in ACP countries. In particular the proportion of age cohorts under 15 years of age has increased to over 50 per cent of the population in some countries. Simultaneously, statistics on the migration of younger adults from rural to urban areas and poor health conditions have led FAO to suggest that ageing often manifests itself earlier and proceeds faster in rural areas than in urban areas (FAO, 2002b). Rural development must therefore be directed to meeting the needs of the young and old as producers.

To respond to the needs of the poor and needy, the world has tremendous financial and technological potential to mobilize against starvation and malnutrition. One has only to look at recent developments in agricultural research to see that increases in total production without degrading natural resources are possible through judicious investments (CGIAR, 2001a). However, large-scale improvements in food security have yet to occur in many nations and in marginal areas within them. Forecasts indicate significant increases are needed in food aid and technical and financial assistance to sustain even minimal improvements in agricultural productivity, environmental conservation and poverty alleviation (Rosegrant, et. al., 2001). World Bank analysis of gender and investment in the agricultural sector concludes that in countries where half or more of all farming is done by women, the neglect of the needs of female farmers in rural development programmes reduced total agricultural outputs by as much as 20 per cent (Blackden and Bhanu, 1999).

In sub-Saharan Africa, food security and poverty cannot be seen in isolation of wider social and environmental contexts. The environmental challenges are substantial given widespread declines in soil fertility and water availability. Currently, about 86 per cent of Africa suffers from negative nutrient balances that would cost over US$1.5 billion per year to eliminate (Henao and Baanante, 1999). Overworked smallholder farmers face the dilemma of either increasing their labour to improve soil fertility through

activities such as agroforestry, using scarce financial resources to obtain external inputs such as fertilizers or opting against their better judgement to forego soil conservation measures (Gladwin, 2002). Most resource-poor farmers in sub-Saharan Africa, and especially those in poor health, find themselves unable to risk any uncertain return on their investment in agricultural activities.

Social upheaval and ethnic and religious clashes exist because hunger persists, basic rights are violated or ignored and land and other economic resources are ruined (de Soysa and Gleditsch, 1999). Rural women bear an inordinate share of these problems. Often left to fend for the families when working age men leave the rural areas in search of employment, women have responsibility for ensuring household food security, meeting the needs of the elderly and the young and engaging in livelihood activities within their communities. A fitting proverb in western Kenya says, “without women we all go hungry.”

2.2 Policy approaches and issues

Through the 1980s and 1990s, many national agricultural research and extension systems in Africa underwent training courses aimed at heightening awareness and "sensitizing" them to women in development (WID) issues. Thousands of research projects included a component related to women. Typically, ‘women’s activities’ were “added on” to an existing project (Harding, 1995). The most infamous of such activities involved women in handicraft production or in tree nursery operations. Little consideration was given to how these projects responded to women’s more strategic needs such as land, market information and credit.

By 1985, as evident in statements of the International Women’s Conference in Nairobi, there was a growing critique of WID activities (UNIFEM, 2000). Emphasis was placed on answering the key question-- have there been substantial improvements in the well-being of rural women, their families and communities? The results of analysis by international organizations as well as by partners at the local level (e.g. non-governmental organizations) suggested that the significant investment in WID-type projects had limited impact on changing the conditions and position of women in many developing countries, especially those in the rural areas (*ibid*). The focus on “women” was considered insufficient; rather, changes had to occur to address the socially embedded inequities experienced by women in relation to men. Such inequities were structured into institutions that represent patriarchal, hegemonic interests. This meant that men had to be brought into the analysis, not set out apart from it (Goetz, 1997). This approach highlighted the importance of the concept of gender.

Gender, as an analytical approach, views activities, resources and benefits as inequitably distributed within society and its institutions, including the family, the market and the government and its public services. The concept draws its analytical strength and its practical orientation from the fact that just as gender relations are socially constructed, so too can they change (Plewes and Stewart, 1991). Gender analysis has been applied to virtually every social, economic, political and environmental field of study, including agriculture.

For the purposes of this paper and the context in which ICTs can be used to promote agricultural and rural development in ACP nations, it is useful to identify some of the most important gender issues in agriculture.

Land Tenure. Women seek rights to use, control and own land, which in turn implies rights to other forms of property (e.g., credit, buildings, water and trees). Government changes imposed, such as the privatization of land or its ownership, destabilized the relationship, based on reciprocity and cooperation, which seemed to exist between women and men in many African, Caribbean and Pacific societies. In many cases, women lost their traditional usufruct rights to land under communal ownership during the colonial era and still remain disadvantaged when independent states ignored women's claims to land rights (Bruce, 1998). Land reform programmes often worked to place the most arable land in the hands of the able and rich few (Lastarria-Cornhiel, 1997).

Access to Extension and Research. Rural women may participate in but do not necessarily benefit directly from agricultural extension and research programmes. As suggested by Saito (1994:46) the "privatization of research currently being promoted is likely to exacerbate this neglect of women's concerns and needs. Private organizations will only produce goods for which they foresee a high probability of an attractive financial return. Small holders are not used to paying for agricultural advice, and they have little money available to buy something that they can "borrow" from a neighbour. Public research institutes require an improved understanding of their farmer clients and this understanding must underpin overall management of the research process (Merrill-Sands and Collion, 1994; Kimani, 2000).

Access to technology. Technology should not be viewed as gender neutral (Stamp, 1990). The lack of involvement of women farmers into technology design and implementation results in the inappropriateness of new technologies and new problems (Ashby, 2002). In some cases the introduction of new technology has had the reverse effect of increasing women's workload instead of providing them with the expected benefits. Research also suggests that in some cases when the use of a new technology starts to produce income, whether it is a newly profitable crop or new processing equipment, it is often taken over by men (Paris, et. al., 2001).

Access to credit. Researchers such as Lewis (1984:183) argue that "productivity on women's plots is as little as half as high as men's, due to labour constraints and lack of access to credit. Unable to get credit because they are excluded from extension services and cooperatives, women have not been able to get fertilizer and other agricultural inputs." Credit is a critical input because it can be used to overcome other obstacles such as lack of labour and information. Blackden and Bhanu (1999) state that:

> In Africa, women receive less than 10 percent of the credit to small farmers and one percent of the total credit to agriculture. In Uganda it is estimated that nine percent of all credit goes to women; in Kenya, only three percent of female farmers surveyed compared with 14 percent of male farmers had obtained credit from a commercial bank; similarly in Nigeria, only five percent of women farmers compared with 14 percent of male farmers have received bank loans" (xvii).

According to IFAD (1991) women benefited from rural credit when new mechanisms connected village women's groups to financial institutions, enabling women to access collective credit through their groups and associations.

Political and organizational rights. For rural women Tenga and Peter (1996) believe that the right to organize is the "mother of all rights." Rural women organize to gain political and economic strength in numbers. Without small-scale women's groups, other inputs, such as information, credit and labour, are lost to women (Hambly Odame, 2002a). However, understanding and support to women to organize and collectively address their asset poverty are closely linked to the success of rural credit programmes. Research indicates that rural extension and credit were negatively affected by incidences of gender inequality, including political interference by men, in farmers organizations purported to be "women's groups" (*ibid*).

3.0 The Role of ICTs in ACP Agriculture

It is hard not to be encouraged by new developments in ICTs in Africa, the Caribbean and Pacific nations that hold promise for agricultural innovation, and rural development. The bleak outlook for food production and rural livelihood systems in most ACP nations, however, tempers this positive perspective (IFAD, 2002). Over the last three decades, most ACP countries have confronted major declines in per capita food production due to population growth rates that surpass technological advances in productivity. The largest number of the world's poor and hungry are in rural areas of the poorest developing countries. In Africa, in particular, the number and percentage of children who are malnourished is predicted to increase to 49 million, an increase of 50 per cent from 1997-2000 (Rosegrant et. al, 2001). Scenarios of environmental catastrophe, the HIV/AIDS pandemic and persistent underemployment results in millions of people lacking basic human needs, and these conditions and worse characterize the despair of rural women in ACP nations.

Agricultural and rural development is undergoing new and rapid changes due to globalization and new technologies that transform the way in which production is organized. Some of the most important challenges include the privatization and decentralization of agriculture, the need to ensure popular participation in policymaking and implementation, attention to youth as the next generation of agricultural producers and, finally, but not last in importance, the HIV/AIDS crisis. At the local level, these issues affect the way in which rural people secure and protect their livelihoods. Interactions among the nations of Africa, the Caribbean and the Pacific, both regionally and globally, for instance as partners under the European Union's Cotonou Agreement, are changing.[3] Globalization, privatization and decentralization of agriculture will influence the way in which information and communication is managed.

CTA (2001:28) is already aware of the major demands on it to provide information in an increasingly global setting. The limitations the Centre anticipates are:

- Limited ICT infrastructure or low use of existing infrastructure in many ACP countries
- Incomplete and uncoordinated national and agricultural research systems
- Inadequate participation of ACP stakeholders in the worldwide development of ICTs
- Lack of access to electronic databases, limited use of available electronic information and risk of database duplication
- Limited and uneven capacities to assess new ICTs, including wireless and satellite technologies

While these limitations may reduce the speed at which ICTs can be applied to agricultural and rural development, there are also apparent opportunities for the use of ICTs in ACP agriculture (CTA, 2001). These can include for instance:

[3] In June 2000, a new Partnership Agreement between the African, Caribbean and Pacific (ACP) states and the European Union (EU) was signed in Cotonou, Benin. The Cotonou Agreement sets out the general framework for development co-operation up to 2020. The Cotonou Agreement was preceded by Lomé Conventions I (1975) through IV (1999). See section 6.0 of this paper for more information on this topic.

- Overcoming barriers of physical remoteness within and among ACP nations
- Connecting, in virtual terms, the 32 small island ACP countries
- Complementing conventional information technologies (e.g. rural radio) with new technologies (e.g. Internet) to bridge information gaps
- Accessing new economic and commercial market information

The role of ICTs in ACP agriculture is also characterized by two other factors: 1) the development of new ICTs and the renewal of older technologies; and 2) the application of ICTs to information exchange especially on new global issues facing agricultural and rural development.

3.1 New and improved ICTs

Information and communication technologies are relevant to any strategy for agricultural and rural development, including greater public accountability and decentralization of services and responding to the needs of the most marginalized of rural people, women and youth. In some cases, the technologies themselves are not so new. However, the information carriers are new or being used in new ways. Currently, the predominant carriers of information in sub-Saharan Africa are still radio, television and newspapers. According to data from the *World Development Report* 2000-2001 (World Bank, 2000) by the late 1990s in Africa for every 1000 people there were:

- 12 newspapers
- 52 televisions
- 14 telephone (main)lines
- 5 mobile telephones
- 7.5 personal computers
- 198 radios[4]

The convergence of new and old in ICTs for agricultural and rural development is best seen in the renewed interest in rural radio. The use of radio for development communication in ACP nations has existed for some forty years. Radio is a relatively inexpensive technology that reaches rural people effectively in their own languages. Radio is now being used in conjunction with digital systems for accessing information on the Internet (i.e. radio browsing), storing radio programmes and computerized programming as well as communicating with radio audiences via Internet and mobile telephones. As a result, rural radio is becoming more interactive in terms of its programme development and its relations with its sponsors and listeners.

Other ICTs are new and fairly experimental in their application to agricultural and rural development activities in ACP countries. In 2001, CTA's Observatory focused on the topic of wireless technologies (Engelhard, 2001).

3.2 New issues to communicate

The role of ICTs must also take into account the new types of information being carried and exchanged in agriculture. Four key areas in which ICT will play an increasingly important role in agriculture in ACP nations are discussed below.

[4] Of these technologies, the numbers of mobile phones and televisions are increasing most rapidly.

Decentralization and Privatization of Agricultural Services. Historically, rural people in ACP nations have depended on public services that support their livelihood activities, including agriculture. These include government support for agricultural extension, markets and co-operatives, road construction and maintenance and fertilizer and provision of other subsidized agricultural inputs. Public services have also included agricultural training, adult education, health care, banking and credit facilities for rural people. In many ACP nations, any or all of these services may be decentralized. Decentralization, it is argued, is the first phase of privatization (Feder et al, 1999).

In Colombia, decentralization of rural extension and other services by turning local responsibility over to municipalities has been underway for several years. However, critics argue that the experience of Colombia also suggests that resource-poor people may not necessarily benefit from efforts to decentralize and democratize agricultural services because costs are paid for by local tax revenues and user fees, and most farmers cannot afford them (van Crowder, 1998). At the same time, low administrative capacity of the state can reduce decentralized governance, not improve it warn Llambi and Lindemann (2001). The quality of extension services varies greatly among municipalities, and local effectiveness is often hampered by the lack of trained staff, insufficient fiscal resources to successfully carry out extension activities and weak links to regional and national institutions. The role of ICTs in the decentralization of agricultural services in Latin America and parts of Asia (especially China and India) are well underway.[5] Privatization permits businesses operating former government-only services and running them on a profit-basis. Rural people may find it difficult to be clients of these services if they do not have the funds to pay for them.

