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ORIGINAL: ENGLISH**Economic and Social Commission for Western Asia (ESCWA)****REPORT****OF THE WORKSHOP ON INVESTMENT IN THE ICT SECTOR  
CAIRO, 5-7 MAY 2009****Summary**

A Workshop on Investment in the ICT Sector was held in Cairo from 5 to 7 May 2009, in collaboration with the Egyptian Ministry of Communication and Information Technology. The workshop was organized to raise awareness on existing policies, strategies, mechanisms and tools for promoting ICT investments in the region, and to discuss implementation modalities to increase financing in the ICT sector. The topics covered during the workshop included: venture capital; angel financing and entrepreneurship for innovation in the ICT sector; the macroeconomic, trade and investment outlook in Arab countries; financial markets and the ICT sector; investment in telecommunications infrastructure; investment, entrepreneurship and innovation; investment in Digital Arabic Content (DAC); investment-related challenges and opportunities in the ICT sector and lessons learned from the region.

Participants agreed on a number of recommendations, including: supporting wider access to affordable ICT products and services in the Arab region; focusing on building human capital and a more enabling environment for investments in the ICT sector; promoting ICT business incubation and linkage to financing, research and academic institutions; creating mediator financing institutions between banks and ICT investments and initiatives; and focusing on areas of e-medicine, e-education, e-agriculture, and vocational training within the efforts targeting the attainment of the development goals.

The workshop was attended by 24 participants including Government officials from ICT ministries and authorities, as well as ICT entrepreneurs, managers from ICT companies and representatives from investment companies and banks in ESCWA member countries.

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## Introduction

1. In spite of the recognized socio-economic benefits of building information societies and knowledge-based economies, investments in the information and communications technology (ICT) sector have been limited, and few new ventures and developmental funds have been financed or accessed in the region of the Economic and Social Commission for Western Asia (ESCWA) during the elapsing period; this situation is not expected to improve due to the global financial crisis. The development of suitable financing instruments, coupled with institutional reforms supporting innovations and promoting ICT entrepreneurship, constitute the cornerstone for developing a sustainable information society and a knowledge-based economy in the region. If this path were to be pursued, it would lead to further socio-economic benefits.
2. The Tunis Agenda, outcome of the World Summit on the Information Society (WSIS), stressed the need to enhance financial mechanisms aimed at building the ICT sector in developing countries and the importance of capacity-building to achieve this objective. In 2007, ESCWA carried out a regional study on ICT Finance, Venture Capital and Entrepreneurship,<sup>1</sup> in response to the Tunis Agenda and the Regional Plan of Action (RPoA) for building the information society in Western Asia, taking into account the recommendations issued at a number of expert group meetings (EGM). The EGM on Developing the ICT Sector in the ESCWA Region, which was held in Beirut, 11-12 March 2009, stressed the need to build the capacity of ESCWA member countries on issues and solutions related to financing and investments in the ICT sector.
3. The Workshop on Investment in the ICT Sector was organized in Cairo from 5 to 7 May 2009, in collaboration with the Egyptian Ministry of Communication and Information Technology (MCIT). The workshop was organized to raise awareness on the policies, strategies, mechanisms and tools for promoting ICT investments in the region, and on implementation modalities to increase financing in the ICT sector.

## I. RECOMMENDATIONS

4. Based on workshop deliberations and discussions, the following recommendations were proposed on strengthening investments in the ICT sector in the region:
  - (a) Promoting an enabling environment that is more attractive for investments in the ICT sector, including a liberalized telecommunications sector;
  - (b) Removing/regulating the monopolies of Internet service providers, which are limiting competition and resulting in low-speed and high-cost Internet services;
  - (c) Supporting wider access to more affordable ICTs in the Arab region in order to create a larger market, thereby making it more attractive to potential investors;
  - (d) Initiating partnerships and collaboration agreements between ESCWA member countries in order to share experiences, services and lessons learned on financing opportunities of the ICT sector;
  - (e) Building capacity in ICT business incubation and assessment of returns on investments in order to increase the possibility for projects to receive higher levels of financial support from national and regional banks and enable measurement of impact;
  - (f) Creating links between financing sources/institutions and Arab entrepreneurs with innovative projects. These links could be supported by an Internet-based coaching and project advice portal, which would provide an interface for communication and knowledge-sharing;
  - (g) Providing incentives and a legal framework in support of the establishment of business incubators and business parks with an ICT focus;

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<sup>1</sup> E/ESCWA/ICTD/2007/12.

