Algerian Government Policy for Information and Communication Technologies

Benbala

Introduction

The face of the world has changed, and the boundaries between the real and the virtual are dismantling with the advancements of information and communication technologies and their integration into economic and governance circuits. Indeed, advances in the field of information and communication technologies are becoming more and more crucial for the economy and building of information and knowledge society. The government has placed digital development among its imperative priorities, and aims to place Algeria at the heart of this global evolution by providing it with the most innovative infrastructure and means, for large-scale digitization. Convinced that ICT is a crucial contribution to economy, society, environment and public health, the government has defined a public policy to accompany this development process and thereby stimulate economic competitiveness and well-being of all.

The mechanisms and measures put in place and/or to be implemented by the government to achieve targeted objectives, can be summarized around the following topics:

• Implementation of the Broadband & high speed broadband strategy; Satellite telecommunications; Maritime radio navigation; Management of frequency spectrum; The Universal Telecommunications Service; and Mobile phone.

ICT Generalized Use and Strengthening of National Innovation System

With a view to generalization of the use of ICT, particular attention

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The table below gives more details about objectives and mechanisms for implementations

Field	Objectives	Mechanisms and measures
Implementation of the Broadband & high speed broadband strategy	• Completion and modernization of the access network, • Development of new infrastructures, • Improvement of the quality of service and the reception of customers.	• Connection of localities with more than 1000 inhabitants to the Fiber Optic network, • Connecting new broadband clients, • Deploying and Extending the 4G LTE Network, • Realization of the submarine link Oran-Valence, • Realization of fiber optic link Alger/Ain Guezzam.
Satellite telecommunications	• Reducing the digital divide for populations in remote areas, • Geolocalisation and fleet management, a key factor in road safety, • Satellite telecommunications for the prevention and management of natural disasters, • Satellite technologies for health.	• Extension of the IDIRECT platform to meet the needs of the market. • Development of IP voice by extending the platform installed at the Teleport de Lakhdaria. This solution will provide public institutions and business enterprises with Internet, telephony and fax packages on VSAT support. • Launch of the "Internet Residential" project.
Maritime radio navigation	Ensuring the safety of human lives and property in a very specific environment which is the marine environment and contribute to safety in the aeronautical field through the control of radio equipment and the certification of the users of this equipment.	• Development and extension of the radio-communication network to improve the safety of human life and property, • Creation of maintenance centers at the level of the three regions (Algiers, Oran and Annaba) to take in charge all the technical problems specific to the national radio-communication network on maritime, • Creation of new stations and structures for better and wider coverage, • Upgrading of professional skills and the qualification of personnel dedicated to these public service missions.

Management of the frequency spectrum	Ensuring the correct and effective application of the frequency band allocation table in accordance with the nature of the services, zones and regions, as well as the general and technical characteristics of the stations to be operated by the various services.	• Setting up new spectrum control stations in the south (ADRAR) and in the north (Beni-Saf and Ain defla), • Launch of a campaign of measurements in the C, Ku and Ka bands in progress across the national territory, • Creation of a compliance control database, • Establishment of a VPN network for the interconnection of control stations with the supervisory stations.

is given to the development of ICT services for citizens and businesses, thus promoting the emergence of local applications which would contribute in the development of a digital economy and building-up of the information and knowledge society.

Emphasis would also be placed on the development of ICT applications, which would then create enterprises and start-up companies and innovation centres, generating new wealth as well as promotion of industry and research in the ICT sector.

Moreover, strengthening of the national innovation system must bring support for science and innovation through the following:

• Encouraging production of technological knowledge, licensing and purchase of capital equipment;
• Establishment of linkages in University-Industry interactions;
• Access to financial measures for innovative enterprises;
• Strengthening of R & D capacities in companies;
• Establishing appropriate channels of access to information and its sharing through a network open to public and private partners without any distinction.

