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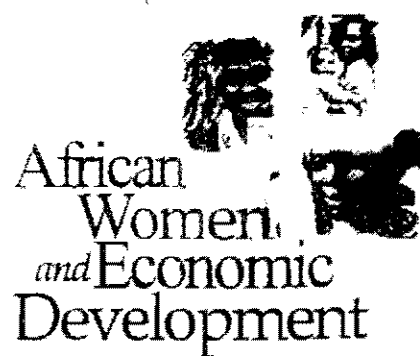
INVESTING IN OUR FUTURE

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Strategies for including a Gender Perspective in African
Information and Communications Technologies (ICTs) Policy[1]

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Introduction

1. African policy makers face many economic, social and political challenges as they seek to improve material living standards and quality of life, and undertake their task of transformation in a context of complexity, rapid change, and uncertainty. Having observed the positive impacts of science and technology, and in particular the revolution in information and communications technologies (ICTs), in wealthier nations, policy makers in Africa are turning their attention to this area of economic activity. Unfortunately there are not many directly comparable examples to assist decision-makers as they attempt to integrate promotion of the ICT sector with sustainable development efforts. The challenge of harnessing ICT for development objectives is a difficult one which encompasses many issues.

2. The United Nations Commission on Science and Technology for Development (UNCSTD) captured some of the issues of concern for developing countries seeking to secure benefits from the so-called ICT revolution when they stated:

> ICTs do not offer a panacea for social and economic development. There are risks of unemployment and social and economic dislocation, and these may lead policy makers to give lower priority to the need to create effective national ICT strategies. However, on the basis of the evidence, it is apparent that the risks of failing to participate in the ICT revolution are enormous. Failure to give priority to ICT strategies that enable developing countries and countries in transition both to develop their national infrastructures and to join the GII will exacerbate the gap between rich and poor. There is a growing need to evaluate the social and economic impacts of ICTs and to create opportunities for capacity building that will ensure their beneficial use and absorption within national economies and civil society. (UNCSTD page 17, para 62).

3. UNCSTD in their influential report also acknowledges that Africa and other least developed countries will require special treatment if they are to get access to the financial resources, the physical infrastructure and the knowledge base required to successfully harness ICTs for development.

4. This paper is concerned with strategies to secure the potential economic benefits of ICTs for all groups in society for as we will show, without a gender perspective, there is no guarantee that potential benefits will not bypass girls and women. The economic benefits for girls and women in terms of enhanced income generation opportunities, employment and improved quality of life are tremendous, but since technologies are not neutral, we will also be concerned with advocating ICT strategies which reduce and manage the potential for ICTs to lead to economic and social exclusion and to reinforce existing social disparities. In other parts of the world this dual character of ICTs wherein these technologies can simultaneously produce economic benefits and social dislocation is coming under increasing scrutiny from academics, and other critical thinkers and their insights are being brought to influence policy debate.[1]

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[1] The United Nations University Institute of New Technologies (UNU-INTECH) has an on-going research programme which investigates aspects of social exclusion in the Global Information Society. Mitter (1998 forthcoming) presents the findings from that research programme. The European Commission mandated a High Level Working Group to explore issues of how ICTs might be used to foster social embeddedness and the analysis produced throughout the process of the HLWG's constitution has influenced policy making at the European, national and regional level. Ventura (1997) presents a very clear argument that social dislocation which may arise out of the global information society requires actions from wealthy countries and the developing world acting in partnership.

5. The central purpose of this paper is to outline strategies for introducing a gender dimension into national ICT policies. To date this has been a missing element of ICT policy formulation and implementation. The analysis will show that it is vitally important that such gender considerations be included, on efficiency and equity grounds. ICTs policy making is no different from the other important areas of social and economic development which this conference considers and also needs to be engendered. As many of the other papers will confirm, the vast majority of African women live in rural settings, endure dire levels of poverty and face cultural and legal barriers in exercising and enjoying their human rights. Annex 1 provides a concise statement of the strategic objectives for gender and development in Africa, produced using World Bank material. While there are small sections of African women who enjoy relatively high levels of income and who have access to education, training and other societal resources, the desired positive impact of ICTs will not be realised if access to the transformative role of these technologies is restricted only to this small group of privileged women. All of Africa's women and men should have the opportunity to benefit from ICTs. Ensuring that there is equitable treatment for men and women will require concerted efforts and will exert considerable demands on the institutional capacity of Africa's policy makers. The analysis and recommendations presented here are intended to assist policy makers who are willing and committed to reorienting ICT policy, so that it takes account of the needs, aspirations and constraints of both men and women in African societies.

ICTs as a multi-level phenomenon

6. The ICT sector is a heterogeneous collection of industry and services activities including: information technology equipment and services, telecommunications equipment and services, media and broadcast, Internet service provision, libraries, commercial information providers, network-based information services, and related professional specialised services. Annex 2, *Figure 1*, shows the segments which make up the composite ICT sector.

7. As a direct consequence of the sprawling nature of ICTs, or perhaps because of the difficulty of defining with any precision what is the ICT sector; policy making in this sector is also very diffuse. The main policy making actors include: government ministries, which are usually responsible for setting overall policy objectives and setting direction for other agencies; and independent regulatory bodies, which implement policy directives and are responsible for operational management of the regulatory system. In wealthy countries these decision making and implementing agencies are assisted and advised by an array of technical and research organisations. In addition to these organisations which operate at a national level, there are many regional and international organisations involved in ICT policy making. International organisations such as the International Telecommunications Union (ITU), the World Trade Organisation, and agencies within the United Nations system formulate policy recommendations and set standards for international best practice. Policy makers are also influenced by private industry, non-governmental organisations, trade associations, professional bodies and the intellectual community. The regularity, format and nature of the consultation between policy makers and these groups of stakeholders varies considerably across countries.

8. An active and interventionist vision for policy making in ICTs in Africa is envisioned in this paper. Achieving such a vision will not be without problems but without such a vision there is no hope of transforming ICTs. Action is required at various levels of society to ensure that the potential benefits of these technologies are available to African women as well as men, and that the dislocations inherent in this fundamental shift in organisational and production technologies do not fall unevenly on girls and women. The analysis contained in the next three chapters and in the supporting Annexes and Exhibits, provide justifications for, and outline some possible directions for policy intervention.

9. Chapter 2 maps out the current state of national ICT policy making in Africa and provides a brief historical review of the landmarks in African ICT policy making. This chapter also includes a closer examination of the process of ICT policy making in four countries --Mozambique, Senegal, South Africa and Uganda --providing details of the policy making apparatus used in these countries and assessing the challenges facing policy makers and reviewing their successes. The material in this chapter is particularly important for making an up to date assessment of the extent to which African policy makers have been able to take account of social variables, and in particular gender considerations, in their ICT policies and programmes. Chapter 3 sets out the substantive discussion of how gender considerations can be taken into account in national ICT policy and sets out clear arguments in support of taking these actions. The concluding chapter summarises the recommendations and actions required for the various sets of actors involved in ICT policy and implementation.

Understanding National ICT policy in Africa

10. This chapter sets out a simple framework for understanding ICT policy, reviews the status of national policy formulation and implementation in the ICT sector in an international context, and finally, presents some empirical findings on how African nations are approaching the task of formulating policy for the ICT sector. At the outset, it is important to note that efforts to define the boundaries of the ICT sector, to measure the size of its contribution to national economic output, to understand the precise nature of the interaction between this sector and other social and economic activities, and to design policy instruments in this sector are all relatively recent undertakings. Policy intervention in the ICT sector is very much at the stage of being a work-in-progress; conceptual frameworks, policy tools, systems of data collection, indicator construction, and evaluation methodologies are all very rudimentary. The implication being that in developed and developing countries alike, real changes in the structure and functioning of the ICT sector outpaces policy intervention; therefore, the environment in which both long-term and day to day policy decisions are made is one characterised by uncertainty, a rapid rate of change, and ever-increasing complexity. In the following paragraphs some of the basic concepts and terms used in the rest of the analysis are defined.

Definition of ICT policy

11. National ICT policies are defined here as an integrated set of decisions, guidelines, laws, regulations and other mechanisms which are geared to directing and shaping the production, acquisition and use of ICTs. Since the ICT sector is a heterogeneous one which extends beyond traditional industrial or services sector classification and because production of ICTs and diffusion of ICTs are of equal importance, national policies in the ICT sector intersect with a number of other areas of policy making - technology policy, media policy, industrial policy and telecommunication policy. Annex 2 *Figure 2* shows these areas of intersection among the various policy spheres. Individual countries design their ICT policies according to prevailing objectives, values and cultural practice. *Figure 3* of the same Annex, presents a schematic of the various actors involved in ICT policy making.

ICT policy making processes and institutions

12. The key elements of policy making in the ICT sector are: context or environmental factors, policy objectives, policy tools, and policy outcomes. As was discussed in Chapter 1, the lead actors in this system are policy-makers whose actions directly and indirectly influence other agents in the system - producers and users of ICTs. These elements working together constitute the system of policy intervention.

ICT policy making outside Africa

13. This section reviews the context in which ICT policies are formulated in the wealthiest countries of the world, and describes the policy tools used in those countries. Following this review, there is a summary of the best practice guidelines for formulating ICT policy in developing countries as presented by the recent UNCSTD report. The material in this section provides important background for the more detailed discussion of African ICT policy initiatives; not only because of the contrast, but because international approaches influence the definition and implementation of policies in Africa.

The context for ICT policy making in OECD countries

14. The environment in which policy decisions are taken is changing dramatically, for example, in the last two decades the economic structure of the world's wealthiest countries has been significantly restructured so that the in those countries, the services sector has overtaken the industrial and agricultural sectors as the main source of national income. There have also been significant changes at the firm level; organisational processes, values and cultures have been fundamentally changed producing significant alterations in employment conditions, job requirements, management practices. and sources of competitive advantage. In addition to the changes within individual countries and companies, there has also been restructuring of the international economic system. Some of the features of change in international economic relations include - a significant increase in the level of international integration among countries resulting in an ever increasing volume of trade in goods and services; increases in internationalisation of production processes; increases in multinational ownership of major companies and globalisation of sources of investment capital.

15. It has also been shown that this period of rapid economic restructuring characterised by sectoral shifts, changes in firm organisation and increased internationalisation has been accompanied by a parallel process of fundamental technological change. For this discussion it is not important to dwell on the question of direction of causality but far more important to emphasise that technological, organisational, structural and institutional changes have been equally important elements of a very complex process of evolution of the world economic system.