(h) Raising awareness among financing and investment organizations on the benefits of investments in the ICT sector, particularly in terms of cost reduction, and facilitating the reach of innovative ideas to financing opportunities;

(i) Organizing training on the promotion of ICT projects, including guidelines on project presentation, analysis and management in order to make them attractive to investors;

(j) Producing guidelines focusing on promoting research and development (R&D) and venture capital in the region, stressing their importance and socio-economic benefits;

(k) Facilitating the establishment of regional funds that finance investments in ICT infrastructure and venture capital;

(l) Sharing the lessons learned by Arab institutions that provide guarantees for investments, such as the Inter-Arab Investment Guarantee Corporation in Kuwait and the National Institute for the Guarantee of Deposits (Kafalat) in Lebanon;

(m) Promoting collaboration and joint ventures using business models based on regional specificities;

(n) Creating intermediary financing institutions between banks and venture capital institutions on the one hand, and ICT entrepreneurs on the other hand. Arab funds, such as the Kuwait Fund for Arab Economic Development and the Arab Fund for Economic and Social Development, could establish these intermediary institutions to guarantee loans for small and medium-sized enterprises (SMEs) working in seed financing;

(o) Establishing partnerships and financing the establishment of ICT business incubators in the region, and creating links between incubators, universities, academic research institutions and businesses in order to increase financing of ICT projects;

(p) Increasing financing Digital Arabic Content (DAC) and the use of Arabic in e-services and e-publishing;

(q) Increasing contributions of banks to financing SMEs through national and regional institutions providing guarantees for loans and investments;

(r) Focusing on the areas of e-medicine, e-education, e-agriculture and vocational training within the efforts to attain the development goals.

## **II. PRESENTATIONS AND DISCUSSIONS**

5. Workshop presentations covered the following four principal themes: Investment and finance in the Arab world; investment in telecom infrastructure; investment, entrepreneurship and innovation; and investment in DAC. The sessions included three panel discussions that addressed the challenges and opportunities for investments in the ICT sector, the lessons learned and the workshop recommendations.

### **A. SETTING THE SCENE**

6. Two keynote speakers set the scene for the workshop. The first keynote speaker, Mr. Khater Abi Habib, Chairman of the Board of Directors and General Manager of the National Institute for the Guarantee of Deposits (Kafalat), Lebanon, made a presentation on Venture capital, angel financing and entrepreneurship for innovation in the ICT sector. The second keynote speaker, H.E. Mr. Mohamed Gamal El-Din El-Bayoumi, Secretary General, Egyptian-European Association Secretariat, Ministry of International Cooperation, Egypt, made a presentation on the State of the economy, trade and investment in Arab countries.

7. Mr. Abi Habib addressed the issue of investments in the ICT sector and gave insights on the Lebanese experience of financing investments through the National Institute for the Guarantee of Deposits (Kafalat).

While innovation in the ICT sector can lead to great rewards, especially when successful products reach large markets, risks can be high when the market is small and there are few rewards.

8. Mr. Abi Habib went on to say that the ICT sector in Lebanon faced two main financial difficulties: a lack of favourable finances and the small size of the Lebanese market. During the Lebanese civil war, risky innovative businesses had difficulties raising finance, while after the war and until 2000, interest rates on loans remained very high as the priority was on reconstruction rather than investments. ICT sector operators used their personal finances, short-term overdrafts and high mortgages to access bank finances. In 2000, the Kafalat programme started to guarantee bank loans of up to 75 per cent for periods up to seven years. In spite of this, banks still required additional collateral guarantees for start-up companies that had no track record and the ICT sector continued to experience pressure. In 2000, a number of programmes started to include ICT in their mandate after they received Government support through exemptions by Central Banks and the provision of interest rate support. In 2007, Kafalat Innovative, a special programme, was launched to guarantee loans for ICT investments of up to 90 per cent, leaving the banks with little risks, and only requiring a 10 per cent contribution from borrowers. This programme made it possible for banks to provide funding for three or four companies with innovative projects every month.

