CHAPTER VII

THE REGULATION OF THE INTERNET

What is the Role of the State in the Development of the Internet? What are the International Projects for the Developing Countries?

7.1 Internet Governance: The Role of the State

The Internet is, by definition, an open Net. For this reason some of its applications, such as the development of business relationships or the organisation of private information services, gives rise to the problem of *privacy in relation to transactions and data and also to the problem of control in relation to access to information and data.* The issue of privacy and information access concerns not only the industrialised countries where deployment of the Net has already significantly diffused, but also to countries in the developing world where utilisation of the Internet is only formative in character and where the new information and communications technologies and the telecommunications infrastructure are equally at a low level of development.

At the Telecom Summit of 1996, Fausto Colombo [Medi 96a] underscored the importance of the *ethical dimension of the Internet: any significant cultural change implies new rules for the people's behaviour.* This provokes the rise of new problems, but also evokes the need for a more critical analysis of the old problems: for example, talking about social control, there is the problem of controlling or not controlling the users. How far, for example, is the Internet allowed to enter the users' privacy? Furthermore, the world is characterised by a plurality of ethics and *'it is difficult to think of erasing this multiplicity, but we can think of finding a global ethical dimension, that is a collective concern, which contains the various local ethics and which would enable them to survive'.*

The political dimension plays a relevant role as a government is necessary, which would rule the economy of the new media at an international level. *'The problem of the big organisations'*, Umberto Colombo *explains* [Medi96], *'such as, for instance, the United Nations, is the search for the solutions to try and reduce this huge difference of welfare among countries and to face the main problems for the realisation of development in the world'.*

In this chapter we will deal, more from the point of view of the need for a legal framework within the context of deployment of the new information and communications technologies, in the path to development of the Internet in the Developing Countries, by focusing in particular on the issue of the governance of the Net, which has implications in the Developing Countries in relation to the need for the law about privacy. Privacy in relation to personal data is a civil right of every citizen-user in any nation. In addition, we will analyse various projects that have been put into practice or that are still in progress in the Developing Countries for implementation with the collaboration of industrialised countries (eg projects aimed at building the telecommunications infrastructure). Finally, we will list the priorities that have to be considered by the Developing Countries with the co-operation of the advanced countries for the diffusion of the Internet in their territory.

'Internet Governance currently represents the underdeveloped world'. This marked the beginning of the session of INET 98 [Inet 98a] on the subject of the globalisation and the regulation of the Net. During the conference held in Geneva in July 1998, some contrasting opinions about the governance of the Net emerged. Kenneth Cukier of *Communications Week states that 'the governing power has to be changed and the regional representatives, mostly constituted during the regulation process, have to be improved. The information society needs Internet Diplomats to support it in a more equal way than the legislative systems'.* On the contrary, according to Milton Muller *'by using Internet Governance to solve the problems, there is the risk of creating a governance agenda against internetworking'.* Muller thinks that regulation of the Net tends to favour the power of the Governments, while the Internet Society must be deregulated. Robert Shaw of ITU adds that *'self regulation is not sufficient for the Internet as it needs some control and balance'.*

The problem of a controlled and regulated Net is fundamental and concerns all the countries of the world, independently from their

economic growth, as the diffusion of the Internet is progressively explosive. Furthermore, telecommunications networks are needed in order to deploy the Internet, thus encouraging countries worldwide to consider changing their traditional, often predominantly monopolistic policies on telecommunications. Both in the US and in Western Europe the telecommunications policies have been traditionally based on the notion of 'public' or of 'universal service' for the citizens'. For many decades there have been some differences between the national regulations and the international regulations in providing an equal and reliable telecommunications service to all the people and the social categories. This can be explained, for example, with regard to the difference between the TV world in Europe and the TV world in the US: while in the US broadcasting is typically characterised by a free market, in Europe, until recently, TV broadcasting was a public service provided by the State, with a strong emphasis on political, cultural and religious values [Cuil 98].

The communications world has radically changed during the last decade. The modern information and telecommunications technologies have put an end to the lack of communications transfers and have transformed the world into a global village where information is a necessary and a critical resource. Through these developments previous, traditional telecommunications policies have changed, especially in Western Europe, where the notion of public service has been substituted by a policy of competition, innovation and access.

In the Developing Countries with domestic-oriented and import-substitution strategies, the policies for the telecommunications and the technology sectors have been studied in relation to their national priorities. In the less developed regimes the communications services were considered to be a public utility or a luxury entity for the consumers and emphasis on import-oriented strategies of industrialisation made telecommunications useful for the railways, the roads, the power and other utilities in the important role of a national infrastructure. Their specific role in the progress and development of these countries was limited to the increase in the distribution of services and the administrative efficiency with the rise of the production.

Recent evolutions in the world of the communications technologies policies have changed the terms of the regulations in these countries. The transformation into the global regime of the new information and

communications technologies worked to seek to change the development strategies of the Developing Countries, effecting strategy transformations from import-substitution strategies to research for dynamic and competitive advantages in the global economy. These advantages deal with the ability for creating successful 'comers' in the marketplace of the global village through the application of the technologies. Some big Developing Countries, such as Brazil, Mexico, India and China, are particularly inclined to support the global division of labour mainly as a result of their huge and the not-yet saturated markets and to the high professional capacities of their labour force. All these characteristics combine to attract international investments for business enterprise development. Also, the advanced telecommunications infrastructures, together with workers' experience and ability to deliver results make it possible to substitute the low cost of labour and to provide for the lack of natural resources; the advanced telecommunication infrastructures become the key for making ingress into the global market, as they represent a resource of competitive advantage.

In the Developing Countries the regulation of the telecommunications and of the Internet is necessarily a reactive process in response to the imperative of taking advantage of the global evolution of the communication technologies. This is in contrast to the conditions in the industrialised countries, where regulation is a pro-active process, based on the goals of the telecommunications and the new information and communications technologies companies in order to catch up with the global market. All this implies that the promotion of the communications technologies is not routinely included in the development goals of the countries, but is a response to the global configuration. According to Manuel Castells [Doke 98] global integration through the deployment of the new information and communications technologies could give rise to a wrong and an unbalanced evolution, by providing some areas with extensive emphasis and condemning the others to stay insignificant and underdeveloped. Nevertheless, a regulation of the telecommunications and of the Internet, based on the ability of the political mechanisms to negotiate on globalisation by granting national goals for progress can represent the index of success of these countries.