Strengthening Women's Voice and Influence in Agricultural Policymaking. While decentralization is a mechanism used mainly by governments to foster closer relations with stakeholders in civil society, there is a simultaneous quest for equal rights and protection under the law from civil society back to government. In agricultural and rural development, this involves individuals and local organizations lobbying for such things as land rights, labour laws and investment in public services. Often sharing information and networking using ICTs by local organizations, such as women's self-help groups, churches and non-governmental groups, plays an important role in these lobbying and advocacy processes. ICTs are helping rural women, youth, disabled or displaced persons express their needs and concerns about agricultural and rural development directly to other stakeholders such as the media, politicians and to donors. In a case documented by Warnock (2001), 13 women's clubs in Mpika district of Zambia negotiated with local politicians for material resources through their involvement with radio listening groups. In this case the benefits to the farmers were not insignificant. They included:

- Water boreholes and medicines for two clinics
- Construction of a school for AIDS orphans, rehabilitation of two other local schools
- Polling station
- Road signs
- Projects including a grain shed, oil press, road access, market building and financial support for AIDS-affected families

[5] China's Ministry of Agriculture calls this "informatization". See Kalathil (2001).

Supporting Entrepreneurship and Education. ICTs are seen as playing a critical role in encouraging access opportunities for education and employment, especially among youth and school leavers. Over the next few decades, agriculture/NRM will employ the majority of working youth in ACP nations. It is argued in the discussions leading up to the forthcoming Youth Employment Summit (7-11 September 2002 in Alexandria, Egypt) that younger farmers from age 15 to 30 are likely to develop an interest in agriculture if there is an ICT component and that ICTs will create new entrepreneurial opportunities for rural youth (Youth Summit, 2002). One area that deserves greater recognition is if ICTs can provide information services to youth (below the age of 18 or 21) who as legal minors have difficulty accessing productive resources for agriculture including land and credit.

The proportion of students in agriculture-related studies at a diploma or degree level is falling worldwide. However, ICTs underlie new **distance learning** in agricultural and rural development (McLean et al, 2002). For example, under a joint initiative of the Commonwealth of Learning and UNESCO, Samoa Polytechnic has developed a distance education pilot programme to teach the mechanics of setting up a business in retail, handicraft, fishing and agriculture and how to improve earnings. The course targets budding entrepreneurs and draws on the local experience of experienced small business owners in various villages throughout the country (COL, 2001).

Confronting the HIV/AIDS Crisis. Food plays a critical role in securing the health and nutrition of people who could be at risk of contracting HIV and in improving the quality and quantity of life of HIV-positive individuals. Micronutrient deficiencies have been found to increase the probability of mother-child HIV transmission and HIV-infected individuals are living on average 10 years longer with sufficient caloric intake (Ngwira, Bota and Loevinsohn, 2001). FAO (2001) estimates that for every person who dies of AIDS there is another full year of labour lost through the need for others to provide care.

Information has a key role to play in educating and communicating about the impact of the disease and sharing agricultural production techniques that encourage food security and save labour. Community telecentres can collaborate with agricultural extension agents to act as community trainers and intermediaries for the exchange of information about HIV/AIDS. The telecentre could also be involved in the process of regular needs' assessments for affected households (FAO, 2001).

4.0 Gender and ICTs and ACP agriculture

This document has examined issues related to gender and agriculture as well as to agriculture and ICTs. In this section, we will try to identify gender issues in agriculture and ICTs in developing countries.

The existence of gender issues in the application of ICTs to improving agricultural and rural development in ACP regions should not come as a surprise. The field of gender analysis of development, which has been active for more than thirty years, now (starting with the work of Ester Boserup, 1970), had its origins in the analysis of agricultural development projects, with emphasis on the impact of technology on gender and gender on technology and the specific cases of the Green Revolution. Many of those experiences were negative ones where agricultural technology and technological change came at significant cost to rural women.[6] The purpose of an analysis of gender issues in using ICTs as tools for rural development is to avoid the mistakes of past agriculture and technology projects and to try to ensure positive outcomes not only for women but also for all the rural population of ACP countries.

4.1 Lack of physical access to infrastructure

If the technology isn't there, you can't use it. Although some of the regions have better infrastructure than others (perhaps best in the Caribbean of all the ACP regions), invariably in all five regions communications infrastructure, upon which ICTs depend, is weaker and less available in rural and "outer" areas (especially in the islands of the Pacific, the Caribbean and Africa). This is particularly the case in the Pacific Islands where 500 or so populated islands lack connectivity of any kind.[7] Internet connectivity is frequently available only within capital and major secondary cities in ACP countries, while the majority of the population lives outside these cities. The infrastructural deficit of the rural areas coincides with gender demographics- more women live in rural areas than men. Simply by being the majority of the population in rural areas, women have a smaller chance than men to access new technologies. It is likely that phone lines are fewer, that there are no relay stations for mobile phones and no earth stations for satellites. As UNIFEM and the UNU/TECH noted:

> Women, with their special responsibilities for children and the elderly, find it less easy than men to migrate to towns and cities. The urban bias in connectivity thus deprives women, more than men, of the universal right to communicate (UNIFEM and UNU/TECH, 2000).

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4.2 Social and cultural issues

Women tend to have less access than men to those ICT facilities that do exist. Frequently, rural information centres or cybercafes are located in places that women may not be comfortable frequenting. Since most communications facilities in rural areas are shared public access, women also have problems of time. Given multiple roles and heavy domestic responsibilities, their leisure hours are few, and the centres may not be open when women can visit them. Or they may be open evenings, when it is

[6] See especially "Women and The Green Revolution," http://www.fao.org/focus/e/women/green-e.htm.
[7] Estimate by the Pacific Islands Telecommunications Association. See http://www.pita.org.

problematic for women to visit them and then return safely to their homes in the dark. Their mobility (both in the sense of access to transport and ability to leave the home) is also more limited than that of men. Some accommodations that may be needed to ensure gender equity in access and use of ICTs in rural areas are adaptation of schedules to suit women's hours and availability of women support staff and trainers.

Another cultural aspect of gender and ICTs is gender bias in attitudes towards women studying or using information technology. Throughout the world, there are problems in attracting young women to science and technology studies.[8] The problem is worse in Africa than in any other region. Many (predominantly male) math and science teachers in Africa hold outmoded views that girls can't think or work scientifically and that science is too mechanical and technical for girls, thus discouraging female students (Quaisie, 1996). At tertiary level in Africa, young girls make up only 2.1 and 1.6 percent of students in engineering in Ghana and in Kenya respectively (Rathgeber, 1995: 187). In some Pacific countries (especially those of Melanesia) traditional cultural attitudes discriminate against women having access to education and technology. Girls are encouraged to take any job or get married rather than seek higher education. The alternative of doing two (or three!) things at the same time is not realistically entertained (Commonwealth of Learning, 2001a: 28). Attitudes that information technology is not for women are not limited to formal education. In an ITDG project for rural farmers in Cajamarca, Peru, when women undertook information technology training with men, the men mocked them, saying that computers were for men, not women (Puican, 2002).

Sometimes collateral cultural factors, other cultural attitudes based in gender bias, and not the immediate gender identification of technology use, prevent young girls and women from accessing and using ICTs. In Uganda, girls did not get access to the limited number of computers installed in school (under a WorldLinks Program) because of the socio-cultural norm that "girls do not run." As a result, boys ran and got to the computers first and refused to give them up to girls. Additionally, the earlier curfew hours for girls at boarding schools further constrained their access (Gadio, 2001). In India, in the well-known "hole in the wall" experiment, the aggressiveness of boys pushing away girls prevented the girls from using the computers (Mitra, 2001).

4.3 Education and skills

These involve literacy, language, computer skills and information literacy. In each case, women in rural areas of ACP regions are less likely than men to have the requisite education and knowledge. Two-thirds of the world's 876 million illiterates are women, and the number of illiterates is not expected to decrease significantly in the next twenty years (United Nations, 2000). ICTs that do not require literacy are being developed, but to date these are available in only widely-scattered pilot projects.[9] Women are also less likely to know the international languages that dominate the Web. Until two years ago, the Internet was predominantly in English. This year, the percentage fell rapidly to the point where English is no longer the primary language of the majority of Web users.

[8] Ironically, however, the percentage of young women studying information technology is higher in developing countries than in the most highly developed.

[9] Examples include a number of Indian initiatives, most notably NIIT Ltd.'s "Experiments with minimally invasive innovation," http://www.niitholeinthewall.com/ and the IDRC-IWTC CD-ROM for illiterate women in Uganda (in English and Luganda), "Rural Women in Africa: Ideas for Earning Money," http://www.womenink.org/23.html.

However, after English the most Web pages are in Chinese, Japanese and German, languages that rural women in ACP countries are unlikely to know (Nua Internet Surveys, 2002). Given their limited access to schooling, women, especially those in rural areas, are also much less likely than men to have computer skills. Information literacy essentially involves using information contextually, a skill that women are less likely than men to have (Heeks, 1999). This generally results from the limited exposure and isolation of many women in rural areas.

4.4 Financial resources

Almost all communication facilities cost money. Women are less likely than men to own radios and televisions, or to access them when they want to, in the case of household possession of the technology. When it involves paying for information access, such as at a rural information centre or a cybercafe, women are less likely to have the disposable income to do so (or hesitate to use family food, education and clothing resources for information).

4.5 Limitations of the media on gender issues

So far, stress has been placed on the constraints the women face in accessing and using ICTs. There are also constraints of the media for them to be useful to women. Here the issue of content looms large. Do ICTs carry content that meets the information needs of rural women in a form they can use? In the vast number of cases, the answer is no. If ICTs are to be useful to rural women in ACP countries, they must meet this test. If this is not undertaken, ICTs will remain of little interest and value to rural women.

4.6 For what uses?

There are gender issues in the way that ICTs are used in developing countries. To date, most women's use of ICTs has been confined to email and sometimes to listservs (email discussion lists), generally in connection with advocacy and networking activities. The main reasons for this concentration are cost of access and limitations of time, bandwidth and technical skills. Few women to date have used it for business, for entertainment (the predominant use in the developed world) or for education, including education in matters related to livelihood and well-being of themselves and their families (e.g. health and nutrition education). It would seem that promoting women's use of new technologies for business (including improved agriculture and marketing of agricultural and agro-industry products) and for education would be important uses within CTA's mandate.

A number of the factors above fall into the category of financial and educational deficits in accessing and using ICTs. The positive aspect of this is that a number of organizations worldwide are working to overcome these constraints that affect women especially. They include work in translation (from English and other international languages to local languages), development and use of graphic and voice user interfaces for the illiterate, development of low-cost computers (notably, Simputer in India), open source software and low cost Internet access. Of particular note in the ACP regions is the work of the Zuza Software Foundation in translating open-source computer software into the eleven official languages of South Africa.[10]

[10] See http://translate.org.za and Linda Martindale, "Crossing digital language barriers: Translating software into local languages," International Network for the Availability of Scientific Publications Newsletter, June 2002, http://www.inasp.info.newslet.jun02.html.

4.7 Technology and gender division of labour

In some of the early studies of gender and technology transfer, the classic issue was maldistribution of the technology based on the project designers' lack of awareness of gendered division of labour. As with other technologies, ICTs are subject to the same error. In a project in Senegal, project designers proposed distribution of PDAs (personal data assistants) to fishermen so that they could know and profit from their knowledge of market prices of fish. The project made no mention of women's role in fishing in Senegal, where men catch fish and women market them. Distribution of the PDAs to women fish vendors to monitor market prices would have been more appropriate.[11] In the information systems pilot project in Cajamarca, Peru women were not included in ICT training for farmers in the first year of the project because the project designers were not aware of women's economic farm activities. The project designers saw only men as farmers (Puican, 2002).[12]

4.8 ICTs as limited and desirable resources

In addition to the issue of maldistribution, there is also the issue of the status and desirability associated with the technology. ICTs are often highly desirable items, particularly in rural areas of Africa, the Caribbean and the Pacific, conferring status on the user in the same way that a wristwatch formerly did. There are several cases where in WID-type gender-specific projects (where the technology activities were directed only at the women of the community without consulting or involving the men), men sabotaged or held up the projects because they didn't have access to ICTs. A case in point is that of women weavers in Guyana who set up a web site to market artisanal hammocks. When they started to make substantial profits, the male regional leaders moved in and took control of the weavers' organization. The woman who created the Web site quit in a fury, and the web marketing initiative ended.

> It is the classic tale of old power reacting to new power," said Terry Roopnaraine, an expert on the indigenous population of Guyana who teaches at Cambridge University. 'When you bring in the Internet and start to empower people, that doesn't maintain the status quo. So the status quo quite rationally reacts to defend its interests.' (Romero, 2000).

In a PDA-based project on rural health project in India, only women health assistants received the technology. Male health assistants, who were not involved in the project, demanded that they received PDAs as well. Only when they received them did they allow the project to continue (Wajih, 2002). In these two cases, failure to recognize the gender balance of power hindered successful project implementation.

