



Republic of Mozambique

# Information and Communication Technology Policy



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## ***Information and Communication Technology Policy***

### **1. MISSION**

Today's world is profoundly affected by the ICT revolution. The Global Information Society, manifested by the Internet, allows information and knowledge to circulate at an unprecedented speed, changing all aspects of life and economic, political and socio-cultural activity. In this Information Era, it is the ability to use information and communication technologies effectively and efficiently that increasingly determines the relevance and competitiveness of a country in the global economy.

Mozambique cannot remain on the edge of this world revolution. The Government has therefore adopted an Informatics Policy which it intends will:

- Contribute to the fight against poverty and the improvement of the conditions of life for all Mozambicans;
- Ensure for its citizens access to the benefits of world-wide knowledge;
- Raise the efficacy and efficiency of State institutions and their value to the public through the provision of services;
- Improve governance and public administration;
- Make Mozambique a producer and not a mere consumer of ICTs;
- Raise Mozambique to the level of a fitting and competitive partner in the Global Information Society.

## 2. INTRODUCTION

The Nineteenth Century was recognised by history as the century of the Industrial Revolution. The Twentieth is undoubtedly that of the ICT revolution which, it is to be hoped, will be even deeper and more powerful than the former.

In this present document the term *Informatics* and the expression *Information and Communication Technologies* (with the acronym *ICTs*) are used indistinguishably, as the confluence and convergence of technologies which earlier either did not exist or existed as totally separate areas. These technologies are personal computers and computer networks, television and radio, telephone lines with telephone operators or with automatic reply systems, fax machines, smart cards, electronic mail, the Internet, video conferencing systems, commercial applications (word processors, spread sheets and databases, etc.), and proprietary systems such as systems of management support and information management.

Information and communication technologies (ICTs) have allowed the diffusion of knowledge and the sharing of information, experience and resources at a speed never before experienced. And the experience has shown that access to, and the effective use of, these technologies are determining factors for the economic and social development of individuals, communities and nations, and for the increase of their relevance and competitiveness in world life and economy.

The arrival and exponential growth of the Internet - today the largest communication network in the world - epitomise and synthesise the reality of the Global Information Society in which the exchange of ideas and commercial interchanges can be processed in real time, jumping country frontiers and time barriers.

Unfortunately what has become one of the principal characteristics of modern life over most of the world is hardly evident in Mozambique or in most African countries. These countries have the lowest tele-densities, computer count and usage of the Internet, thus denying to these people what is available to others by a touch on a key or a click on a mouse button. For the country to be competitive, this situation must change.

In the last few years, the country has experienced a considerable growth in the mastery of informatics. But the absence of a policy setting out guidelines for development in this area has led in certain cases to the adoption of solutions incompatible with each other (sometimes even within the same institution), an unnecessary duplication of effort, and the concentration of our small resources in certain areas, thus worsening imbalances and asymmetries instead of correcting them.

The Informatics Policy will therefore provide a framework of principles and objectives which will allow ICTs to be the motive force for various aspects of national development, contributing to the eradication of absolute poverty and a general improvement in the life of Mozambicans, leading to a wider participation of citizens in the Global Information Society, to the raising of efficacy and efficiency in the provision of services, to the improvement of governance and to the broadening of democracy, to make the country more of a producer and not a mere consumer of ICTs, finally leading to its participation in the world economy and ever better positioning in terms of information and knowledge.

The ICT Policy is wide-ranging. It is concerned with the totality of the areas of interest for the socio-economic development of the country. However the Policy cannot be exhaustive in enumerating all the areas to be considered. For this reason, six priority areas have been identified for the establishment of the Information Society in Mozambique in a way that

contributes effectively to the realisation of the main priorities and objectives of the Government in reducing absolute poverty, promoting and stimulating economic development and broadening democracy. These areas are: **Education, the Development of Human Resources, Health, Universal Access, Infrastructure, and Governance.**

The definition of these priority areas intends, on the one hand, to align the ICT Policy with the objectives and priorities of governance of the country and, on the other, to recognise that, with the limited resources available, it is not possible to undertake everything at once. However, other areas that have a role to play in the development of the country are not being ignored or relegated to the background. Areas which have an equal call for treatment in the ICT Policy document include Agriculture, Natural Resources, the Environment, Tourism, Electronic Commerce, Business Protection, Public Protection, the Academic Institutions and Research Network, Women and Youth, Culture and Art, and Social Communication and the Press. Whether these areas are included in the framework will depend on the one hand on the initiative, creativity and zeal of those who are interested, and, on the other, on the opportunities they themselves create.

It should be emphasised here and now that success in the application of the Policy will not be possible without the active participation of both the stakeholders and the potential beneficiaries. Included will be: State institutions, the public and private sectors, teaching and research institutions, non-governmental and socio-economic organisations, and citizens and the general public.

One and all should recognise that ICTs are an indispensable component in their development plans and programmes. This is an immense challenge for a country in Mozambique's situation, with its limited resources, inadequate telecommunications and electricity supply, and high illiteracy rate. But it is, above all, an undertaking that cannot be put off for later; it is a task in which we must not fail. It may well be that the cost of implementing such a programme will be high, but the cost of inaction will be higher still.

### 3. THE PRESENT STATE OF INFORMATICS IN MOZAMBIQUE

The First National Inquiry into the Informatics Capacity of the Country, undertaken in 2000, revealed that Mozambique is gradually entering the Global Information Society, though it also showed that more than 50 per cent of the informatics equipment is concentrated in the national capital.

The following data show the starting point from which the country is beginning its programme of transformation in informatics.

#### Basic data on the country

**Geographical position:** Southern Africa

**Neighbouring countries:** Tanzania, Malawi, Zambia, Zimbabwe, Swaziland, and South Africa

**Land area:** 799,380 square kilometres

**Population statistics (1997)**

Total: 16,917,000

Population growth rate: 2.72%

Males per 100 females: 92

Population density: 21 persons per square kilometre

**Where the people live**

In cities: 29%

In the countryside: 71%

**Illiteracy rate (1997)**

Total: 60.5%

Urban: 33%

Rural: 72%

**Life expectancy at birth**

Average: 42 years

Males: 41 years

Females: 44 years

**Gross National Product:** 2.4 billion US dollars (1997)

Human Development Index: 0.341 (UNDP 1997)

**Ranking in HDI:** 169th in 174 countries (UNDP 1997)

**Sources:** 1997 Census (CD-ROM of the National Institute of Statistics, 1999) and Human Development Report (UNDP 1998)

The following table shows specific data in the area of telecommunications.