The role of the state is fundamental for the growth of the Net in the Developing Countries, as its contribution is essential for the support of an equal and balanced development in these areas of the world. In a report by OECD [Oecd 98a] Paul Twomey, President of the *National Office for*

the Information Economy (NOIE) in Australia, explains that self-regulation is the most appropriate way to govern the Internet, and that the role of Government should be limited to a minimum level of support on some specific problems such as, for instance, the provision of equal access and of security on the Net. Self-regulation is praised as it makes it possible to be more flexible in meeting the users' demand and because it is more successful owing to the existence of qualified knowledge about the sector.

The creation of an 'international industry' with a governing base has been suggested to solve problems arising because of the global spirit of the Internet. The main mission of every organisation would be develop a simple regulation structure, which could protect users against anti-competitive actions and could guarantee an open and equal competition in the global market of the Net. The organisations would be responsible for any illegitimate content ignoring or disturbing its members' concerns. These directions clearly suggest that Government should be implied in creating the various organising groups and even that its role should be limited to some relevant matters such as, for instance, the election of the members, the legal structure and the distribution of the various functions; but at the same time the Government is not allowed to make any operating laws or any procedures for the organisations.

In the same survey referred to above, Toru Takahashi, President of the *Internet Association of Japan and the Executive Council of APNIC,* stated that self-regulation is an appropriate structure of governance for the Internet, as the interactive community has always been self-managed ever since the beginning of the Internet; while the role of the Government must be the promoting of this kind of structure and it can take part only in the legislative matters about eCommerce and ownership rights.

The main problem is to promote this self-regulation in all the organisations, which are at the base of this global Net. An example is provided by the constitution of the new *Internet Corporation for Assigned Names and Numbers Authority* (ICANN), in which self-regulation level is still insufficient and and hence the structure and the procedures would have to be redefined.

7.2 Censorship of the Internet in the Developing Countries

The Internet is a powerful medium for the promotion of freedom. According to the Economist Pedro Schwartz, teacher of History of the Economic Doctrines at the University of Madrid and President of *Fundesco* (the Foundation for the Spanish Telephone Service) [Card 98], the network of nets is, in Friedrich von Hayek's words, *'a spontaneous order that will increase individual autonomy and political freedom. So, the Internet is a rising, not planned order, with a spontaneous diffusion of the institutional laws and no central authority, where knowledge is distributed and applications can be pre-determined'.*

The new information technologies increase both individual and public freedom, but how far can we express our opinions on the Net? In many Developing Countries Governments have created competent authorities, which censor articles published by the local or international Web magazines, banners for the advertisement of products, activities or Web sites. How far can such situations be accepted, sometimes in the face of the violation of human rights?

A Web newspaper editor in Cameroon published an article about an African President and was sentenced to two years in prison [Znde 98b]. In China an informatics engineer, Lin Hai, was arrested 25th of March 1998 for sending 30,000 e-mail addresses to VIP References, a pro-democracy Internet newsletter distributing reports on dissidents' activities, on human rights and other information to nearly 250,000 e-mail addresses in the whole country. He was jailed for two years. A physician, Wang Youcai, in December 1998, was sentenced to eleven years of imprisonment for being the leader of a pro-democracy protest in 1989, for organising a pacific opposition called China Democratic Party and for sending e-mail messages to some dissidents in the USA [Dfn 99]. Nearly 1 million Chinese have access to the Internet. The Government encourages connection the Net to promote national progress, but at the same time seeks to control the use of the Internet, especially as far as political proposals are concerned.

The *Middle East Times* has never obtained the licence to be published in Egypt and the Egyptian laws allow the Minister for Information to censor any newspaper that is published outside Egypt before being allowed entry into the country. This happens even for the Web pages of these

newspapers, which like *The Middle East Times,* publish news coming from all over the world. The competent authority for censorship checks all the information before distribution in the traditional way or through the Net. If any censor does not like any articles, paragraphs or sentences are censored, the newspaper has to erase them and to substitute them with blank space. Furthermore, the editor cannot use this space to explain the reason for the censorship.

The main reasons for censoring the news are generally the following:

- Reports on violation on human rights;
- Criticism on the President or on his family;
- Criticism on the army;
- Underscoring violences suffered by the Egyptians in the Arab states, especially in Saudi Arabia;
- A modern and not orthodox interpretation of Islam; and
- Reports on discriminations against the Coptic Christians.

Such censorship, however, is very arbitrary as these same pieces of information are sometimes authorised, while at other times censored [Dfn 97a].

Lutfi Abdel Kaber, Chief of the Censoring Authority, in an interview of *The Middle East Times,* declared that censorship in Egypt has been abolished after a decision taken by President Sadat in 1974. Ever since that date the task of the authority had been simply to check what is written about the Egyptian situation [Dfn 97b]. This statement is in contrast with reality: 11 Amendments of Censorship were declared in 1992, when Law #38 substituted the previous Law #430 of 1955 [Dfn 97c]:

- Representing the spreading of atheism, denying religious opinions and encouraging superstition;
- Representing the Prophet Mohammed and all the prophets directly or symbolically;
- Showing naked parts of the body in ways contradicting folklore and the traditions of society; also, actors' dresses must not be at variance with the Egyptian and the traditions of society and must not let the body be shown to embarrass the audience;
- Filming sexual acts or any gestures or words suggesting these acts;
- Filming any dance stimulating the senses;

- Representing alcohol dependence or drug administrations and lotteries or games as a source of income;
- Filming deaths, tortures or violent deeds;
- Representing suicide as a solution for human problems;
- Joking about national events or symbols;
- Representing in unacceptable ways any foreign country or population having good relationships with Egypt;
- Representing social problems in a way that could create despair or division among social classes, ignite ethnic wars or compromise unity of the country.

The punishment for those people who violate any point of Article XIX has increased from a minimum of one month and a maximum of six months of imprisonment to a minimum of two years, while the fines have increased from a minimum of E£200 and a maximum of E£500 to a minimum of E£5000 and a maximum of E£10,000.

The freedom of speech, both through traditional means and the Internet, is in danger not only in Egypt but also in other countries of the world. **Saudi Arabia,** for instance, is poised to introduce its own version of an information network with no objectionable material. The Chief Executive of King Abdel-Aziz City for Science and Technology (KACST) has recently explained that a study has been made about how to stop any objectionable material against the religious and moral values of the nation, before it can enter the country through the Internet. The internet was introduced in the country but the declaration did not tell which kind of material would be censored. It has to be noted, however, that in a country where there are Islamic Sharia Laws, rigid control and censorship of publications before being authorised for distribution in the country is an imperative [Znde 98c]. This kind of Internet usage will not certainly be so much open as, according to a manager of one of the ISP companies the country; the mechanism of connection to the global network is peculiar: in order to have access to the Net all providers will have to connect their own computers to a central megacomputer, situated in the capital. The national network will pass through a firewall able to prevent access to those sites that seem to be objectionable to Saudi Government, which has a conservative Islamic tradition [Dea 98i].