9. With the high risks associated with loans, the primary source of financing should come in the form of four equity-based investments: first, the simplest and least institutionalized level is angel investing, which consists of companies or individuals providing limited financing to start-ups; second, seed capital financing from institutional sources can be used to convert a laboratory idea to a marketable product; third, venture capital financing is used to support already developed products in order to take them to market; and fourth, equity financing can be obtained through participation, mergers and acquisition leading from venture capital to financial markets and broad-based investments. Since 2007, Lebanon has been receiving venture capital funds channelled through companies with market experience, and groups of business angels have since started to form and cooperate. Venture capitalists prefer investing in companies that are ready to enter markets with developed products.

10. Further intervention is needed at the lower levels of seed capital and business angels. Kafalat and the European Union have created a fund to support seed capital; it is hoped that the fund will attract investors, accelerate the growth of seed capital and increase the intervention of business angels. With technically capable innovators who need management and entrepreneurial support and strategic perspectives, the provision of support to entrepreneurs might attract the Lebanese diaspora, and enable them to start operations with business angels and seed capital funds, as venture capital investors. The innovators would bring their entrepreneurial skills and their access to networks and international markets, which would overcome the problem of a limited market in Lebanon and neighbouring markets. This would enable companies to reach bigger markets through international networks and sources of financing and investment.

11. The keynote speech by H.E. Mr. El-Bayoumi focused on the macroeconomic, trade and investment outlook of the Arab region and the opportunities and challenges for developing an Arab information society. The financial crisis was the result of a faulty monetary system and financial market, and its impact on the Arab region had mostly been felt in the rich oil-producing Gulf countries, which have lost trillions of US dollars. In consequence, other Arab countries, such as Egypt and Lebanon, have become safe havens for money.

12. Addressing globalization and the information society, the speaker pinpointed the main areas of importance for benefiting from emerging opportunities and meeting future challenges. The movement of people, capital and goods and services is among these key areas, but needs to be preceded by trade liberalization, which involves the lifting of existing trade barriers, and greater mobility of traders, labour and human capital in the Arab region. This, in turn, will increase demand in the trade of services. Existing data shows an inequitable distribution of investments among countries in the region and across the different sectors.

13. The absence of appropriate economic policies at the national level is at the source of economic problems. Hence, Arab countries should focus on national policies for developing the ICT sector before moving on to regional policies. National policies could liberalize trade in services; connect knowledge

networks; promote partnerships; increase DAC; develop human capital through education; enhance services through information; foster the benefits of information in economic development; and focus on information quality and access to networks. Once developed, countries could strengthen sectoral cooperation at the regional level.

14. H.E. Mr. El-Bayoumi listed the main challenges facing the region, which include: the digital divide; underdeveloped ICT sector; non-compliance with international competitiveness; weak DAC; mobility of human capital; and limited liberalization of services. Several steps need to be taken to overcome the digital divide and help develop the ICT sector. These include: enabling public access to ICT and its tools; fostering the use of ICTs as complementary tools in education; enhancing e-government services through the information society; enhancing performance of businesses through the use of new tools; ensuring better e-health services and quality of life; documenting cultural identity; and supporting efforts by the ICT sector to expand into international markets.

## B. INVESTMENT AND FINANCE IN THE ARAB WORLD

15. The session included presentations on the following subjects: (a) Financing ICT sector investments in times of global crisis; (b) ICTs for Development – where does the Islamic Development Bank Stand?; (c) How can banks assist in developing the ICT sector?; and (d) Egypt's experience in ICT venture capital.

16. The first presentation addressed the global financial crisis and its impact on Arab countries, in particular on the ICT sector, and how lending could stimulate financing and investment opportunities. The debate on the impact of the financial crisis on emerging and developing countries could be better perceived through an assessment of: (a) the extent of financial losses, how they will be paid, and how the new world financial order will emerge from the crisis; and (b) the method of dealing with overproduction, the redistribution of production around the world, and the manner industry will be reorganized. The financial crisis has impacted the Gulf countries at different levels: sovereign funds, stock markets and the bursting of local real estate bubbles. Other highly populated Arab countries have been hit by other problems, such as the diminution of remittances, falling exports and inflation.

