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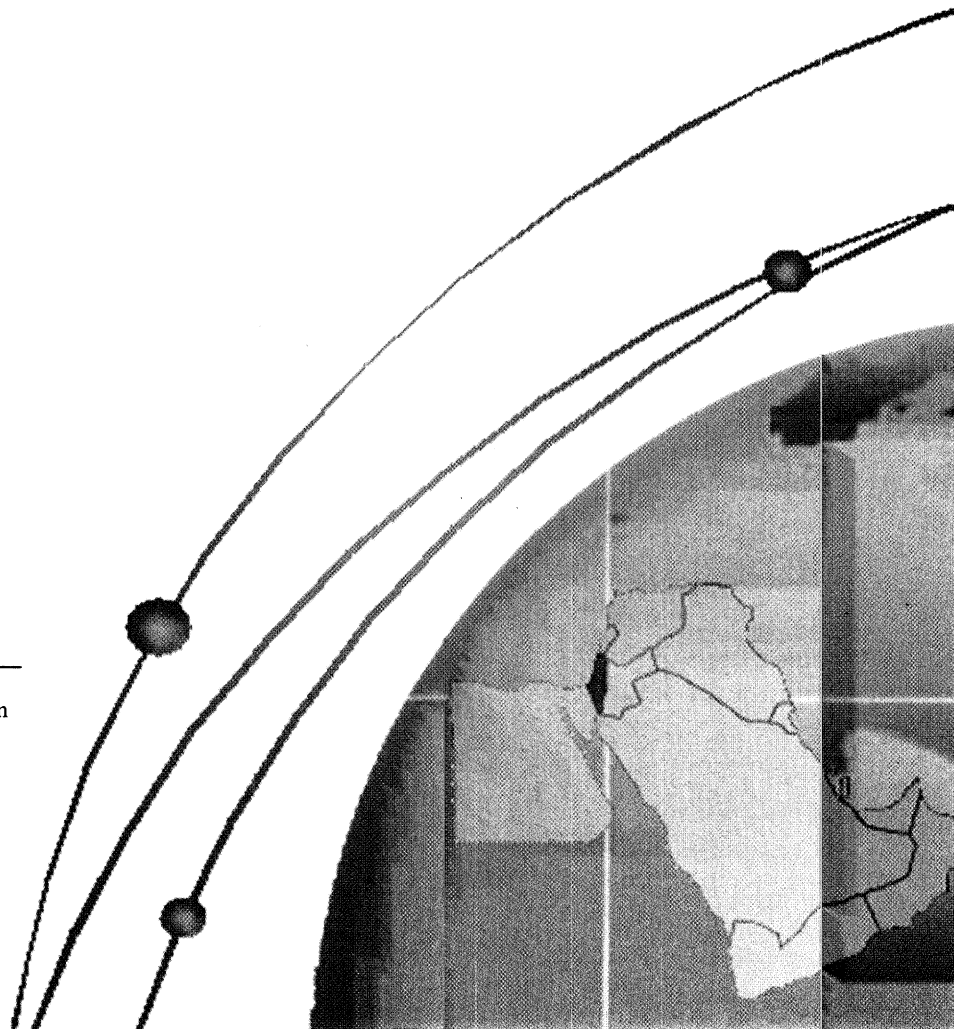UN-House, Beirut, Lebanon

ICT FOR POVERTY REDUCTION AND EMPLOYMENT CREATION IN WESTERN ASIA
A STRATEGIC PLAN

04-0203

Preface

This paper, submitted to the Round Table on "ICT as an enabler for economic development", attempts to promote information communication technology (ICT) as a potential tool for poverty reduction and employment creation in Western Asia, thereby enhancing economic development prospects. The paper aims at:

(a) Proposing an implementation modality for harnessing ICT to play an effective role in reducing poverty and creating employment. This modality combines top-down and bottom-up approaches in order to simultaneously trigger short term and long-term solutions;

(b) Recommending a strategic plan of action that addresses key issues and tackles the identified problems. Through the Round Table discussion process, it is hoped that the plan of action will contribute to the compilation of a number of key project proposals with a view to raise funds and instigate collaboration and partnership among the various stakeholders to achieve economic development of the region.