4.9 Statistics and indicators

Our knowledge of gender issues in ICTs is hampered by the lack of reliable statistics. The major collector and disseminator of statistics on ICTs is the International

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[11] The organization of women who market fish and fish products in the area is the *Fédération des operatrices de Pêche de la Grande Côte* (Large Coast Fishing Operators' Union),

[12] This project was one of the case studies that were part of a desk study on new communication technologies and existing information systems of small scale-farmers and entrepreneurs in rural communites undertaken by Clare O'Farrell and Patricia Norrish, "Information and Communication Technologies (ICTs) for Sustainable Livelihoods: Preliminary Study April-November 1999." http://www.red.ac.uk/AcaDepts/ea/AERDD/Csds.htm. However, at the time of the review very little information was available on the implementation of the project, and no gender issues were mentioned..

Telecommunication Union (ITU, 2000, 2001). However, the ITU does not disaggregate any of its ICT indicators by sex.[13] As a result there are few, if any, reliable statistics on women's use of ICTs in ACP countries. In the absence of reliable statistics, those looking for data have to fall back on sources of dubious reliability. Many of the country studies that propose to show large numbers of women Internet users are marketing studies, conducted by or for firms that want to market products to women consumers. It would not be remarkable to find that they identified and projected large numbers of women users for their clients. In other cases, the studies are limited country surveys, generally based on the subscriber lists of a few, small ISPs or email services. In countries, such as the majority of ACP countries, where public access is the dominant mode, subscriber lists may identify only a third (or less) of users. Few studies have kept gender statistics on the users of public access facilities by sex. In virtually all that have, the number of women users is much smaller than that of men (Rathgeber, 2002).[14]

[13] However, ITU is working on this area. In October 2002 they are organizing an expert meeting in Geneva on ICT statistics, with an emphasis on gender.

[14] The Academy for Educational Development LearnLink telecentres in Ghana are an exception. In the case of AED, the introduction of special outreach strategies increased the number of women users of telecentres in Ghana. See Mary Fontaine, "AED/Learnlink in Ghana. AED/LearnLink: ICT Applications for Development: Ghana." (2000). http://learnlink.aed.org/Projects/ProjectBriefs/pb_pdf/OS_Ghana.pdf.

5.0 Key Initiatives on Gender and ICTs

This section is long, but necessarily so to illustrate the wide variety of projects and programmes underway on gender and ICTs in developing countries. Gender and ICT in developing countries is a topic that currently evinces a great deal of interest. A Google search on 15 August 2002 on the topic "women, ICT, development" produced 73,500 references in 17 seconds. Fully ten screensful earned the rating "highly relevant." Of these, between one-third and one-half were relevant to the situations of rural women.

The section attempts to survey those initiatives that may be of interest to CTA in its integration of gender and ICTs in its projects. The first part enumerates a number of the more interesting ICT projects involving gender and ICT in developing countries, with an attempt to focus on those taking place in ACP countries. However, the reality of innovative ICT projects is that an inordinate number are based in Southeast Asia, which due to a number of factors has become a laboratory of ICT innovation, particularly with regard to projects that attempt to link ICT with poverty alleviation. The second part looks at the major organizations that have involved themselves in this area, including multilateral and international organizations, bilateral and nongovernmental organizations, corporations and academic institutions.

> " . . . the new information technologies hold out a unique opportunity for women in the developing countries to speak out, and to be more visible and less isolated. Women also contribute towards expanding political, social and economic participation once they can encourage access to and the sharing of knowledge, establishing networks and strengthening decision-making power.
>
> "FAO denounces the restrictions on access to information by rural women," Rome/Kampala, 29 July 2002. http://www.fao.org/english/newsroom/news/2002/7600-en.html

5.1 Projects

This part details a number of gender-aware ICT projects in the areas of information exchange, rural income-generating, rural radio and ICT-assistance education. It looks particularly at cases of rural information centres, telecentres and kiosks as vehicles for gender-equitable rural communication and knowledge dissemination.

5.1.1 Information exchange

(INCLUDING DATABASES, WEB SITES, EMAIL DISCUSSION LISTS AND CONFERENCES [VIRTUAL AND REAL])

Tune Conference: Women in Agriculture and Modern Communication Technology

One of the first activities to deal specifically with women, agriculture and information technology in developing countries was the workshop organized in 1998 by the Royal Veterinary College, Denmark on "Women in Agriculture with Modern Communication Technology," to look at experiences in the field from Asia, Africa and Latin America. Participants were anxious that more two-way communication tools be used to encourage women's communication in rural areas. For the short term, they felt that rural radio held the best possibilities for reaching the rural poor. With regard to new information technologies, they put the onus on government policy makers to encourage organizations and groups to exploit their capabilities (Royal Veterinary University, 1998). This last recommendation is interesting because the actual process of adoption of new information technologies has been the reverse: NGOs and research institutions

have tried to exploit their capabilities and, based on the results of their efforts, lobbied policy makers to gain awareness of their importance for development.

WOUGNET IARW Discussion list

http://www.wougnet.org/Events/iarw.html

In June 2002 Women of Uganda Network (WOUGNET), through the initiative of Dorothy Okello, organized an email based online conference entitled Information Access for Rural Women. The focus of the conference discussion was on organizing rural information centres using a combination of new and traditional information technologies. Participation was facilitated in English, French and Spanish, and the discussions were archived. The major topics discussed were information access for rural women, challenges and difficulties with rural information centres, lessons learned, best practices and recommendations. A report of the discussions of the online conference was presented to the Know How Conference held in Kampala in July 2002 (WOUGNET, 2002a, summarized in Annex I).

ISIS-Know How Conference

http://www.isis.or.ug/knowhow/

The fifth conference of specialists in the collection and dissemination of information relevant to women, the Kampala Know How Conference 2002, was organized in July 2002 by ISIS-Women's International Cross-Cultural Exchange (WICCE) assisted by the International Information and Archives for the Women's Movement (IIAV-Amsterdam). The information concerns of rural women and poverty alleviation were significant concerns of the conference. Among the sessions of interest from the Know How Conference to the topic of the CTA observatory were:

- Making information from the village level available at national, regional and international policy levels
- Using of entrepreneurial information
- Using radio to bring women's issues to the mainstream media
- Radio as a Tool for Information Dissemination for Women in Rural Areas
- Relevance and Priorities of ICT for Women in Rural Communities in Africa
- Rural Women and Telecentres
- How ICTs affect the lives of women

Regrettably, the papers presented and summary of discussions were not yet available online at the time of this writing.

Exchange of indigenous knowledge on biodiversity

There is increasing awareness of the importance of indigenous knowledge, particularly the knowledge that women farmers possess of local plants, conservation and utilization of biodiversity. ICTs are being used to maintain traditional practices and knowledge that are essential to conserve the biological and cultural diversity that rural households use to improve their livelihoods. A mix of ICTs can be used, from tape recorders and video cameras to radio, computers and the Internet to collect and propagate this knowledge. Among ACP countries this is presently being done in Kenya (Quek and Eyzaguirre, 2002).

Honey Bee Network

www.sristi.org/honeybee.html

The Honey Bee Network is a knowledge network in India comprising a database and information system based on sharing of indigenous agricultural knowledge in local languages. It emphasizes sharing information with local knowledge providers and extending to the information providers any benefits that accrue from that knowledge. The founders of Honey Bee felt that people's agricultural knowledge was being exploited for profit without any benefits accruing to the providers of that knowledge. In addition, there were many indigenous innovations, particularly in the area of herbal pesticides, veterinary medicine and farm implements that had not been widely disseminated, but contained elements that would be useful to farmers elsewhere. The Honey Bee Network has been documenting grassroots innovations for sustainable natural resource management for 13 years and has built a database of more than ten thousand innovations as well as traditional technology and knowledge. The knowledge network operates in local languages, but requires farmers to use a computer and email to send in queries. The project is currently working on knowledge dissemination in ways that do not require a farmer to use a PC and send a text-based message to an agricultural scientist. Among these are mobile nodes that will travel to weekly markets, festival and other gatherings. To date, although the project has been anxious to involve women, it has not been particularly successful in either gathering their knowledge or giving them the opportunity to learn from others (Aditya, 2001). However, attention to inclusion of women and their indigenous knowledge and to imparting indigenous knowledge of others to them would make the replication of this project valuable in improving women's contributions to agriculture in ACP countries.

5.1.2 Provision of access

Fantsuam Foundation

www.fantsuam.com/

The Fantsuam Foundation in Nigeria has a project to improve healthcare and education, primarily for women, through shared access to ICT facilities. It is done through IT (information technology) training at community learning centres and mobile community telecentres in rural communities in the southern Kaduna area of Nigeria. The computers use alternative power source. The project aims to support rural communities in setting up their own community learning centres. It uses a mixture of new and traditional ICTs (Internet, intranet, radio and books). Its concentration is on delivering health care information requested by rural women.[15] The van visits rural communities on market days, giving training to young girls. Fantsuam works with local health training institutions to encourage them to include IT training in their curriculum.[16]

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[15] "Improving Healthcare and Education through shared ICT Resources**,"** http://wbln0018.worldbank.org/ict/projects.nsf/20c7f8205b9d190185256b180057ba4f/eab76c891a999d3b85256b750070f7ae?OpenDocument and letter from Kazanka Comfort, Director, Fantsuam Foundation, quoted in Nancy Hafkin and Nancy Taggart, *Gender, Information Technology, and Developing Countries*. AED LearnLink for USAID. Washington, D.C. 2001. Available at: http://learnlink.aed.org/Publications/Gender_Book/pdf/Gender_Book_Photos.pdf.

[16] In 2001 the Fantsuam Foundation won the Association for Progressive Communications Hafkin African Information Society Prize for an innovative "Women-Led, Women-Informed, Women-Inspired Initiative" (APC, 2001a).

People First Network

http://www.peoplefirst.net.sb

The People First Network (Pfnet) has been instrumental in bringing connectivity to the Solomon Islands, where 85 per cent of the population lives without access to telecommunications. The aim of the project is to facilitate point-to-point communication in the remote provinces of the Islands, using ICTs for the furthering of rural development and the flow of peace-related information among all social groups. The country's first Internet café and rural community email stations were set up in 2001. The Solomon Islands Government, in collaboration with UNDP, is now engaged in a two-year project to expand the network to more than 25 rural stations. Rural residents have reacted with great enthusiasm to the community email facilities: "It is like turning on a light. As each new outer island is connected, you begin to notice how their name is mentioned more frequently, and how things start to happen there-development projects, improvements, good news," one rural voluntary association member said. To date 40 percent of users have been women (Bilike, 2002).

Women Connect!

http://www.women-connect.org

Women Connect! is a nongovernmental participatory development project working to strengthen the communication, technology and advocacy skills of women's rights in Africa. Its current focus is on increasing the capacity of women's NGOs to use information technology on behalf of women's health and well-being, with activities in Uganda, Zambia and Zimbabwe. It aims to empower women by using media and communications technology to improve women's health and well-being. Women Connect! works with African NGOs to help them develop strategies for using email and Internet to strengthen partnerships and communicate internationally. It has conducted electronic connectivity workshops for women's organizations in Uganda, Zambia and Zimbabwe and has a small grants programme for women's NGOs to use ICT in innovative ways. It is planning to extend its activities to Botswana, Ghana, Namibia and Tanzania.

Women'sNet

http://womensnet.org.za

Women'sNet, a project of SangoNet in South Africa, is a networking support programme designed to enable South African women to use the Internet to find the resources they need for women's activism. Women'sNet concentrates on making its resources and technology available to historically disadvantaged women, especially including rural women. It tries to disseminate information in formats that are accessible to women not directly linked to the Internet. It is beginning a comprehensive Internet training programme for women, setting up regional technical support centres in all South Africa's nine provinces, a programme of women's information resource development and a Web clearinghouse of relevant information and tools. Its web site is a particularly rich resource of information on women and ICTs. Topics cover virtually every subject of interest to rural women in Africa.

5.1.3 ICTs for income-generation in rural areas

E-commerce

Most ICT projects involving gender and e-commerce are B-to-C (Business to Consumer), where women market their traditional handicrafts to a retail export market. This is not an easy field to succeed in, because it is dependent on many variables such as quality of production, match between production and consumer's tastes in developing countries, export infrastructure (customs, shipping), and even consumer habits (e.g. the North American expectation that anything bought can be returned to the seller for refund). However, there are cases where women have succeeded in such marketing efforts- notably the www.virtualsouk.com in North Africa, Banaskantha Women's Rural Development Project in India that strives to build and strengthen local women-managed groups for the social and economic empowerment of poor rural women (Menning, 2000) and networks of associations assisted by Peoplink, comprised of thousands of small and medium enterprises all over the world conducting e-commerce. Women from Haiti and Kenya are particularly active in the Peoplink-assisted projects. (Peoplink, 2002; Aids to Artisans-Haiti, 2002; Machakos, 2002).

In another example, women working from home produce and deliver home-made products in the homeland, avoiding the problems of international export, but profiting from hard currency sales to their diaspora compatriots in North America and elsewhere. In Peru, women bake special occasion cakes at home; the market is the Peruvian diaspora in North America that orders the cakes over the Internet for delivery to family and friends back home (www.tortasperu.com).