ICT Projects

Start-ups incubators and technology parks

Incubation of projects as proposed by the National Agency for Promotion and Development of Technological Parks fits in a precedence sequence to actual inception of the company, since it

covers the period that starts from the contemplation of an idea to the achievement of the project, while rolling through a process of conception of the business project.

As such, the incubator of Sidi Abdellah gradually embarked on an entrepreneurial dynamism set by the National Agency for the Promotion and Development of Technological Parks for over four years. It gained exposure on the entrepreneurial platform nationally, given its initial results. Indeed, 18 young ICT companies have been created since the start of the incubation process in May 2010. It continues to support activities by coaching holders of more than 49 business creative projects and 15 new start-ups to be future business leaders.

It should be noted that in this context an international project called "Support to the Ministry of Post and Information and Communication Technologies in the implementation of an

ecosystem fostering the development of ICT in Algeria was initiated by the Ministry of Post and Information and Communications Technologies in partnership with the European Union in favour of the National Agency for the Promotion and Development of Technological Parks. A call for proposals was launched on 17 July 2015 on the European Union website, under reference EuropeAid /137426 / IH /ACT/DZ.

The overall objective of this twinning project is the development of economic activities based on ICT and related uses. Its specific objective is aimed at strengthening the capacity of the sector in the implementation of an ecosystem to foster the development of ICT.

Telemedicine

Considering the important role of the ICT in improving the quality of life of individuals, particularly in the health sector, the Government continues to attach great importance to e-health projects, as set out in the sector's strategy.

An ambitious project was initiated in collaboration with the Ministry of Population Health and Hospital Reform, to set up a telemedicine pilot network called "Algeria RT-DZ Telemedicine Network" comprising five hospitals CHU and 12 public hospitals EPH and the National Health Development Agency (NHDA) as focal point, to allowing access to remote healthcare facilities through data transfer or through the direct action of practitioner on the patient, in particular providing tele-consultation, remote diagnosis and tele-training services.

The project consists of setting up a fiber optic telecommunications network, interconnecting several sites of the RT-dz network (operational) and making it available at following levels.

- Interactive systems for remote patient visualization and medical record, at CHU level.

- Interactive systems of remote visualization allowing exploration of patient according to his pathology at the EPH level a videoconferencing system to organize multi-site sessions as well

as a streaming system for archiving and dissemination at the level of the NHDA and remote training of health practitioners.

The technical platform has been tested and the network is at present operational.

International Cooperation

Development of the international cooperation is one of the major thrusts of the sector's action plan. In this regard, many actions and measures are being taken for international cooperation aimed at developing and strengthening strategic partnerships with friendly and neighbouring countries and for promoting multilateral cooperations with major regional and international specialized organizations.

By seeking to develop the field of ICT through modernization, adapting and generalizing telecommunications' infrastructure, promoting use of ICT and integrating the society in information and science based economy the objectives sought through international cooperation are reflected mainly in the following projects

- Appropriation knowledge on new technologies, and know-how,
- Technology transfer, and
- Capacity-building.

Conclusion

At the multilateral level, Algeria, as a member, represented in many meetings, dialogues and international and regional initiatives put across its interests and position in the ICT, with: International Telecommunication Union (ITU) organised by, Universal Postal Union (UPU), United Nations, World Bank, European Union, League of Arab States, Arab Maghreb Union, International Telecommunication Satellite Organization (ITSO), Arab Telecommunication Organization ARABSAT, African Telecommunications Union (UAT), and Pan African Postal Union (PAPU).

South-South Cooperation for Science Diplomacy

The present study discusses scenario of South-South cooperation with North participation as a case study. It has been argued that it would be favourable for the South countries to start forming a sort of coalition amongst themselves for addressing specific scientific or technological projects. This coalition would serve achieving the necessary critical mass that makes the project feasible where possibly heterogeneous countries in the South (in terms of scientific and technological capacity, natural resources, funding potential, international relations) act in synergy. Once the coalition is formed and the project is defined (goals, mechanisms, governance, place, timeframe, finance it can approach North (developed) country/ies seeking well-defined technology transfer and may be funding. In this scenario, South-North cooperation and technology transfer based on the demand

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can be achieved, and undesirable political side effects can be avoided.