This paper is organized into four parts. The first part analyses broadly poverty and labour market in the context of Western Asia. The second part examines the macro-level and micro-level factors that link ICT to poverty reduction and employment creation. The third part proposes an implementation modality that is founded on a hybrid approach, which proposes a holistic solution for solving short-term and long-term problems related to poverty and unemployment. This part also includes an overview on the roles of different stakeholders and enumerates a number of performance indicators that could be used to monitor achievement. The fourth part suggests a strategic plan of action that could be conceived as guidelines to inspire and stimulate national and regional actions. At the end, a conclusion summarizes the main issues in this paper and an annex elaborates a sample list of projects that could be financed and executed in Western Asia.

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INTRODUCTION

In the context of socio-economic development process, globalisation and the shift towards a more integrated and interdependent world economy, poverty and unemployment have become of global concern. The urge to remedy and contain poverty as well as to adapt to flexible labour markets with varying technical skill requirements are priority issues for increasing human welfare and for avoiding the transformation of the human development divide into national, regional, and global conflicts.

The progress of human development is becoming more and more uneven throughout the world[1]. The North-South divide was accentuated during the fifth World Trade Organization (WTO) conference in Cancun. The collapse of the communist regime in Russia has triggered an East-West divide in Continental Europe that is currently infringing the enlargement of the European Union. Growing concentration of poverty and joblessness within developing countries are triggering a national divide with a chronic damaging effect on socio-economic growth.

In Western Asia, poverty remains a problem that requires immediate actions in order to secure future socio-economic stability and development in the region. Even though, the percentage of Arab States population in 1999 living below $1 a day is estimated less that 10% and is forecasted to remain below 10% till 2015, the percentage of population that is malnourished during the same period is around 10% and is estimated to increase in 2015[2]. In addition, two macro factors have stimulated more poverty and hunger since 1999, the first is the worldwide economic recession that followed the collapse of the Internet bubble and the second is the increasing political instability in the region. It is speculated that poverty in the region is increasing while income, wealth and power distributions are becoming more skewed; thus contributing to a serious imbalance in the social class structure, namely the decline of the middle class in the ESCWA region[3].

Unemployment rates for ESCWA countries are estimated to vary from 10 to 19 percent out of which 59 percent are first time job seekers[4]. Additionally, the Western Asia produces around 500,000 new entrants for the job market every year[5]. The risks associated with unemployment, especially among youth, are damaging to the social cohesion of countries as jobless people are easily discouraged and lured into crime, drug abuse, religious fanatism, and migration. Unemployment and underemployment pose a need for fundamental changes in order to develop new appropriate skills that meet the needs of the 21st century labour market demands.

During the last decade, international organizations focused on increased global development. In its Millennium Development Goals (MDG), the United Nations has adopted eight goals, the first of which is to eradicate poverty with the aim of achieving two targets between 1990 and 2015[6]:

(a) Reducing by half the proportion of people living on less than a dollar a day;

(b) Decreasing by half the proportion of people who suffer from hunger.

Within this context, this paper investigates the possibilities of harnessing information communication technology (ICT) to reduce poverty and create employment in Western Asia. The above targets pose a challenge of how to stimulate sustainable economic growth while reducing the gap between the rich and poor communities in order to secure peace and prosperity in the region.

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[1] "Human development report 2003", UNDP, ISBN 0-19-521915-5, page 241.

[2] Number of Arab people living with less that a 1 dollar a day is estimated at 6 million in 1999 and the number of malnourished Arab people is estimated at 32.2 million between 1998 and 2000. "Human development report 2003", UNDP, ISBN 0-19-521915-5, page 53 and 54.

[3] Arab Human Development Report, UNDP, 2003.

[4] ESCWA paper for the Youth Employment Summit Alexandria, Egypt, September 7-11,2002.

[5] Ibid.

[6] www.developmentgoals.org/poverty.htm.

I. POVERTY AND LABOUR MARKET IN WESTERN ASIA

Poverty and unemployment undermine human development by hampering human capabilities, increasing migration, and causing crime. This section presents an analysis of poverty and labour market in Western Asia with a view to provide a framework for future interventions. A common denominator that is immediately observed is the lack of up-to-date and even accurate figures pertaining to poverty indicators and unemployment rates.