Some farmers in ACP countries are using e-commerce for international direct marketing of cash crops. In the E-Commerce for Non-traditional Exports (NTEs) project of the Ministry of Agriculture (Ghana) with the support of IICD, farmers have been successful in using the Internet to market yams and cashews to markets in the Netherlands (IICD, 2001; Iconnect Ghana, 2002). Information is not available as to whether any women farmers were involved in the project (which requires high levels of English literacy and sending of email, browsing the Internet for potential buyers). Also, it appears that the site, which developed web pages by and for producers and traders, showing their products and market offerings, may no longer be operational.[17]

One particularly interesting example of e-commerce in rural areas is that of poor women in South Africa using the Internet B-2-B (business-to-business) to market chickens to a local market of nearby wealthier communities. The women operate as wholesale suppliers, supplying restaurants, hotels, schools and hospitals in the nearby town of Pietersburg (Rhodes, 2001).

The area that women farmers might most profitably develop in e-commerce is in moving from B-to-C (business-to-consumer) to B-2-B and B-2-G (business-to-government). A number of small businesses with niche markets have been able to succeed in these areas.

5.1.4 ICT skills training for microenterprises

[17] The author was unable to access the project site: www.mofa.gov.gh/ecomm [attempted 8-11 August 2002].

SEWA

http://www.sewa.org/

Founded in Ahmedabad, India, in 1972, the Self Employed Women's Association came into existence as a union of women working in the informal sector. In the last several years, SEWA has begun a series of activities to introduce ICT to its quarter of a million members. It has trained poor women to use video cameras and audiovisual equipment. A team of SEWA women is now producing videos as a tool for learning, education, development and policy action. SEWA sees ICT as a tool to increase the efficiency of microlevel rural enterprise activities in order to secure poor women's livelihood. Among SEWA's uses of ICT are:

- Setting up communication centres that provide email and Internet connections, satellite phones and VSAT equipment to mitigate disasters (e.g. earthquakes, drought)
- Designing customized software and training in local languages for poor, illiterate women to run their microenterprises (embroidery, agriculture, incense, gum and salt).
- Training members as well as their children and youth in ICT use
- An ICT-based "life education programme" to increase literacy
- Connecting members to global markets through e-business (through the SEWA Trade Facilitation Centre) (SEWA, 2002)

SEWA has also developed Technology Information Centres- distance-learning classrooms, to provide training to their "barefoot managers," build capacity of their women organizers and leaders and strengthen the microenterprises of their members. The Centres are based on SEWA's "Satcom" facility, a satellite-based communications network that sends television signals from an earth station to a geo-stationery communication satellite and offers two-way communication possibilities. The system gives community groups quick and easy communication with block and district-level functionaries. The first distance education training was on the leadership role of women in regenerating forests (Nanavaty, 2000: 117-121).

Increasing profitability of agroenterprises

Milk Collection Centres in Cooperative Dairies

In the Milk Collection Centres in Cooperative Dairies project of the National Dairy Development Board of India, primary producers join a village milk cooperative and agree to sell milk only to the cooperative. The project operates through a PC-based milk collection system at prices per system of roughly $1800 per village centre. In India many entrepreneurs are now manufacturing the equipment that the systems use, and many village societies are buying the systems with their own funds (Chakravarty, 2000: 37-43). The milk collection system has also evolved a Dairy Information System Kiosk to provide data analysis to help rural milk cooperatives increase milk collection and improve the productivity and yield of milk cattle (Digital Partners, 2002). At the kiosks farmers can also get information on subjects of interest and buy goods. Some 60,000 farmers in Gujarat currently use the system daily (Propoor, 2002).

The India milk collection project could be important for women in dairy-producing areas of ACP countries because it eliminates fraud, expedites processing, tests the quality of the milk and provides immediate payment to farmers through a system of smart cards and ATMs. It also increased milk collection.

Outsourced teleworking

There are also cases where women are working in ICT-enabled industries (e.g. outsourcing) from rural locations- e.g. Sarawak in Indonesia and from South Africa. However, this requires good telecommunications infrastructure, which in most cases is not present in rural areas of ACP countries. Although the word teleworking conjures up images of working from home, including homes in rural areas, most outsourcing work is remote only in the sense that it is located away from the headquarters of the company, generally in a highly developed country, and not in remote areas of the country supplying workers.

5.1.5 Rural information centres: telecentres, multipurpose community information centres, village kiosks

Telecentres

Nakaseke Telecentre-Uganda

http://www.nakaseke.or.ug/

This telecentre is of particular interest because it has focused on women. The IDRC-IWTC CD-ROM "Rural Women in Africa: Ideas for Earning Money", in both English and Luganda with graphic and voice interfaces to facilitate use by illiterate women, was developed especially for use at Nakaseke. The National Agricultural Research Organisation (NARO) and CAB International are working together on a project entitled "Electronic Delivery of Agricultural Information to Rural Communities in Uganda," with emphasis on the development of local content and capacity building for local communities, through community telecentre delivery, of which Nakaseke is one of three identified delivery centres. However, it has not yet been evaluated. Three other telecentres in Uganda are the locales for the development of CEEWA-Uganda's project on empowering women entrepreneurs through ICT (CEEWA, 2001). CEEWA uses ICTs to help women entrepreneurs access information about prices, markets and credit as well as to gain new business skills such as recordkeeping and developing products and services. Nakasake and other rural information centres can increase their impact by exchanging information with rural people who can not access their services. Local radio stations can broadcast information collected on the Internet, and rural women who are unable to use the services of a telecentre may still benefit from the information.

Youth Leadership Program for ICT and Community Development in Africa (ALPID)

IDRC's ALPID project being implemented in Kenya and Uganda assigns a leadership role to youth, both young men and women, in bringing themselves and their communities into the information age. Based on rural information centres (which IDRC terms communication and information centres, "CICs"), IDRC believes that this project can contribute to alleviating the serious socio-economic problems of rural areas, in particular youth unemployment. The project has been conceived with a high level of awareness of the health and agriculture information needs of African women (whom they do not regard as a homogenous grouping), contributions of women to agriculture in Africa, the information neglect of women's farming areas of food crops and small ruminants and of the need to package information in ways that take account of gender. The aim of the project is to show the potential of ICT for the youth leadership, education and socio-economic development in rural communities (Mihyo and Ogbu, 2000).

Telecentres for literacy and market information

In Senegal the National Network of Rural Women of Senegal has set up a number of rural information centres. The centre at Mbadiene operates as a telecentre, where women learn functional literacy, particularly for rural communication via telephony. Women agricultural producers get market prices through portable telephones linked to the Internet at another centre in Diender (Ndiaye, 2002).

Community-friendly telecentres

As part of its encouragement for the development of telecentres in rural areas of Africa, Asia and Latin America IDRC produced a drawing of a telecentre as a community-friendly place for men, women and children. Drawing on that, in a recent article Marie Fontaine outlined the key elements of a community telecentre designed deliberately to accommodate men and women equitably (Fontaine, 2002). In doing so, some of the common constraints to women's access are identified and addressed. Among the features of this "ideal" centre are:

- *Women do not have to travel far to use the telecentre but can walk there in the course of their daily activities.*
- *The information and communication needs of the whole community have been ascertained, and the telecentre has been set up to meet priorities and interests of both men and women users.*
- *Children are welcome and not a deterrent to their mothers using the centre.*
- *The centre is roomy enough to give people enough privacy to do their work.*
- *The staff includes both male and female technical/information assistants.*

Increased access to government and other services

Despite obstacles including a majority of the population being illiterate and non-English speaking, two innovative ICT village information kiosk projects operate in the rural areas of Madhya Pradesh, India. Both seem to have integrated women well in their activities.

Gyandoot/Daar

http://www.gyandoot.net/

Organized by the district government of Madhya Pradesh (India) but run as businesses by local private operators, Gyandoot is a community-owned rural Intranet linked to the Internet that connects some 30 rural information centres in Dhar district and serves half a million people. Part of the overall Drishtee rural network established in 2000, Gyandoot concentrates on delivering government information and access, education and health services to local people (Drishtee, 2002). Its main aim is to make government easily accessible to villagers, reducing the time and money they would spend to get to and through public offices and giving them immediate and transparent acess to local government data and documentation. Villagers have access to a wide variety of government services in a transparent manner and without travelling to the district capital. Users can get printouts of land records that they need to get crop loans from banks. They can file applications online for government benefits and services and post grievances, with replies guaranteed in a week. They can get caste, income and domicile certificates that are usually obtained only against the payment of bribes. Gyandoot also provides daily price and volume information from major national agricultural produce markets. Users can send email in Hindi to each other or to connected village-level institutions and district offices. Unemployed high school graduates receive income by operating the computers for other villagers. Kiosks are

located in villages on major roads or those holding weekly markets. All indications are that women are as enthusiastic users of the services as men (Gyandoot, 2002).

Tarahaat

http://www.tarahaat.com

TARAhaat provides vital information to rural people, from farm product prices to legal, education and health knowledge. It operates in eleven local languages and accommodates illiterate people by moving pictures and voices. TARAhaat is also a shopping mall, selling the products and services that rural households need. Rural households can also sell their products abroad through the related TARAbazaar.com portal. The service also provides computer education, especially for girls in the area who are often not allowed to attend school. Tarahaat can be accessed through village kiosks or mobile vans operating via satellite and solar power. Members can obtain smart cards to pay for their purchases on credit. The business operates on franchise principles.

School-based telecentres

The location of telecentres is also an issue that is being experimented with: one new approach in Africa is the school-based telecentre, with the twin objective of introducing ICTs in the process and delivery of educational content as well as providing communities with access to communication facilities and ICT training in the after-school hours, evenings, weekends and holidays (Mayanja, 2002). Training and hiring school girls as information assistants might encourage them to enter the ICT field and would certainly help encourage their mothers to use the facilities.

Rural telecentre development is a fertile field that has only started to be explored. Rural information centres, telecentres or information kiosks offer numerous possibilities for both men and women and sustainable agricultural development in ACP areas-particularly in areas such as provision of health information, achieving food security, developing rural agroenterprises and education.[18] Their growth will be greatly accelerated by new technological developments that will make rural connectivity easier and cheaper in the near future.

5.1.6 Technologies to facilitate engendered ICT: wireless rural telephony, rural radio, wireless local loop

GrameenPhone

www.grameenphone.com/

GrameenPhone, a project in Bangladesh that has gained wide renown since its establishment in 1996, brings together new information technologies, telecommunications, gender and entrepreneurship in an activity that provides telecommunication services to previously unserved areas, increasing women's income

[18]Some of these areas were explored in a recent evaluation of the Inforcauca Initiative in Colombia. See "Evaluating and Enhancing the Impact of Community Telecenters: A Companion Project of the InforCauca Initiative to Foster Sustainable Development in Marginalized Regions." (2001). http://www.ciat.cgiar.org/mewsroom/pdf/Rockefeler%20Foundation.pdf. [Accessed 15 August 2002].

and self-esteem and helping to end their isolation. The model is one that could well be exported to ACP countries.

The village operators are generally poor, uneducated women. Grameen Bank management selects Village Phone Operators from among its borrowers, to whom the phone is provided as an in-kind loan. The operators then resell wireless phone service, generally from their homes, to fellow villagers. Three-quarters of the operators are women, a fact that brings more women users because women are more likely to use phones when the operator is a woman. They have created a "phone culture" among women by enabling their access to communication tools from which they might otherwise be excluded. The operators earn an average of $300/year, more than the average per capita income for the country. Half of the operators have had no formal education. One major use to which phones are put is obtaining agricultural price information. Observers feel that GrameenPhone will survive the arrival of fixed wireless phone service in rural Bangladesh, because the village operators are generally in sparsely populated areas where wireless will come slowly and because they have developed loyal clientele. GrameenPhone is planning technological upgrades including phone cards, email messaging, fax and Web access. It also plans to launch Internet service and has started pilot Internet kiosks (Richardson et al., 2000). Current village phone operators are likely to become managers of the expanded telecommunications services.

5.1.7 Rural radio

The possibilities for using rural radio in gender-aware ways are a particularly rich area, with activities ranging from simple community radio, to community radio using rural-friendly power sources, to two-way communication combining radio and new information technologies and IT training for women users and supportive associations of women communicators. The caveats are to ensure that women have access to the household radio, as radios are frequently the preserve of male household members and to ensure that programmes targeted at women coincide with the time they are at home and able to listen. Examples of successful radio use include.

Community radio

According to one woman radio listener in Kodialanida, Mali:

> The station has helped us understand the importance of literacy for our commercial activities. It has encouraged the women to devote more time to this. To begin with, we worked separately but, after listening to radio programmes, we had the idea of coming together in an association. Other women have done the same and have been successful. They have listened to the advice given by radio stations that have made themselves accessible and have been open to questions from the listeners (Balit, 1999).