The future of the Internet has been recently considered by the oldest counsellor, Ayatollah Ali Kamenei of **Iran**. At the moment access to the Net is just for government organisations and, with special permission,

such organisations as the Journalists' Association. All other users cannot connect to the Net because of the low capacity of the telephone lines. At the time of writing during late 1999 through early 2000, the Government was considering to change the situation and to supply the service also for domestic applications with, however, particular precautions in order to prevent any possible debilitating effect. Until 1995 Iranians have been provided with email service through Neda Rayaneh, a partner of the municipal company of Teheran and through some private companies. Now it is possible to have access to the local Webs which can be used to search databases, to read newspapers or to exchange information. The authorities, however, seek to control the Net in order to encourage users not to use bad language or spread negative political messages. These local networks are allowed to supply only texts and no graphics [Nua 98k].

As far as **Asia** is concerned, it is sufficient to know its historical and political evolution in order to understand that in **China, Mongolia, Korea, Laos, Vietnam, Thailand and Malaysia** censorship is predominant; or rather, here the behaviour towards the Net is completely different from the Western mode of behavioral scope on the Net.

In **Malaysia** the Prime Minister has warned the young people against *'the dangerous consequences of the amoral technologies'*, and has imposed on the cybercafés to pay a deposit of US $5,100 to guarantee the total absence of politically and culturally incorrect material in their sites. If a pornographic site is found to be operating in their websites, the Authority would confiscate the deposit [Wired 99].

In **China** the Government wants to control all citizens using the Net and so has imposed on all users, both individuals having their own home pages and businessmen exploiting the Net to communicate with the world, to register with the police authority [Neog96]. This poses some difficulties because Internet users are perfectly aware that there is no precise and sure way to keep order on the Net, as anyone having a computer or a modem can send his own messages anywhere. Furthermore, we have to consider that the Internet is a technology enabling anyone, in China in this case, to communicate with the rest of the world in a free way and without restrictions, and this fact is a worry to the authorities. Even servers of the Ministry of Information cannot stop all the news. Most of the citizens can, in fact, find in American, Japanese and Australian Web sites, the Chinese newspapers not collaborating with, the oligarchic power of Peking.

In **Vietnam** a special committee met in Ho Chi Minh City to consider the possibility of imposing restrictions on the use of the Net. The same committee would be empowered to check that the main rules decided by the Government about the Internet are respected, while the Ministry for Culture, in collaboration with the Police, would prevent indecorous material entering the country through the Internet. In 1996 a new Web site was launched against this violation of human rights, with the goal of fighting the repression of the freedom of speech by publishing censored or prohibited documents. *Digital Freedom Network (DFN)* is an international non-partisan partnership organisation working with some associations, such as the Committee for the Protection of Journalists, Focus on Justice, Index on Censorship, Journalists without Frontiers, Cubanet, and the Network for the Defence of Independent Media in Africa, and seeks to promote human rights and freedom of expression. The Director of the site, Bobson Wong, explains that the main rule for the organisation is that *'the freedom of speech of an individual can be limited only when it is dangerous for the rights of other people'* [Wired 98]. The organisation has recently launched a campaign for the release of four dissidents, members of an association for the human rights in Cuba, called *Internal Dissidence Working Group.* The members were however, subsequently arrested after their publication of an article entitled *'The Homeland Belongs to Us All';* it was about the violations of human rights, the corruption of the Cuban government and it demanded an economic improvement for the Communist countries. DFN has provided delegates dealing with human rights, through their own Web sites, with a limited number of free Internet-based phone calls. In this way the users are encouraged to use their own resources to support the release of these dissidents. *'This is a way for people to use the Internet to make a difference in the world'*, President Wong declared.

The site of DFN contains also works by some lawyers about human rights of 17 countries and many letters by political prisoners [Znde 98d].

There is, however, a kind of censorship on the Net that can be accepted, as it derives from a morally correct reason: the **nannyware**, that is the *censorship of the Internet for the children's sake in order to prevent them watching pornographic or violent images.* In fact, some countries are considering to introduce servers to filter the images and prevent children entering those sites that are only for adults. An example is provided by **Singapore,** where the local ISPs were invited by the Government to offer a server-level filtering among their services by the end of 1998, in order

to keep children out of on-line pornographic images. The country has enacted severe laws against pornography, movies, and books on the Internet. The Authority for Communications has already forbidden nearly 100 Web sites promoting pornography, violence or the religious and racial discrimination from operating [Wired 99].

In Vientiane, **Laos,** the first provider in the country of the Northern part of the Asiatic Siam began its activity in about early 2000. This country borders Vietnam and shares with it the fear for the Internet and for the political contents it can offer to its citizens. For this reason *Globenet,* the first ISP in Laos, provides access to the Net together with the deployment of filters, through which Government hopes to censor the Internet [Dea 98e].

In order to solve the Internet Governance problem the *World Wide Web Consortium* decided to install a new *Platform for Internet Content Selection* (PICS) [W3or 99]. The PICS platform is one of the several means used to filter on-line material. At the beginning it was conceived to help parents and teachers control access to the Internet by children, but it is now also used in the firms, so that the employees cannot visit inappropriate Web sites while working and also by some Governments in order to control the entry of material that is deemed to be illegal in their own countries.

The PICS platform has been studied not only to prevent the youngest users having access to inappropriate information, but also to inform the individuals about the level of security, both from the point of view of the protection of information and of the software codes granted by the sites.

A coalition of groups fighting Internet censorship has recently asked the WWW Consortium not to approve the bills that have been added to the platform, as they would make this system too much restrictive, because of the difficulty of creating a rating system that would be adequate to the flexible and diverse nature of the Net. The associations think that the new characteristics would risk making no distinctions among the forbidden sites, by making the access to information and the communication more difficult [IDG 98b].