A. MAIN FACTORS CONTRIBUTING TO POVERTY

Conventionally, poverty has been appraised in income or consumption terms. This section aims at analysing the many manifestation of poverty in Western Asia[7], namely economic and social poverty (refer to box 1).

Box 1. Concept of poverty

Poverty is a multi-dimensional concept referring to the lack of adequate income to purchase essential food for a normal living; it is also characterized by the scarcity of proper access to basic healthcare services and the deprivation from knowledge. Poverty is a hurdle for socio-economic development.

This paper will not address the issue of information poverty. The latter, which refers to the demographic disparity of accessing and using ICT, has also been associated with the digital divide[8]. Even though some countries, such as United Arab Emirates, have taken advantage of the ICT revolution to bring their country up to the technical standard with developed economies; the poor communities in ESCWA region have become gradually more marginalized in accessing ICT, and the gap between the information-haves and have-nots is widening. In this respect, the lack of technological know-how is considered as a main factor for triggering poverty through a shrinking stock of human capital and knowledge.

Economic poverty, which refers to the failure or absence of suitable fiscal and /or monetary policies within Governments, is a main driver for increasing poverty as economies shrink. Economic poverty is associated with weak national vision for poverty alleviation and the lack of appropriate implementation mechanisms. Unfortunately, a number of ESCWA member countries have large budget deficits, which reduces both capital accumulation and productivity growth. The bottom line is that the poor do better in countries with high rates of economic growth, even if income distribution deteriorates slightly[9].

The social poverty, which strengthens the effect of social exclusion as the main factor behind poverty, relates poverty to a number of social criteria drawn from demographic change, racial inequality, and social welfare. In fact, a poor social environment lowers the opportunities available to spend on social activities and thus citizens accumulates negative social externalities with time. This polarization in the social structure has negative results on economic growth and social welfare.

Table 1 depicts some figures pertaining to poverty and under-nourishment in Western Asia.

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[7] ICT and Poverty: The indisputable link, Alexander G. Flor, SEARCA, paper for the Third Asia Development Forum on "Regional Economic Cooperation in Asia and the Pacific" organized by Asian Development Bank, June 2001 Bangkok.

[8] Paper entitled "The Worldwide Digital Divide: Information poverty, the Internet and development". Pippa Norris, JFK School of Government, Harvard University, April 2000.

[9] http://www.cid.harvard.edu/caer2/htm/content/papers/bns/dp04bn.htm.

TABLE 1. POVERTY IN WESTERN ASIA

Country	Children under weight for age (% underage 5) (1995-2001)	Undernourished people (as % of total population) (1990-1992)	Undernourished people (as % of total population) (1998-2000)	Human poverty (1) per cent	
				Men	Women
Bahrain	9			7.20	12.40
Egypt	4	5	4	23.40	29.10
Iraq	16	7	27		
Jordan	5	4	6	6.40	11.10
Kuwait	10	22	4	11.10	14.00
Lebanon	3		3	7.60	14.00
Palestinian Authority	3				
Oman	24			22.10	31.70
Qatar	6				
Saudi Arabia	14	4	3	14.60	23.40
Syrian Arab Republic	13	5	3	10.20	27.60
United Arab Emirates	14	3		17.50	14.50
Yemen	46	36	33	32.10	54.80

Source: Human development report, UNDP, 2003.

Column (1) source: Poverty and the means for measuring it in the ESCWA region, E/ESCWA/SDD/2003/25, November 2003. Human poverty refers to a multitude of factors mainly related to education, health, and income. Figures are for the year 2002.

B. MAIN ISSUES OF THE LABOUR MARKET

The labour market in the region has been characterized by an increasing unemployment and underemployment due to the absence of mechanisms to absorb new labour[10] as well as labour released from shrinking sectors, such as the agricultural sector. As mentioned in the introduction, the current unemployment for ESCWA countries ranges from 10 to 19 per cent[11]. In Egypt, for example, the number of people unemployed as a percentage of the labour force was estimated at 9% in 2000[12], and in Lebanon unemployment rate among 15-24 years olds was 21.6 per cent in 1997[13]. Unfortunately, there are no up-to-date numbers on unemployment rates for most ESCWA member countries.