The SESAME project is an example wherein Eight South countries (Egypt, Turkey, Jordan, Palestine, Pakistan, Bahrain, Cyprus and Israel) agreed in 2003 to build a synchrotron light facility in Jordan on the model of CERN. The goal of the project was to send scientists from the region to have first-class science and to raise scientific standards by having access to the state-of-the-art technology and experimental facility based in the region at a reasonable cost. The idea came from South as well as North, and was immediately supported by the UNESCO and endorsed by country-leaders. A governance system, where a Council chaired by an internationally renowned scientist (CERN former director) was composed of members from the representative countries. Seventeen observer member-countries from all around the world supported the project scientifically, technically, financially and politically. Further international organizations such as the International Atomic Energy Agency, CERNand ICTP were solid project partners. Science and technology transfer could be achieved through different modalities including training, capacity-building, on-site participation in design, construction, and operation of high-tech modules. Technical and scientific international advisory committees would work together with technical and scientific directors to ensure best practices and a smooth know-how transfer. The total budget of the project, inaugurated in May 2017, is estimated at around $100 million. Member countries have contributed most of this budget and international organizations and some member countries have provided direct funding or in-kind contributions.

Developed countries and international organizations were motivated to support the project mainly due to political reasons and for achieving peace through scienctific channels. Thus, a ground was found for the scientists from member- countries to come onto a single platform overlooking political differences. Although, this seemed difficult to achieve, world-class science can still be achieved and a real high technology transfer on demand can also take place. The role of politically-neutral international organizations was vital, and instrumental for this project.

This project is a vivid example of how technology transfer can be achieved through South-South Cooperation. No single country alone can achieve this, owing to high cost barriers (low feasibility, given the limited number of potential scientists in the country who use such a facility) and owing to the lack of support of North countries.

Essentials for South-South Cooperation

To be able to develop a new form of relationship among countries of the South, a new approach, a new concept and new relations are required with one another based on the honest engagement and common interest.

First of all, we need to know other countries with whom we have to deal with regarding trade, exchange, and even for strategic tie-ups among the Southern and Northern countries.

With one clear vision about the relations as strategic partners, more and more can be built together without conflicts.

The new South-South cooperation requires a leveling of capacities among the various developing countries, with exchange of experiences and knowledge without self-interest of the country initiating the exchanges; as is the case with India as a facilitator and catalyst for this cooperation. It is with these choices and conviction to be independent of the North to a certain extent, developing it's nations with their its own capabilities and technology without the need of learning from the developed countries, can have a new bloc away from capitalist hegemony and attempts to dominate one party at the expense of the other. Underlying this new South-South project is the cultural aspect which must also be seriously taken into account because a society that does not attain a minimum knowledge cannot be at the pace of development with other countries.

In this new approach of science diplomacy, culture must have a place of choice and of first order so that communication among the different actors of the South can be equally perceived by all. Finally, it is by creating this new Southern force, capable of coping with the economic powers, that we can aspire to achieve development based on our own capacities, technologies and without any dependence on others. In this context, India, as an emerging power of the South, part of BRICS, and the new force that can play a major role in South-South Cooperation, being the initiator of this project and promoting it vigorously by investing enormous resources, India would have required credibility for realization of this project for our common future.

India-Indonesia R& D Collaboration on Superconductivity

Superconductor research at the Research Center for Metallurgy and Materials Indonesian Institute of Sciences (RCMM-LIPI) was initially started with the cooperation from LUVATA on manufacturing of Cu-sheathed Nb3Sn superconducting wire in 2006. The RCMM-LIPI has also been collaborating with other institutions within and outside the country such as UI, ITB, the National Academy of Sciences of Belarus, and Hyper Tech. The RCMM LIPI is keen to cooperate with India in the manufacturing of MRI.