17. The crisis has seriously hit the ICT industry, significantly affecting the sales of manufacturers and leading to bankruptcies of renowned companies. Manufacturers in emerging countries will, in the future, take a larger market share as they are now competitive in technology and price. Telecom operators and service providers seem to have been less affected by the crisis, but they are already reducing their costs and investments even though the market is continuing to experience significant growth rates. This is mainly due to the fact that many operators are largely indebted and lending conditions have deteriorated. The same operators also fear that consumption of ICT services will decline, despite the launching of new generation of Telecom services. The shares of most ICT companies have fallen sharply in the wake of the financial crisis and a speedy recovery of financial markets is not yet in sight.

18. Access to capital has become much more difficult, and ICT operators, who form 25 per cent of the regional market capitalization, have been affected by this development. Venture capital, already weak in the Arab countries, will become even scarcer. The Government stimulus programmes that have been implemented to mitigate the effects of the crisis, if any, have not focused on ICTs, as has been the case in developed countries. This will neither help the Arab ICT sector to profit from the crisis nor help it fill the digital gap. Some Arab telecom operators are very indebted, experiencing net debt to EBITDA<sup>2</sup> ratios which are much higher than the average ratios in European markets. Also, credit yields on lending in emerging markets rose sharply at the end of 2008, particularly as regional banks (especially in the Gulf countries) experienced difficulties as a result of the crisis. A debt restructuring wave could be expected from ICT operators in the Arab markets.

19. The second presentation described the position of the Islamic Development Bank (IDB) vis-à-vis the use of ICT in development projects, as ICT is a platform for innovation and a means to attain development

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<sup>2</sup> EBITDA stands for earnings before interest, taxes, depreciation and amortization.

goals. ICTs contribute to raising productivity and creating jobs that boost economic development and help developing countries leapfrog over different stages of development. The main obstacles facing the effective use of ICTs include: weak infrastructure in the telecom sector; the lack of a legislative and enabling environment; general and computer illiteracy; limited and unsuitability of incentives for the ICT sector; and a significant gap between urban centres and rural areas. In view of this situation, it is important to find new methods to address the current obstacles facing the ICT sector.

20. The IDB incorporates ICT components in its development projects, including the telecommunications sector, and this has resulted in modernization of infrastructure, extension of national networks, interconnection between operations, a competitive environment and lower communications costs. In spite of the positive impact of ICT, indicators are still low in the region when compared to those in developed countries. The challenges facing the sector include: mainstreaming ICTs into the development process; identification of projects; resource mobilization and implementation of ICT projects in ESCWA member countries; enabling legal and regulatory environment for investment; strengthening regional cooperation; and sharing lessons learned.

21. The third presentation tackled the way Arab banks could deploy their funding capabilities in order to develop the ICT sector. Most Arab banks have high liquidity; however, Arab financial markets are limited relative to the size of the banking system, and investments in local real estate markets and foreign markets have not been as successful as wished for in the light of the financial crisis. Therefore, finding alternative investment opportunities is crucial for Arab banks. Investment companies need to focus on new investment ideas, R&D and such rapidly growing sectors as the ICT sector. One of the main alternatives is venture capital financing that is still very limited in Arab markets, even though it is a major investment vehicle in development markets. Arab banks need to focus on private equity as the framework for venture capital and providing more funds to ICT developers, due to its high profitability and its role in developing the economy. With the financial crisis and decrease in investments in private equity, Arab banks could contribute to venture capital financing of new businesses, and information could be enhanced to reflect the percentage of funds going to the ICT sector to monitor its development.