Item	1997	1998	1999
Mainlines total switching capacity	104.556	105.612	113.606
Total transmission Capacity	8.745	8.995	8.995
Total Primary Network capacity (pair)	126.049	129.424	136.459
Total Secondary Network capacity (pair)	171.107	176.177	185.917
Total installed lines during the year	9.423	13.319	13.616
Total connected lines	65.606	75.354	78.072
Cellular mobile telephone subscribers	2.500	6.725	12.243

Source: 1998 Report of the Administrative Council of Mozambique Telecommunications (TDM), updated in 1999.

During the period 1997 to 1999, the number of fixed telephone lines grew from 65,606 to 78,072, and cell phones from 2,500 to 12,243. This shows considerable growth in the sector, 307% for cell phones (expected to exceed 35,000 users by the end of 2000) and 15.5% for subscriber lines.

However, a look at the national coverage reveals that with a teledensity (telephones per hundred inhabitants) of only 0.46, the country has one of the lowest telephonic coverage indices in the region.

Data collected during the National Inquiry into the Informatics Capacity of the Country with a sample size of 1,155 institutions and firms, provided the following table of some of the indicators.

Item	C.Delg	Niassa	Namp	Zamb	Tete	Manica	Sofala	Inhamb	Gaza	MapPro	MapCid	Totais
Existing computers	65	172	402	337	348	203	880	79	118	712	8201	<b>11516</b>
Informatics technicians	12	9	32	82	37	13	154	3	5	25	693	<b>1064</b>
Access to e-mail	18	16	66	90	13	122	110	13	17	768	4024	<b>5257</b>
Access to Internet	9	15	50	36	13	17	78	11	14	64	2229	<b>2536</b>

As the previous table shows, Maputo City, with 8,201 (71%) of the 11,516 existing computers in the institutions questioned in the whole country, has more computers than the rest of the provinces combined.

In terms of Internet access - today one of the more obvious indicators of whether a country belongs to the Global Information Society - Mozambique has risen from being a country with only one Internet Service Provider (ISP) and less than 100 users in 1995 to ten ISPs and around 10,000 users in 1999, which gives an average of one user to every 1,700 inhabitants (better than the African average of one in 5,000, but much less than, for example, the South African average of one in 65, not to speak of the European and North American averages of one in 4). Taking into account that subscriptions to the Internet are frequently shared amongst several people, the real number of persons with access to the Internet in Mozambique could be considerably higher than 10,000.

These figures show clearly the long way Mozambique has to travel, as have so many other countries in Africa, to make a radical alteration in its under-developed situation. An undoubtedly very encouraging sign is that, despite all its financial, infrastructural and technical problems and limitations, Mozambique is taking a very positive attitude to the adoption and domestication of ICTs for sustainable national development and for its effective participation in the Global Information Society.

## 4. THE OBJECTIVES OF THE INFORMATICS POLICY

The absence of a policy or common reference framework has led to the adoption of ICTs in the country in a casual manner, disordered and uncoordinated, with all the negative consequences that arise from this: duplication of effort, inadequacy and incompatibility of certain solutions, and unnecessarily high costs.

It is therefore the general objective of the ICT Policy to provide a reference framework for the harmonious and sustainable development of the Information Society in Mozambique constituting the main base for legislation, development plans, and action in the future.

The specific objectives of the Policy are as follows:

- a) To raise the national level of knowledge as to the role and potential of ICTs in the sustainable development of Mozambique;
- b) To contribute to the eradication of absolute poverty and improve the conditions of life for Mozambicans;
- c) To provide universal access to information to all citizens in order to improve their level and performance in education, science and technology, health, culture, entertainment and in their activities in general;
- d) To expand and develop the teaching of Informatics in the National System of Education;
- e) To encourage and support Informatics training for directors, community leaders, women, young people and children;
- f) To contribute to the increase in efficiency and efficacy of the public and private sectors;
- g) To contribute to the effort to make the country a producer and not only a consumer of ICTs;
- h) To create a favourable climate for industry, business and investment in the area of ICTs;
- i) To ensure that plans and development projects in all sectors have an ICT component;
- j) To contribute to the reduction and gradual elimination of regional imbalances, the differences between city and countryside, and between the various segments of society in respect of access to opportunities for development;
- k) To create a favourable environment for cooperation and partnership in ICTs between the public and private sectors and between all stakeholders at national, regional and international level; and
- l) To empower and facilitate the integration of the country in the world economy and in the Global Information Society.



## **5. THE ROLE OF GOVERNMENT AND ITS PARTNERS IN THE DEVELOPMENT OF AN INFORMATION SOCIETY IN MOZAMBIQUE**

It cannot be sufficiently emphasised that the success of the implementation of the objectives of the ICT Policy will depend in great part on the collaboration and synergy that are established between the Government and its principal partners, based on a clear definition of the specific responsibilities of each. In this process, the principal partners of the Government are the private sector, the academic and research institutions, civil society organisations and the development cooperation agencies.

### ***5.1. The Role of the Government***

The fundamental role of the Government in relation to the development of ICTs and their use for the sustainable development of the country depends on, on the one hand, on vision, policy, and the legal framework which will regulate the activities and connections of all the stakeholders. These are: the public and private sectors; the industry and services of information and communication; non-governmental and professional organisations and civil society in general. On the other hand, it depends on making available the necessary resources for the implementation of such a vision and policy and systematically evaluating its results. This is particularly important at a time when the development of the information infrastructure increasingly requires that the country should change from the traditional situation of the monopoly of the State in the telecommunications area, into an environment where services are offered competitively.

On the other hand, given the present situation of a private sector which is still weak although growing freely, the State must play a key role in seeking and channeling resources to invest in the supporting infrastructure for ICTs in partnership with national and foreign businesses whose undertakings have much to gain from this in the future.

Amongst the main constraints are:

- the still general lack of a culture and a tradition in the use of ICTs;
- the limitation in human, technical and financial resources available to stimulate the sector.

In this context the Government will, in close collaboration with the private sector and other partners,

- a) Quickly approve the necessary legislation for the implementation of the objectives put forward in the present Informatics Policy;
- b) Adopt an Implementation Strategy for the Informatics Policy which will bring together its objectives and aims for the purposes of government;
- c) Devote all possible resources to the development of a national infrastructure to support the ICTs;
- d) Promote the general use of ICTs at the level of State services and institutions;
- e) Create incentive packages for investment in the national informatics industry;
- f) Promote and support the production of content for the Internet - a content which will reflect Mozambique's national interests and realities;

- g) Mobilise other countries, organisations and cooperation agencies to support the introduction of informatics into the country.