Two rural radio projects focusing on development information in West Africa have been particularly successful in incorporating gender issues. These are:

Benin-MicroFinance and Marketing Project (PROMIC)

http://www.ifad.org/ngo/doc/#benin

Jointly financed by the International Fund for Agricultural Development and the Government of Benin, this project aims at increasing the income, well-being and participation in local development of poor rural households and women in particular

(Tounessi, 2000). Women's sales of agricultural produce are the major source of monetary revenue from small farming in northern Benin. PROMIC uses FM radio on some eleven local stations to broadcast market information in local languages to the targeted women farmers, 90 per cent of whom are illiterate. Current prices for the major crops are broadcast, along with information on operating dates for particular markets and other details on market activity. In an evaluation at the end of one year of the project, all the persons interviewed felt that the broadcasting of price information was useful. Some of the merchants, however, felt that there were disadvantaged by the radio stations broadcasting prices and tried to discredit the system. No evaluation, however, has yet been done to know whether women are able to listen to the broadcasts and whether the market information improves their marketing income.

Bankilare Project-Niger

The Bankilare Project aims to give rural people the capacity to access and master new ICTs. Bankilare uses solar-powered WorldSpace satellite receiver and Baygen Freeplay windup/solar powered FM radios (Freeplay, 2001a). Programme content from received from the WorldSpace Afristar satellite Africa Learning Channel and the Francophonie Channel is rebroadcast on FM community radio stations, which are accessible to villagers, nomads and farmers living in rural areas of Niger. Among the information disseminated is information on solar energy, weather patterns (the latter in association with the African Centre of Meteorological Applications for Development (ACMAD) and microenterprises. Training sessions in ICTs for local associations are broadcast in local languages. The project was preceded by a community poverty analysis, which included a significant gender component. The analysis concluded that women's isolation and communication problems were particularly severe in the area (Benamrane, 2001).

The project has been particularly successful in involving women in production, management and as information users. Women are a significant percentage of the local content committee, which determines what programmes will be broadcast. Women have been as eager users as men (Hijab, 2001: 18-19). They are also significant among the broadcaster-translators. The starting point for this rural radio in Niger has been Bankilare, a particularly poor village of 2,000 persons, located 240 km west of Niamey, plus 10,000 nomads in the immediate area who are without income, electricity, telephone or clean water. The community radio stations are particularly important to the local people because the national radio broadcasts are not in their languages, and few can afford battery-powered radio receivers (Gallagher and Djilali Benamrane, 2001). Costs for each self-managed solar rural radio unit are about US$20,000.

Rural-friendly radios for women

Windup/solar powered Freeplay radios have been distributed to women's groups in Mpumalanga Province, South Africa, to develop more effective farming methods, disseminate information on nutrition and health care and sensitize the audience to the dangers of HIV/AIDS. The Search for Common Ground "Project Radio" distributed the radios to remote groups in isolated and unelectrified areas of southern Madagascar to deliver information on basic education and family health. Women's clubs in Madagascar also received radios, especially to listen to the Ministries of Communication and Health radio drama series on improving health education, family planning and AIDS prevention (Freeplay, 2001).

Farm Radio Bulletin for members of the Network of Rural Radio in developing countries

The Farm Radio Network, whose main role is to distribute information to farmers on farming techniques, puts out an information sheet for members on targeting rural women listeners, putting the emphasis on stimulating information exchange. It advises that programmes for women are best if women are involved in their production (Echos, 2000).

Development through radio for women in southern Africa

Women's radio clubs are becoming important devices to enable women to network with other rural women to share information on development issues. They are particularly active in Malawi, South Africa, Zambia and Zimbabwe (Panos, 2001). The oldest and most firmly established is Moutse Community Radio in South Africa. MCR is particularly interesting because it was established and a broadcasting license secured entirely through the efforts of the community women in the Rural Women's Movement without outside assistance (The Communication Initiative, 1997). In Zimbabwe, some 52 women's radio listening clubs are active in the Development Through Radio (DTR) project,[19] aimed at giving rural women access to radio through participation in the production of programmes based on their development needs and priorities. Information exchange is a significant part of the programmes. Women pose questions and an information intermediary puts the question to a concerned official. The response becomes part of the weekly broadcast (Mufune, 2001). Radio listening clubs for women are also active in West Africa as well as in the Caribbean where the Network of Rural Women- Trinidad and Tobago uses radio, television, drama and oral tradition to promote development communication between and for women. In the course of learning radio production techniques, women are learning to overcome fear of ICTs and develop leadership skills.

DTR impact evaluation

A recent impact evaluation of 13 rural women's clubs involved in DTR, located about 600 km north of Lusaka in Zambia, was overwhelmingly positive. The evaluation found that the project brought substantial material benefits and new information to not just the women, but also to entire communities. In the project, the women recorded their views and questions on development issues in Bemba; tapes were then sent to a producer in Lusaka who recorded responses from relevant officials and edited the discussion and the responses into weekly broadcasts. The project has also stimulated intense discussions about social issues and perception of the clubs as educators for their communities. They also raised the perceived value of education in the community on the part of all community members and stimulated recognition in the clubs themselves and in the community at large of the valuable role that women can play as educators. Improved gender relations were another perceived benefit of the clubs. Men's regard for women's opinions also grew. No information was available as to whether the project managed to influence the attitudes of politicians and decision makers towards rural women and development (Warnock, 2001).

The programmes that stimulated the most interest were those on nutrition, food preparation and health education, particularly family planning and HIV/AIDS.

[19] The project is sometimes known as Radio Listening Clubs, although this is a misnomer because the project goes well beyond listening.

Significantly, both men and women were interested in the programmes on nutritious food crops such as soya, beans and sunflowers.

RIF-AMARC

http://www.amarc.org/amarc/fra

The Women's International Network of AMARC-WIN is an assembly of women communicators working to ensure women's right to communicate through and within the community radio movement. It is particularly active in francophone Africa.

5.1.8 Technological developments: Wireless Local Loop Internet

www.tenet.res.in/cordect/cordect.html

New technological developments from the Indian Institute of Technology (Madras) can help the rapid expansion and democratization of new information technology in rural areas for men and women. The wireless local loop technology, called corDECT, is based on cheap wireless base stations. A kiosk can be installed and connected to the Internet for roughly $830, far less than installing a telephone landline. In India, the kiosk setups are being marketed to local, rural entrepreneurs as a package, operated by batteries and using local-language software. To date the kiosks have provided telemedicine services, farming information, email and government loan application forms at very low cost (Kotamkar, 2002). The technology could be exported to other developing areas presently without telecommunications services (Noronha, 2001).

5.1.9 ICT-assisted education

Distance education is still delivered largely by post and radio and deals almost exclusively with higher or tertiary-level education and is thus not an immediate or pressing problem for rural women in ACP countries where literacy is the most urgent educational need. Although there are ICT-assisted distance-education programmes offering out-of-school primary schooling for children and adults in India and Latin America, there do not seem to be any instances of these in ACP countries.[20] In addition, ICT-supported distance education in general requires high bandwidth and regular connectivity, not easy to come by presently in rural areas of ACP countries. However, the use of ICT to provide basic education and literacy for young girls and rural women who cannot get to schools or conventional classrooms is an important use of the media.[21] The Commonwealth of Learning and a number of have been promoting the use of telecentres for computer-assisted basic education, especially for often-excluded populations, such as women farmers in developing countries (COL, 2002). Technological developments bringing cheap connectivity to remote areas will facilitate making this an area for much fruitful activity.

5.2 Organizations

Among the organizations that have involved themselves in this area are multilateral and international organizations, bilateral and nongovernmental organizations, corporations

[20] The Indian National Open School provides basic education to rural and tribal women. See http://www.nos.org.

[21] See Hiliary Perraton and Charlotte Creed, International Research Foundation for Open Learning, 2000, "Applying new technologies and cost-effective delivery systems in basic education." http://ww2.unesco.org/wef/en-docs/findings/technofinal.doc. [Accessed 11 August 2002].

and academic institutions. Some are implementing projects themselves, while others are funding the efforts of governments and NGOs. The global downturn of the information technology industry does not seem to have dampened interest or funding levels in this area. The key to this seems to be a shared belief in the empowerment factor of ICTs.

> ***The empowerment factor***. ICTs can empower women in rural communities and give them a voice that permits them to contribute to the development process. They can acquire information to improve their health, education and livelihood; through training and communication with others from outside their normal worlds they can make better decisions. Through participation in government and organizations, they can be part of decision making. Women farmers can interact with other farmers, their families, neighbors, suppliers, customers and intermediaries.

5.2.1 Multilateral and international organizations

Food and Agriculture Organization

www.fao.org

FAO executes the Dimitra (http://www.fao.org/sd/dimitra), information and communication project which aims to highlight rural women's contribution to development. Dimitra's stated goal is the empowerment of rural women and the improvement of their living conditions and status by highlighting the extent and value of their contributions. It provides a tool for grassroots organizations to make their voices heard internationally. Dimitra uses ICTs (a web site and online database) and traditional media including publications to collect, disseminate and exchange information on the experiences of NGOs, civil society and research centres working with and for rural women.

The second phase of the Dimitra project, which runs from 2002-2004, will concentrate on consolidating and extending the network. It also aims to promote information exchange by strengthening information and communication skills and to update and disseminate information on gender and rural development issues. The impacts it hopes to realize are easier access to information, sharing of local knowledge and know-how through networking, decreased marginalisation of rural women and more gender awareness for all involved in rural development. Dimitra's partner organizations in sub-Saharan Africa are ENDA-PRONAT for West Africa, FAN for East Africa, ONG-VIE in the Sahel, POSDEV for English-speaking West Africa and SANGONeT/Women'sNet covering Southern Africa.

FAO is organizing a session on Gender and Information at the second Consultation on the Management of Agricultural Information to be held in Rome, 23-25 September 2002. In 1999 FAO held a High-Level Consultation on Rural Women and Information where the strategy for action "Gender and Food Security- the Role of Information" was drafted. Silvia Balit produced the background document for this consultation "Giving a voice to rural women: harnessing the potential of communication" that contains sections on women's use of new information technologies."

In 2002 FAO's Regional Office for Asia and the Pacific is implementing a project in Thailand entitled "Harnessing ICT for the Advancement of Rural Women: Gender

Responsive Technology for Poverty Alleviation." The end product of the project is a manual on ICT for rural women, to be available in hard copy and on CD-ROM (ESCAP, 2001).

infoDev

www.infodev.org

The Information for Development Program (*info*Dev), which began in September 1995, is a global grant programme managed by the World Bank to promote innovative projects on the use of information and communication technologies (ICTs) for economic and social development, with special emphasis on the needs of the poor in developing countries. Concerned that there was insufficient gender awareness in its grant programme, *info*Dev undertook a major study in 2001-2002 (funded by the Government of Norway) to examine the gender awareness of its projects and to develop a strategy for the inclusion of gender issues in its applications, approval, implementation and evaluation processes as well as in the institution as a whole. The new strategy is currently going into operation, with innovative proposals invited that deal particularly with gender, poverty alleviation and ICT in developing countries.

International Telecommunication Union

World Summit on the Information Society

www.itu.int/wsis/

Gender Caucus

http://www.wougnet.org/WSIS/wsisgc.html

The International Telecommunication Union is organizing a World Summit on the Information Society to be held in two phases- the first in Geneva in December 2003 and the second in Tunis in 2005. At the Africa Regional Preparatory meeting for the 2003 Summit, a number of organizations responded to UNIFEM's invitation to contribute to ensuring that gender dimensions are included in the process of defining and creating a global information Society. From that invitation the WSIS Gender Caucus emerged, an unofficial but very active entity with WOUGNET (see nongovernmental organizations, below) acting as secretariat (Wougnet, 2002a).

Working group on gender issues

http://www.itu.int/ITU-D/gender/

Women have been active in working with the ITU to ensure the equal access of women and men to communications services. The informal Task Force on Gender Issues, which emerged from the World Conference on Telecommunications Development in 1998, has been reorganized into the Working Group on Gender Issues, a recognized body within the ITU. Several of the activities that the first meeting of the Working Group adopted in June 2002 have major implications for rural women and information technology in ACP countries. Programme committees will work to facilitate access of rural women and other disadvantaged groups to relevant content, including through non-traditional means such as voice portals. They will continue to expand women-friendly multipurpose community telecentres and enhance ICT literacy among women. The Working Group recommended that a certain percentage of the rural access fund (for universal service), funded by operator license fees should be used for ICT training for rural women (ITU, 2002).

Seminar-Workshop on women and ICTs

ITU held two seminar-workshops on women and ICTs in Cameroon (in Yaounde and Douala) in June 2002. Over 100 participants, who included a wide variety of stakeholders ranging from the Government Ministry of Posts and Telecommunications to women's NGOs, drafted an excellent list of recommendations to bring young girls and women into ICT activities, including those in rural areas. In the rural areas, attention was placed on sensitising rural women to the entrepreneurial opportunities that the Internet offers (Faccin, 2002). An important aspect of this workshop was the involvement of a wide variety of stakeholders in drafting recommendations that have the possibility of influencing policy.