Problems in the labour market are also accentuated by the decline of wages in traditional sectors (refer to figure 1) and the decreasing productivity of the workforce. Additionally, the purchasing power of these wages has eroded due to increased inflation rates.

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[10] "Unemployment among cohorts 15-24 years can reach 8 to 10 times the rate of unemployment for the 25 to 34 age group, while in OECD countries, the ratio does not exceed two to one." ESCWA paper for the Youth Employment Summit Alexandria, Egypt, September 7-11, 2002.

[11] ESCWA paper for the Youth Employment Summit Alexandria, Egypt, September 7-11, 2002.

[12] ILO: 2003-2004 Key Indicator of Labour Market (Geneva, 2003), http://www.ilo.org/kilm.

[13] Millennium development goals Lebanon report, UNDP, September 2003.

Figure 1. Average wage of employee in manufacturing in the ESCWA region
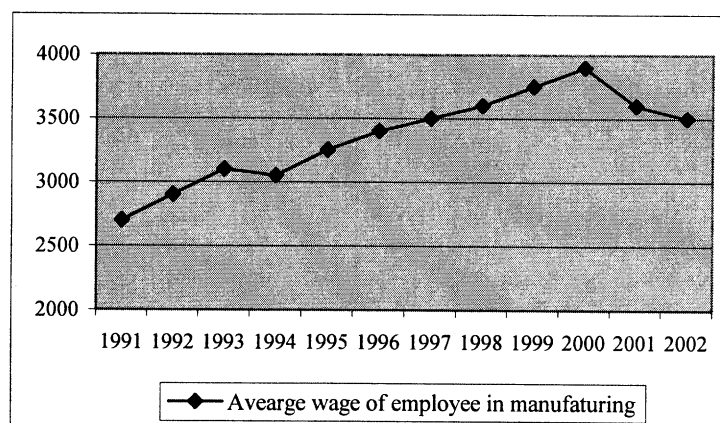
Source: Statistical abstract of the ESCWA region 2003, ESCWA, twenty-third edition.

Labour migration is another main issue that could be associated with knowledge migration in some cases[14]. The substantial percentage of labour force in non-oil rich countries is migrating to the Gulf Cooperation Council (GCC) and Western countries[15] (see box 2). The consequential effects are increased brain drain[16] to developed countries and reduced attractiveness of employment and living conditions in GCC countries. However, one must also keep in mind that some Arab immigrants[17], through their support of their relatives and their remittances, have become a new source of development aid for their countries and contribute to the survival of their families.

Box 2. Migration in the Arab region

The following are quotes from the third edition of the book entitled "The Age of Migration" by Stephen Castles and Mark J. Miller:

"A 2002, UNDP Report on Arab states noted that average income of Arab citizens was 14 per cent of average income in OECD area. Half of Arab youths expressed a desire to emigrate. Areas like Beirut, Gaza and the lower Nile Valley are very densely populated; the population density and the gap between job creation and the entry of new cohorts into the labour market help propel emigration."

"Additionally, by 2002, Egypt needed to create 500,000 jobs per year to employ population cohorts entering the job market. It could not do so and therefore it signed 11 bilateral agreements with nearby stats between 1974 and 1993 to facilitate emigration of Egyptians. In the mid-1990s, Egyptians statistics indicated that about 70 per cent of all migrants went to Saudi Arabia."

Nevertheless, the above conditions of the labour market are shrinking the quality of human capital in the region, which is one of the main pillars for building a knowledge economy in Western Asia.

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[14] Most fresh graduates in Lebanon and Jordan are leaving their countries to seek job opportunities abroad.

[15] Arab Human Development Report, UNDP, 2003.

[16] "Between 1998 and 2000 more than 15,000 Arab doctors migrated", Arab human development report 2003: building a knowledge society, UNDP.

[17] Mostly those that have immigrated to GCC countries.

II. ICT LINKS TO POVERTY REDUCTION AND EMPLOYMENT CREATION

ICT constitutes one of the new tool for reducing poverty, empowering impoverish communities, and providing access to vital resources and information. By creating new jobs, reducing unemployment, establishing new distribution channels, and providing new competitive advantages, ICT applications geared towards alleviating poverty will eventually contribute to reducing the gap between rich and poor in ESCWA member countries.