Indonesia's MRI market is relatively small and expensive for low-income communities. Only rich people are able to take MRI treatment in Indonesia. Meanwhile, the Indonesian government has sent many radiologists to India for training of instrument and reading of the MRI images. This is a challenge for Indonesian government to provide an affordable cost of treatment for MRI.

India has a network of businesses for manufacturing MRI instrument in which there are components of superconducting wire imported from Hyper Tech (USA). For example, the MRI business in India offers affordable price of about $ 300,000 per unit. The 60 per cent of the cost is allocated to purchase of superconducting wires and cryogenic systems. The remaining cost is allocated to casing, electronics and motors. In

developing the South-South cooperation science diplomacy is needed for bridging the technology transfer gaps by promoting R&D Collaborations between India and Indonesia.

Figure 1. MRI in India

The possible scenario in this research collaboration includes technology transfer and techno economic manufacturing of MRI apparatus by Indian companies. The RCMM LIPI contributes to research and development of superconducting wire material in which the outcome of R&D results in the upgrading capability of MRI apparatus.

Meanwhile, this scenario can lead to signing an MoU for collaborating research cooperation between India and RCMM-LIPI to work together in terms of business cooperation in the form of partnerships. The partnerships envision exchange, training, internship and fellowship of students. The RCMM-LIPI would continue to bridge science and technology with business opportunities between Indonesia and India. Through channel of joint venture, technology facilitation mechanism (TFM) can be poured in the agreement between India and Indonesia in the form of Indonesia India Comprehensive Economic Cooperation Agreement (IICECA).

In India-Indonesia's MRI manufacturing, each country has advantages such as improving trade relations, creating professional works, and skills,

establishing partnerships, as well as increasing STI (Science, Technology and Innovation).

South-South Cooperation

South-South Cooperation (SSC) refers to cooperative activities among newly industrialized Southern countries and other, lesser-developed nations of the Southern hemisphere.

The activities include developing mutually beneficial technologies, services, and trading relationships. SSC aims to promote self-sufficiency among Southern nations and strengthen economic ties among Southern states whose market power is more equally matching than the asymmetric North-South relationships.

Importance of SSC for these nations

The SSC contributes to economic advances in Southern nations, especially in Africa, Southern Asia and South America and Middle East.

- SSC lacks overtones of cultural, political, and economic hegemony, sometimes associated with traditional North-South aid from the United States, Russia and Western Europe.

- Main players in South- South Model for cooperation are as follows.
  - » Developing countries
  - » Emerging economies
  - » Developed countries of the South
  - » North developed countries

The world is a united entity linked with common interests and responsibilities. The main issue is to address improvising relations among all countries that guarantee equal rights for access to technology development and well being. Being part of the South does not mean alienation from the rest of the world, it is also inevitable to ignore one part of the world "the North" regardless of their past relations towards developing countries. The North holds complete responsibility to assist the South in their quest for development and growth and self-sustainability. A lot of vocalization is coming from the North appealing to guarantee aid assistance and transfer of technology to the developing countries. Science is and could be

made available in developing countries, and technology should be made available from and by emerging economies from themselves. The emerging countries should bridge the gaps with regards to technology transfer to developing countries. As technology is the only motor for development science, developing countries could provide additional inputs with regards to their needs and priorities.

Right to acquiring Technology should be based on an international principles and developing countries should be enabled to produce for meeting their entire domestic needs in health, agriculture, water and food. For other higher technology they should plan for later stages of high technology production and start setting up the requisite infrastructure with the aid of the South and financial aid from the South and the North.

The equal rights to enter the international market should be guaranteed to all with preferential treatment to the most disadvantaged countries. As the South is considered North's market, the North should open its markets for the South's production; and not just agricultural production but also technological also.

At the end, to strengthen South-South cooperation, Southern countries should unite their forces and set up a bargaining stance with the North.