16. As the processes of economic restructuring, internationalisation of production and capital flows, and changes in organisational systems have taken root in the world's wealthiest countries, there have been concomitant changes in the demand for information technology intensive equipment and services. Structural and organisational changes in wealthy economies have led to dramatic increases in the demand for powerful computational devices for office automation, transaction processing, control of production processes and a host of other applications. Decentralised production systems and increases in internationalisation of investment flows and funding sources has stimulated and fuelled demand for advanced communication networks which can deliver vast quantities of information in a variety of formats in real-time. Increased disintermediation and growing complexity in the services sector has led to a plethora of information providers and value-added service providers. This then is the context in which policy makers in wealthy countries make policy decisions for the information and communications technologies (ICT) sector. In this policy setting, there is an assumption that supply constraints are not insurmountable and as a result the focus shifts to shaping and directing the production and use of ICTs so that these potential benefits of these technologies are maximised. In addition to maximising the positive benefits of ICTs such as producing wealth, creating jobs, increasing productivity and facilitating technological innovation, policy intervention is increasingly turning to managing the social consequences of use of ICTs.

Development of Policy Tools in the OECD countries

17. Despite these difficulties there has been some progress in the development of ICT policy tools, and as a result, in most OECD countries, as well as in some exceptional developing countries such as Singapore, there are institutional frameworks, policy instruments, and policy implementation processes for the ICT sector. In countries where progress in ICT policy making has been achieved, it is possible to identify several types of policy objectives - economic, technological and socio-political. For example in the economic sphere, OECD policy makers aiming to maximise the beneficial potential of the ICT sector act to promote production, diffusion and innovation in the ICT sector through a variety of instruments and processes including:

- Competition Policy which aims to maintain or improve competitiveness of the producers of ICT equipment and services; and to promote competition in network and service provision, on the assumption that increased competition will stimulate increases in the range and quality of ICT goods and services, and facilitate productivity improvements while simultaneously dampening price increases.

- Trade Policy which aims to increase the size of the accessible market by establishing free trade for ICT equipment and services in international markets.

- Innovation and Diffusion Policies which aim to facilitate growth in the range of ICT services and to support rapid diffusion of ICT applications

18. Similarly in the technological sphere, OECD policy makers seek to encourage advances in the foundation technologies which underpin the ICT sector. Therefore there are policies which aim to support and direct the research and development in the core ICT technologies (computing, communications, and information management), and those which aim to ensure that theoretical and applied research outputs are used in the design, planning and execution of advanced communications infrastructure systems. The state's policy making role in the technological sphere has both push and pull elements. Playing a role in funding R&D and directing research activity is the more traditional and long-standing aspect of state participation; state agencies must undertake systematic and accelerated learning if they are to become effective in the role of facilitator. In this newer role, policy makers seek to encourage exchange of information between innovators, research producers and ICT equipment and service providers; to set standards for networking, and for equipment and service definition; and through regulatory intervention, to encourage deployment of advanced technological solutions.

19. Within the OECD group of countries, European policy makers have made significant advances in articulating socio-political objectives for development of the ICT sector. An influential report by a High Level Group of Experts (1997) recognised that ICT development can produce social consequences which are undesirable and can reinforce existing social inequities; the analysis and recommendations in that report give guidelines for ameliorating these negative effects.

20. In their efforts to achieve the economic, technological and socio-political policy objectives discussed above, OECD countries have invested financial and human resources in establishing institutional machinery to deliver these objectives. The system of institutions concerned with fostering innovation and managing technological change are referred to in academic literature as the national innovation system (NIS). The NIS can be specified at the country level but it is also useful to identify subsystems within the national system of innovation. The system for ICT policy making and implementation is one such one such sub-system of the national innovation system. Using (NIS) terminology, the system of innovation in the ICT sector then consists of a web of institutions, processes, and mechanisms which produce, consume, and facilitate or direct the production and consumption of ICTs. To support these policy making activities, OECD countries have developed institutional capability in research, analysis, data-collection, evaluation and monitoring.

Best practice guidelines for integrating ICT & Development

21. UNCSTD produced a comprehensive set of "best-practice" guidelines for ICT policy making in developing countries covering: production and use of ICTs; development of human resources; managing ICTs for development; facilitating access to ICT networks; promoting and financing ICTs; creating and accessing scientific and technical knowledge; monitoring and influencing the rules of the game in the global information society; and the role of the United Nations system. A full summary of these is provided in Mansell and When (1998 forthcoming.)

22. The analysis used by the Commission in formulating these recommendations led them to conclude that developing countries need to make strategic interventions if they were to be successful in their attempts to integrate ICTs and sustainable development. The Commission's report outlined the following scope for ICT policies:

23. Effective national ICT strategies should support the introduction of the new regulatory frameworks, promote the selective production and use of ICTs and harness their diffusion so as to contribute to the development of organisational change in line with development goals. ICT strategies and policies linked to development objectives need to redefine sectoral policies, institutions and regulations, taking into account the need to be responsive to the convergence of telecommunication, audio-visual and computing technologies.

24. UNCSTD also emphasised that developing countries needed to build organisational capabilities including creating or strengthening existing institutions if they were to harness ICTs in support of development goals. Their conclusions included the following specific recommendations:
    - Establish a task force or commission to develop a national ICT strategy which identifies priorities, mechanisms for continuous updating and procedures for implementation

    - Involve as many stakeholders as possible in the formulation of national ICT strategy and encourage partnerships for the implementation of elements of the strategy. An important aspect of this partnership will involve securing external financing from multinational companies, governments of the OECD countries, bilateral donors and multilateral and regional financial institutions.

25. As will be shown later in this chapter, many of these recommendations are similar to the aspirations of African ICT policy-making. These guidelines provide a sound foundation on which ICT policy makers in Africa can build. The UNCSTD guidelines are only one of several attempts to delineate best practice in this area. Other important contributions come from the International Telecommunications Union (ITU), the United Nations Development Programme Sustainable Development Networking Programme (UNDP/SNDP) and the World Bank.

26. What the foregoing has shown is that all policy makers, in wealthy and poor countries alike, make policy decisions for the information and communications technologies (ICT) sector within a context of rapid and fundamental change and great uncertainty and attempt to build institutions and mechanisms to assist them in their task. However there are important differences in the settings facing the two sets of policy makers. In wealthy nations, policy makers reasonably assume that supply constraints (levels of skills, knowledge, organisational capability and financial resources) are not insurmountable and as a result focus their policy interventions on shaping and directing the production and use of ICTs so that the potential benefits of these technologies are maximised. Increasingly even in wealthy countries, policy intervention is also expanding to include management of the social consequences of use of ICTs, rather than being restricted only to policy objectives which are concerned with maximise the positive economic benefits of ICTs such as wealth production, job creation, productivity enhancement and technological innovation. . In poor countries as will be shown for the African case, the initial conditions are markedly different from those which hold true for rich countries, and as such although policy-making in Africa is influenced by the international context policy makers should take account of their local environments, when setting objectives and undertaking interventions.

Development of African ICT policy

Context and objectives

27. For the vast majority of African nations, their participation in the ICT industry is mainly as consumers of equipment and services. The most notable exception to this "consumption-only" characterisation being the national telecommunications carriers, which up until the recent past, were state-owned companies with nationals responsible for operation and management of the telecommunications networks. In addition, except for South Africa, Nigeria and possibly some of the North African countries, there is very little research and development capability in ICTs either at the basic or applied research levels. Furthermore the level of deployment of ICT equipment and networks is several orders of magnitude different from that which obtains in wealthy countries[2]

28. As a result of these environmental factors and given the macro-economic and social variations between Africa and other countries, the task for policy makers in the ICT sector differs significantly from that of their counterparts in wealthy nations. ICTs are produced and used under very different supply and demand conditions in these two settings. Many African nations have very low levels of per capita income and this reduces effective demand for ICT services. In addition, the shifts in economic structure which have given rise to the predominance of services sectors which are information intensive and geographically decentralised have not taken place in Africa. The major source of economic output in the majority of African countries are the agriculture and mineral production sectors and these are not as information intensive as the major segments of the services sector banking, retail, distribution, tourism and professional services. In addition to facing demand conditions which are not buoyant, supply responses in the African ICT sector are not automatic and when they manifest do so at a pace which is slower than that observed in wealthy economies. Therefore policy makers in these poor developing countries must take actions to stimulate and facilitate supply responses as well as to support diffusion. These supply responses would include the generation of skills, knowledge, financial resources, and organisational capabilities. Furthermore the policy setting is not very conducive since many governments in Africa operate under conditions of fiscal austerity, lack experience in managing technological innovation in ICTs, have limited access to technological and organisational capabilities required to produce ICTs and have very limited institutional resources.

29. Although the context for policy making in the ICT sector in Africa varies dramatically from the rest of the world, the setting of objectives for the African ICT sector is greatly influenced by three main sets of external agents - multilateral agencies, large donors, and international suppliers of ICT equipment and services. This introduces another level of complexity since although African policy makers in ICT lack experience of this sector, they must have sufficient intelligence, integrity and self-confidence to identify and protect their national interest when negotiating with external agencies.

30. The case studies presented in Chapter 3 provide evidence of good practice in national policy making for the ICT sector where efforts are being made to identify applications of ICTs which will assist with other broad-based development objectives. The historical review which follows

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[2] For a comprehensive treatment of sector restructuring in the African telecommunications sector ITU/BDT (1998 forthcoming) provides an excellent reference volume. The conclusions from this report point to the accelerated pace of change in the African telecoms sector fuelled by international investment, liberalisation, establishment of regulatory bodies and for a few countries participation in the WTO negotiations. The BDT's analysis sets an optimistic note for development of networks and improvement in quality and range of services in Africa. The African Green paper and the Communiqué of the African Regional Telecommunications Development Conference represent the best statements of government policy objectives in the telecoms sector in Africa.

tracks Africa's progress in setting up the institutional mechanisms to undertake these important policy making and implementation tasks.

A historical review of African ICT policy-making

31. The African Information Society Initiative (AISI) sets out the most important set of policy guidelines for national information policy in the African context. *Box 1* (below) presents a summary of the background and main aims of the AISI as well as some of the important landmarks in ICT policy making in Africa.