UNIFEM

www.unifem.org

The United Nations Development Fund for Women (UNIFEM) has been working to ensure women's access to and benefits from ICTs. In January 2002, UNIFEM launched a programme to help bridge the gender digital divide in Africa. The programme is guided by an Advisory Committee comprised of twelve African ICT entrepreneurs, primarily women, living in Africa and the U.S., as well as representatives from the private sector and the UN system. Working with the Advisory Committee, UNIFEM will provide training, financing, jobs and mentoring for African women's organizations and business associations in the use of ICTs and help them create business partnerships (UNIFEM, 2002). Among leading members of the advisory committee are Rebecca Enonchong, CEO and founder of Applications Technologies, Inc., Gisèle Yitamben, founder and Executive Director of the Association in Support of Women Entrepreneurs (ASAFE) and Yussur Abrar, CEO and founder of Warsun Communications.

The World Bank

www.worldbank.org

ICT in gender and agriculture projects

As part of a World Bank Rural Development Department review on "information and communication technologies in agriculture," a study was done on "gender issues in the use of ICT in rural development (World Bank, draft, 2002b)."

The study found that ICTs are used basically as tools for implementing Agricultural Knowledge and Information System (AKIS) projects, with most usage in agricultural extension, research and education. Roughly 16 per cent of Bank agriculture projects used ICTs as significant inputs. Of this group of 65 projects, only seven, or eleven per cent, had "explicit gender-oriented objectives and focus." Summary details of the seven are listed in Annex II. In the draft version of the review regrettably no gender analysis was done on the way in which women were involved in use of ICTs or on the gender impact of their use.

World Bank-Engendering ICT

http://www.worldbank.org/gender/ict/index.html

With funding from the Japanese Trust Fund, the World Bank is undertaking a year-long study on gender and ICT. The study is designed to guide project managers, planners and policy makers, including World Bank staff on the design of gender-responsive ICT

policies and interventions. The aim is to enable developing countries to improve the efficiency and equity of their ICT policies and programmes by ensuring that they respond to the needs of both men and women. The study of gender and ICTs will complement the World Bank's gender mainstreaming strategy and the World Bank group's strategy on ICT by providing information and advice on gender issues relevant to World Bank projects with ICT components (World Bank, 2002).

Gender and the Digital Divide Seminar Series
http://www.worldbank.org/gender/digitaldivide

The World Bank has an ongoing series of seminars on topics relating to gender and ICTs in developing countries. Documentation from each of the seminars (twenty have been held to date) is available on the web site, and six or more of the topics relate directly to rural women and ICT in ACP countries. These include presentations on rural women and ICT, rural women and telecentres, rural women and income-generation, on reaching marginalized women and on e-government to serve rural women (World Bank, 2002a).

5.2.2. Bilateral organizations

IDRC

www.idrc.ca/

Acacia

http://www.idrc.ca/acacia

Under the team leadership of Edith Ofwona Adera and headquartered in Nairobi, Acacia is a programme of the International Development Research Centre (Canada) whose focus deals explicitly with rural women and ICTs in Africa. At its founding in 1997, Acacia's first goal was to demonstrate that the benefits of ICTs could reach disadvantaged sub-Saharan communities, especially the women and youth within these communities and could help these communities solve their development problems. In Acacia's vision for its 2001-2005 programme, "ICTs will appear on the policy agenda of all African countries as a means to raise and improve living standards for all (including rural as well as urban dwellers, women, men, children, youth and the disabled populations)"(IDRC, 2001). In the next four years, Acacia will sponsor applied research that links ICTs with poor communities and with pro-poor ICT policies. One of Acacia's major interests has been the development of content relevant to rural women in a form that they can use, exemplified by the CD-ROM "Rural Women in Africa: Ideas for Earning Money" developed by IWTC for the Nakaseke Telecentre in Uganda.

Acacia's statement on gender inclusion for its 2001-2005 programme uses both an institutional as well as a project approach:

> Acacia II will integrate gender dimensions into projects by: (i) encouraging researchers and program staff to give greater priority to gender considerations and, when necessary, providing gender training; (ii) developing guidelines on the mainstreaming of gender in ICT research; and (iii) integrating gender dimensions into project design and encouraging gender analysis during project implementation, monitoring

> and evaluation. Acacia will also promote projects that address gender and promote women's empowerment. It will also examine gender differences in people having access to ICTs and benefiting from them (IDRC, 2001).

Acacia is part of IDRC's ICT4D programme, which is in the process of developing a programme-wide gender strategy. It has undertaken substantial gender analysis and gender training activities under the aegis of its Pan Asian and Pan [Latin] American Networking programme. However, the Africa-based Acacia programme corresponds most closely to three ACP regions.

USAID

wwww.usaid.gov

USAID sees gender equity as an area of emphasis throughout its multimillion-dollar Digital Opportunity through Technology and Communication Partnerships (DOT – COM) initiative (USAID, 2001). However, no documentation is yet available on the integration of gender in the three "Leader with Associates" agreements that have been awarded to implement the partnership. In a separate initiative, in 2001, USAID commissioned and published a study entitled *Gender, Information Technology and Developing Countries: an analytic study*. (Hafkin and Taggart, 2001).

5.2.3 Non-governmental organizations, corporations and academic institutions

ABANTU for Development

http://www.abantu.org

ABANTU for Development is an international NGO established in 1991 by African women. Based in England, ABANTU also has offices in Kenya, Ghana, and Nigeria. One of the first organizations to promote the use of ICTs by women in Africa, ABANTU focuses on training for sustainable development in Africa and empowering women for decision making. ABANTU has trained some 700 men and women (ABANTU, 2001). ABANTU began its work to strengthen the electronic communication capacities of women's work in Africa as early as 1995. It organized training for several women's organizations in East Africa in 1998 and South Africa in 1999. However, in the last several years ABANTU's activities have been very low profile, and it no longer appears to be a significant actor in this area.

African Centre for Women, Information and Communications Technology (ACWICT)

http://www.acwict.or.ke

The Centre was established in Nairobi in 2001 as a nongovernmental organization in Kenya committed to promoting the use of ICTs amongst women in the African Region. With funding from the United Nations Development Fund for Women (UNIFEM) and *info*Dev, in June 2002 it initiated a web site called "Hawknet" (The Horn of Africa Region Women's Knowledge Network) designed to serve as a regional portal for information on gender issues in the Horn of Africa, with special attention to women and ICTs (ACWICT, 2002).

African Gender Institute

(http://www.uct.ac.za/org/agi)

The African Gender Institute (AGI) was established in 1996 at the University of Cape Town, South Africa, following consultations with stakeholders in many parts of Africa. AGI's mission is to further gender equity in Africa by working towards the transformation of inequitable institutions and social practices. In addition to information about AGI's programmes, including AGI papers and reports, the AGI web site contains a list of "Electronic Gender Links." Since 1997 the Institute has managed an electronic discussion list (listserv®) called "GAIN- Gender in Africa Information Network" on issues related to gender and information, with special emphasis on information technology in Africa. Members of the list are primarily information scientists, documentalists and librarians.

African Information Society Gender Working Group

The African Information Society Gender Working Group was founded in 1999 as an NGO in Pretoria by Gillian Marcelle, a telecommunications regulation specialist from Trinidad and Tobago, with the aim to ensure that African women participate fully in the development of an Information Society and share equitably in the potential benefits of production and consumption of ICT.

The GWG planned to engage in research, advisory services, training, outreach and technology development. In 1999, it published a booklet entitled "Engendering ICT Policy: Guidelines for Action." Although the organization's founder has been appointed to the United Nations ICT Task Force in affiliation with the group, the group does not seem to be active any longer.[22]

APC-WNSP

http://www.apcwomen.org/about/index.html

The Association for Progressive Communications Women's Networking Support Programme is probably the oldest programme to encourage women in developing countries to use ICT. It began in 1993 in preparation for the United Nations Fourth World Conference on Women. It has expanded to twenty countries and is comprised of women, groups and organizations working in the field of gender and ICT who also support women's electronic networking. The objective of the Women's Networking Support Programme is to promote gender equity in the design, implementation and use of ICTs, with special focus on gender inequities, through research, training, information and support activities. WNSP has been particularly instrumental in training women's groups in electronic communication. However, their contributions to research on gender and ICT have also been significant. These include:

- *Women in Sync: Toolkit for Electronic Networking* is a three-volume collection of the experiences of women and their organizations who were early adopters of electronic communications in developing countries and who have become a part of the APC-WNSP network (APC, 2000).
- GEM- Gender Evaluation Methodology. GEM is a guide to integrate gender analysis into evaluations of initiatives that use ICTs for social change. Its

[22] However, its materials are cached and can be located through the Google search engine. There is no relation between the AIS Gender Working Group and the African Information Society Initiative of the United Nations Economic Commission for Africa.

objective is to help organizations determine whether ICTs are improving women's lives and gender relations as well as promoting positive social and economic change (APC, 2001).

ASAFE

www.asafe.org/

The Association for Support and Assistance to Women Entrepreneurs (*Association pour le soutien et l'appui à la femme entrepreneur*) in Cameroon has placed major emphasis on encouraging women entrepreneurs, including rural women operating agro-businesses to use ICT to build their businesses. ASAFE was one of the first women's organizations in Africa to train its members in ICTs with specific application to business development (e.g. training in IT skills, including use of email and Web surfing to locate possible business partners and development of Web sites for marketing). ASAFE has acquired funds for a multi-story building in Douala to serve as an ICT training centre for women entrepreneurs in small, medium and microenterprises and as an incubator to introduce ICTs to other women's organizations. It sees its mission as "servicing the needs of its members in a digital economy." As its founder Gisèle Yitamben says, "Many African countries are still suspicious of information technology. They haven't understood the immense power of the Internet. The solution to poverty among the womenfolk and their children is in information. There is no limit to our future in this area" (World Economic Forum, 2002).

Center for Women and Information Technology

http://www.umbc.edu/cwit/

Although US-based and directed, the Center for Women and Information Technology (CWIT) at the University of Maryland, Baltimore County is a major resource for materials on women and ICTs in developing countries. The Center aims to encourage more women and girls to become involved with information technology, both as users and as professionals in the field. The CWIT web site, which has been called "the best resource on women and technology on the Web," includes a large and frequently-updated collection of international news articles about women and ICT, an extensive bibliography of books about women and ICT linked to reviews and annotated links to web sites and email lists that focus on women, science and technology.

CISCO Learning Academies-gender initiative

http://www.gender.ciscolearning.org/

Cisco Systems has established learning academies in some 140 countries of the world, including all the ACP regions, to teach students to design, build, and maintain computer networks and prepare them for certification as Internet networking professionals. It has been particularly vigorous in trying to ensure gender equity in its programmes, working with the Academy for Educational Development to develop gender strategies and best practice profiles. The Gender Initiative, a project focusing on encouraging young women to enter and complete training in an area where there are few women, seeks ways to increase women's access to IT training and career opportunities. Gender Initiative research projects have been carried out in the Caribbean and Africa but not yet in the Pacific, although there are Cisco Networking Academies in five Pacific island countries (Cisco, 2001). With the United Nations Economic Commission for Africa in Addis Ababa and *info*Dev, Cisco has establishing a Networking Academy especially for African women. Courses are offered in French and English (ECA, 2002).

Enda-SYNFEV

www.enda.sn/synfev/synfev.htm

SYNFEV (Synergie, genre and développement- [synergy, gender and development]) is the gender programme of Enda (Environment and Development in the Third World) located in Dakar, Senegal. Under the able leadership and boundless energy of Marie-Hélène Mottin-Sylla, SYNFEV began its communication programme in 1995 to give a voice to francophone African women in preparation for the Fourth United Nations World Conference on Women (Beijing). In 1996 it began promoting connectivity for women in francophone African countries by training women's NGOs in some 15 countries in electronic communication. That year SYNFEV also set up its first electronic discussion list among francophone women. Since then, the programme has taken up a number of activities and projects to promote the use of ICTs among West African women, particularly those in rural areas.

Under a project entitled "Inforoutes au féminine pour l'Afrique francophone," SYNFEV developed a popular web site (http://www.famafrique.org),[23] the first of its kind in francophone Africa, as a communication and information space for francophone African women interested in sustainable development. It also issues an electronic newsletter "*La toile d'elles*" (Women's Web) monthly. With the assistance of IDRC, since 2001 it has operated a project entitled "ICTs and the women's programme for gender equality." It distributes an email information service with news of interest to African women on health and rights entitled "*femmes-afrique-info* [women-Africa-information]."

Flame/Flamme-African Sisters Online

http://flamme.org

Flame is a network of African women online, committed to the use of ICT to strengthen the capacity of women to lobby and advocate for the rights of women in Africa.[24] It was very active at the time of the Beijing +5 process in 2000, but appears to have been inactive since.