## **5.2. The Role of the Private Sector**

In the industrialised countries there is no doubt that the great driving force for the development of ICTs is the private sector. In Mozambique, as in many African countries and in the Third World in general, the private sector is also called on to play a catalytic role in the creation and consolidation of the Informatics Society, notably by means of:

- Stimulating the economic growth of, and participating in, the development of a national ICT infrastructure.
- Realising business opportunities resulting from the implementation of the Information Society.

Thus, within the scope of this Informatics Policy and in close collaboration with the Government and other partners, the private sector is encouraged to:

- a) Exploit to the maximum the new business opportunities presented by the ICTs;
- b) Spread the use of ICTs as a lever for the development of business, especially of small and medium-sized firms;
- c) Strive to improve product and service quality to ensure competitiveness in the world market;
- d) Support and participate in the national effort to contribute to the general spread of informatics education and the use of ICTs for development; and
- a) Develop projects with a view to the national production of ICTs.

## **5.3. The Role of Higher Education and Research Institutions**

Institutes of Higher Education and Research in developed countries play a leading role in the development of science and technology. They do the fundamental and applied research, and their results are then applied by industry to provide scientific and technological solutions that contribute to economic development for the welfare of their citizens.

In the same way in Mozambique, Higher Education and Research institutions must play the major role in seeking and implementing solutions and methodologies which will allow the expansion of the use of ICTs for production processes, the provision of services, the improvement of teaching and learning, research, etc. in order to improve living conditions for our citizens.

Thus, within the sphere of the ICT Policy, it is these Higher Education and Research institutions which must be encouraged to undertake the following initiatives in close collaboration with the Government, the private sector, civil society and other partners.

- a) To expand and consolidate the use of ICTs;
- b) To emphasise the teaching of informatics in their curricula of science and technology;
- c) To use ICTs to increase access to higher education;

- d) To assume the leadership in testing new technologies, and to recommend to the Government, the private sector and society in general the appropriate action to be taken;
- e) To apply the technologies for the benefit of the people through the implementation of projects;
- f) To create specialised and multi-disciplinary research teams on ICTs;
- g) To produce advanced solutions appropriate to the challenges of national development;
- h) To systematically publish and disseminate the results of research and experimentation, both by traditional means and by means of the new ICTs, especially on the Internet;
- i) To maintain contact, cooperation and information interchange with institutions of Higher Education and Research in other countries.

#### ***5.4. The Role of Civil Society***

Civil society, represented by mass organisations, non-governmental and professional organisations, unions, community-based organisations, etc., have an important role to play in the social and economic development of the country. Civil society is a fundamental element in the preservation of peace and in the development and consolidation of democracy. It is in this context that, in the process of the development of the Information Society in Mozambique, it should be called on to play a major role.

The challenges that face civil society in this area are related to:

- a) Low levels of schooling;
- b) Deficient telecommunications infrastructure, electricity supply and the road system; and
- c) Weak coordination amongst the different stakeholders.

Therefore, civil society is encouraged to undertake the following initiatives in coordination with Government and other partners:

- a) To exploit the potential of ICTs in the dissemination of information and knowledge;
- b) To spread the use of ICTs in carrying out community programmes;
- c) To use ICTs as a vehicle for the transmission and dissemination of information in development programmes; and
- d) To incorporate an ICT component in community development programmes and in programmes of cooperation with international organisations and other countries.

#### ***5.5. The Role of Agencies for Development Cooperation***

The economic and social impact of ICTs in the life of nations today is given high priority on the agendas of international organisations and in their discussion forums. The entry of Mozambique into the Global Information Society is a result of the determination of the country, but it will not be possible without the decisive support of cooperation agencies. However, these are called on to respond to the strategies outlined by this country, not those imposed from abroad on a base of limited knowledge and understanding of our national realities.

The Government therefore hopes that cooperation agencies, as partners in the sustainable development of Mozambique, will take the following initiatives:

- a) To support in all possible ways the formulation of the Informatics Policy and its Implementation Strategy;
- b) To support the projects and programmes financially and technically, with a view to their realisation;
- c) To mobilise the support of other partners in the fundamental areas of education, teaching of instructors, infrastructure and universal access, health, governance, scientific research, electronic commerce, etc.;
- d) To facilitate the setting up of links and relationships between national institutions and researchers and similar institutions and researchers abroad;
- e) To support programmes of information and technology transfer within the country and to help retain qualified technical people in Mozambique; and
- f) To support the participation of Mozambique in international forums concerned with the use of ICTs for development.

## 6. PRIORITY AREAS OF THE INFORMATICS POLICY

As indicated in the introduction, the Informatics Policy is wide-ranging, meaning that it covers all the areas of interest for national development, although it cannot enumerate them all in this document. The scarcity of our resources, human, technical and financial that can be mobilised to implement the Informatics Policy requires a clear definition of priorities.

Therefore this chapter identifies the areas judged to be priority. These, taken on the basis of the priorities defined by the Government Programme, are as follows:

- To reduce the level of absolute poverty;
- To promote rapid and sustainable economic growth through the creation of an environment favourable to action in the private sector and keeping in mind the specific needs of the rural areas;
- To participate in the world revolution of information through finding scientific solutions to the specific problems of the country, including the incorporation of scientific knowledge into public administration and governance.

In the following chapter, other areas will be included which, although not defined as priority, are an indispensable complement to global intervention in the domain of ICTs.

### 6.1. Education

To speak of education is to speak of a key sector for the development of all of the areas of communication and information technology. It has an important role to play in a better and more effective provision of services in the educational sector.

The great challenges which face the sector today can be characterised as:

- The high rate of illiteracy of the Mozambican population, of around 60%;
- An insufficient school network, in spite of the fact that in the last few years it has been possible to rebuild and in fact to overtake the number of schools existing before the intensification of the war;
- The limitation of financial and technical resources to solve the existing problems; and
- An insufficiency of materials to support the teaching and learning process, both for teachers and pupils.

There are however various opportunities that ICTs offer in the education sector (especially in the area of the Internet). These include:

- Administrative support systems, ranging from matriculations, exams and the location of teachers to financial management;
- Networks of electronically connected schools (*SchoolNet*) sharing resources and ensuring the exchange of information between teachers and pupils and even between teachers and parents;
- Distance teaching or 'virtual schools', using multimedia technologies and making possible the interaction between a teacher in one place and thousands of pupils in different parts of the country, eliminating physical distance; and

- To make available, via the Internet, study and support materials for teachers and pupils, either directly to the schools or through telecentres and other community access points.

In the same way as using ICTs in formal education, the Government will promote their use also for informal education, for example for expounding and explaining the merits and demerits of beliefs, myths and traditional rites.

The scarcity of available resources demands that this must be done progressively, mobilising all national capacities and those of the international community.