22. The fourth presentation examined ICT venture capital fund activity in Egypt. The funds that have been provided to date are part of the Technology Development Fund (TDF). This fund was launched in 2004 and currently invests in 12 companies within a framework that involves start-ups and business incubation. The TDF has partnered with MCIT to manage these funds for the public sector, and also operates as a private sector company owned by EFG-Hermes. The TDF gets money from public and private sources and involves many players, investors and shareholders, which makes it easier to resolve problems, such as legal issues. Entrepreneurs in the region need mentoring, and the venture capital model developed in the TDF goes down from supporting start-up to making incubation services that include companies revising business plans to fill missing blocks. This problem has recently made venture capitalists turn away from investing in small companies in the ICT sector because of the challenges related to balancing risks with returns. In order to establish an inflow, a business plan is essential to start the venture capital fund and develop the momentum to generate new business ideas and plans. The companies that benefited from the TDF include, among others, Advanced Smart Card and TimeLine.<sup>3</sup>

### C. INVESTMENT IN TELECOM INFRASTRUCTURE

23. This session included presentations on: (a) Investing in telecommunications infrastructure in the region: policies and dilemmas; (b) Investing in telecentres for sustainability; and (c) Prospects of telecom investments: possible directions.

24. The first presentation addressed the dilemmas facing the Arab region in investing in infrastructure in the light of the global financial crisis. Mobile telecommunication penetration has already surpassed landline penetration levels, which currently stand at about 20 per cent; this poses a dilemma with regard to investments in infrastructure for both mobile and landline telecommunications. These dilemmas have

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<sup>3</sup> More information on the Technology Development Fund (TDF) is available at: <http://www.techdevfund.com/portfolio.asp>.

become more acute with the scarcity of funding during the financial crisis, and the problems in capital markets and lending issues with banks. In tackling these dilemmas, the International Telecommunication Union has proposed different methods of investment sharing between telecommunication operators, which would condition future markets, especially with respect to the availability of broadband in homes.

25. Mobile phone operators have difficulties with respect to investment sharing as most of their current development in developing countries is based on prepaid cards with very low Average Revenue Per User (ARPU); the use of postpaid mobile phones is also falling. The ARPU is diminishing rapidly, especially with the development of Voice over Internet Protocol (VoIP) services, and therefore reducing the willingness of operators to invest in landline infrastructures. The increasing cost of connecting new landline users is being generated by the cost of civil works, and high local inflation makes investment in infrastructure more difficult and takes more years to be amortized through the ARPU. Profitability will deteriorate further, especially as broadband development is low due to the regulatory limitation on typical added-value services, such as local television stations that are disseminated through broadband.

26. As the ARPU for VoIP is diminishing rapidly and with the current limits on the development of the content industry, worries about the profitability of infrastructure investments will increase, particularly with respect to land connections, Asymmetric Digital Subscriber Line (ADSL) backbones, international submarine and land cable links. Arab countries should therefore try to circumvent the effects of the crisis on investing in infrastructure and create a stimulus programme aimed at increasing investments in fixed infrastructure with specific technology and material for ground infrastructure that are needed for broadband development.

27. The second presentation tackled the issue of investments in telecentres. The presentation included a description of a project launched by Gedaref Digital City Organization (GDCO). The project aims to generate and sell information on 15 commodities to banks and institutions. It provides a particularly valuable service to farmers as it enhances their productivity and widens their choice of investment opportunities. The returns from selling information would sustain the finances of the project. Agro-service mobile is a fee-paying service that will send mobile text messages to farmers providing information on crop prices, forecasts, fertilizer applications, agricultural news and support on diseases and their treatment. Using ICT to monitor investment and disaster mitigation would facilitate services to communities that are affected by such problems.

28. The third presentation proposed directions for telecommunication investments in Egypt, based on current technological developments. With recent rapid developments in the ICT sector in Egypt, the undersaturated telecommunication market is still attractive for investments in new and existing services. The suggestions include: (a) introducing broadband wireless as fixed wireless local loop for high-speed Internet access for business and home users in order to supply both telephone service and broadband Internet access; (b) enabling at least two investors in telephony and broadband fixed networks, taking into consideration the need for a service-based competition in the form of local loop unbundling (LLU); (c) investing in new mobile technology, beyond 3G and Long Term Evolution (LTE), as it presents a good opportunity for mobile operators; (d) introducing new services in fixed telecommunications, such as Internet Protocol Television (IPTV) or fixed broadband services – these services would increase the customer base, give a greater competitive edge and enable capitalization on existing investments; and (e) building the capacity and developing the skills of IT engineers to ensure acceptable quality of new and existing services.