International Women's Tribune Center (IWTC)

http://www.iwtc.org

Designed as a women and development information and resource centre for women activists and advocates worldwide, the International Women's Tribune Centre (IWTC) is an international nongovernmental organization established in l976 following the United Nations International Women's Year World Conference in Mexico City. It sees its mission as empowering people and building communities through communication, information, education and organizing support services for women's organizations and community groups working with women, particularly low-income women, in Africa, Asia, the Pacific, Latin America and the Caribbean, Eastern Europe and Western Asia. One of its five programme areas is "Tackling Poverty, Building Strong Communities: Women Using Information Communication Technologies for Basic Needs," under the direction of IWTC founder Anne Walker. Anne Walker is from Fiji, and through her work she has managed to put the global spotlight on the situation of women in the

[23] The web site reports 20,000 visitors a week.

[24] The Flame home page available in both English and French.

Pacific Islands. The programme of women and ICTs, which focuses on the development of content materials for women who live near to rural community telecentres in Africa, produced the CD-ROM for rural women in Uganda. The Centre runs a publication/sales programme entitled Women, Ink. that is a major source of information and documentation on women and ICTs in developing countries.

Isis-WICCE

http://www.isis.or.ug/

Isis-Women's International Cross Culture Exchange is an action-oriented women's resource centre, which was founded in response to increasing information needs of women from various regions of the world to communicate ideas, create solidarity networks and share information to overcome gender-related inequalities. Its special niche is building relationships between organizations to make information on and for women accessible and visible. ISIS-WICCE was established in 1974 in Geneva, Switzerland, but relocated to Kampala, Uganda at the end of 1993 to try and tap information concerning African women and make it more accessible and available to women worldwide. It organized the Know How Conference in Kampala in July 2002, with a strong emphasis on information and use of ICTs for rural women (see *supra*).

Women in Global Science and Technology (WIGSAT)

http://www.wigsat.org/aboutw.html

WIGSAT is a nongovernmental organization whose mission is to support global networking on critical issues in science and technology for development. Among its purposes is to "act as an electronic information bridge and support for major global gender, science and technological initiatives" (WIGSAT, 2002). It supports women's global electronic communication on the basis that women, especially in the South, need to be able to control the kind of information they need and increase their ability to produce information and that the development of electronic communications in the South should be supported. WIGSAT promotes Internet use by women entrepreneurs and informal sector workers in the South. WIGSAT is a major source of information and documentation on women and ICTs in developing countries, both through its Web site and its electronic mailing list (wigsat-l). The principal of WIGSAT is Dr. Sophia Huyer, a Canadian.

Women of Uganda Network (WOUGNET)

http://www.wougnet.org

Women of Uganda Network (WOUGNET) is a nongovernmental organization initiated in May 2000 by several women's organizations in Uganda to develop the use of information and communication technologies among women as tools to share information and address issues collectively. WOUGNET is devoted to "using ICTs for the Better Being of Ugandan Women." Its web site contains excellent links to information sources on women in agriculture. The force behind WOUGNET is Dorothy Okello, a Ugandan woman Ph.D. candidate at McGill University (Montreal) in telecommunications and signal processing, with research interests in broadband satellite networking and communications networking. Her vision is to use ICTs for the advancement of women in Uganda.

While emphasizing Internet technologies, WOUGNET is also interested in integrating these technologies with traditional means of information exchange and dissemination including radio, video, television and print media.

The information services that WOUGNET provides are:

- an electronic discussion list for the exchange of ideas and information among subscribers;
- a web site to profile women organizations in Uganda and to provide exposure to their activities;
- information and support on how to maximize the potential of ICTs within women organizations.

As noted above, WOUGNET is the seat and site for the WSIS gender caucus.

Youth for Technology Foundation

http://www.youthfortechnology.org

Located in Nigeria, Youth for Technology Foundation is an international nonprofit organization dedicated to bridging the digital divide among Nigerian youth. Under the slogan "Delivering to the Community- Building the Digital Canyon," the Foundation focuses on bringing access to technology and information resources to underserved rural communities, especially to girls and women, by increasing their ability to take advantage of ICT opportunities in education. In the programme Foundation members will mentor community groups in creating "digital products" and marketing them over the Web, maintaining local culture and community control. They hope that their efforts will result in young people having a reason to stay in their home communities. The emphasis on rural women will be on improving their access to information services to boost their incomes from farming income and small businesses.

The "TechCommunities" technology awareness programme focuses specifically on training poor rural women in employment skills, including technology training. Owerri Digital Village in eastern Nigeria, the first site of project activities launched in 2001, offers free ICT training to at-risk farm community youth, both male and female, between the ages of 8 to 25 (Ugwuegbu, 2002).

6.0 CTA's Past and Current Gender Activities

This 5th CTA Observatory meeting on *Gender and Agriculture in the Information Society* is a major step, but not the only one taken by CTA in recent years to put gender on its agenda of work. In 1999, CTA co-organized a seminar on "The Economic Role of Women in Rural and Agricultural Development: the Promotion of Income-Generating Activities," in Athens, Greece, 18-22 October 1999. A publication based on this seminar presentation was produced and widely disseminated to ACP/EU partners (Akello and Sarr, 1999) and a forceful statement of key recommendations on defining women's economic role in agriculture and bringing it to bear on legal institutions, policy and strategies was presented.

CTA also co-sponsored a sub-regional gathering of stakeholders in Kampala, Uganda, 9-23 February 2001 entitled "Strengthening the economic condition and role of women in agricultural and rural development by revisiting the legal environment." This workshop focused on the legal rights of rural women in Eastern and Southern Africa. Recommendations included legal and non-legal measures were presented and a plan for extending this consultation with stakeholders in West Africa is planned for 2003 (see Annex III for recommendations on ICTs from this workshop).

Overall, the extent to which CTA has so far been able to address gender in its agenda of work can be examined at three levels:

1. Gender in CTA's Policy Framework and Strategy
2. CTA's Inclusion of Gender in its Organizational Structure
3. Potential Gender Activities and Impact

6.1 Gender in CTA's policy framework and strategy

CTA was created in 1979 under the Lomé Conventions. In June 2000, the ACP and EU states agreed on a new framework for cooperation under the Cotonou Agreement. This Agreement places considerable emphasis on the wider context in which ACP agricultural and rural development operates and on the new concerns that are relevant to that context. The Strategy of CTA refers to these as "new and essentially political pre-occupations, especially with regard to the role of stakeholders in the process of establishing and maintaining partnerships" (CTA, 2001:10).

A gender analysis of the text of the Cotonou Agreement shows that for the first time in the EU-ACP partnership gender was included in small, but significant ways in the ACP/EU (Arts, 2001). Most notable is that this policy framework, on which CTA is founded, endorses the principles the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW). In its Preamble, it is stated that, "systematic account shall be taken of the situation of women and gender issues in all areas – political, economic and social." It also notes that the Agreement will "encompass cooperation strategies as well as global and sectoral policies including . . . gender" (Arts, 2001:3).

The Cotonou Agreement provides CTA with a basic gender policy framework to which it is expected to respond. CTA is now seeking to institionalize gender issues to achieve its mandate to promote information and communication to strengthen agricultural and

rural development. CTA's Strategy (2001) states that it expects a "strong presence of women, the young, and resource-poor farmers among the potential beneficiaries" of its work.

6.2 Gender activities to date

CTA's effort to address gender was highlighted in the external evaluation of the CTA's Mid-Term Plan 1997-2000, which advised "attention to the management of gender issues." This recommendation was seen as relevant to the wider changes occurring within the agricultural sector in ACP nations as well as the broadened objectives of the CTA mandate. The Advisory Council of CTA, especially some of its female representatives, strongly encouraged CTA to pursue a gender strategy for its work. To this end, CTA embarked on an initial exercise to raise awareness about gender issues in ICM for agricultural and rural development. Two papers were commissioned and presented at an internal seminar 2 April 2002 (Okali, 2002; Hambley Odame, 2002). These papers emphasized the following:

1. The extensive knowledge record of gender and agriculture issues in ACP countries.
2. The limited extent to which gender and agriculture related research in ACP has considered the role of ICTs/ICM, and therefore, encouragement to CTA to address this gap.
3. The importance of CTA mainstreaming gender in its plan of work by including attention to its "deep structure" of organizational values, norms, behaviour and procedures.

CTA recognizes that as an organization it must change to meet its new broader mandate and to incorporate into it issues concerning gender (CTA, 2001). To become more responsive to gender issues, CTA has proposed the development of a gender strategy for the centre. Typically, a centre in the position of CTA would also include as part of this strategy process the opportunity to assess gender within its organizational structure (often referred to as a gender audit) and follow up with its initial staff on gender awareness-building activities.

6.3 Possible gender activities and impact

To deliver on its mandate, CTA has two operational objectives:

1. To improve the availability of and access to relevant, adequate, accurate, timely and well-adapted information on priority information topics for ACP agricultural and rural development.
2. To improve the information and communication management capacity of ACP agricultural and rural development organizations.

Both of these objectives have possible gender implications. CTA has not yet conducted a gender evaluation of its work. Such an evaluation might show that CTA is benefiting certain target groups, such as rural women and women's organizations in ACP. An informal review of CTA's publication distribution suggests that a gender impact assessment would be useful based on the following findings:

- CTA has distributed its information and communication products to an impressive 388 organizations whose name seems to specifically imply that they focus on rural women and gender issues.

- This figure, however, represents only 3.7 per cent of the total number of organizations in the CTA database. Further assessment of CTA partner organizations and their mandates viz. rural women would be useful.
- The identified 388 organizations are almost all located in Africa. CTA should review more closely its information and communication outreach to rural women's organizations in the Caribbean and Pacific.
- At this time, CTA does not have a tracking mechanism for its website downloads. It is possible that organizations representing rural women and gender issues in ACP nations are also accessing CTA's Internet materials.
- Organizations requesting information from CTA have 42 subject areas to chose from (up to six themes allowed). "Gender" was selected as a subject area by 1174 organizations.[25]

A major step to begin to address the issue of mainstreaming gender in CTA work was taken with an internal seminar in April 2002 to provide CTA staff with an introduction to gender mainstreaming and an opportunity to identify ways in which gender could be integrated into the existing programs. The CTA staff manage and implement CTA's strategy, and therefore they are important catalysts for the gender-responsive partnerships and activities in which CTA is involved. The following table is a summary of these staff-generated suggestions.

Table 6.1 Summary of Possible Gender Activities in CTA Programmes

CTA Programme	Gender Actions Proposed
IPS- Information Products and Services	• The distribution of CTA e-products targeted to organizations working with and for women • Better attention should be paid to women when attending book fairs so women authorship can be increased and the content generated by women can be given more importance • Concerning local books distribution, CTA could include a marketing service that is more gender sensitive. This should be achieved with the help of CTA partners whom we should also call upon to help us extend the Burkina Faso and Zambia pilot projects to other countries.
CCS- Communication Channels and Services	• Include gender in AGRICTA links to other websites • Promote women's use of communication channels • Gender sensitization through informed networks and lobbying on specific issues • Create platforms for marginalized voices to be heard • Cooperate with regional networks and organizations oriented to gender issues (identification of topics,

[25] The authors express their appreciation to Marielle Vandreck, A. Vugayabagabo and Gesa Wesseler who assisted with searches on CTA's database. The informal search examined the 10,510 organizations subscribed to CTA's Publication Distribution Service. A keyword search for 'wom' (woman, women), 'fem' (female, femme, femina) and gender, genre and mulher was used. It is important to recognize that this simple search does not fully reflect the extent to which CTA has made its materials available to women's organizations in ACP nations. An impact assessment and more detailed data analysis would be required.

CTA Programme	Gender Actions Proposed
	participants, expertise) • Identify and disseminate gender success stories • Facilitate access of women to ICTs through regional networks/ organizations • Use virtual library to support database and gender research findings • Identify electronic for a on critical gender issues
ICM- Information and Communication Management Skills and Systems	• Integrate gender into Terms of Reference (TORs) for the distance learning feasibility study • Include gender considerations in the identification of CTA collaborative partners including making gender an explicit part of selection criteria • Improve the analysis of women's representation at training events, different levels of gendered access to ICTs, needs assessment by gender and lack of data on possible gender-sensitive issues
PCS- Planning and Corporate Services	• Discuss with collaborators the inclusion of gender in impact assessment methods • Include gender in TORs for the evaluation of CTA's programme 3 (ICM) and CTA's pilot project on local book distribution • Collection of gender relevant baseline data and establishing benchmarks for CTA impact • Involve ACP women in consultancies and as resource persons • Encourage men to be more involved in gender issues/research

Through its initial activities CTA has made a good start to mainstreaming gender in its plan of work. Its new Strategy (2001-2005) specifies ACP rural women and youth as key beneficiaries and partners. The concluding section of this report concentrates on helping CTA to prioritize its work on gender and the promotion of information and communication for agricultural and rural development.

7.0 Towards an Overall CTA Gender Strategy

In its new Strategy, CTA has committed itself to the formulation of an accompanying strategy to address gender issues in its work.