To get the best from this ICT potential, the Government, in collaboration with its various partners, will take the following steps within the ambit of the Informatics Policy:

- a) Create incentives and develop the teaching of informatics at various levels of the National System of Education;
- b) Generalise the use of the Internet in schools;
- c) Prepare teachers to be promoters of ICTs in schools;
- d) Promote competitions and national exhibitions of ICTs for young scientists;
- e) Progressively provide the schools of the country with the equipment necessary for access to, and mastery of, ICTs.

## ***6.2. The Development of Human Resources***

The development of the economy or of any other sector in a country depends, first and foremost, on the quality of its human resources. The 'economic miracle' of the 'Asian Tigers' for example can be explained by the high priority they gave to human capital, to the education and training of the work force needed as a precondition of development.

Amongst the main challenges which Mozambique faces today, the following should be emphasised:

- There is a limited supply, in terms of both quantity and quality, of well-qualified professionals in the area of ICTs;
- The poor quality of training courses for technical informatics persons; the course offerings are generally below what is an internationally acceptable level;
- The lack of a national industry of hardware and software which could stimulate training and specialisation in these areas; and
- The absence of professional profiles and of evaluation or certification of the different courses offered in the informatics area.

For this reason the Government, in close collaboration with its various partners, will adopt the following policy measures:

- a) Define professional profiles for ICTs;
- b) Standardise the activity and functioning of the training centres in this area;
- c) Encourage in the country the generalisation of training and universally-recognised certification of informatics professionals;

- d) Create Centres of Excellence for the training of informatics professionals as well as in the application of informatics solutions;
- e) Establish methods for the recognition of ICT professionals;
- f) Define minimal training programmes in informatics for government managers and community leaders;
- g) Promote competitions and offer prizes for those who distinguish themselves by applying ICTs to solve problems that the country faces;
- h) Promote informatics training by means of distance teaching; and
- i) Define high quality professional informatics training as a high priority and an indispensable condition for the development of the area of informatics.

### **6.3. Health**

Along with education, health is one of the indicators of the human development of a country. For this reason it constitutes one of the social priority areas in the development programme for Mozambique.

In spite of the almost complete rehabilitation of the health network in the first five post-war years, the health situation is still characterised by:

- ❑ An insufficient health network and long distances to the health centres for a large part of the population;
- ❑ A low life expectancy;
- ❑ High infant and maternal mortality during childbirth;
- ❑ The prevalence of epidemics and the rapid spread of HIV/AIDS with all its dangers for the economy and for future generations.

In this context there are various and immense opportunities that ICTs can offer to health, including:

- ❑ The improvement and modernisation of the administration of the health services through informatics systems;
- ❑ More rigorous medical examinations and diagnoses through collaboration with more experienced specialists via telemedicine;
- ❑ An improvement in access by health professionals to up-to-date information on illnesses and their treatment, and the exchange of information between professionals through an electronic health network;
- ❑ The public dissemination, by the Internet, of health information, especially methods of preventing infectious and contagious diseases such as sexually-transmitted diseases, AIDS, tuberculosis etc., as well as basic health care and environmental cleanliness;
- ❑ The rapid routing of clinical data and biological findings to clinical laboratories, searches in clinical archives and the transmission of images;
- ❑ The creation of pharmaceutical networks, making possible rapid information on available supplies of medicines;
- ❑ The computerisation of blood banks and of clinical consultancies for the public.

In such matters, the Government will, in close collaboration with its partners:

- a) Set up informatics systems to the maximum extent possible for the administration of health services;
- b) Extend telemedicine to all central and provincial hospitals;
- c) Create an electronic health network with fundamental information for professionals in this sector;
- d) Send out, via the Internet, basic information for public education on the nature of infectious and contagious diseases, especially sexually-transmitted diseases and HIV/AIDS, with the best methods of preventing them;
- e) Create an informatics network of State pharmacies with up-to-date information on what medicines are available or out of stock;
- f) In cooperation with the health professionals, spread information on the benefits and advantages of using ICTs in their sector;
- g) Recount success stories about the use of ICTs in health;
- h) Encourage health professionals to acquire the essential knowledge to accustom them to using ICTs efficiently in their work.

#### **6.4. Universal Access**

Out of the approximately 17 millions who live in Mozambique, 70% live in the rural areas, some of them remote and difficult to reach. The population distribution is rather irregular, with the majority living along the extensive 3,000 kilometre coast.

The State recognises and protects the right of citizens to have access to information and to knowledge spread by ICTs. It wishes to guarantee them this right through the ICT Policy and other means, and calls on the various sectors to participate in achieving this objective.

Other big challenges and obstacles to the promotion of universal access are the limited telecommunications infrastructure, especially the telephone network, the high costs of telecommunications for the majority of the population, rather low profits in the sector, and the poor coverage of the electricity supply network.

In order to face these challenges, the Government, in collaboration with its partners, proposes to:

- a) Promote universal access within the context of the Global Information Society;
- b) Create a universal service fund to which operators and public and private telecommunication service users will contribute;
- c) Provide incentives for telecommunications service providers in the least-favoured areas in which the profits are not sufficiently attractive for the private sector;
- d) Stimulate access to the Internet by the new Information Society services;
- e) Support the creation of a national network of public access points to ICTs at reasonable distances from most homes at prices people with low incomes can afford;
- f) Abolish import taxes for informatics and communication equipment intended for universal access;



- g) Adopt measures that will lead to the reduction of the cost of telephone access tariffs so as to extend the network to a greater number of users;
- h) Establish a single tariff for calls to Internet Service Providers from whatever point in the country, equal to the cost of a local call;
- i) Establish a community tariff for electricity supply and telecommunication services provided to universal access points;
- j) Exploit other modern technologies appropriate to the situation of the country.

## **6.5. A National Support Infrastructure for ICTs**

With about 80,000 telephone lines and a teledensity estimated at only 0.46, Mozambique has one of the lowest indices of telephone penetration amongst the SADC countries. To make the situation worse, 98% of the lines serve only the population of the urban centres, leaving the rural population unserved.

According to specialist studies, to be satisfactory, a teledensity of 35.49 is necessary. At the present rate of expansion, to reach this target would take two generations. This is a colossal challenge; the country cannot wait so long.

On the other hand, the various areas of economic activity are strongly influenced by the fact that the country has excellent access to the Indian Ocean, making possible the development of road and rail traffic corridors which link Mozambique to the countries of the hinterland. This is a given, and is a basic consideration in the design and planning of investment in future solutions. It will continue to have as its main parameters:

- A potential and a facility for economic development;
- The possibility of an increase in the competitiveness of the economy at regional level;
- An attraction for foreign investors; and
- A reinforcement of the national private sector.