7.3 The Law about Privacy

'It is time to have clear rules in the Internet. No more juridical

compromises or solutions provided by self-regulation, but a series of precise laws, which can give impulse to the activities of the Net'. These are, in a few words, the conclusions drawn from the meeting *'Internet and Privacy. Which Rules?'* [Mina 98], organised in Rome May 1998 by the Authority for the Protection of Personal Data. The protection of privacy on the Net is fundamental, as it shows in many occasions: when a user hides behind anonymity by taking different identities in order to have access to some kinds of sites and when there is the risk of being controlled by special software conceived to study the user's concerns. Traces left behind by individual users in cyberspace can easily be stored in various data banks, capturing the habits and the curiosities, which can be put to use for commercial aims. The Net must thus have some rules respecting the Net user's private life, by *providing anonymity, privacy, the possibility of expressing one's own opinions without being controlled, or the possibility of buying without being overwhelmed by the advertisements.*

The risks for the unsuspecting electronic citizen on the Net have been described by Yves Poulet of the University of Namur [mina 98], and can be categorised into two categories:

- **Evident risks:** risks associated with the global dimension of Internet or with the availability of personal information communicated to several and various individuals on line;

- **Invisible risks:** risks relating to cookies, which are the programmes sent to the browser habitually used by the user, and may result in spamming of the unsuspecting user.

A recent survey in the US by the *Graphic Visualization and Usability Center of the Georgia Institute of Technology* in Atlanta has found that, for the first time, *users of the Net would willingly renounce some freedom of speech for more privacy about personal data.* In fact, 39% of those interviewed agreed with this statement, while 33% said they agreed with enacting laws about the privacy of information and only 7% said they were against initiatives limiting the freedom of speech on the Internet [IDG 98b].

On the Web there are organisations that deal with solving the problem of privacy for Internet users. One of these is *Privacy International (PI),* which has been operating since 1990; it is in the United Kingdom, but it has an office also in Washington [Priv 99]. PI has promoted some

campaigns in Europe, Asia, and Northern America to fight the violations of privacy such as, for instance, those practised in relation to telephony, the deployment of personal data in ID cards, control by video, the gathering of personal data, and the information systems of the police and doctors. In PI's home page you can read the latest news about advancements in privacy in various countries. Talking about the Developing Countries we have seen that several Governments are acting really cautiously, while others are faster in taking decisions on the subject. An example is provided by **South Korea,** where the Government passed, in December 1999, the law on *wire-tapping* and also on *intercepting through email.* The new law limits intercepting and establishes punishments for illegal interception of personal communication, by individuals or organisations utility.

A scandal for wire-tapping and interceptions even through Internet broke in **Brazil,** where many authorities, such as the Minister for Communications, the President of the *Brasilian Development Bank,* the Chief of the Foreign Trade Council, and the international business director of *Banco do Brasil* gave their resignations after the publishing of alleged interceptions showing interference of the Government with the privatisation of the telecommunications.

Another initiative reported in the PI site is the *Global Internet Liberty Campaign,* in which a report, written by PI and the Open Society Institute, entitled *'Privacy and Human Rights'* [Gilc 98] provides a useful *expose* linking privacy and human rights. Privacy is a fundamental human right stated by the *United Nations Declaration of Human Rights,* by the *International Covenant on Civil and Political Human Rights* and by *other national and international treaties;* the main aim of the report is to make the authorities and the readers think about the great and growing importance and about the diversity and the complexity of this right. The report provides some details about the situation of privacy in 15 countries worldwide; it underlines the constitutional and legal conditions of the protection of privacy and explains the most relevant problems and events concerning this matter. Most of the countries worldwide state explicitly the right of privacy in their constitutions. Such statements include at least the right of the inviolability of one's house and of the secrecy of personal communications. Some recent constitutions, such as the *South African* constitution or the *Hungarian*, include specific rights for access and the control over personal information through the new information and telecommunications technologies, including the Internet.

In other countries where privacy is not explicitly recognised in the constitution, as in the **USA,** in **Ireland** and in **India,** the *courts have formulated this right somewhere else.* In many countries due cognisance is given to international covenants recognising this right, such as, for instance, the *International Covenant on Civil and Political Rights or the European Convention on Human Rights,* which have both been approved as laws.

There are three main reasons encouraging Governments of nations to adopt a clear law about *privacy* and the *protection* of personal data:

- **To remedy the injustices of the past:** several countries, especially in Central Europe, in South America and in Southern Africa, have adopted some laws to remedy the violations of privacy that had occurred under previous dictatorial regimes;

- **Promote eCommerce**: many nations, especially in Asia, but also in North America, have developed or are now developing some laws aiming at the promotion of eCommerce. These regions recognise that consumers are worried about the fact their personal information can circulate unauthorised and unprotected worldwide. The laws about privacy have been introduced as a part of series of laws with the aim of making eCommerce easier through the application of uniform laws;

- **Ensure that National laws are coherent with International and other Laws such as the *Pan-European Laws:*** several countries in Central and Eastern Europe have adopted new laws based on the *Council of Europe Convention and the European Union Data Protection Directive.* Many of these countries hope to become members of the the European Union in the near future. Other countries, such as **Canada,** are introducing new laws in order to ensure that commerce is not jeopadised by the requirements of the European directive.

The whole report *Privacy and Human Rights* is available in the site http://www.gilc.org/privacy where the original text of the session of the report by PI dealing with the laws about privacy in the Developing Countries can be found. The main improvements of the laws about privacy as a human right in **Argentina, Brazil, Chile, South Korea,**

Hong Kong, India and **Israel** are explained in English.

On the Net there is a related association, for promoting **'electronic democracy'** that is, the creation of infrastructures and of connected rules, which respect the first Amendment of the American constitution for the USA and the creation of other laws about privacy all over the world. The **Electronic Frontier Foundation (EFF)** was founded in July 1990 with the purpose of seeking to guarantee that with the emergence of the new information and communications technologies the *principles of freedom of speech and of information exchange are really respected* [effo 99].

The aims of the Electronic Frontier Organisation (EFF) include the promotion of the following:

- Laws protecting citizens' rights while using the new information and communications technologies;
- Shared laws for all network providers assuring total freedom of speech without discrimination;
- A national public system where voice, data, and video services can be afforded by all citizens without distinction; and
- A varied and diverse community enabling everybody to express his/her own opinions in the new global society of information.

EFF also provides legal assistance whenever electronic communication freedom of any user is violated. It also offers an on-line consulting service for those people having some questions about their own communication rights; EFF produces, gathers and distributes texts and information dealing with interactive communication freedom and with the development of electronic communities. Finally, it talks with the legislators, the legal associations and the universities about the communication freedom and rights. EFF has recently spread worldwide through some independent institutions and associations working in several countries for the attainment of same or similar goals.