Empirical Findings

Early studies of policy making in informatics in African countries

32. Within the ambit of the AISI and its forerunners, there has been some important research and analysis of the readiness of African countries to undertake policy interventions in the ICT sector. One such study reviewed informatics policy in 10 African countries - Ethiopia, Kenya, Nigeria, Tanzania and Zimbabwe, Cameroon, Congo, Cote d'Ivoire, Madagascar, and Senegal. The study defined national informatics policy as a "plan for the development and optimal utilisation of information technology" and reported that limited financial resources, poor institutional capability and inadequate access to human resources and technological know-how plague Africa's attempts to harness ICTs for development.

33. Interestingly the study findings also identified a broad difference between the two language groups. While none of the Anglophone countries studied - Ethiopia, Kenya, Nigeria, Tanzania and Zimbabwe- had elaborated such policies, most of the Francophone countries had defined informatics policies. The level of implementation of policies varied across the 5 Francophone countries - Cameroon, Congo, Cote d'Ivoire, Madagascar, and Senegal.

Box 1 The African Information Society Initiative

Background

In May 1995 the twenty-first meeting of ECA... Conference of Ministers which consists of the fifty-three African ministers of social and economic development and planning, adopted Resolution 795 (XXX) entitled "Building Africa's Information highway". In response to this resolution ECA. appointed a High-Level Working Group on Information and Communications Technologies in Africa to draft an action framework to utilise the information and communications technologies to accelerate the socio-economic development of Africa and its people. The High-Level Working Group consisted of eleven experts on Information Technology in Africa. The Group met in Cairo, Dakar and Addis Ababa and communicated further by electronic mail. The result of its work is the document entitled "Africa's Information Society Initiative (AISI): An Action Framework to Build Africa's Information and Communication Infrastructure". The document was submitted to the twenty-second meeting of ECA. Conference of Ministers in May 1996 and adopted by Resolution 812 (XXXI) entitled "Implementation of the African Information society Initiative".

Linking IT and Development

The action framework calls inter alia for:

the elaboration and implementation of national information and communication infrastructure plans involving development of institutional frameworks. human, information and technological resources in all African countries and the pursuit of priority strategies, programmes and projects which can assist in the sustainable build up of an information society in African countries.

and aims to ensure that building Africa's information society will help Africa to

accelerate its development plans, stimulate growth and provide new opportunities in education, trade, health care, job creation and food security, helping African countries to leapfrog stages of development and raise their standards of living.

Partnership

The AISI initiative was put into place through the collaborative actions of a network of partners, sharing the aim of promoting connectivity and information technology development in Africa. Included among the original list of ECA partners are the International Telecommunication union (ITU), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the International development research Centre (IDRC) and the Bellanet International Secretariat. Since the 1995 ECA Conference of Ministers, these organisations were joined by the World Bank and supported by the Global Information Infrastructure Commission (GIIC, on behalf of the private sector). With the launching in March 1996 of the Special Initiative on Africa, with among others the programme Harnessing

Information Technology for Development (HITD/SIA), the United Nations Industrial Development Organisation (UNIDO) and the United Nations Conference on trade and Development (UNCTAD) have joined the group of collaborating agencies sharing objectives on information and communication technologies for development and working together for implementation. The United Nations Institute for Training and Research (UNITARY) has also associated itself closely with these activities, in the area of training.

The AISI initiative is regarded as a guiding framework on which to base information and communication activities in Africa. As the May 1996 ECA Conference of Ministers resolution 812 (XXXI) on the AISI called upon the partners in the HITD/SIA initiative to use AISI as a guiding framework. AISI has received the endorsement of the African Regional Telecommunication Development Conference (AF-RTDC-96), organised by the ITU and held in Abidjan in May 1996 and the Organisation of African Unity (OAU) at its July 1996 summit in Yaounde. Other organisations such as the Agence de la Francophonie (ACCT), the Commonwealth Network of Information Technology for Development (COMNET-IT), the United Nations Food and Agriculture organisation (FAO), the Organisation of African Unity (OAU), the Telecommunications Foundation of Africa (TFA), the United Nations Development Programme (UNDP), and the World health Organisation (WHO) have participated in the work of the AISI.

Recent evidence: 4 Case studies of national ICT policy making - Mozambique, Senegal, South Africa and Uganda.

34. The early studies report only very moderate success in formulating and implementing ICT policies. A better understanding of how African countries have been progressing in moving towards best practice is presented in the 4 case studies presented below. In assessing this recent material, particular emphasis was placed on examining the extent to which gender considerations have been introduced into the ICT policy efforts which are already underway.

35. Data in this section of the paper are drawn mainly from four sets of studies commissioned by the International Development Research Centre (IDRC) as background and planning material for its ACACIA initiative. IDRC has been an important donor for African ICT efforts, and as a result consultants commissioned by the Centre usually have access to key decision-makers and policy makers. These studies therefore provide a rich source of data and were analysed to answer six basic questions:
(1) What are the leading organisations involved in formulating and implementing national ICT policies and what are the basic documents and instruments used in their policy exercises?
(2) What are the main policy objectives and priorities for ICT policies in the four countries?
(3) What progress has been made in implementation of ICT policy?
(4) What gaps exist in policy formulation and/or implementation and what challenges are still to be met?
(5) Do the national ICT policy documents identify and treat social objectives? Is gender equity one of the objectives or underlying principles of national ICT policies in these countries?
(6) What are the recommendations of the ACACIA national strategies for ICT policy making efforts?

Table 1 (annex 3) provides a summary of the key findings and assessment gained by reviewing these case study materials. The data contained in the case study papers were supplemented with information from other sources including the ITU, UNCTAD and the author's field experience in South Africa.

36. The evidence from Africa shows that most countries have made only very modest gains in setting up national ICT policy institutions, and confirms that within the very new ICT policy-making mechanisms, there is still very little integration of social considerations, including gender perspectives. However, the pace of change has accelerated dramatically in the last eighteen months and as the next two chapters will show, there are steps which governments and other key actors can take to make the potential benefits materialise.

Strategies for inclusion of gender in ICT policy making

37. The approach to developing strategies for including gender in ICT policy making which this analysis takes is to assume that two related sets of improvements need to be undertaken in

parallel. The first which were discussed in the last chapter are to do with making ICT policies more effective and the second are specifically to develop comprehensive mechanisms for treating gender issues in all ICT policies and programmes.

38. While there are many challenges and barriers facing African women's participation in the global information society such as - infrastructure deficiencies, policy misdiagnoses, and structural and cultural features of African societies -this analysis adopts a more positive approach by integrating the assessment of the barriers facing African women's participation in ICT development and use, with discussions of the positive steps which have been taken at both the policy and micro-level to overcome these barriers. The first step is to define an agenda for transformation which specifies a set of interventions which African women and their allies can make as they move towards making a gender-balanced information society a reality in Africa. In related analysis, this author presented an agenda for undertaking this transformation project, organising key actions, under the following headings:

        1.   Focused public policy intervention
        2.   Allocate ICT development resources to women
        3.   Provide and improve infrastructure
        4.   Build technological capability: the human capital component
        5.   Facilitate and encourage the involvement of women
               in technological innovation
        6.   create culturally resonant content
        7.   Design appropriate training mechanisms
        8.   increase effective demand for ICT products and services

39. This section of the paper draws extensively from previous analysis which set out a framework for building an information society which was conducive to African women's benefit and active participation. This treatment extends and updates that earlier by taking account of the data provided in Acacia country strategy reports and progress made in policy implementation.

Focused and comprehensive public policy intervention

40. Empirical research has confirmed that when gender-analysis is not included as an essential requirement of policy making in technological fields, the resulting policies often ignore the needs, requirements and aspirations of women. Even when gender is introduced at a conceptual level, policy makers often rely on very poor, outdated, incomplete and inaccurate data. Furthermore women from developing countries are poorly represented in the national and international decision making bodies which determine science and technology policy; this underrepresentation can also lead to ineffective and gender-blind policy making. African policy makers can draw on the recommendations of international initiatives such as the UNCSTD Gender Working Group, the Women Watch Expert Group Report, the UNESCO/ SID Women on the Net Project, the Beijing Platform for Action, and the work of the Commission for the Status of Women, to present arguments supporting the case for gender analysis and awareness to become important principles in ICT policy making. As the AISI and Acacia make further progress, important policy guidelines which are specific to the African context are likely to emerge.

41. One of the first tasks of policy intervention must be a campaign of awareness-raising and training which sensitises ICT policy makers to gender equity issues. Concurrently with this training, it will be important to sensitise gender and development policy makers to ICT issues. Opportunities for learning exist in both fields and there are few programmes which tackle the needs of both sets of important actors. In fact it is often the case that even within a single bureaucracy, the units responsible for ICT and development planning and promotion, and those

responsible for gender related programmes, are often quite separate and distinct with little or no co-ordination of effort

42. The ECA has demonstrated willingness to bridge these institutional boundaries within its own organisation and may well emerge as a source of expertise for African countries seeking to introduce similar initiatives. For example, the ECA has organised a conference to be held in April 1998 which will bring together the region's senior economic development planners and decision makers to consider how gender issues must pervade all policies and programmes. This paper is one of several commissioned papers which will be considered at this important ECA conference, International Conference on African Women and Economic Development, when it takes place in Addis Ababa between 28 April- 1 May 1998 on the occasion of the 40th anniversary of the ECA.

43. To produce results from policy intervention, it is very necessary to emphasise that gender concerns should be introduced and implemented at the project or programme delivery level. All policies should incorporate rigorous evaluation and monitoring procedures since despite the fact that many countries have ratified international treaties and conventions which aim to secure gender equity, on the whole, implementation records have been poor. Further since the international governmental machinery has been unable to enforce these undertakings or to impose sanctions or penalties on recalcitrant governments, there is a critical role for civil society organisations to carry out monitoring functions.

44. In Africa, there has been little integration of the planning efforts in ICT policy, national social and economic development, and science and technology development. Each of these mandates is undertaken with little co-ordination. Governments and other stakeholders should make concerted effort to improve integration across different policy making organisations since separation and poor co-ordination produce many significant negative results - duplication of effort, reduced opportunities for organisational learning, limited cross-fertilisation of ideas and fragmentation.