With a view to consolidating and expanding the supporting infrastructure of ICTs, the Government, in close collaboration with its partners, proposes to intervene both at the level of sectoral policies and at the operational and technological level, namely in:

- a) Instituting a juridical legal framework which will ensure a balanced and equitable development infrastructure of support to the ICTs;
- b) Designing a modern architecture for the backbone of the national infrastructure of telecommunications which will ensure the transport and availability of advanced telecommunications services;
- c) Modernising the national electricity supply infrastructure in order to ensure a good quality mains supply to both the rural and central zones;
- d) Creating a road network which will contribute to community development, particularly in the rural zones;
- e) Promoting the expansion and use of digital radio and television;
- f) Creating a favorable environment for the participation of the private sector in the development of the infrastructures of telecommunications, electrical supply, road system and other value-added services; and

- g) Attracting international investors and partners to participate in the development of the national infrastructure to support ICT use.

## **6.6. Governance**

In these present times, it is pointed out ever more frequently and insistently that good governance is the centre, the key and the catalyst in efforts to extend the conquests of science and the benefits of economic progress to the mass of the people. But what is governance? This has been subject to many interpretations, the most common being that it is the process whereby on the one hand, public institutions execute in the best possible way their mission of serving the public interest, and on the other, business institutions and citizen groups express their interests, exercise their rights and obligations, and resolve their differences.

The problems and challenges still being faced in Mozambique in the area of governance are varied, the principal ones being:

- The bureaucracy, slowness and low efficacy with which, in general, the State institutions respond to the requests and needs of their citizens;
- The high costs associated with the form in which the public services are provided;
- The lack of connections and rapid communication between the organs and departments of the State both centrally, and between these and the provincial departments;
- The lack of centralised databases with uniform and consistent information. This lack is the cause of frequent discrepancies from department to department in what should be the same data; and
- The low level of informatics education on the part of the majority of the managers in State and public institutions and the consequent indifference or apathy in relation to the role that the ICTs should play in the general improvement of services.

In these circumstances, all possible efforts should be made to disseminate the best national and international practices and experiences as to the unparalleled opportunities that the effective use of ICTs can offer to improve the operation of governments at both central and local level. In this way, citizens would be offered better and more rapid services. It would put information at the disposal of the people and facilitate communication between them and those who govern them. World experience reveals impressive examples in the areas of education, health, the fight against corruption, electronic communication between citizens and their governors, the promotion of the image of a country, the attraction of investment, the improvement of the business climate, and a rise in the level of competitiveness.

Thus, in order to get the maximum value from the opportunities which ICTs offer, the Government will, in collaboration with its partners:

- a) Plan for introducing informatics into State services;
- b) Define a general plan and profile of basic training in informatics for State managers at all levels, and for members of assemblies, municipal authorities and community leaders;
- c) Set up a network to connect the organs and central departments of the State both internally and with its directorates or delegations in the provinces;
- d) Oblige the organs and central departments of the State to have a presence on the Internet;

- e) Make available to citizens, through the Internet, the most sought-for information, including application forms and similar documents needed to be filled-in by the public;
- f) Encourage contact between managers and citizens through electronic mail and the Internet, though without this denying the possibility of live contacts;
- g) Gradually introduce electronic voting and other forms of dealing automatically with electoral processes; and
- h) Create electronic systems of support to decision-making processes.

## **7. OTHER AREAS OF INFORMATICS POLICY**

As already referred to, the definition of intervention priorities in relation to the Informatics Policy does not imply that others are excluded that do not fall within this set of priorities. The present chapter therefore covers other areas to be considered in the program of bringing informatics to the country.

### ***7.1. Agriculture and Natural Resources***

Most of the people of Mozambique live in the countryside. Their principal occupation is agriculture, mainly small-scale agriculture. For this reason, their livelihood depends to a great extent on the quality of his or her products and how readily they can be sold. Because production nation-wide is so diverse from province to province, it is necessary to set up a system of information exchange, which will allow the greatest possible communication and complementarity between the provinces.

As in the other areas, this presents various challenges, such as:

- ❑ The lack of data banks containing information referring to the agricultural potentials of the country;
- ❑ Insufficient provision of weather forecasting to prevent natural disasters;
- ❑ The lack of a system of control, management and knowledge of the movement of wild animal migration.

Among the opportunities that ICTs can bring to the agricultural and natural resources area, the following can be emphasised:

- ❑ Spreading, by means of the Internet and in collaboration with research institutions, programmes on techniques of conservation and preparation of land;
- ❑ Promotion of an exchange of information, via the Internet, on wild animals at risk, thus improving the management of these resources;
- ❑ The possibility of a wide dissemination of information about the country, making use of Global Information System (GIS) technologies; and
- ❑ The creation of a national system of computers linked to regional networks with the object of promoting the exchange of experience and complementarity between countries.

Thus, with a view to profiting as much as possible from the opportunities that ICTs offer, the Government will, in collaboration with its partners:

- a) Set up a support programme for peasant associations and rural extension workers by placing on the Internet up-to-date information on agricultural techniques and the management of natural resources;
- b) Assist telecentres to offer basic training in informatics for agriculturalists and rural populations;
- c) Encourage agriculturalists and their associations to advertise their products on the Internet and to use it to sell them;

- d) Create a modern system of geographical information (GIS);
- e) Create electronic control systems for wild life in the national parks and reserves; and
- f) Set up models, supported by ICTs, of community management of natural resources.

## ***7.2. The Environment and Tourism***

Through his activities, Man has improved his living conditions on the planet. Often however, through his actions he has contributed to the degradation of the environment, worsening the grave situations brought about by natural disasters such as cyclones, floods, drought, etc. which there are still no systems to prevent or combat.

On the other hand many of the marvels of nature, which in developed countries are irresistible attractions for national and foreign tourists, still lie unknown here because they are not sufficiently disclosed.

ICTs are a new tool with which to face such challenges and identify and exploit new opportunities.

Therefore, within the context of the ICT Policy, the Government will attempt, in collaboration with its partners, to:

- a) Use ICTs, including the GIS system, to conserve the environment;
- b) Set up a modern electronic advisory system on weather, for the better prevention of natural disasters;
- c) Create a computerized system of contacts and advice on deforestation and the degradation of the environment which will allow appropriate measures to be taken;
- d) Disclose tourist potential by means of the Internet and so attract more investment into the sector;
- e) Place on the Internet links of internationally prestigious tourist information about places to visit and the infrastructure in the country; and
- f) Encourage tourist operators to offer information and telecommunications services of high quality to their visitors.