7.4 Governments and the Telecommunications

An adequate regulation for the development of telecommunications in a country is essential as an enabler for the promotion of the country's economy. In the industrialised countries a revolution has actually occurred in the telecommunications sector: the application of the innovations of the electronic and information industry to the field of

telecommunications has made it possible for the rapid rise and diffusion of the telecommunication networks. Consequently, Governments of the various countries have variously set to reconsider their own policies on telecommunications with the view to, among others, liberalising the market in order to enable private companies to provide customers with compettitive and personalised services.

In the Developing Countries the Governments have only recently realised the incentives that the telecommunications sector can make to the progress of the countries; for this reason, state monopoly is slowly disappearing in favour of the liberalisation of the sector, which will imply an increase in the diffusion of the Net in the countries. Till recently the telecommunications utility has been controlled by the State provider, which was often not able to provide a reliable service.

The Indian Prime Minister Atal Behari Vajpayee declared that the Government is going to forget the problem of the licences for the telephone service and to launch a campaign for the installation of cables in the country. He explained, in particular, that *'the problems of the telecommunications sector cannot be solved through the existing dangerous regulation of the licences, which is based on the State monopoly. So, we will have to adopt immediately some radical solutions and to increase the growth of the sector'*. The Indian Prime Minister holds the suggestion that the collaboration among cable TV, Internet, broadcasting industries and the telephone service is a key-element, which the Executive was considering. One of the most relevant problems for India are the perspectives of the companies that invested a lot of money in the telecommunications sector: these firms are penalised inside the market by the existing regulations. Although the Indian Government declared the end of the State monopoly of the telecommunications in 1994, ever since that date the operating system of licences has somewhat progressed for the better, *albeit* not significantly especially because the private initiative has not been sufficiently promoted, and that, in the main, the private companies have rented the communication infrastructures [Dea 98 f].

In **Saudi Arabia,** in November 1998, a list of companies were given the permission by the Government to supply Internet services in the country. This represents a crucial turning point for this nation which, till then, had been not been in favour of the diffusion of the internet because of matters of cultural incompatibility. The authorities are said to have authorised 40 different companies to join the State company, the Saudi

Telecommunications Company, the only provider [Dea 98i] in the competitive initiative to provide Internet service.

In **Egypt** the Governement has realised the disadvantages that can be taken by a low and/or slow development of the internet since 1995 the number of Internet Service providers has increased to 30, by enabling the provision of nearly 40,000 users with access to the Internet. The local ISPs need more telephone lines and an improved better quality, so the authorities are considering some possible solutions sush as, for instance, the deployment of satellites for the communications [Nua 98l].

After focusing on the great importance of telecommunications at the **Summit of the Americas,** held in Santiago, Chile, in April 1998 [Usia 98], 34 leaders approved the *launch of the negotiations to create a Free Trade Area of the Americas* (FTAA), an active market of 800 million people, spanning Alaska to Argentina. One of the main points of the FTAA negotiations was concerned with the need for supporting growth through the new information and communications technologies. The initiatives are encouraging the private sector to develop a global communications infrastructure, which would make it possible to use the Internet in all sectors of everyday life and in the social, economic, political and medical areas. The leaders undertook to keep the following promises:

- The first important step made in collaboration with the private sector, the Inter-American Development Bank and the World Bank, deals with the use of the site http://www.Americas-edu.org to increase distance learning and to provide peoples of the Americas with education services;

- Reinforcing the abilities of the countries to take advantage of the basic knowledge of the global economy by promoting, even through other actions, telecommunications as a central point of `the national and regional integration;

- Working with the private sector for the rapid diffusion of telecommunication networks and adopting strategies to make it possible for everyone to have access to basic telephone services;

- Working with the private sector to develop applications for electronic networks that would support education, health, agriculture and eCommerce while taking into

consideration the differences of language and the social and economic factors.

On 9 and 10 June, 1998 OCSE and Osaka University, and the School of International Public Policy (OSIPP) organised, a workshop entitled *'The Internet: Convergence and Self-governance'*. A total of 70 among the most influencial authorities of business, the academia and the political world took part. The main goal of the workshop was to focus on the problems of the developing economies in relation to the new Internet services and the impact of the Net on the legislative structures.

The report of the workshop provides a synthesis of the various sessions and the main points developed during the debate. Robert M Pepper, Chief of the Office of Plans and Policy of the Federal Communications Commission (FCC), explained the explosive rise of the Internet and analysed the main issues concerning regulation promoting a substantial diffusion of eCommerce worldwide. He remarked that many of the problems connected with the telecommunications infrastructure arose in most of the countries, as a result the strong and growing demand for bandwidth to support heavy traffic and reduce the times of response for the users. Pepper underlined the fundamental importance of competition in answering the demand for bandwidth, including the competition between the various ISPs and the network technologies. Pepper suggested the following leading principles for the regulation policies for the purpose of increasing the diffusion of eCommerce:

- ❑ Promoting competition;
- ❑ Isolating services from regulation;
- ❑ Giving incentives for technological innovations;
- ❑ Reconsidering social welfare through consumers' protection and supply of reliable access; and
- ❑ Encouraging industrial co-operation.

Professor Shoichiro Asano of the *National Center for Science Information System* (NACSIS) has underlined the importance of the development of the Internet market, which is becoming more and more oligopolistic, with big ISPs progressively increasing more and more of their own shares. Professor Shoichiro Asano has suggested the following principles for Governments:

- ❑ Promoting the evolution of Internet technologies;

- Promoting a competitive mechanism of Intenet access costs;
- Providing a self-regulation structure;
- Promoting eCommerce in order to encourage implementation of bidirectional transactions.

On the subject of ISPs and the regulation of telecommunications, Lee Jong-Soon, Chief Executive Manager of Asia-Pacific Telecommunity, has suggested that *'in order to support the growth of the Internet the tensions in the market between the Process Technologies Organisations* (PTOs) *and the ISPs must be removed'. 'This cannot be reached by introducing new rules',* adds Eric Lee of the *Commercial Internet Exchange* (CIX), a world association of ISPs, *'as the number of providers could decrease aftera substantial increase due to the liberalization of the market in many countries'.* He suggests that the *ideal regulation structure for the ISPs should include some principles of open competition, open and equal access and, above all, a minimum regulation by the Government.*

The actual tension between the PTOs and the ISPs is due, according to Jim Dixon, President of EuroISPA, a confederation of European trade associations made of nearly 500 ISPs, to two factors:

- The anti-competitive methods, which give obstacles an open market; and
- The inefficiencies in the international system of Internet access costs.

The high access costs of telecommunications among the European countries, like in many other nations, such as in Asia, are an obvious consequence of the fact that Internet traffic ISPs in these countries has to pass through the USA rather than directly through the intervening countries. This implies the transfer of huge amounts of money to the telecommunications companies of North America, which impacts negatively on the speed of development of the Internet 'industry' in these nations.