#### D. INVESTMENT, ENTREPRENEURSHIP AND INNOVATION

29. Three presentations were made during this session: (a) Investment environment for the ICT sector in the Syrian Arab Republic; (b) Fund-raising challenges and strategies for ICT SMEs in Jordan - innovation centres/business technological incubators; and (c) Leveraging innovation in seed and start-ups.

30. The first presentation considered financing as the main challenge facing ICT entrepreneurship in the Syrian Arab Republic, and pinpointed to other needs, such as raising awareness and building skills in the provision of administrative, legal and financial support to those starting a new ICT business and marketing its services. Syrian banks have little experience in providing and monitoring technological loans and need



collateral before they give loans to incubated businesses. Moreover, with fast-changing technology tools, new graduates tend to seek jobs rather than start ICT businesses. Investors also need to have a clear vision on their rights in the process of financing entrepreneurs, and their future benefits and role after their businesses succeed. The establishment of partnerships between incubators and venture capital funding could support the start-up of businesses entrepreneurs. Success stories include two companies producing films for cinema and television: one company was able to get international contracts to prepare 3D animation, and the other uses Arabic text-to-speech modules. The experience of an incubator in Damascus has helped a new incubator in Homs to develop a business plan, although both incubators and their work could benefit from greater regulatory support.

31. The second presentation tackled the challenges of fund raising and implementation of strategies towards more investments in the ICT sector. With a common trend to traditionally safe investments in the public and private sectors, investing in start-up projects would require investors to be convinced of the feasibility and long-term benefits of investing in new business incubator projects. Jordan has adopted policies and strategies for attracting investors to ICT projects that could be shared with existing business incubators.

32. The third presentation included a six-minute video and briefing on a technology incubation programme that was launched in 2006 by the Ministry of Communication and Information Technology in Egypt. The programme aimed at building innovation and industry by encouraging entrepreneurial activity, leveraging innovative seed and start-up companies and targeting economic development. The technology incubator serves as an economic development vehicle and represents an opportunity for partnerships to be created between institutions which would enable them to benefit from the collective efforts of partners and the realization of development goals that result in wider benefits.

#### E. INVESTMENT IN DIGITAL ARABIC CONTENT

33. The main presentation of this session was entitled “Digital Arabic Content: wishful ideological thinking or a business opportunity?” The presentation also included a briefing on the UP Information Technology Training Center in Yemen.

34. The first presentation addressed the subject of DAC as a business opportunity. The problems facing the use of the Arabic language in business and communication are related to both sociological and educational reasons. This exists in spite of the fact that the Arabic language was developed for commercial communication during the spread of Islam. With the development of ICT tools in Arabic, such as Arabic browsers, domain names, software applications and websites, the process generated difficulties that were not experienced with other languages, such as Chinese, Russian, Farsi or Turkish. The DAC market covers three sectors: the information and leisure sector; the business and e-commerce sector; and the public e-services sector. Arabic content in the information and leisure sector can be mainly found in television production and has subsegments that are underdeveloped and therefore have a significant potential for growth and revenue generation. Local advertisements and subscription revenues are still largely underdeveloped due to the low penetration of broadband connections and related local television stations. Most Arab countries could benefit from investments in radio broadcasting and increased levels of private sector ownership. The music production segment is also very concentrated. The opportunity therefore exists to create different business models in the information and leisure market sectors.

35. For a DAC market, the competitive environment should be enhanced, while most of the general discourse is around partnership and cooperation. The model of Private Public Partnerships (PPP) should be clarified as the Government should clearly regulate and address the impediments to market growth. In the private sector, the focus is on creating value through competitive advantage. While for the public sector, it is all about 'almost free' services to the tax-paying public. It is on this level of regulation and public services that the focus should be placed. In particular, Government stimulus for the development of the ICT sector has been decisive in many parts of the world. Also, regulation on language content is essential, and the deployment of public e-services, especially e-government and e-society services, constitute a strong motivation to develop DAC. Progress in developing DAC is currently hampered by access, legal framework, and measurement obstacles; these obstacles are being experienced in the three DAC sectors, and cover the

right to access content and knowledge; the need for legislation for e-commerce and public e-services; and indicators and the measurement of progress.