## ***7.3. Public Protection***

The benefits associated with a planned adoption of ICTs, with particular emphasis on the Internet, were sufficiently explained and demonstrated in the preceding sections. However it is important to stress that quite often the adoption of ICTs is accompanied by disappointments and disenchantment, especially where and when the technologies are not framed within a perspective and policy that takes account of real needs and possibilities.

Thus, as a result of errors, deliberate malice or abuse of ICTs, a lot of damage has been caused, introducing doubts about their benefits. Invasion of people's privacy, unauthorised public revelation of personal information held by institutions (for example of addresses and methods of contact), extortion or fraudulent transactions, pornography and sexual abuse of children via the Internet, the promotion of racism, xenophobia, and neo-nazism; these are just some of the problems that have often arisen in recent times by those who use the immense power of ICTs.

Commercial messages sent electronically, known in the informatics world as 'spam', invade millions of systems of Internet users who have never requested them.

ICTs have no antidote or panacea in themselves that can be applied universally and totally effectively. But it is important that the State, as a guardian of public good and of people's welfare and peace of mind, should take the necessary steps to ensure these. And that not only the storage, processing, transmission and quality improvement, the credibility and integrity of the information and information systems, but also the protection and safety of citizens against fraud, extortion, sabotage, terrorism, espionage and violation of fundamental rights, should be ensured by improving existing or creating new legislation.

Therefore with a view to ensuring or improving the protection of the public against different forms of electronic abuse and crime, the Government, in collaboration with its partners will take the following policy measures, amongst others.

- a) Guarantee the protection of personal data in the national infrastructure of information;
- b) Adopt solutions and cryptographic codes less susceptible to violation;
- c) Combat the violation of citizens' rights and attempts against public order and social and cultural values, especially pornography, abuse and violence against women and children via the Internet;
- d) Stimulate and support the production and dissemination of content that reflect the values of Mozambican society;
- e) Work with non-governmental organisations and other societal organisations to bring transgressors to justice, either civil or criminal.

#### ***7.4. Electronic Commerce and the Protection of Business***

The Internet today is not only the major worldwide network of telecommunications but also a truly global electronic market.

Electronic commerce or 'e-commerce' can be simply defined as the electronic exchange or transaction of services or products, including auctions, through the Internet.

Electronic commerce offers the following advantages:

- ❑ It practically eliminates physical distance between the buyer and the seller;
- ❑ It does not need middlemen;
- ❑ It allows a wide choice of products and of producers of the products;
- ❑ It is a low-cost operation which contributes to the reduction in the price of the goods and services; and
- ❑ In general it does not require a big initial investment.

The growth and rapid expansion of e-commerce however has not been without problems. These range from how to apply custom duties and other taxes which imports normally attract, to how to standardise digital signatures in a way that can be validated, and how to initiate legal actions, civil or criminal, against fraud in contracts or promises made through the Internet.

To make e-commerce effective in Mozambique, as in many countries in Africa, is an opportunity surrounded by challenges. This concerns not only what goods and services could be involved but also who could sell and buy, and where to find them. The problems and obstacles that arise have as much to do with the infrastructure, which is limited and inadequate, as with weak purchasing power and the very limited use of credit cards.

But if the country wishes to be active and relevant in the Global Information Society, there is no alternative to adopting the new paradigms and new forms of commercial relations in the Information Era. With this in mind and within the scope of this Policy, the Government, in collaboration with its partners, will:

- ❑ Take action to clarify and educate persons in the nature, benefits and risks associated with e-commerce;
- ❑ Support initiatives of firms, mainly those of small and medium-size, that wish to engage in e-commerce;
- ❑ Undertake the necessary reforms in commercial legislation so as to accommodate the new needs associated with e-commerce;
- ❑ Bring up to date the law on intellectual property so as deal with the specific aspects related to e-commerce;
- ❑ Encourage and support the creation of national associations of providers and users of Internet services and software; and
- ❑ Establish insurance mechanisms for Internet transactions.

### ***7.5. A National Network of Academic and Research Institutions***

In the modern world, the level and speed of development depends on the production of knowledge, supported by scientific investigation and research.

In the Mozambican context, there are various challenges presented by high quality research and investigation. These are, principally:

- ❑ The necessity to meet the great need for up-to-date literature in all scientific areas;
- ❑ The poor level of public information on scientific work undertaken at the level of Higher Education;
- ❑ The lack of exchange of bibliographic information at national level;
- ❑ The lack of a national computer network to allow continuous communication between researchers in the various scientific areas.

Within this framework there are various opportunities available to the research sector, especially those that result from the installation of computer networks with local, metropolitan or national coverage with access to international level networks. These opportunities include:

- ❑ The creation of a national network of research institutions connected on-line, to allow national scientists and academics access to scientific work and publications in real time;
- ❑ The setting-up of an electronic network of research bibliography to facilitate the circulation of literature which exists at national and regional level; and

- The promotion of discussion on research dissertation themes in the various scientific areas in such a way as to guarantee the continuity of research oriented to the development of the country.

With the intention of taking advantage of the application of ICTs to research, the Government will adopt the following measures in collaboration with its partners:

- a) Provide incentives for the creation of data bases of national and international bibliographies in all academic institutions;
- b) Promote the computerisation of public and private libraries and their on-line connection;
- c) Provide incentives for the development of virtual libraries and archives;
- d) Encourage the installation of informatics methods in scientific research institutions and an electronic connection among themselves and with similar institutions in the region and worldwide.

## **7.6. Women and Youth**

Women and Youth are sectors of society frequently marginalised, if not actually excluded, from central decision processes on the future of society.

The Government Programme emphasises that, for the real development of the country, women should play the major role they deserve in the various spheres of society, and that the country should be concerned to incorporate Youth in an active role in a spirit of patriotic pride.

As the recent experience of several developing countries shows, ICTs can provide a powerful means for achieving equality of access to the opportunities for development for women and for the integration of young people in national programmes of reconstruction and development.

For this reason, in the context of the Informatics Policy, the Government, in collaboration with the private sector, civil society and other partners will attempt to:

- a) Include a Gender perspective as a dimension in development projects and programmes for the mastery of ICTs;
- b) Promote the use of ICTs as tools to reduce and eliminate the inequalities between the sexes in access to opportunities for education, employment, land and other social benefits;
- c) Encourage the integration of women and the young in the organs and processes of planning and decision-making on the use of ICTs;
- d) Set up special programmes of training and qualification of young women and youth in the mastery of ICTs;
- e) Support the development of applications and services which meet the specific needs of women and youth and promote self-employment, especially in the informal sector;
- f) Promote the use of the capacities of the Internet and of e-commerce to facilitate the access of women and youth to business opportunities;
- g) Promote the creation of electronic networks and web sites for organisations and associations engaged in helping with the advance of women and youth.