45. These more general improvements in ICT policy making improve the climate for successful integration of gender considerations since a policy formulation process which is not split and divided into disciplinary boundaries is more likely to be alive to the importance of social considerations. An interdisciplinary approach to policy making in ICTs is likely more likely to be capable of handling complex, societal issues such as those raised by attempts to introduce Western technologies in Africa and have the resulting process be beneficial to its women.

46. Recent developments in national science and technology policy-making emphasise the importance of taking account of social and cultural conditions in making effective technological development strategies. Gender imbalances and gendered access to employment, income, training, property rights, control over time use etc. are important features of social organisation which have the potential to retard the rate of technological development. By acknowledging the importance of gender as a critical element of social systems, and by addressing gender inequality early in the formulation of ICT policy making, African leaders will be improving their chances of successfully entering the information age on beneficial terms.

47. Even if a greater level of co-ordination in national and sectoral policy making is achieved, integration of gender considerations, will still have to be pursued at many levels. As shown in the national case studies in the Annex 3, *Table 1*, there are various policy making agents operating in the information and communications field, which of its own accord is composed of many different elements (infrastructure, applications, tools and technologies). This characteristic is not unique to information and communications policy making. The art of

making policy interventions into complex arenas has been studied and mastered by feminists scholars and advocates working in diverse aspects of women's empowerment. The international feminist movement has fine-tuned its ability to intervene into policy making arenas by undertaking multiple points of entry and increasing the focus of advocacy efforts. These strategies proved themselves during the recent United Nations World Conferences - Cairo, Copenhagen, Beijing and Istanbul - but have yet to be extended to the debates around the building of the information society. There are many similarities between women's efforts in health, education and human rights. The priorities which have been identified are as follows: reduce increasing disparity in access and control, improve women's access to decision-making, and improve education and training systems. The lessons from these successes need to be brought to bear with increased intensity in the planning and shaping of the so-called "information society".

48. Many African nations are presently restructuring their telecommunication sectors using technical analysis, advice and support from agencies such as the World Bank, ITU and other multilateral agencies. The state-of-the art in telecommunications policy and information society planning recognises and actively promotes deregulation, institutional reform, consideration of rural development objectives, redefinition of universal service, tariff reform and convergence of policies for basic telecommunication and other telematics services. There is an increasing awareness of the need to consider requirements of different segments: rural vs urban, residential vs business, small business vs large companies etc.

49. However, to date there has been no consideration of gender differentiated impacts in this policy formulation. The landscape is changing and as a result of an intervention led by UNU-INTECH and UNIFEM, the ITU will consider gender issues at the World Telecommunications Development Conference in March 1998. If this policy intervention and follow-up activities are successful, the ITU will assist member states to implement gender-analysis in their national telecommunications policy planning, will introduce gender-disaggregation in its statistical series and will integrate gender considerations in programmes such as the Universal Right to Communicate, telemedicine, tele-education and telecommunications and the environment[3]. There is already evidence of interest on the part of African governments, however, there is a critical need for technical assistance to achieve their objectives. For example while the Republic of South Africa's Telecommunications Act 1996, contains clauses setting out bold goals for extending modern information and telecommunication infrastructure to disadvantaged groups including women, in practice very little governmental action or clear policy thinking on this issue has emerged within the mainstream telecoms policy and regulatory bodies.

50. There is however an important initiative in South Africa - WomensNet which is jointly managed by the Commission for Gender Equality and SangoNet (an ISP which specialises in NGO networking). WomensNet may well be able to provide a focus for co-ordinated and specialist intervention in the policy process in South Africa and thus provide a model for other countries. It will be important to evaluate the success of WomensNet attempt to combine advocacy at the highest levels with service delivery and training.

Allocate and direct resources to women

51. Projects and programmes in Africa which focus on women's empowerment are likely to be inadequately resourced and to suffer from uncertainty in project funding. The vulnerability of

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[3] For a full statement of the Gender and Telecommunications Policy issues as submitted to the ITU see http://www.intech.unu.edu/programme. For information on actions by the ITU to implement these recommendations see http://www.itu.int/ or contact the gender focal point for the ITU WTDC '98.

gender-equity related ICT projects is largely because in the main they are NGO led projects. One certainly hopes that the many connectivity projects springing up in Africa will include requirements to target a fair share of financial and other technical resources specifically to reducing gender inequality in electronic communications networking. The many Multiple Purpose Community Centre pilot schemes may provide a vehicle for this targeting. While in conception, many of these community-level programmes did not include gender considerations, this is beginning to change. The development of a strategic gender framework which applies to all existing and pipeline projects in the Acacia framework, has the potential to provide good insights into the possibilities for making gender-equity objectives operational at the project level. Since the Acacia initiative includes a monitoring and evaluation component, it should yield very valuable data on problems faced and methods for finding solutions.

52. As part of the effort to ensure that resources are directed at women, it may be useful to compile a set of gender-disaggregated statistics on the proposed beneficiaries of some of the major connectivity projects in Africa. Some very useful work has already been undertaken to catalogue information and communication initiatives which are currently underway or are being planned in Africa, but this data is not disaggregated by gender of proposed beneficiaries.

Provide and improve telecommunications infrastructure

53. The telecommunications networks which provide the backbone for ICT services and applications are poorly developed in Africa. While Africa has 12% of the world's population it only has 2% of its telephone lines and over half of all these lines are in the largest cities. There is only one telephone line for every 235 persons in sub-Saharan Africa. The costs of installing and maintaining lines is higher in Africa than in other countries, even when compared to other developing countries, and reliability of service is quite poor. Despite this limited access and poor quality, the demand for telecommunication service, according to the standard measures (numbers on waiting lists etc.), is remarkably high. What is more, when African men and women have access to telecommunication facilities, the levels of utilisation are quite high compared with other developing countries, as measured by minutes of outgoing traffic. Network configuration in Africa still largely mirrors colonial patterns of trade and communication flows. International traffic is routed via Europe and traffic between former colonisers and African nations still accounts for the lion's share of total volume of telecommunications traffic. For many countries in Africa, interregional traffic is a small percentage of the total volume of outgoing and incoming traffic.

54. Comparable figures for computer usage and availability in Africa are not as widely available; but there is enough fragmentary evidence to suggest that, except for South Africa, the region is plagued with many problems. Personal computers are not manufactured within Africa and so attract high duties and import tariffs; this, according to TitahMboh, can result in the cost of basic computer equipment and consumables being as much as ten times as high in Africa as in the country of manufacture. There are problems also with access to training, technical information, computer spare parts and repair services, unreliable electricity supplies and having to cope with increasingly fast rates of technological obsolescence. Importing computer equipment adds to the foreign exchange debt burden of many African nations.

55. While there are many initiatives which aim to ameliorate this situation of inadequate infrastructure provision, few if any of the many projects which are currently underway in Africa, specifically address women's needs and particular requirements. There are gender-specific issues with respect to developing Africa's telecommunications and ICT infrastructure which arise because the vast majority of African women are poor and live in rural settings. Network modernisation and development must take these two characteristics into account if

Africa's women are not to remain out of reach of affordable communications infrastructure. Gender justice must be included in the criteria used to make network architecture and equipment choices so that equipment and services providers offer cost-effective and appropriate solutions. Unless there is dramatic change in these decision-making processes, Africa's ICT networks and services will remain accessible only to a small minority of her people. The ECA has recognised that it can play the role of the honest broker in supporting African governments as they seek to make very important choices for network equipment and will be sponsoring a conference which aims to evaluate technological options for connectivity in Africa. Some of the Acacia country strategies also tackle this issue by identifying the need to carefully evaluate cost-effective technologies for expanding ICT networks such as wireless in the local loop solutions (WLL). See (Musisi 1997). Choosing the most appropriate technological solution for the transmission network is of course only one element of the network planning process; it is equally important to select customer premises equipment which is rugged, has low maintenance cost, and will survive the vagaries of African power supply. Network management software, routing and controlling devices are also important elements of the overall network solution; these must also be selected with care, paying attention to the local conditions.

56. In order to motivate (or mandate) private companies to provide network infrastructure within the reach of poor, rural women who are unable to afford to pay commercial rates for access to communications infrastructure, policy makers will have to use creative regulatory instruments. There is some recognition that universal service principles - these are the principles which set out conditions for telecommunications network providers to ensure that a defined set of basic service is within reach of the majority of the national population - in Africa must take account of the realities in the region and should borrow from industrialised countries only when the regulatory mechanisms used in other countries make sense in the local environment. The major difficulty with making universal access a reality in Africa is the prohibitive cost of financing network expansion, particularly when the investment costs are privately funded. Private sector entities will not be coerced into financing network expansion in rural Africa, but regulatory policy can ensure that access to profitable markets in urban centres is accompanied by universal access obligations. Some examples exist in South Africa where SATRA has undertaken to investigate how the Universal Service Fund can be made operational and so make a contribution to the financial cost of achieving universal service targets laid out in the Telecommunications Act and the TELKOM licence. While this paper can not treat this matter in great detail, suffice it to say that policy makers and new regulators in Africa will require nerves of steel and considerable skill to ensure that their legitimate public policy objectives are achieved when negotiating with international private investors who for the most part define their interests very narrowly indeed.

57. An alliance between organisations concerned with gender and development and those civil society organisations and government bodies which promote rural development should be formed. Such an alliance can strengthen the voice of the disadvantaged groups which have tender to be marginalised in the policy debates in Africa.

Build Technological Capability: the human resource component

58. Africa needs to build a technological capability in ICTs which explicitly includes the human skills and know-how component. This element is unfortunately also in short supply in Africa. The numbers of graduates in scientific and technical fields both at secondary and tertiary level, are woefully inadequate. This is not surprising given the high rate of illiteracy, but is also made worse by the brain drain which results in many of Africa's highly skilled professionals migrating and residing outside of the region. This overall skills shortage is much greater for female technologists.

59. The World Science Report 1996 provides valuable information on the level of scientific human capital in Africa and provides data on a gender disaggregated basis for a selection of countries. Given this evidence of the acute shortage in science and technology specialists, African governments should be encouraged to establish programmes to develop the relevant skilled personnel in ICT related disciplines. However such programmes will require financial resources which many cash-strapped African governments are not able to afford. Local and international private sector can play an important role in filling this financing gap. If funding is available, a first step in building human skills and knowledge in ICTs would be to undertake national audits of ICT expertise, ensuring that all such studies collect gender-disaggregated data. The audits should be accompanied by strategic programmes to encourage and support entry of a greater number of women and men into these fields. A concerted effort is required.