36. The briefing on the UP Information Technology Training Center in Yemen covered activities and local needs met by the centre, established funds and project cost, and results achieved. Centre activities include: website design; programming of applications; training on computer use; languages; management and electronic maintenance skills; extending information technology services; and providing technical consultations on project proposals. The centre provides much-needed services, includes the first ICT incubator in Yemen, and creates job opportunities for young people.

## F. DISCUSSIONS

37. The panel discussions held during the meeting addressed the challenges facing investment in the ICT sector, available opportunities for investments in the sector, and the lessons learned. The deliberations of participants during discussions are summarized below.

38. The main challenges facing investments in the ICT sector lie in whether people consider it essential to invest in ICTs in the context of development activities and the application of intellectual property rights (IPRs). There is a natural resistance among potential investors in taking high-risk investments in the ICT sector, Governments therefore need to address the ICT sector and its components, such as telecommunications, and enhance the investment environment. The telecommunications sector could benefit from raising awareness on the impact of the financial crisis on the region, and from the enabling of regulations that support the development of the sector. Currently, banks and ICT companies do not contribute much to ICT financing, and the experiences of financing ICT projects in Arab countries have not been monitored for performance and accountability, which, in turn, has not encouraged ICT initiatives.

39. The region also needs industrial policies and specialization in the financial sector and a performance evaluation of investment funds and initiatives. A balance between profit and development goals is essential to equitably leverage the benefits to communities; investment models and alternative financing opportunities could offer incentives and differential advantages.

40. Making information accessible to all, setting national priorities and strengthening IPRs are challenges in the Arab region. Poverty is widespread in the region and basic food needs are accorded a higher priority than ICTs and this, in turn, widens the digital gap in the region. DAC is lacking, telecommunications companies are monopolizing ICT infrastructures and services and blocking out competitors. There are no guarantees to financing activities in support of marginalized people with special needs, who would otherwise be deprived of access to ICTs. The information society in the region does not cover all communities as remote rural and disadvantaged communities are deprived of many ICT services.

41. Furthermore, weak integration systems between stakeholders, whether in the financial sector, academia, business market, industries or general beneficiaries, widen the gap between finance providers and demand for funding by investors and innovators. The lack of legislative support for investments leads to inadequate information being made available to the ICT sector and the market, and is coupled with the lack of an organizational framework for investments in the sector. Government intervention could help in directing financing investments to the ICT sector, and academic institutions could focus on entrepreneurship and strengthen innovative research and the financial tools available to venture capital.

42. Existing opportunities for financing investments in the ICT sector are demand-driven, such as financing IDB activities that follow procedures for financing projects within the framework of the national development plans of ESCWA member countries. Funding by the IDB covers the private sector and telecommunication projects, and least developed countries benefit from grace periods on debt repayment. Funding could be directed to investments in the developing broadband and telecommunication sector in the region. Government incentive programmes could enable the use of financing for investments in the ICT sector at the right time and when needed. The development of e-services and e-health could boost development in the region and help reduce poverty.

43. Policies and strategies would significantly impact investments in the ICT sector and enable the development of opportunities that extend the benefits from production sectors to different segments of society. Activities that are Web-integrated, collaborative and involve partnerships could facilitate opportunities. Investments in building human capabilities through training and specialized centres for lifelong learning are of significant importance in the development process.

### III. ORGANIZATION OF WORK

#### A. VENUE AND DATE

44. The workshop was held from 5 to 7 May 2009 at the premises of the Egyptian Ministry of Communication and Information Technology (MCIT), Smart Village B1, near Cairo, Egypt.

#### B. OPENING

45. Mr. Ahmed El-Sherbini, Deputy Minister for International Cooperation, MCIT, and Director of the National Telecommunication Institute (NTI), Egypt, made an opening statement welcoming participants to the workshop.