## **7.7. Culture and Art**

Culture is a fundamental element in the identity and personality of a people, and its esteem is imperative for governments, public and private institutions, civil society and citizens in general.

Amongst the obstacles to be faced, the principal ones are the lack of resources for the conservation of national heritage and cultural patrimony, the insufficiency of qualified technical people, the insufficient presentation of the country's cultural and artistic patrimony, and the poor level of contact with other cultures.

ICTs are new tools for the conservation and esteem of national artistic cultural patrimony, for the presentation of national values to the world and for the promotion of interchange and cooperation with peoples of other countries and continents.

Within the context of this ICT Policy, the Government will work with the private sector, organisations of civil society and other partners to:

- a) Promote the use of ICTs in combination with traditional methods, to preserve and add value to national artistic and cultural patrimony;
- b) Encourage the construction of electronic networks in cultural institutions such as museums, libraries, archives, art and artisan galleries, cultural centres, etc.
- c) Provide, through the Internet, people's access to the bibliographical and documentary heritage of this and other countries;
- d) Encourage, support and regulate the availability and sale of artistic and cultural articles through the Internet and on CDs and other kinds of information support;
- e) Fight for the observance of intellectual property rights and combat all forms of piracy or other violations of these rights; and
- f) Promote an artistic and cultural interchange between the various parts of the country and with other parts of the world, using the modern ICT technologies.

## **7.8. Social Communication**

Social communication media - especially radio, television and printed materials - have been powerful tools to keep the public informed on fundamental matters of national and international life and have contributed to greater transparency and responsibility in political, social and economic management.

The new ICTs, especially the Internet, are now increasing the power of communications and creating greater opportunities for the realisation of the right of all to information.

Thus, in the context of achieving the objectives of the Informatics Policy, the Government, in collaboration with the media and other partners will attempt to:

- a) Promote the combination or integration of traditional media technologies with ICTs in order to ensure greater access to information for all citizens;
- b) Consolidate and develop a free, independent and pluralistic environment of expression and communication;

- c) Work to reduce the concentration and dominance of developed country agencies and stimulate the production of nationally relevant information content;
- d) Provide for social communication professionals the training required for an efficient use of ICTs in their work;
- e) Stimulate the presence on the Internet of all organs of information, with information which is more up to date and of interest to the public;
- f) Promote dialogue and cooperation between multinational media, public and private information agencies and telecommunication industries; and
- g) Encourage publication by community organisations of electronic news and information bulletins which reflect their interests and concerns.

## **8. FINANCING THE INFORMATICS POLICY**

The Informatics Policy will have little or no value if it cannot be implemented. The big challenge is that the basic infrastructure for ICT use involves high costs, while the country is in an economic development situation that depends on investment and support from abroad.

Amongst the great obstacles and challenges the country faces in financing a programme to introduce ICTs, are the following:

- The limitation of the financial resources of the country;
- Insufficient knowledge about the role that ICTs could play to bring the country out of its underdevelopment and make it more competitive on the world scene; and
- The lack of a national programme to introduce informatics based on the consensus and support of the main stakeholders who must be an integral part of the national development plan.

Therefore, recognising the decisive role that the ICTs can and must play in the accelerated, balanced and sustainable development of the country, the Government will, in collaboration with its partners:

- a) Adopt a national integrated programme for bringing informatics to the country as part of the national development plan;
- b) Mobilise resources for the financing of this programme;
- c) Create a favourable environment and packages of incentives for those who invest in ICTs, including in the human resources of the sector;
- d) Orient the investment in such a way as to promote a harmonious and balanced development, directing the new resources into the most needy areas and the currently least-favoured segments of society;
- e) To take the national infrastructure of telecommunications as a backbone of development for ICTs and of first priority for investment in the sector; and
- f) Thus direct the investment so that Mozambique becomes not only a consumer but a producer of ICTs.

## 9. INTERNATIONAL COOPERATION

International cooperation in the area of ICTs comes within the framework of the objectives of the foreign policy of Mozambique.

The regional integration of African countries is the best path to rapid and sustainable development of the continent. It is for this reason that regional communities such as the Southern African Development Community (the SADC), the African Economic Community, and similar initiatives have come into being.

In Addis Ababa in May of 1996, Resolution 812 (XXXI) was adopted. This concerns the implementation of the African Information Society Initiative (AISI), under the aegis of the Economic Commission for Africa (ECA). In February 1999 the Consultative Conference of SADC, meeting in Lusaka, approved the document 'SADC in the Next Millennium; Opportunities and Challenges of Information Technology'. These are clear indications of the determination of the African continent in general, and of Southern Africa in particular, to make ICTs a catalysing tool for development.

To put these high intentions into practice it is necessary that, as well as political will, there should exist an infrastructure and a set of information and communication services capable of realising and facilitating regional integration.

Being the most natural exit to the sea for the inland countries, Mozambique is in a privileged position as a node of the main systems of communication in the region, this being one of the principal reasons why it was chosen as the coordinator of the transport and communications sector of the SADC.

Although the challenges to be overcome are great in the ICT area, amongst them being the weak coverage of the communications network and its high costs, the opportunities that these offer are even greater, such as an acceleration in the present regional economic integration, a reduction in the imbalances between the countries in their present state of development, and an effective participation in the cooperation of nations and in the global economy.

In this context, and with a view to promoting regional and international cooperation in the area of ICTs, Mozambique proposes to:

- a) Participate actively in the regional and international consultancy organisations on telecommunications such as the Southern African Transport and Communications Commission (the SATCC), the International Telecommunications Union (the ITU), and others;
- b) Participate actively in initiatives and projects with supra-national aspects (especially those within the African orbit), with the intention of exploiting the potential of ICTs for development, such as the Virtual African University, the African Development Forum (ADF) and the Global Knowledge Partnership (GKP);
- c) Sign agreements, conventions or protocols at regional and international level that offer mutual advantages in the area of ICTs;
- d) Reinforce partnerships with international institutions of standards, finance and cooperation for development such as the International Standards Organisation (the ISO), the Bretton Woods institutions, United Nations agencies, etc., with a view to increasing support to national and regional initiatives in the area of ICTs;
- e) Encourage and support the efforts of the public and private sectors, civil society and other stakeholders, with a view to improving regional integration; and
- f) Promote a wide dissemination at national level of the best experiences and practices of other countries in the use of ICTs for development.