60. Lydia Makuba, President of the Third World Organisation of Women in Science, summarises the current status of women's involvement in science in Africa as follows:

> At the present time, women are grossly under represented in science at all levels of the educational system and in particular at university level. The reasons for this are many and complex and include socio-cultural attitudes towards girls enrolled in scientific disciplines and the attitudes of girls and women themselves towards the study of science, which is generally regarded as a male domain.[4]

61. Once women have entered ICT related fields of employment, there active participation should be encouraged and facilitated through employment policies, women-friendly work practices. The forms of these supportive policies are likely to vary depending on the specific age, class and educational background of the women concerned and the nature of their paid and unpaid work in ICTs. There should also be direct encouragement for women to participate in all levels of the technology creation and commercialisation process. Although there is little statistical evidence, it is well known that in the majority of African countries, women are not well represented among the managers, policy makers and technologists who lead the development of ICT strategies.

62. In addition to efforts made by individual employers, women collectively can make the scientific and technological world a more tolerable environment through networking, and other development programmes. The work of members of the OFAN consortium - a collaboration of organisations concerned with women in science and technology set up to co-ordinate activities for the Beijing Conference; National Women In Science organisations, and other professional bodies, such as Third World Women in Science, have helped women enter and remain in these professions. Many organisations have developed mentoring programmes and other outreach activities. These organisations deserve the support of the national and international community. Some of the NGOs which are already active in ICT projects are recognising the need to build in internal training and support for women technologists. Two good examples are ABANTU for Development planned training of trainers workshop and SANGONET's technical training within the ambit of the South African Womens Net.

Facilitate involvement of African women in technological innovation and product and technology design

63. There are three main sites of production of ICT products and services - private sector companies, academic institutions and public sector research bodies and not for profit

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[4] Lydia Makuba, Women in Science: the case of Africa, *p. 329-333* in *World Science Report* Paris:UNESCO 1996

organisations. All of these sites of production must be targeted for policy intervention if Africa's women are to be brought more fully into the process of design, testing, production and improvement of technological tools and applications. The private sector companies selling equipment and services in Africa should be encouraged to fund more R&D which aims at technological adaptation. University-private sector collaboration should be improved and the NGO sector's technological capability should be strengthened.

64. One of the most important area of technological investigation for Africa's women is research on human-computer interaction which seeks to understand methods for improving human manipulation of ICT devices using speech, visual icons, and non-keyboard devices. There has been some effort in this direction in South Africa at the CSIR. These projects should be expanded and strengthened so that Africa produces basic and applied research outputs on non-English language computer processing and control systems and applications. These research outputs have the potential to be of immense benefit to African women, the majority of whom do not have English as their mother tongue and are illiterate.

65. A second factor which should be taken into account when designing ICT equipment for use by African women is that the physical settings in which these devices will be used will be very different from those envisaged by designers targeting customers in industrialised countries. In addition to natural conditions such as humidity and dust, it is also more likely that computer use will be undertaken in a multi-tasking mode combined with child-care and other income generation and domestic responsibilities. Health and safety features which take these usage characteristics into account would be beneficial to Africa's women.

Create culturally resonant content

66. One of the most significant barriers to use of ICT products and services in Africa is that the information products which are created, circulated and transformed using electronic communication technologies, are predominantly in English language.

67. There are many thousand African languages and dialects and there are very few Internet products which contain material in these languages.

68. A second important factor is that the volume of information which is African produced and accessible on ICT networks is still quite small. While African women are likely to benefit from and to be interested in using ICT networks to access internationally produced information, their enthusiasm will be much greater if these ICT networks are used for a two-way flow of information. Support for African women's content creation and networking efforts therefore must be seen as a priority for any national ICT strategy which seeks to include gender equality objectives. There are many examples of projects which aim to support African women as information providers including: GAIN, WomensNet (South Africa), ECA African Centre for Women (the organisers of the 40th anniversary Conference), and ENDA. These initiatives should be well integrated with efforts to set up telecentres and library extension programmes since there is a potential for cross-sharing of technical and human resources.

69. It is also important that women have a say in determining which applications and information products are made available in their communities. The relevance of any information product will vary according to the preferences, lived realities and aspirations of the potential consumer. The Gender Working Group of the Acacia initiative emphasised that women should be active participants in the assessment of applications and tools and went on to suggest that the assessment methodology should take account of general and specific needs of different groups of women. Such a needs assessment can reduce the chances of ICT applications being inserted into communities while having little to do with the priorities, and shared values of the women

in that community. In the first scenario where women's participation in technology selection is not a prerequisite, ICTs are likely to remain distant and meaningless; in the second, where women are included as full participants, there is a greater possibility of ICTs serving women's interests.

70. Cultural relevance of ICTs is also hampered by inadequate information-management. There is growing evidence that there are significant gender differences in use of ICT devices and services. Women are likely to be more interested in tools which enable them to find relevant information in databases and WWW pages quickly. However, since browsing and search tools on the Internet are not particularly efficient, this makes searching very time-consuming; for women whose time is in short supply, this is a serious disadvantage.

Design and deliver appropriate training programmes

71. Women should have access to well designed training programmes which incorporate hands- on skills; use motivational training materials; user friendly manuals and involve local user support. Under these conditions, the overall learning experience of African women encountering ICTs will be more rewarding.

72. Training for women should include technical training, trouble-shooting and problem solving skills. The experiences of academics and NGO trainers should be taken into account when designing programmes. It has been shown that self-education and other open learning methodologies are useful pedagogic methods for introducing women to ICTs and can be used to stimulate debate on the social and political issues raised by use of ICTs. As noted earlier, there are a number of planned programmes of training aimed at women including SANGONET run training for WomensNet and ABANTU for Development training. These efforts should be more closely linked with Acacia pipeline projects (Mozambique and South Africa) to ensure that the impact of these training programmes is maximised.

Increase effective demand for these products and services

73. Poverty continues to be very real problem and barrier to diffusion of ICTs in Africa. The region need not develop ICT networks on the basis of the one or more per household model which is taking root in the West. There are alternative models which would take account of the relative paucity of effective demand, and in so doing lead to the development of an alternative model of ICT and society interaction which allows for ICTs to be better integrated into the fabric of African societies.

74. There are many recommendations as to how women in poor countries can have improved access to ICTs. For example, the WomenWatch expert group meeting suggested that women be given access to existing UN resources such as the network of national UN documentation centres and through participation in the SDNP project. In addition there was recognition of the importance of facilitating distribution of equipment to developing countries through bulk procurement/subsidised distribution programmes.

75. Several NGOs are already actively involved with pilot projects for establishing telecentres. Since this approach focuses on providing community level access, it is by definition, more in line with Africa's level of effective demand. Johan Ernberg (1997) argues that telecentres can change the business model on which telecoms services are delivered. By demonstrating how telecentres can generate traffic (and revenues) for common carrier providers his analysis strengthens the business case for rapid deployment of telecentres as a rural transmission and switching network.

Conclusions

76. From the analysis and arguments presented it should be clear that it is both feasible and desirable to include a gender perspective into national ICT policy making in Africa. Chapter 4 presented an eight point agenda for organising those interventions. The discussions presented in Chapters 2 and 3 provided the background information on the status of national ICT policy formulation. It is critically important that the interventions undertaken to integrate gender perspectives proceed from an well-informed and thorough understanding of the ICT policy and planning system in African countries. This paper has argued that the outcomes of any policy decision are determined by the institutional and social context, by the objectives, and by the processes and tools used in implementation. The recommendations which follow take these issues seriously and considers that the existing character of national ICT policy making system determines the points at which gender issues can be inserted into the policy debate. The recommendations presented here address improvements in the ICT policy making at a general level as well as concerns which are specific to strategies for including gender perspectives. The concluding chapter is organised as a set of recommendations for the key actors involved in the policy making and implementation process and some remarks on how countries might make such a gender strategy operational. The recommendations presented are supported by empirical and conceptual analysis and wherever possible references are made to the sources of that supporting evidence.

Recommendations for key actors in the ICT policy making and implementation process

77. The key actors in the ICT policy making and implementation process are national governments, multilateral agencies including bodies in the United Nations system, donor agencies, civil society organisations and the private sector.

National governments

78. Integrating gender considerations into national ICT policy and implementation, will not be achieved without strong, effective leadership from the state. African governments should play a leadership role in articulating a clear vision and strategy for ICT development which takes account of their local contexts and legitimate demands for gender justice. Relevant organisations in the public-sector such as line ministries or regulatory bodies should develop the vision, design strategy and implement the tasks, working in partnership with other key agents. It is very important that the state play a pro-active role in ensuring that development of the ICT sector and application of ICTs proceeds in the national interest. Improving the social-economic environment for girls and women so that they can harness these technologies is an important and pressing social and economic challenges. The process is not automatic and as a result, the state's role in setting the direction for production and use of ICTs is crucial.

79. African governments should take steps in 5 key areas:

1) Define and specify measurable goals and objectives for the ICT sector and ICT applications These goals should include ICTs contribution to achieving poverty alleviation, improvements in health care, food-security, environmental security, technological advance, and human resource development. The potential beneficiaries of these policies should be clearly identified and should include girls and women as an explicitly defined category. Governments should also recognise that the female category is not homogeneous and should ensure that policies benefit girls and women of different social backgrounds, levels of education, ethnic and racial backgrounds. In Africa it is particularly important that rural women and their needs as potential beneficiaries of ICTs are taken into account.
   - The evidence considered in this paper has shown that African governments have not made adequate progress in defining clear goals and objectives for ICTs and development. While some countries have expressed interest in ensuring that ICTs are used for social

development and are made accessible to rural communities; this vision has not been further developed into measurable goals and strategies.

- The relative lack of progress can be partially explained by the fact that the leadership role for developing ICTs has been in the hands of line ministries (most often Transport and Communications or Telecommunications) which define their mandates very narrowly. Success in achieving the vision of using ICTs for development requires an impetus which is larger than sectoral concerns. This view is supported by the evidence which suggests that in countries where more than one ministry is involved in agenda setting and implementation there has been faster progress. Senegal is one such African country. In addition, as shown by the UNCSTD guidelines and the experience of OECD countries, formulating strategies for successful entry or survival in the emerging information society requires multidisciplinary approaches which cut across traditional departmental boundaries.