46. Mr. Mansour Farah, Chief of the ICT Policies Section of the ICT Division at ESCWA, highlighted the objective of workshop, namely to analyse the current status of investments in the nascent regional ICT sector; address the means to increase these investments towards developing a sustainable and prosperous sector; and propose recommendations and directions, based on experiences and potential choices that could create a more enabling environment for developing the ICT sector in the region. Pointing to the existing global financial crisis, Mr. Farah stressed the existing opportunities for the Arab region to attract investments to the ICT sector through providing confidence and stability in economic systems. He further stressed that the nascent ICT sector in the ESCWA region needs to be developed on a strong basis, and that the different components of the sector – ICT industry, services, research and training – need to progress beyond being a market of consumers to becoming producers of technology. The importance of the ICT sector lies in its pivotal role in advancing towards a knowledge-based economy, where all sectors need ICTs as part of their operational and production processes.

47. ESCWA has included a special programme for developing the ICT sector within the RPoA for Building the Information Society, namely the fifth programme, that includes a number of regional projects. Furthermore, an ESCWA study on ICT Finance, Venture Capital and Entrepreneurship<sup>4</sup> addressed financing ICT initiatives and produced recommendations for investments in the ICT sector through partnerships. The Arab ICT strategy for the period 2007-2012 also focused on building and developing the ICT sector. Some Arab countries, such as Egypt, Jordan and Kuwait, have directed significant efforts towards investment in the ICT sector, and the subsequent growth rate of the sector exceeded 17 per cent in 2004. However, in view of the financial crisis and the challenges facing the ICT sector, the growth rate might not reach 7 per cent in Kuwait and 10 per cent in Egypt in 2009. In addition to financing, these challenges include complete reliance on imported ICT technology, software and services, and weak ICT sector policies and strategies that could enable the sector to meet the local and regional market needs.

48. Mr. Ayman El-Sherbiny, First IT Officer, ICT Policies Section, briefed participants on the context, importance and structure of the ICT sector in the ESCWA region. He said that the issues of financing mechanisms and Internet governance still remain to be addressed after the second phase of WSIS. Mr. El-Sherbiny elaborated on the relationship between the ICT sector, innovation and investment in new and early-stage companies, and referred to the severity of the impact of the financial crisis on investment in the ICT sector. The main themes and discussion panels were considered of significant importance for interactive interventions and deliberations and reaching a set of recommendations for policymakers.

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<sup>4</sup> E/ESCWA/ICTD/2007/12.

49. The opening session included presentations by the two keynote speakers<sup>5</sup> for the workshop and was followed by discussions among participants.

#### C. PARTICIPANTS

50. The workshop was attended by 24 participants, including Government officials from ICT ministries and authorities, ICT entrepreneurs, ICT institutions managers and representatives from investment companies and banks. The list of participants is contained in annex I of this report.

#### E. DOCUMENTS

51. The documents submitted to the workshop are contained in annex II of this report and available on the ESCWA website.<sup>6</sup>

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<sup>5</sup> Presentations of the keynote speakers are summarized in this report under section A, on Setting the Scene, of presentations and discussions, para. 6-14.

<sup>6</sup> <http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=0981E>.

Annex I

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## Annex II

### **LIST OF DOCUMENTS**

- (a) Background documents:
  - Agenda
  - Information Note
  
- (b) Keynote speeches:
  - Venture capital, angel financing and entrepreneurship for innovation in the ICT sector
  - State of the economy, trade and investment in Arab countries
  
- (c) Presentations:
  - Financing ICT sector investments in times of global crisis
  - ICTs for Development – Where does the Islamic Development Bank Stand?
  - How can banks assist in developing the ICT sector?
  - Egypt’s experience in ICT venture capital
  - Investing in telecommunication infrastructure in the region: policies and dilemmas
  - Investing in telecentres for sustainability
  - Prospects of telecom investments: possible directions
  - The investment environment for the ICT sector in the Syrian Arab Republic
  - Fund-raising challenges, and strategies for ICT SMEs in Jordan - innovation centres/business technological incubator
  - Leveraging innovation in seed and startups
  - Digital Arabic Content: wishful ideological thinking or a business opportunity? (in Arabic)
  - UP Information Technology Training Center