> It has now become an imperative to mention a commitment to advancing the position of women through gender-sensitive programmes (i.e., ensuring development programmes and policies reflect gender awareness). Formulating meaningful and informed policies in accordance with this pledge is, however another matter; often it is not as simple an exercise as many commentators assert. Whether gender roles are fixed and stable over time, or whether they are flexible and open to negotiation, has yet to be established. CTA's approach to this matter needs to be properly informed by research and it is necessary to equip the centre to respond to findings in the systematic pursuit of the goal of gender balance…The centre will seek to deal with this matter from two related angles: first, through a more appropriate structure and, second, on the basis of up-to-date methodologies and approaches (CTA, 2001:38-39).

CTA has the advantage of developing a gender strategy that learns from past failures and successes in mainstreaming gender in international agricultural and rural development institutions (Hambly Odame, 2002). A strategy for CTA in gender and ICTs in agricultural and rural development for ACP countries is a major part of an overall institutional gender strategy. The initial efforts of CTA (as described in Section 6.0 of this paper) provide an important base for future action. What are the possible next steps?

The basic principles of gender mainstreaming are ensuring that both men and women are part of the mainstream of development activities and that both have equitable chances to benefit and participate. If women are not participating and benefiting, what are the constraints and obstacles that prevent them from doing so? These constraints and obstacles then need to be addressed to ensure gender-equitable participation and benefits. Sometimes this may result in accommodations that call, for example, for single-sex training and access, if women are not comfortable in using technology in settings with men. Other times it may take remediation to address the educational and skills deficits many rural women have with regard to using ICTs.

The purpose remains to bring both men and women into the centre of what is happening with agriculture, rural development and ICTs. Without such an approach, CTA risks reverting to the now-discredited WID (women in development) approach where separate activities for women were "added on" women to existing projects, resulting in few if any sustained changes in gender equality and lesser-than-hoped for development outcomes (Harding, 1995).

Gender mainstreaming happens by applying gender analysis to programmes, projects and activities from their inception and not as add-ons. It is a truism that most programmes and projects do not consider gender as an important component in programme and project design and, consequently, fail to include both men and women equitably (Jorge and Hafkin, 2002). In the area of ICTs for the promotion of

agricultural and rural development it is almost impossible to find a gender-neutral project (one that affects and benefits both men and women in the same way).

ICTs, as with other technologies as we have seen, impact men and women differently. Men and women have different needs that the technologies help meet. As OECD (2000) stated, in the agricultural sector strategies that assume gender-neutrality ("it's for the benefit of the community as a whole") do not necessarily lead to gender-neutral (men and women benefiting equitably) outcomes. Gender is everywhere; it is simply a matter of recognizing it and acting appropriately.

At the institutional level, gender mainstreaming happens best and most easily when it is a part of institutional strategy and when every project officer, not just the "institutional gender person" is responsible for gender and anticipates gender impact in strategy, design, implementation, monitoring and evaluation. For these two things to occur, gender must be incorporated into the annual project management cycle. The following points can be made about this mainstreaming process:

> (1) the starting point of good ICT projects is based on knowledge of community information needs, disaggregated by sex;
>
> (2) competent gender analysis, as a form of social analysis, needs to be part of all such projects *from the beginning*.
>
> (3) gender-specific interventions and projects are not precluded, but rather as seen as means to attain the objective of equitable inclusion of both men and women in development benefits.

The overall goal is to produce good rural projects taking advantage of the opportunities that ICTs offer and including contextual gender analysis (based on the target community and stakeholders) from the onset.

7.1 Areas for action

In its April 2000 internal work CTA staff produced a number of priority areas and specific actions that will ensure inclusion of gender concerns in CTA activities (Table 6.1 *supra*). These are important to build upon and should be considered the starting point for the following recommendations that are suggested as priority for CTA in its efforts to engender ICTs for rural development in ACP countries.

Research

- In an effort to have sex-specific information about CTA stakeholders, gather baseline information about CTA partners in ACP/EU nations, identifying the number of collaborating women's organizations and partners agencies whose mandate support rural women and youth as key stakeholder groups.
- Undertake national and regional needs' assessments, that incorporate gender analysis and involve target communities, for ICTs and ICM
- Disaggregate data by sex on CTA's capacity development activities, including product delivery, access and use

Training and capacity building

- Undertake training and capacity building with CTA partners in areas key to gender, ICTs and agriculture such as:
    - Promoting socially accessible e-government, with special attention to needs of the rural population in agriculture
    - Engaging partners in local content development, with specific attention to the information needs of rural women
    - Linking economic empowerment and legal rights (follow-up to CTA supported workshops in Athens and Kampala)
    - Improving the access of rural women and youth to market information
    - Addressing the information needs of HIV-affected families

Promoting access to new technologies to which men and women will have equitable access

- Support in all ways possible within CTA's mandate the efforts of ACP countries to develop gender-aware ICT policy and to promote women's voice in the making of such policy
- Support the efforts of ACP countries to promote connectivity, develop information infrastructure (especially for the rural areas) and achieve universal access
- Support educational uses of private and public telecentres and radio in rural areas, especially for literacy and IT skills
- Identify and support the utilization of new ICTs that offer inexpensive and broadband access in remote areas

Increasing exchanges of experience and networking

- Form partnerships and join in networks with organizations and institutions that share the objective of promoting gender-equitable access and use of ICTs in rural development
- Participate in the ITU World Information Society Summit process, with emphasis on ensuring the inclusion of gender issues

7.2 Recommendations

Suggestions for specific CTA actions follow.

1. Promote among ACP nations improved gender awareness concerning new and emerging communications technologies and especially electronic information resources for agricultural and rural development.

Suggested actions:

- That CTA raise awareness about gender and ICTs through its corporate publications and website, including sensitizing policymakers and national and regional institutions about the advantages of including gender considerations from the start of policy making and programme planning.
- That budgets be assigned to facilitate rural women's access to ICTs, especially in areas with less-developed technological infrastructure.

2. Promote equitable participation of women and women's organizations in ICM training and support services

Suggested actions:

- That CTA, with its partners, assign budgets to promote and mainstream gender in ICM training courses and gender-aware learning materials.
- That CTA encourage its partners to develop proposals that identify the specific ICM needs of women farmers and professionals in agriculture.
- That CTA promotes access of women and civil society groups to use and contribute to electronic networks for agricultural and rural development policymaking, research and information exchange.
- That CTA supports women, youth and resource-poor farmers' organizations to acquire knowledge and skills to access and use information networks for communication, negotiation and advocacy initiatives.
- That CTA encourage its partners to undertake pro-active recruitment to identify women participants for training, meetings, conferences and seminars in ICT areas where women have been underrepresented in the past.

3. Generate and supply information related to gender, ICTs and rural development

Suggested actions:

- That CTA, in deliberation with its partners, determine a core resource package (information and learning materials) relevant to gender and ICTs and make this available on its website. This package should be updated regularly with new material.
- That CTA popularize gender-aware efforts in ACP countries to use ICTs in rural areas, with special attention to innovative uses of the technologies to facilitate education, disseminate health information and promote entrepreneurship

4. Propose to its Advisory Committee and adopt an institutional gender strategy and staff and partner training opportunities to deliver on the strategy

Suggested actions:

- That CTA determine in consultation with its stakeholders and Advisory Group a gender strategy as an annex to its 2001-2005 Strategy
- That CTA encourages its individual programmes to prioritize their suggestions (see Section 6.2) for incorporating gender into their work
- That CTA offer face-to-face training workshops for its project officers and key partners on gender in ICTs and agricultural and rural development project management.
- That CTA signals its recognition of gender issues by seeking partners who share a similar awareness and by requesting partners to identify gender-aware actions in their proposals and reports

7.3 Concluding remarks

Gender issues in ICTs for the promotion of agricultural and rural development are the focus of this report whose intention is to raise areas for stakeholder discussion during

the 2002 Observatory meeting and, more broadly, to inform CTA's nascent gender strategy.

This situation analysis of gender, ICTs and agriculture with developing nations of Africa, the Caribbean and the Pacific has identified important obstacles and opportunities. The process leading up to this report and the Observatory meeting suggests that CTA demonstrates renewed commitment to ensuring that its work benefits resource-poor farmers, women and youth. The report identifies many innovative examples of work in the field from which CTA can learn and partner.

In this process of mainstreaming gender in its work, CTA is beginning an exciting but challenging effort to build bridges across the digital divide that characterizes agricultural and rural development in ACP nations.

If CTA adopts the actions and priorities recommended above, they will contribute markedly to the realization of the Cotonou Agreement defining the role of CTA to develop information strategies and mechanisms to enhance access to technologies to boost productivity and improve marketing, contribute to rural development and improved food security; formulate, implement and manage rural development policies and strategies; and develop access to and use of new communication technologies at local and national level. Simply stated, they will bring major benefits to the men and women in rural areas of ACP countries.

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Annex I

Summary of significant points from IARW rural women and information discussion list, June-July 2002

Among the significant points that emerged from the discussion were:

- *The significant obstacles to making this technology widely accessible to rural women in the south should not be seen as deterrents; rather ICTs are essential resources in reducing the gross inequalities in wealth around the world*
- *Rural women in developing countries need information desperately*
- *There was considerable debate as to whether ICTs were appropriate for rural women, especially in Africa. Some said no, while others emphasized that rural women were interested in accessing information and should not be denied opportunities that others take for granted.*
- *ICT projects need to build on the needs, resources and knowledge of local communities*
- *Focus on combining literacy and basic education with IT education for young women at rural information centres was stressed*
- *Communication tools must be appropriate and adapted to the local social and economic context*
- *The partnership of men must be secured to gain their support for training and other activities for women*
- *The importance of ensuring ownership and sustainability in gender and ICT projects was underscored*
- *Training local people to manage and maintain projects on their own was emphasized*
- *Development of rural ICT services can be a fertile field for women entrepreneurs*
- *Governments need to show support for rural communication, for both men and women*
- *The same lessons apply to ICT as to other rural communication activities: they need to reflect the special needs of women, should address women's social, economic and cultural constraints in design of messages, selection of technology and best timing and locations for delivery*
- *Women should be involved in rural information centres as core members and leaders*[26]

[26] These have been compiled from WOUGNET, (2002) "Summaries of discussions of weeks one, two and three," http://www.wougnet.org/Events.IARW/summaries/. [Accessed 12 August 2002].

Annex II

World Bank gender and agriculture projects using ICTs[27]

The Gambia Women in Development Project
Its goal was to increase women farmers' productivity and access to markets. ICTs used were radio, video, theater, audiovisuals, folk media and newspapers.

Nicaragua Agricultural Technology and Land Management Project
In an attempt to increase and diversify agricultural output and exports, basic agricultural services were provided to small and medium-scale farmers, with emphasis on increasing women's participation in agricultural extension services. ICTs used were audiovisuals, fax, Internet and newspapers.

El Salvador Agriculture Sector Reform and Investment Project
The project aimed to help poor farmers improve agricultural productivity and income levels, with women among the target population. ICTs used were audiovisuals, fax, Internet, newspapers and radio.

Venezuela Agricultural Extension Project
The objective of the project was to assist poor farmers to adopt improved agricultural technology. Women were targets of the improved agricultural extension services. ICTs used were audiovisuals, Internet and newspapers.

Cameroon National Agricultural Extension and Research Programme Support Project
The aim was improved agricultural productivity and income through an integrated farmed-oriented agricultural extension system and demand-driven research system. Emphasis was placed on participatory diagnosis of farmers' productive problems and transfer of improved farming techniques, particularly to resource-poor and women farmers. ICTs used were audiovisuals, Internet, radio and newspapers.

Uganda National Agricultural Advisory Services Project
The goal of the project was to assist poor men and women farmers to become aware of and adopt new technologies to enhance productivity and economic welfare. ICTs used were cellphones, audiovisuals, Internet, radio and newspapers.

Arab Republic of Egypt East Delta Newlands Agriculture Services Projects
The project aims to provide support services to facilitate the settlement and increased agricultural production of about 25,000 farm families on newly developed lands in the East Delta. ICTs used were radio, audiovisuals, faxes, Internet and newspapers.

China Anning Valley Agricultural Development Project
The project aimed to increased agricultural production and marketability in the Anning Valley through development of water resources, orchards, crops, sericulture, livestock and agro-processing. Women were particularly active in livestock development. ICTs used were audiovisuals, faxes, Internet, radio and newspapers.

[27] Full descriptions of each project can be found at www.worldbank.org/projects [accessed 18 August 2002].

Annex III

"Strengthening the economic condition and role of women in agricultural and rural development by revisiting the legal environment"
Kampala, Uganda, 9-23 February 2001

Recommendations of CTA sub-regional gathering of stakeholders
Excerpt on ICTs

Information and communication technologies for rural women

- A reliable gender disaggregated data collection should be coordinated to support policy change.
- There is a need to establish women's clubs and strengthen existing ones in communication skills and ICTs.
- The set up of a regional information centre to collect, package and share legal information is strongly needed
- Interregional networking of different interest groups to promote video-conferences, web-conferences, TV programmes produced jointly, CDs would be valuable.
- There is a need to collect baseline data to provide input on how best involve grassroots women in legal processes.
- Rural radio programmes on legal rights for women in rural areas should be designed.