2) Create the necessary institutional structure to develop and steer a vision of ICTs and development and to achieve the goals set out in that vision. A variety of organisations are required to undertake the tasks of analysis, goal definition, negotiation with other stakeholders, project planning, evaluation and monitoring and to manage all the elements of the national ICT strategy. These organisations will need the right staff teams, adequate resources and empowering authority and decision-making structures. As was stated in Chapter 1, because of the nature of the internal dynamic of ICTs, there is a pressing need to strengthen the technology sensing, and assessment capability in African ICT policy making bodies. To have access to this technological expertise, the state does not need to employ these individuals in resident in line ministries, which is often not the case even in OECD countries, but needs to improve the mechanisms through which policy makers support and interface with technological experts in other locations such as academia, research organisations and the private sector.. The task which faces African ICT policy makers is that of creating a system of organisational capabilities rather than a single institution.

UNCSTD guidelines and the AISI framework have suggested that national commissions are a suitable institutional system for playing this leadership role. Each African government will need to constitute a commission with the most appropriate bodies and individuals. Chapter 4 presented the detailed arguments for including representatives of women's organisations and experts in gender and development issues in those policy formulation processes. Although there are no cases to date of an African country which has done this in a systematic way, this is also true of many parts of the world and as will be discussed later is mainly because the primary agents in ICT policy making do not have the in-house expertise to undertake these tasks.

3) Secure advice and strengthen technical expertise in ICT related fields. Policy makers should use research findings and insights drawn from rigorous analysis to develop policy tools which can assist with the realisation of their policy objectives. For example, African ICT policy makers need to develop new tools so that when they make important decisions concerning - network modernisation, industry structure, tariff policy, licensing decisions, incentives for R&D and innovation, systems for training and learning - their criteria include socio-economic objectives.

- The ITU/BDT has been providing technical assistance to African countries seeking to reform their telecommunications sector and has restructured its work programme so that their is an increased focus on providing timely effective assistance. The ITU recognises that capability building is an essential requirement in Africa. However the ITU has worked most closely with telecommunications companies and is also finding its way to improve relationships with other important stakeholders. For the technical

analysis and development of policy tools it remains an important source of expertise. The ITU has made progress in taking account of telecoms development needs of rural communities and in analysing the impacts of changes in industry structure on developing countries and may well soon take steps to ensure that its technical assistance mandate extends to helping policy makers to take account of gender in their telecoms development work. The AISI framework includes a gender component and there are recent efforts to incorporate a gender framework into the Acacia programme; as these programmes produce deliverables, they will also provide actual data on attempts to integrate gender into ICT policies and plans in Africa.

4) Develop consultative mechanisms to ensure that all key actors are actively involved in the process of policy formulation, implementation and review. Communication between national governments and some key actors, such as multilateral development agencies and the ITU are well developed and regular. Although as noted previously, these communications have tended to develop along traditional lines for example the Ministry of Communications interacts regularly with the ITU but not with the World Bank or UNCTAD. In addition, at the national level there are few organisational structures which permit negotiation and debate among a number of line ministries.

The AISI Framework and the Acacia programme are particularly strong in arguing for and demonstrating the potential benefits of this approach to undertaking ICT policy planning and implementation. There is clear evidence from South Africa, Senegal and Uganda that greater participation from a wide-range of interest groups improves the policy making process. It is still too early to assess the impact on particular groups of intended beneficiaries but the approach taken in the Acacia programme has provided an entry for marginalised and disadvantaged groups. Given the influence of the AISI framework, it is important that the action programme calls for an open participatory policy process.

Women's organisations and gender ad development specialists must be represented in these consultative processes. The problem of identifying women and men with the required skills and experience to represent the interests of girls and women in these fora and to assist with development of the necessary policy instruments, is not intractable. More creative approaches for identifying these resources need to be employed; there are women who are experienced with ICTs in universities and the private sector and there are female gender and development experts who can be given the opportunity to learn about ICT policy issues. This is a human resource development challenge which must be squarely faced. Uganda and South Africa are making great strides in ensuring that gender considerations are incorporated in a number of social development programmes, the lessons learned from the Ministry of Gender and the Commission for Gender Equality should be brought to bear on the issue of engendering ICT policy in Africa.

5) Develop improved capacities to review policy objectives, monitor and evaluate programmes and respond to changes in the technological and socio-economic environment. ICTs are a fast changing set of technologies. The impacts produced through the production and use of these technologies change a very rapid pace producing unexpected consequences in the local environment. Policy in the ICT sector needs to be adaptive and responsive if it is to be effective. As noted in the early chapters of this paper, this characteristic of ICT presents challenges to policy makers in wealthy countries as well as in the least developed countries. Individual countries in Africa are unlikely to be well placed to establish all the necessary elements of a complete institutional system for ICTs, therefore co-operation on a sub-regional basis to develop systems (and institutions) for ICT policy formulation and sector management should be encouraged. These sub-regional institutions can assist national governments by

providing technology evaluation and monitoring capabilities, and by strengthening the technological assessment capability of individual countries. Improving the system of technical co-operation with bilateral donors and multilateral bodies will also assist individual African countries. In unequal partnerships with external agents, national governments do not exercise their responsibility to set and review objectives and do not develop adaptive capabilities. Reform of technical co-operation where the mutual roles of national governments and fenders are recognised and respected by all the parties involved will also improve the likelihood of African governments taking charge of national ICT policies and strategies.

Multilateral development agencies and donors

80. The review of ICT policy making in Chapter 2 established that all the major multilateral development finance agencies, a number of specialised agencies within the United Nations system and large donor agencies are present in Africa. The AISI framework co-ordinates the inputs of many of these efforts and is becoming established as the preferred point of entry for external actors wishing to support African ICT developments. One of the problems facing Africa is that some countries have become very popular sites for pilot studies and policy experimentation by donors and multilateral agencies while other countries are left out. This pattern of duplication of effort in a few countries is counterproductive and should be reduced. The previous section raised another important issue which concerns multilateral agencies and donors, that is the reform of technical co-operation which will require external agents to accept that governments should play the leading role in articulating and implementing national ICT strategies. Particularly because institutional systems in Africa for ICT policies are underdeveloped, the balance of power in these relationships do not always recognise this division of labour between national governments and external agents. The evidence presented in the earlier chapters confirms that multilateral agencies, UN bodies and donors have made very valuable contributions to developing and implementing ICT policies in Africa and it is hoped that as more progress is made by national governments that there will be a shift in the nature of partnerships between these two sets of key actors.

81. The AISI framework which is spearheaded by the UN-ECA identifies gender issues as an important element of national ICT strategy and is compatible with the recommendations made for national governments to play a leadership role, while external agents provide support.

82. In summary, multilateral bodies including the UN system and specialised agencies should assist national governments through providing a variety of supporting resources. These should include but not be limited to technical expertise for design of policy tools, financial support and other assistance with institutional capability building. Africa's requirements and her needs in the ICT sector have been thoroughly identified and are well documented. External agents should continue to support the AISI initiative as a mechanism for co-ordinating their efforts in Africa.

Private sector organisations

83. International suppliers of ICT equipment and services as well as domestic firms in the ICT sector have an important role to play in integrating ICTs with development goals. The private sector is an important and powerful interest group whose demands exert considerable influence on the direction of ICT policy in Africa. Unfortunately both local and foreign private sector companies have tended to emphasise short-term profitability objectives in their strategies for entering and competing in the African ICT sector. This short-term orientation explains the woefully inadequate performance in terms of levels of profit reinvested, R&D undertaken in Africa and training and human resource expenditure in the African ICT sector. Since the private sector lobby is very powerful and often has more experience of ICTs than central

government agencies, these short-term commercial objectives have considerable weight in the overall definition of ICT policy objectives. There is undue emphasis on profitability since companies operating in the African telecommunications market have been and are likely to continue to be highly profitable, even when the levels of network coverage have been among the lowest in the world. The challenge for international and domestic private sector is to expand the ICT sector in Africa and maintain profitability. There are many models of market expansion in other developing countries which can be adapted to the African context. Fast growth of ICT networks, increasing range of services and development of applications which are suited to the local context are possible futures for the African ICT sector. Encouraging signs are already present as far as the rate at which mobile networks are growing in Africa and wireless in the local loop infrastructure systems.

84. The major challenge for private sector organisations in Africa is that they must have the confidence and long term orientation to invest in market development. In the African context this requires technological investment in applications and tools which are better suited to the local environment. There are large potential markets for ICT equipment and services in Africa which are currently under served. The strategies used to expand markets in wealthy countries will not succeed in Africa. Therefore private sector companies should lend their support and resources to the efforts to develop and expand networks through telecentres and other community-owned facilities. Firms operating in Africa should also invest more in R&D which is geared to producing tools and applications which meet the needs of potential local consumers. Chapter 4 outlined the reasons why Africa's women as a group of potential consumers of ICTs have specific requirements. Private sector organisations should make efforts to be more responsive to these requirements. The companies which succeed at doing this will achieve their commercial objectives and make a contribution to Africa's development.

85. To play an active role in integrating gender concerns with ICT development, private sector organisations can also adopt pro-active employment policies which encourage and facilitate the participation of women in a wide spectrum of ICT related fields. Private sector organisations in the African ICT sector include large companies, such as the national telecommunications carriers, branches of international suppliers of ICT equipment and services, and smaller companies such as Internet service providers, computer service companies and community-owned telecentres. There are job opportunities for women in all of these settings at various levels of responsibility. Given the serious shortage of female technologists, private sector organisations should also demonstrate their commitment to achieving the goals of gender equity in the ICT sector by providing and supporting training programmes specifically designed for girls and women.

Civil society organisations

86. There are a number of civil society organisations involved in production and use of ICTs in Africa. The companion papers on democratisation, health, education as well as the Acacia national strategy reports provide up to date information on the extent to which civil society organisations have been important agents in promoting use and production of ICTs. Marcelle (1998 forthcoming) and Chapter 4 of this paper, claimed that civil society organisations and particularly women's organisations have been among the forefront in advocating for integration of ICTs with sustainable development goals and programmes. The electronic communication programmes for women have emphasised that ICTs can be of tremendous service in human rights campaigns, in environmental management, and in improving information exchange between Africa and the rest of the world. What that analysis also showed is that women's ICT programmes in Africa face many problems including inadequate funding. There is very recent evidence that civil society projects are improving their co-operation with governmental bodies

and this partnership should reduce some of the financial uncertainty. However, civil society organisations should also improve the income generating capacity of their projects so that they maintain some independence from other key agents in ICT policy process. This is particularly important because these organisations often provide a critical monitoring role which forces governments to be more accountable to a wider range of constituencies.