In the regions of the Asia/Pacific the various regulations and the implications for business turning around Internet traffic exchange are explained by Yoshikazu Ikeda, Director of the Multimedia Department and President of the Japan Internet Exchange Co Ltd. (JPIX). He explains that for quite sometime the Internet has been in the countries of Asia/Pacific through an American Central Network, where all the main

elements, such as the flux of traffic, and, the registration of domain names, are concentrated. This concentration of traffic provokes the need for relevant alterations in both the type of network and in the nature of traffic exchange; it also gives rise to the need for consideration of significant issues about the validity of the asymmetrical interconnection bonds, where the total cost of the network is totally paid by the ISPs that are not American. The localisation of Internet traffic exchange by developing regional backbones in Asia/Pacific as well as national Internet exchange points has been suggested as a possible solution for addressing the problem. Ikeda's Department has already provided the Asian regions with backbone linkages, while JPIX has built an Internet exchange point in Japan. The proportion of traffic between the American ISPs and the Asian ISPs has decreased from 1:4 in 1996 to 1:3 in 1997. This is expected to imply a more equitable share in Internet traffic between American and Asian ISPs. Some benefits are likely to accrue from direct traffic coming , for instance, from the applications of the eCommerce.

Roger Hicks, Director and Vice-President of the Asia & Pacific Internet Association, explains that while studying the possible future developments of national and international traffic on the Net the main points that have to be considered should include the following:

- Traffic exchange projects do not have to limit the future services of the ISPs;
- Benefits must be gained by both parties without arbitrary agreements and complex invoicing;
- Unequal and anti-competitive behaviour must be avoided in order to warrant transparency and to promote open and flexible solutions.

7.5 International Development Projects

Many initiatives about the information society have been suggested by international organisations and groupings, such as the ITU and the OECD, and by the industrialised countries, such as the USA, Japan, Canada and the G8 or by the European Union. All these initiatives have shown that the telecommunications sector is not only a dynamic and unique sector, but also an important key of the new global society. These international organisations and groupings did not begin to pay attention to the matter of development of the Internet and of the telecommunications

infrastructure in the Developing Countries as a consequence of the great rise of the Information Technology market and of the Internet in the industrialised countries. In December 1984 the ITU published the report of the Maitland Committee entitled *'The Missing Link'*, which attracted the attention of Governments, of the institutional operators and of the international agencies to the problem of the gap in the telecommunications sector (infrastructure) between the North and the South [Ispo 98]. It has observed, for example, that there are more telephone lines in Tokyo than in the whole of the African continent! The report underscored the importance of telecommunications in the process of economic and social progress. Above all, the report recommended that from 1984 onwards the development programmes of any country should take into account a complete and adequate role of the telecommunications.

The publication of the Maitland Report gave rise to an increasing number of international actions for the development of the telecommunications sector. This led to the World Conference on Telecommunications organised by the ITU in Buenos Aires from 21 to 29 March, 1994. The conference analysed the progress of the sector and underscored that the inequities of the 1980s had not disappeared, inspite of various initiatives over the past decade done. The average presence of telephone lines over 100 inhabitants is equal to 18 in Central and Eastern Europe, just 8 in Latin America and merely 5 in Asia. Africa is clearly the least developed of the regions, with only 1.6 lines per 100 inhabitants. A plan of action was adopted for the improvement of the telecommunications sector for the least developed countries. The last declaration of the conference stated the need to encourage this development in an open and competitive economy.

After the conclusion of the Buenos Aires Conference the main industrialised countries promised to put into practice the good intentions formulated during the debate. In America Vice-President Al Gore suggested the constitution of a Global Information Infrastructure (GII), as a network of networks which includes the industrialised countries and the Developing Countries in a global village. Al Gore's vision is that the 'GII' would provide an infrastructure architecture on which access to the Internet would be facilitated worldwide. The Net would make it possible to have information access, to connect and to communicate like a global community. Realisation of the GII would imply significant economic progress, enhanced democracy, and better solutions for local and global

problems. The GII is based on five principles, namely:

- ❑ Encouraging *private investments;*
- ❑ Promoting *competition;*
- ❑ Creating a series of *flexible laws,* which can adapt to the rapid changes of the telecommunication market;
- ❑ Supplying all information providers and all users with *open access* to the Net;
- ❑ Providing a *global service:* every member of our society will have access to the GII.

In February 1995 the American administration issued the Agenda for Co-operation, based on the five GII principles. Under the auspices, of the Agenda the US aims to put into practice the GII in co-operation with other countries. This memorandum was, for example, signed by Chile in July 1994 and by Argentina in October of the same year.

The European Union has launched a number of initiatives to support the development of a society based on telecommunication access and on access to information by countries with transition economies and also the Developing Countries:

❑ **Dialogues** have been initiated with Developing Countries or with groupings belonging to these countries, such as the League of Arab States, or MERCOSUR, a group comprising Argentina, Brazil, Uruguay and Paraguay. A convention on mobile digital communication, attended by the League of Arab States and by Modarabtel in 1993, led to the adoption of the GSM standard (Global System for Mobile - digital cellular mobile telephone) in Saudi Arabia. Another meeting held in March 1995 together with MERCOSUR led to the signing of a co-operation agreement between the European Community and the members of MERCOSUR.

❑ **The European Investment Bank** (EIB) is an independent financial institution through which the European Community lends money to 12 countries of the Mediterranean region with which it has signed bilateral agreements and to those countries belonging to the ACP/OCT. Ever since 1982, EIB has financed investments amounting to a total sum of 1,062 million ECU in the telecommunication sector. EIB contributed 80 million ECU to assist the spread of the Moroccan International Links through satellites and cables. In 1995 EIB granted a loan of 8 million ECU to Eritrea to enable it create its own national

network and its own international connection. The loan was given through a regional programme covering Ethiopia and Djibouti. Since 1993 the international activities of the EIB have also comprised countries of Latin America and Asia, with which three-year co-operation agreements were signed. The main activity of the EIB was, launched in Chile in 1995. The EIB gave a loan of 75 million ECU for the implementation of connectivity for its EIB 400,000 new subscribers in 2 years.