## **10. IMPLEMENTATION STRATEGY**

The Implementation Strategy is the set of guidelines that will orient the programming of the interventions and activities to be undertaken to implement the Informatics Strategy. Thus, on the basis of the objectives and priorities of the Informatics Policy, the Implementation Strategy will establish:

- The specific implementation objectives;
- The principles and methodology to be followed in defining the programmes and projects of implementation;
- The stages for the implementation of the Informatics Policy;
- The participation mechanisms of all the stakeholders, not only in the definition but also in the monitoring and evaluation of the programmes and projects of the implementation of the Informatics Policy.

A detailed document will be elaborated showing the Implementation Strategy of the Informatics Policy.

### ***10.1. Specific Objectives of the Implementation Strategy***

Very much in accordance with the mission and objectives of the Informatics Policy, the Implementation Strategy has as its general objective to ensure the creation and development of the Information Society in Mozambique, using the ICTs as a lever to achieve the following objectives, amongst others:

- a) To eradicate absolute poverty and improve the life of the people;
- b) To combat illiteracy and accelerate the development of human resources;
- c) To provide universal access for citizens to information and world knowledge;
- d) To raise the efficacy and efficiency of public and private institutions;
- e) To improve governance and public administration;
- f) To create a legal and business environment favourable to the production and dissemination of ICTs;
- g) To make Mozambique an active and competitive partner in the Global Information Society and in the world economy.

### ***10.2. Principles and Methodology for the Elaboration of Programmes and Projects of Implementation***

The implementation of the Informatics Policy is based as far as possible on programmes and projects of national, sectoral or regional scope whose implementation will fall to the various sectors and institutions of the State, the private sector and the organisations of civil society and other stakeholders. It is therefore important that the principles and methodologies should be defined which will ensure a relatively uniform treatment of the subjects.

### **10.2.1. The Participation of Stakeholders**

Similar to the way in which the Informatics Policy was defined, the definition of the programmes and projects of implementation must be highly participative and bring together the points of view of the stakeholders and of the beneficiaries in order that they will feel themselves to be the true owners of the programmes and projects, and take an active part in their execution.

### **10.2.2. Information and Communication Technologies as a Necessary Dimension of the Programmes**

All the sectors and institutions of public or private discussion must use ICTs as a necessary component in their project and programme activities, considering the benefits which these will bring. Thus, in whatever project or programme, the sectors and institutions responsible must, whenever possible, establish objectives to achieve a mastery of ICTs in the form of measurable and quantifiable indicators.

### **10.2.3. Allocation of Responsibilities and Partnerships**

In the definition of programmes and projects, the person or institution mainly or primarily responsible for their execution must be clearly indicated. So also must be the responsibilities of other stakeholders or partners. By this means it will be possible to set up systems of control and levels of responsibility for reporting back.

### **10.2.4 Other Aspects**

Amongst other important aspects to be taken into consideration are the setting-up of a good foundation for the work, the definition of a calendar of activities, the finance needed and the sources of finance for the actions programmed.

## ***10.3. Stages in the Implementation Strategy***

Taking into consideration the starting point for the country wide dissemination of ICTs, as well as the extent and complexity of the exercise, the projects, programmes and actions to be undertaken will have to be framed as short, medium and long-term goals:

- Short term: actions, projects and programmes to be achieved in the first two years following approval of the Informatics Policy (2001-2002);
- Medium term: actions, projects and programmes to be achieved in the period 2003-2004;
- Long term: actions, projects and programmes to be achieved in the period after 2004.

The actions, projects and programmes with short and medium achievement times will be part of the Five-Year Programme of the Government (2000 to 2004).

## **10.4. The Principal Factors of the Implementation Strategy**

The principal factors in the Implementation Strategy of the ICT Policy are based on the latter's priorities. These in their turn are based on the objectives and priorities of the Government. These therefore are the main factors:

### **A. In Priority Areas**

- ❑ **Education:** The expansion and consolidation of the Electronic Schools Network (SchoolNet); distance teaching or the virtual school; the training of trainers in informatics; virtual libraries, and school administration;
- ❑ **Health:** The Health Information Network; telemedicine; hospital administration, and the pharmaceutical network;
- ❑ **Human Resources Development:** The setting-up of centres; institutes and training academies in informatics on internationally acceptable patterns; basic training in informatics for managers; definitions of careers paths and professional qualifications for technical informatics specialists;
- ❑ **Universal Access:** The expansion and consolidation of telecentres and the setting-up of new points of public or community access; the creation of informatics 'parks', and the adoption of measures to stimulate interest;
- ❑ **Infrastructure:** The redesign of the architecture of the infrastructure of telecommunications to assist the convergence and integration of voice, video and data; the expansion of the infrastructure to the rural areas, and its use to strengthen radio and television;
- ❑ **Governance:** An electronic network in all central and provincial government organs and departments; an Internet presence for Ministries and other State agencies; centralised and uniform databases for personnel, public accounts, patrimony, and legislation.

### **B. In Relation to other areas**

- ❑ **Agriculture and Natural Resources:** The dissemination via the Internet of the techniques of agricultural work and the community management of natural resources, and electronic control systems for wild animal migration in nature reserves;
- ❑ **Environment and Tourism:** Geographic Information Systems (GIS) on climatic variations and the environment, and the use of informatics for tourist purposes;
- ❑ **Public Protection:** The adoption of legal measures against abuses and violation of rights on the Internet and other electronic media;
- ❑ **The Network of Academic and Research Institutes:** A virtual university, and on-line bibliographical and documentation centres;
- ❑ **Women and Youth:** Special initiatives for the integration of women and youth into ICTs;
- ❑ **Art and Culture:** Electronic networks linking cultural institutions such as museums, cultural centres, art galleries; the sale of Mozambican art through the Internet, and the electronic promotion of cultural tourism;
- ❑ **Social Communication:** The production of relevant content on the Internet; an Internet presence for the principal organs of social communication.

In order to cover the costs associated with the implementation of the programme of the Informatics Policy for the country, the Government will make efforts to raise the necessary finance, and will mobilise international cooperation partners to finance specific areas of the programme.

## **10.5. Monitoring and Evaluation**

With a view to ensuring the systematic realisation and monitoring of the implementation of the Informatics Policy, various measures will be taken, amongst which the following are emphasized:

- The reinforcement of the body or institution which will coordinate the development of the Information Society in Mozambique;
- The setting-up of a consultative forum involving representatives of the State, the public and private sectors, institutes of Higher Education and research, the informatics industry and services, non-governmental and socio-professional organisations, and civil society in general. This forum will hold two ordinary meetings each year, during which,
  - It will receive reports from the Commission for the Informatics Policy or from some other body on the implementation of the Informatics Policy;
  - It will make recommendations it considers most appropriate on the measures to be taken and the readjustments necessary.



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