87. When there are opportunities, civil society organisations should participate fully in ICT policy making consultative processes. Women's ICT programmes in Africa have tended to focus on service delivery rather than policy-making and advocacy; this is changing slowly and these trends should be encouraged and supported. Multilateral agencies, national governments and the private sector can support these attempts by including civil society organisations in capability building exercises. For example if the ITU or other UN agencies start programmes to improve the capacity of national governments to take gender into account in ICT policy-making, civil society organisations should be given the opportunity to participate in these training programmes. Since the lines of communication between multilateral agencies and civil society organisations in ICTs are not always open, achieving this goal will require special attention and effort.

Making the gender strategy operational

88. The recommendations discussed previously have made a number of simplifying assumptions regarding the political and institutional contexts in which changes required to bring about gender justice in the national ICT policy making system in Africa take place. Theoretical and empirical evidence of such as that presented in Goetz ed. (1997) cautions against naive optimism. The authors in that collection, produce evidence to argue that despite improvements at the rhetorical level, the outcomes of many programmes to adopt Gender and Development have failed to " alter the asymmetrical distribution of resources and social values which contribute to the social construction of gender inequality and differences." Goetz suggests that " the project for gender-sensitive institutional change is therefore to routinize gender-equitable forms of social interaction and to challenge the legitimacy of forms of social organisation which discriminate against women." She also argues that such a project would need to go beyond the forms of gender-training used in development programmes which have emphasised attitudinal change as the key change process. Gender redistributive policies such as the ones recommended in this paper have characteristics which tend to create opposition and resistance since they challenge existing norms, values, cultural practices and reallocate material resources. Making a gender strategy operational and successful cannot ignore these characteristics of the project. A successful strategy will also recognise that definitions of gender and gender equity vary according to local contexts; it would be simpler from a purely technical stand-point if there was a universal definition and accepted understanding of what is a desirable outcome from a gender strategy in ICTs, but this is not the reality. The strategies for Africa must therefore define goals and objectives in dialogue all the key actors and potential beneficiaries. The change-agents must make realistic assumptions of the resources required and must assess where there is likely to be resistance. When there are opportunities for transformation, strong leadership is required to bring about the desired outcomes. The key actors who determine the chance of success of this strategy to include gender perspectives in national ICT policies in Africa, as individuals and collectively, operate in gendered social and political environments where the social value ascribed to and interests of men and women are continuously negotiated. This makes the project of bringing gender justice into the ICT sphere more complicated since there are no unifying definitions of what is meant by that project, what its desired outcomes are and what are the consequences of achieving these outcomes.

89. Despite these very valid and important qualifications, putting effort into strategies for promoting gender justice in national ICT policy making and implementation is an important and valuable developmental project, which as this analysis has shown can improve material conditions and quality of life for people in Africa. Taking no action is not an option. This paper has outlined how such a programme of action can be designed and sustained.

The **World Bank** is increasingly recognized that development in Sub-Saharan Africa (SSA) requires the full participation of both men and women and has articulated four interconnected priority issues and related strategic objectives.

Key Issue 1: Women's Central Economic Role, especially in Agriculture and the Informal Sector

Women are a key economic resource in Africa, comprising about 60 percent of the informal sector and providing about 70 percent of total agricultural labor. Women's central position in economic production in SSA contrasts with the systematic discrimination they face in accessing basic technologies and resources needed for their economic role. This gender-baseddiscrimination limits economic growth. It markedly affects macro-economic policy and performance (supply response), and has important repercussions for economic efficiency and equity.

Key Issue 2: Gender Bias in Access to Education, Health and other Basic Social Services

Gender differentials persist at all levels of education and the gap widens at the higher levels. Low levels of education and training, poor health and nutritional status, and limited access to resources depress women's quality of life and hinder economic efficiency and growth. Female education is the investment with the highest social returns. It is the catalyst that increases the impact of other investments in health, nutrition, family planning, agriculture, industry, and infrastructure. Design of health interventions must take into account women's specific health needs, with a particular focus on reproductive health, AIDS, and gender violence, their multiple responsibilities, and the demands on their time.

Key Issue 3: Time Poverty-A Critical Gender Dimension of Poverty in Africa

Poverty in Africa is pervasive and growing. Regional analysis recognizes that growth is necessary but that the pattern of growth is crucial for sustainable poverty reduction. Poverty in Africa has an important, if difficult to quantify, gender dimension. A key component of female poverty in Africa is "time poverty," as there are significant time allocation differentials between men and women. Women work longer hours than men (see figure) and their workload, derived from simultaneously carrying out multiple roles, imposes severe time burdens and harsh trade-offs, with important economic and welfare costs. Balancing competing time uses in a framework of almost total inelasticity of time allocation presents a particular challenge to reducing poverty in Africa.

Poverty in Africa is compounded by the complexity of household structures and relations in Africa. Evidence suggests great diversity in the structure and composition of households, where men and women have largely separate sources and uses of income and resources. This often leads to marked inequality in intra-household resource allocation.

Key Issue 4: Raising Women's Participation

Women in Africa are systematically under-represented in institutions at the local and national level, and have very little say in decision-making (see figure). Gender barriers limit women's participation and reinforce power gaps. As civil society emerges, women's organizations constitute an important social capital resource for strengthening the social institutions necessary for a market economy. Women constitute an important source of opinion (and opposition) on the subject of economic adjustment in Africa, and hearing their voices and listening to their needs is essential for endorsement of
successful economic reform in Africa.

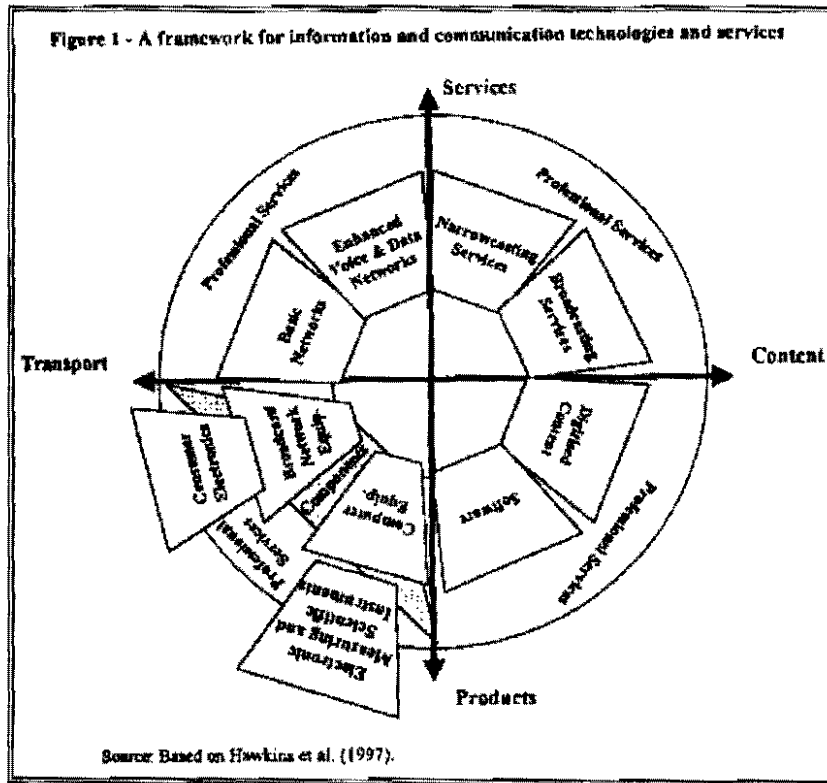*Synergy and Complementarily among Strategic Gender Objectives*

Each of these strategic objectives has an important contribution to make to achieving the goal of sustainable poverty reduction. There are important interconnections and trade-offs among economic production, child bearing and rearing, and household/ community management responsibilities that assume particular importance given the simultaneous competing claims on women's labor time. From a gender perspective, inter-sectoral linkages, as between girls' education and domestic tasks (especially water provision), rural development and

transport, and the population/ agriculture/environment "nexus", are critical. The contribution of these strategic objectives to development and poverty reduction in Africa can be greatly amplified through concurrent actions in each of these areas, so that multiple and mutually reinforcing benefits can be achieved.

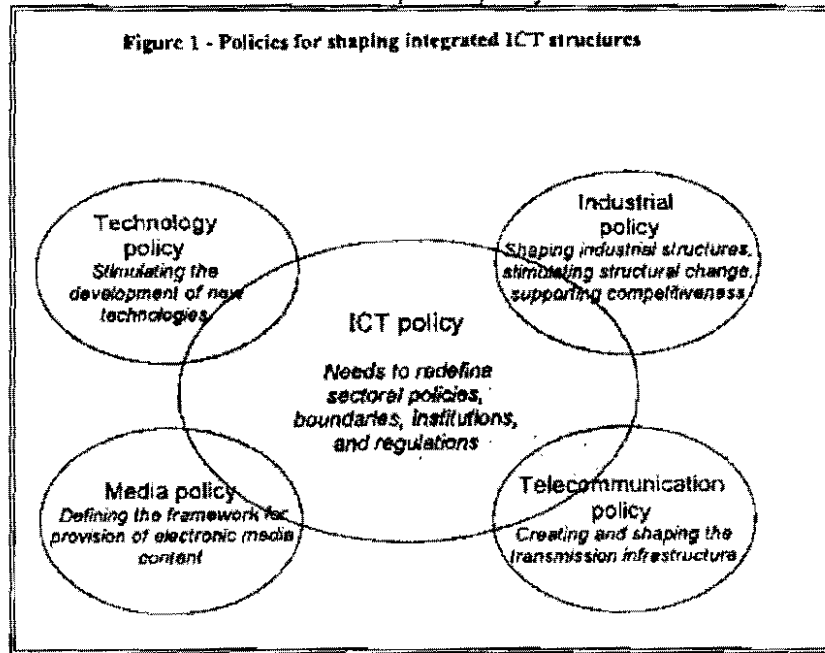**Source: Gender Strategies for Sub-Saharan Africa: An Overview, World Bank Group (1997)**

Findings reports on ongoing operational, economic and sector work carried out by the World Bank and its member governments in the Africa Region. It is published periodically by the Knowledge, Information and Technology Center on behalf of the Region.