❑ **Co-operation for Economic Development:** The European Community launched programmes to promote industrial co-operation and investment, with the aim of increasing commerce, technological transfer, and know-how. In Asia it launched the TACIS programme with a total sum of 15 million ECU having the following priorities: *to reform legislation,* and *to reconstruct the sector.* In Latin America the programme ALINVEST was launched with the same goals. The Developing Countries are also provided with the facilities of the EC International Investment Partners, launched in 1986 with the aim to promote the implemention of joint ventures in these countries. Since 1966 a total of 16 projects have been implemented in the telecommunications sector, corresponding to a total sum of 2.5 million ECU. Other projects are deemed for Brazil, Mexico, and Argentina under the auspices of the Business Council Network (BC-NET). This organisation provides information on the opportunities for joint ventures or technical co-operation with some European partners.

❑ **Co-operation for Development:** The European Community with ACP/OCT seeks to enhance the communications infrastructure that still represents a crucial problem in many of these countries. The Lomé Convention is the biggest collective agreement with the Developing Countries. The fourth Convention of this kind was signed in 1990 between the Community and the countries supporting the ACP/OCT for a period of 10 years. Financial assistance is established every 5 years under the auspices of the financial protocol. Implementation is carried out under the aegis of the European Development Fund (EDF). For Lomé IV the first protocol (1991-95) established a budget of 12,000 million ECU, of which 1,250 million ECU pertained to various regional co-operations. A good example of regional co-operation comes from the South Pacific region, where the European Community and other partners, such as UNDP, Australia, New Zealand, ITU, United Kingdom have worked hard to improve and adapt the telecommunications infrastructure to international standards and to provide most of the people with easy access

to services. Dealing with the Lomé I the community has financed the installation of a high-tech service of telephones and telefax in the Fiji Islands, Tonga and Samoa (formerly Western Samoa) and has also built the ground station for INTELSAT in Samoa. A similar satellite project was implemented in Kiribati and Papua New Guinea through the Lomé II Convention, while the Fiji Islands, Tuvalu, Vanuatu and Samoa were given various kinds of assistance for connection to the international networks. Lomé III and IV were aimed at the promotion of communications in the sea via radio and satellites in 7 countries of the Pacific. Other activities were launched within the framework of the same structure of programmes of financial and technical co-operation with the countries of Latin America. In 1991 a project of regional assistance in the telecommunications sector was launched for the countries of Central America; the Community has made a contribution 13.8 million ECU.

❑ **Scientific and Technological Co-operation:** One of the main activities of the European Community comprises scientific and technological training for co-operation with the Developing Countries. Another activity is concerned with specific programmes of development for research on communications technologies and telematics. Since 1988 scientific and technological co-operation has been supported to a total sum of 53 million ECU, of which 30 million ECU was allocated to the Asian region, to countries such as China and India, while the remaining 23 million ECU was destined to countries of Central and Western Europe.

Bridge to Asia, a non-profit organisation providing information to schools and to research centres in the Developing Countries of Asia, developed, in 1995, a project to help China and South-East of Asia have access to the best information sources worldwide. It is based on the creation of 8 stations, called *Internet-based information-transfer stations (ITS),* one for each country. They are all connected via the Internet to some main stations in Beijing, Shanghai, Guangzhou, Manila, Hanoi, Phom Penh, Bangkok and Jakarta.

The aim of *Bridge to Asia* project is to increase and make more solid the relationships between individuals and institutions, in China and South East Asia. An ITS has several functions: it researches, consults and sends documents. It receives users' requests and elaborates on them according to the needs; it finds the information sources and connects the users directly to the sources; finally, it assists transfer of information to the user.

A prototype of an ITS has been tested in a small group of schools in Beijing and then on 100 lawyers in China. The cost of the complete system will be approximately US$2 million per year and it will be supported by a mix of donations, subventions and subscriptions by the users. Some stations will be connected to the universities and their cost will be incorporated into the institutional budgets. The start-up funds came from some foundations and institutions in the USA and in Hong Kong [Isoc95b] and [Brid99].

In the *Plan of Action* signed by 30 Presidents during the 9 - 11 of December 1994 at the *Summit of the Americas*, held in Miami, Florida, there was a chapter dealing with telecommunications and the information infrastructure: the Governments of the Americas recognised that the information infrastructure is an essential component of the politics, of the economy and of the social and economic development of a country. The authorities promised to take more responsibilities, including enabling access to the Net for universities, libraries, hospitals and enabling agencies, through the OAS/RedHUCyT project [Isoc95a].

The OAS/RedHUCyT project was launched in 1991, when the Organisation of American States (OAS) approved a project called *'Hemisphere-Wide Inter-University Scientific and Technological Information Network'* or, in terms of to a Spanish acronym, RedHUCyT. The aim of the project is to connect the nations participating in the Summit to the Internet, to integrate eCommerce for the exchange of specialised information among various academic and scientific institutions. It deploys high-tech equipment, provides technical support and specialised training, and supports meetings and technical workshops in the region in order to prepare the technical capacity, to enhance skills, keep up to date with technical knowledge and train network managers.

The activities and successful project goals of RedHUCyT have to date included following [Isoc 95a]:

1. **Conferences and Workshops:** RedHUCyT supports conferences and workshops REUNA '94, a workshop held in Chile in 1994 was attended by about 400 people.

2. **Caribbean Academic Scientific and Technological Network (CUNet):** OAS and the University of Puerto Rico organised the first Caribbean Academic and Scientific Network Workshop in September

1991, during which the CUNet project was formally launched with the objective to establish an electronic information network among the universities of the Caribbean. A total of more than 25 nodes connecting over 2,000 users has been established under the auspices of CUNet.

3. **Jamaican Electronic Network (JAMNet):** Under the auspices of the CUNet project, funding allocation has been used to implement JAMNet, which enables Jamaica to connect to the Net through a 64 Kbps satellite connection between Kingston and USA.

4. **Central American Project (RedCACyT):** In Central America resources have been used for the construction of a backbone of interconnected institutions, by creating the *CRNet-Costa Rica National Research Network,* which is connected to the Net through a 128 Kbps satellite connection between Costa Rica and Florida. In the second part of the project other activities have been implemented, scientific and technological, including, *RAIN-Nicaragua Academic Network, PANNet-Panamanian Academic Network,* and *HOUNDUNet-National Network of Honduras.*

5. **The Countries of MERCOSUR and Chile:** OAS has supported a project by the Department of Science and Technology aimed at improving the operativity and the efficiency of the *Science and Technological Network (RECyT).* RECyT has grown to comprise over 300 nodes, serving thousands of users, with an average monthly traffic of 200 MegaBytes, transferred exclusively via e-mail. After the inauguration of *RECyT* and the connection to the Internet of the national provider TELINTAR, the Argentina project component has had an explosive growth, and so the same ideas have been cascaded to other countries of Latin America.