South-South Cooperation in Latin-America

Latin America has a long history as the traditional receiver of international cooperation under the model of North-South cooperation. In certain moments of yester years this scheme of cooperation was not only useful but was also successful for most of the countries in Latin America. As consequence of the assistance received from the North, some Latin-American countries assumed a key role and leadership in the continent as the case of Brazil, Argentina, and Chile and so on. At the beginning of the 1990s, the gravitation of new integration processes allowed consolidation in Latin America of a new form of regionalism;

conceived under the European model but at the same time it was the first step towards the South-South Cooperation. As a result of this, innovative vision emerged a new perspective where regional scenario became priority for the Latin-American economies. Subsequently, the implementation of new schemes came of interaction among Latin American countries and regions. Obviously, there were several points in common among them, such as language, historical background, economic issues, short distance for interacting and others subjects of common interest. Therefore, leading countries in Latin America started promoting and strengthening regional trade, knowledge exchange, mutual assistance and other subjects within a South-South view.

In addition, they realized that horizontal integration and cooperation was the only valid option in order to move forward international context and in relationships with developed countries. New stakeholders crossed the boundaries of national and regional policies by setting up a new paradigm in international relations. An unprecedented globalised world pointed the fragility of national and regional economies in the developing countries.

Under that premise linkages between developed and developing countries increased risk of financial and social crisis, particularly for the most vulnerable groups, mainly for those that had received high flows of FDI from the North, besides the presence of multinational companies and other similar situations related to North-South scheme of relations at different levels. Since then, developing countries need to find new alternatives to achieve sustained development.

Thus South-South Cooperation is perceived as an appropriate tool for developing countries to keep aligned with the Goals of the Millennium, especially in specific areas like technology transfer and science education. In that sense, we should work together on the basis of the common interests. The South-South and the Triangular Cooperation and its different variants are a must for developing countries. Capacity-Building is one of the tasks that we may have to develop for

sustainable development and good governance, empowering people in our countries at the different stages of this process and consolidation of a democratic system of development in which mutual assistance beyond the geographical distance and cultural exchange are the key points for raising well-being of the societies.

CELAC - The Community of Latin American and Caribbean States

A regional bloc of Latin American and Caribbean was created on 3 December 2011 in Venezuela with the signing of the Declaration of Caracas.

It consists of 33 sovereign countries in the Americas representing roughly 600 million people. Due to the focus of the organization on Latin American and Caribbean countries, other countries and territories in the Americas, Canada and the United States are not included. CELAC is an example of a decade-long push for deeper integration within Latin America. CELAC was created to deepen Latin American integration and according to reduce the significant influence of the United States on the politics and economics of Latin America.

It is seen as an alternative to the Organization of American States (OAS), the regional body founded by United States and 21 other Latin American nations originally as a counter measure to potential Soviet influence in the region.

Working towards South-South Cooperation

Case study: CELAC was organized in Dominican Republic, an International Cooperation Policy Summit on 12 and 13 January 2017.

At the meeting, the Cooperation Group evaluated the design of a platform aimed at structuring capabilities and strengths of public management of member States which may be useful for the South-South Cooperation. Also there was discussion on financing for development and reviewing cooperation with Haiti. CELAC aims to deepen political, economic, social and cultural integration of more than 600 million people living

in Latin America and the Caribbean, respecting their diversity, democracy and human rights. The regional bloc is composed of Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Dominica, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

Conclusion

While discussing South-South Cooperation, five different scenarios were presented:

There is need to establish a strong South-South coalition before seeking technology transfer from the developed North countries; We must aim at achieving a meaningful South-South Cooperation; avoiding North involvement; Bilateral South-South Cooperation could be for efficient win-win synergies; Emphasis should be on how technology transfer would be optimally achieved through a North-emerging-South flow; and Finally, there is the scenario of multilateral South-South cooperation in the presence of competing poles.