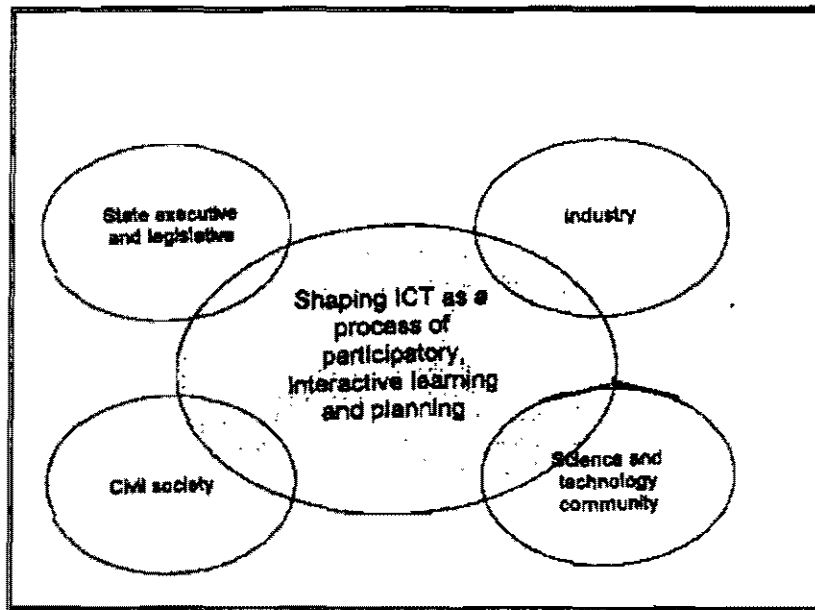**Annex 2:** Figure 1   Segments of the ICT(industry and technology) system

Source:
Mansell
and
Wehn
(1998
forthco
ming)

Figure 1 - A framework for information and communication technologies and services

Source: Based on Hawkins et al. (1997).

Figure 1 - Policies for shaping integrated ICT structures

Source: UNCSTD 1997

ANNEX 2: *Figure 3*   *Key agents in policy making processes*

Source: UNCSTD (1997)

ANNEX 3: *TABLE 1-*   CASE STUDIES OF NATIONAL ICT POLICY MAKING

	Lead organisations involved in national ICT policy making & Basic policy Instruments	ICT policy objectives and priorities	Progress in implementation	Challenges for Policy making and gaps in existing policy framework*	Treatment of social objectives and in particular gender issues*	Recommendations from ACACIA country strategy reports
MOZAMBIQUE	National Telecommunications Institute of Mozambique (INCM) responsible for sector policy, regulation and supervision of state owned carrier. Telecommunications Law (1992)	Priority is restructuring of the telecommunications sector and improving operational efficiency of national operator	Telecommunications of Mozambique (TDM) established in 1992 as an independent commercial entity and has been accelerating network expansion Licensing phone shops for resale of voice capacity	There is no overall framework for national ICT policy-making but the government is enthusiastic and keen to build on the research and training capability of the Computing Centre of Eduardo Mondlane University (CIUEM) and to use ICTs for poverty alleviation. Several donors and multilateral agencies are present in the country; this raises the issue of ensuring that national priorities continue to determine and define the evolution of ICT policy and also requires that care be taken to avoid duplication, set clear priorities and co-ordinate efforts	Existing policies do not include any treatment of social issues including gender. CIUEM's senior staff includes one woman who is active in gender and development work and led the Mozambican delegation at the Fourth World Conference on Women in Beijing.	Support development of national informatics policy and assisting with formation of a broad-based forum to debate ICT priorities and design strategies for the sector Demonstrate technology applications and support content and applications development especially in education and health Set up telecentres in rural communities Assist with programme management, monitoring, evaluation and reporting by applying community surveillance methodology. Facilitate strengthening of TDM's technology assessment and CIUEM's training capabilities

	Lead organisations involved in national ICT policy making & Basic policy Instruments	ICT policy objectives and priorities	Progress in implementation	Challenges for Policy making and gaps in existing policy framework*	Treatment of social objectives and in particular gender issues*	Recommendations from ACACIA country strategy reports
SENEGAL	Post and Telecommunication Research and Regulation Department (DERPT) in the Ministry of Communications responsible for applying policy directives and formulating regulatory proposals. National Telecommunications Co-ordinating Committee (CNCT) is an arbitration authority and a consultative body which reports to the Office of the President ; the CNCT is a powerful body which sets the vision for telecoms policy in the country. CNCT has mandated a national Commission to investigate and assess key aspects of telecoms development . Telecommunications Act - (1996)	Transfer ownership of SONATEL (telecoms network operator) to private sector through strategic equity sale. Undertake major tariff reform and adopt cost oriented tariffing.; targets for tariff reduction set at 5% per annum. Facilitate international competitiveness of the Senegalese services sector by reducing cost and improving quality of telecoms inputs.	Good progress on establishing a reliable, modern digital network Good complement of skilled staff including at technical & managerial levels. Senior staff in SONATEL are well organised and the management association provides professional development and skills upgrading. Productivity in SONATEL has improved steadily. Small private operators have been permitted to set up public phone booths (telecentres) and resell voice, telex and fax services. By 1995, there were 1500 private operators.	Extend policy scope to social objectives while building on the progress already made in improving operation of the telecoms sector. Given that telecoms is profitable in urban SENEGAL, sector reform should tie franchises in cities to universal service obligations for rural network development. Telecommunications is regarded as a strategic industry in SENEGAL; the CNCT's mandate should be extended to include a wider range of telematics services and to take account of the interests of users. The success of telecentres has provided access and employment. These facilities can be upgraded and improved and used as a basis for development of other develop other capabilities such as electronic publishing skills. SENEGAL can play a leadership role in West Africa; policy makers should take up the challenge of sharing their experiences with neighbouring countries and providing technical assistance when possible.	Telecoms policy formulation has focused almost exclusively on performance of the operator and sector structure. An opportunity exists to expand policy scope. Women's NGOs and other stakeholders who are concerned with gender issues are active in SENEGAL but have not been able to influence the development of national ICT policy.	Formalise a framework for co-ordinating inputs of stakeholders and donors. Support the policy formulation process and encourage widening scope of those policies to take account of the interest of the disadvantaged. Carry out needs assessment studies; launch an awareness campaign. Evaluate telecentres in order to identify mechanisms to encourage young people to use these services. Launch a multi-level human resources development programme involving formal and informal institutions and taking steps to encourage and support participation of women and young people Establish a software engineering centre.

	Lead organisations involved in national ICT policy making & Basic policy Instruments	ICT policy objectives and priorities	Progress in implementation	Challenges for Policy making and gaps in existing policy framework*	Treatment of social objectives and in particular gender issues*	Recommendations from ACACIA country strategy reports
SOUTH AFRICA	Department of Communications in the lead on policy formulation. Independent regulatory body - SATRA which includes oversight for the broadcasting industry previously under the jurisdiction of the Independent Broadcasting Authority (IBA) Department of Trade and Industry and Arts, Culture and Sciences. Telecommunications Act (1996) Broadcasting Act (currently under review)	Expand telecommunications network to previously disadvantaged communities. Encourage and support participation of black South Africans in the telecommunications industry Expand the range of ICT services and maintain quality of service delivery. Establish a first-class regulatory structure in the telecommunications industry. Facilitate use of new technologies in the development of a national broad-band communications network.	Network roll-out programme proceeding through monopoly operator TELKOM. Experimentation with telecentres as mechanism for rapid decentralisation of communications infrastructure. Regulatory body established and working well with implementing agencies such as the Universal Service Agency and with the Department of Communications (central govt)	Reconciling the sectoral restructuring objectives and the social objectives – black empowerment and participation of women in telecommunications Leveraging the installed network base to build a world class capability in ICTs. Harnessing ICTs for development of the majority of South Africans rather than an elite	Telecommunications Act includes provisions to redress gender imbalance along with other areas of disadvantage. Consultative process involved in drafting of the Telecoms Act (1996) did not explicitly deal with gender issues, however these are likely to be raised in the consultation process for the new Broadcasting Act.	Facilitate an Information Society Policy process which is led by the Dept. of Communications but includes all relevant govt departments. including education, health, arts, culture and science and technology, industry and trade, finance, environment and provisional governments and civil society organisations. Expand telecentres as training centres and support other training initiatives. Increase capacities of users at community level including development of high-level engineering and software engineering skills. Pilot applications of ICTs in malaria prevention & treatment and education. Stimulate development of tools and technologies which facilitate use of ICTs by people with limited literacy skills and whose mother tongue is not English. Develop evaluation methods which strengthen the voice of the disadvantaged in policy processes.

	Lead organisations involved in national ICT policy making & Basic policy Instruments	ICT policy objectives and priorities	Progress in implementation	Challenges for Policy making and gaps in existing policy framework*	Treatment of social objectives and in particular gender issues*	Recommendations from ACACIA country strategy reports
UGANDA	Ministry of Works, Transportation and Communications

Ministry of Information

Uganda Communications Commission

Telecommunication Sector Policy Announcement (1997)

Uganda Communications Act (1997) | Upgrade and expand the telecommunications network infrastructure to more effectively deliver new services, increase geographical distribution and coverage of the network, increase telephone density and serve unmet customer demand including in rural communities.

Provide for stable, orderly regulation of the telecommunications sector in order to attract private investment and facilitate government withdrawal from ownership of telecoms operators. | Restructuring of the telecommunications industry including privatisation and licensing of multiple operators has made good progress. New regulator the Uganda Communications Commission (UCC) has been established.

Pilot projects for telecentres have been set up in rural communities in Uganda. | Lack of co-ordination across different decision making bodies. Emphasis on the network component of ICTs. Insufficient consultation with broad range of stakeholders Existing urban bias in network coverage requires very large investment and policy intervention Does not address some of the contradictions in present restructuring plan | TSPA does NOT explicitly identify any groups for special treatment within rural communities. | Facilitate multi-stakeholder national forum

Support the establishment of a fund for rural communications development

Support the establishment of a policy framework for introduction of telecentres as a means of extending ICTs to rural areas.

Pilot new technologies and support content creation and applications which use ICTs for trade, commerce and education. |

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