6. **The Andes, Mexico and Brazil:** In Ecuador a project of the Ecuadorian Information Corporation (EcuaNet) has been implemented. EcuaNet is a not-for-profit organisation offering free connection to the Net to all universities. In Bolivia the *BOLINet-Bolivian Data Network* for the connection of Bolivia to the Net was completed in June 1995. Peru was finally connected to the Net in March 1994 thanks to the *Peruvian Scientific Network* (RCP), an association of 100 scientific institutions. The network uses a satellite station for communication, and a radio-frequency equipment.

7. **Latin America and Caribbean Scientific and Technological Information Web (INFOCyT):** REUNA '95 was held in Santiago, Chile, as a Pilot Program Workshop, encompassing the introduction of scientific and technological databases, over the Internet, in Argentina, Brazil, Costa Rica, Chile, Mexico, Peru, Uruguay and Venezuela. The main goal of the workshop was to carry out a valuation of the various alternatives for easy access of scientific and technological information through the Net. The Peruvian Scientific Network then implemented, mainly as a result of the continuous support of the other nations, a specific home page, which enables easy access to the regional databases, by using pointers provided by the national networks of every region. The Website has the following address: http://www.rcp.Net.pe/INFOCYT/infocyt.html.

In April 1997 a project was launched by ITU - International Telecommunications Union, and UNESCO - *United Nations Educational Scientific and Cultural Organisation,* as a support to the AISI/HITD. *The AISI (African Information Society Initiative) Sub-programme on Connectivity* was conceived to accelerate an international effort focusing on the co-operation of all African countries to implement a minimum connectivity level during a period of 3 years [Bell 97]. The programme is supported by the United Nations Special Initiative on Africa's Harnessing Information Technology for Development (HITD) and will be integrated into the other projects of AISI. The main aim of the special initiative is to develop flexible regulation, and encourage market mechanisms to provide the necessary connectivity environment for users. This is pursued through the following activities:

- Development of national regulations;
- Elaboration of a project called NICI - National Information and Communications Infrastructure;
- Regional co-operation to increase the efficiency and the quality of access to the Net, especially through interconnectivity and resources coming from the African operators and the ISPs.

It is a truism that great projects are in progress and many others are being planned or experimented on. The big problem that emerges is, however, the restricted availability of funds, adequate availability of which is essential for the realisation of the real needs of Developing Countries, especially for the construction of the basic telecommunications

infrastructure. Organisations and Governments of the industrialised countries and the Developing Countries alike must be prepared to address this problem in order to take a more active role for co-operation and partnerships among themselves as well as with the private sector and business.

7.6 The Priorities

In order to implement adequate telecommunication networks the Developing Countries, in co-operation with the industrialised countries, must try and put in place the following priorities, *inter alia:*

- *Promoting research in every nation* so as to acquire adequate capacity and capability, that will help to facilitate an articulation of adequate strategies for the promotion of the new information and communications technologies. There is, in addition, the need to put in place and in practice on-going mechanisms for the sharing of new knowledge and experiences within and between countries.

- *Developing access-points and promoting communication services in secondary towns and in rural areas* through the training of users, provision of equipment and installation of systems. The implementing of shared telecenters and the promotion and support of alternative wireless connections where necessary, for example, could provide one possible niche for sharing experiences. Supporting technical training for the creation of new operators in computer systems and the improvement of knowledge of existing operators could be initiated, by using store & forward technologies. Individual sessions and national workshops are necessary for the training of people, and the identifying and promoting of low cost education centres.

- *Supporting administrative and business knowledge, increases the services provided by the ISPs;*

- *Supporting the implementing of local cross-sectorial national Internet working groups and technical assistance in the Developing Countries* with the objective to develop national projects for the development of the Internet infrastructure as well as an inventory of the local resources. These groups could be connected to all Information Technology groups worldwide. These groups may function as communities of practice with shared visions;

❑ *Promoting low-cost information* to create Internet/Intranet hosts in every sector;

❑ *Encouraging the development of general connections in the sub-regional areas* and especially among the nations which are culturally and economically connected;

❑ *Providing the telecommunications operators with technical assistance in order to increase the bandwidth of the local infrastructures* through the promotion of innovative methods to improve the existing circuits, by transforming them from analogic to digital, and to use wireless communication where necessary;

❑ *Identifying the resources that can support the local initiatives* for existing regional and global projects;

❑ *Identifying and promoting resources* that can be destined to buy second-hand computers, hardware and software at low costs, but also to train people to use these pieces of paraphernaliae;

❑ *Identifying financial resources,* such as local initiatives and international partners who would like to implement some joint ventures in these countries;

❑ *Supporting the implementing of centres for the administration of the IP addresses, independent numeration systems and of direct services in all continents,* such as, for instance, RIPE, already operating for Europe, AsiaNIC for Asia and InterNIC;

❑ *Supporting the growing collaboration for international assistance projects* in order to create strong local hosts and to increase the efficiency of Internet projects;

❑ *Providing ISP with technical assistance* in order to encourage the use of methods reducing the black-out of the international connections through the installation of caching servers and mirror sites;

❑ *Supporting the analysis of traffic partners* in order to support the planning of the topology of the Net, the size of the provision of the band and the tariff mechanism to distribute the use especially during the day;

- *Promoting the use of data-broadcasting digital satellites* to make the congestion decrease and also to provide the final users with high-quality band services;

- *Considering alternative suggestions for ISPs* coming from the private sector;

- *Encouraging national Goverments to reduce customs duty or import duties* on ICT equipment;

- *Providing national, provincial and municipal authorities with technical assistance to implement the Net* and to take their information systems, which may generally be sometimes, closed and out-of-date, towards an open and modern Net;

- *Encouraging international agencies to use local ISPs* instead of their independent communication systems;

- *Promoting the use of interfaces for the illiterate or people with a modest educational level:* for instance, recorded texts, touch screens, the web TV, voice recognition, and increasing the number of translators in many languages;

- *Encouraging the rise of service centres, connected, if possible, to the ISPs,* that can provide the development of Web sites for local other services, such as audio/video servers and CD ROMs;

- *Supporting the participation of these countries* in the international process of development in the sector of the regulation for the rights of ownership, the laws on information, the laws about privacy;

- *Convincing the conservative and narrow-minded politicians of the opportunities that can be derived from the use of the Internet* (education, medicine, agriculture, industry, services, etc).

These are the main priorities that have been found out by the IDRC study [IDRC 96] for the growth of the Internet in Africa; they can be adapted to individual Developing Countries trying to develop an adequate telecommunications infrastructure in order to reduce the gap between the North and the South.