More specifically, and with the convergence of ICT, the Internet is evolving to become the vehicle for empowerment and socio-economic development. It is only a matter of time when the Internet will be integrated in almost every aspect of the daily lives of the people of the world. The combination of the technology convergence and its speed of diffusion will make the Internet a critical tool contributing to the development of the human being and to the growth of the knowledge economy.

There is a correlation between the diffusion of ICT and countries with high human development index[18] (HDI). Table 2 shows that ESCWA member countries with high HDI have the highest ICT indicator values suggesting that there is a link between ICT and human welfare. The main challenge is to assimilate the advantages that ICT could bring to poor communities and then to transform these advantages into positive economic, social and political tools aimed at empowering the poor and increasing his/her livelihood.

TABLE 2. ESCWA MEMBER COUNTRIES HDI AND ICT INDICATORS

	Iraq	Occupied Palestinian Territories	Yemen	Egypt	Syrian Arab Republic	Jordan	Lebanon	Oman	Saudi Arabia	United Arab Emirates	Kuwait	Qatar	Bahrain
HDI Rank	13	12	11	10	9	8	7	6	5	4	3	2	1
Human development index [HDI] value		...	0.47(2001)	0.66	0.685(2001)	0.743(2001)	0.752(2001)	0.755(2001)	0.769(2001)	0.81	0.82(2001)	0.826(2001)	0.839(2001)
Human poverty index [HPI-1] value [%]		...	42.5(2001)	29.9	19.8(2001)	8.5(2001)	10.2(2001)	32.2(2001)	17(2001)		...	...	...
Gender related development index [GDI] value		...	0.424(2001)	0.634(2001)	0.668(2001)	0.729(2001)	0.737(2001)	0.736(2001)	0.743(2001)	0.802(2001)	0.813(2001)	0.788(2001)	0.829
Main telephone lines in operation per 100	2.81	9.95	3.23	14.23	12.28	12.83	19.82	8.63	14.47	34.18	20.42	26.75	26.72
Cellular mobile subscribers per 100	0.08	10.67	2.51	6.21	2.46	26.02	22.66	17.12	21.28	76.56	52.97	40.41	59.26
ISPs		20	2	124	2	2	14	...	21	1	10	1	1
Personal computers per 100	0.83	1.33	0.72	2.11	1.75	3.21	5.85	3.14	8.51	15.31	12.71	16.67	16.3
Internet hosts per 10,000	0(2000)	0.02	0.06	0.43	0.01	7.77	21.05	17.26	6.29	163.54	13.82	2.59	26.17
Internet users per 10,000	10.42	266.67	30.68	225.35	128.65	441.51	1345.03	442.8	680.85	3687.5	974.58	765.15	2513.72
Television receivers per 100	7.94(2000)	12.91(2001)	28.15(2001)	12.82	18.17	16.44(2001)	27.27(2001)	55.34(2001)	27.57(2001)	29.29	42.35(2001)	88.77(2001)	43.04(2001)
ITU - Digital Access Index (DAI)		0.38	0.18	0.4	0.28	0.45	0.48	0.43	0.44	0.64	0.51	0.55	0.6

Notes:
1: Estimated number
2: Value Aug - 2003
3: Value 1999

Sources:
a: ESCWA ICT indicator database
b: ESCWA consultants - Information Society Indicators (2003)
c: A Buddcom Report, 2003, Telecoms in the Middle East
d: United Nations Development Programme [UNDP] - 2003
e: United Nations Development Programme [UNDP] - 2001
f: ITU World Telecommunication Development Report: Access Indicators for the Information Society , 2003

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[18] HDI is a composite index measuring average achievement in three basic dimensions of human development, namely a long and healthy life, knowledge, and a decent standard of living. Source: ICT and MDGs, A World Bank Group Perspective, Dec 2003.

Four main clusters, depicted in figure 2, are used to highlight the urgency required to adopt the proposed implementation modality within a framework based on HDI grouping. The clusters listed below are ordered from most urgent to least urgent:

(a) The "Post conflict countries" cluster;

(b) The "Low HDI countries" cluster;

(c) The "Medium development countries" cluster;

(d) The "High HDI countries" cluster.

Figure 2. Human development index (2001) for ESCWA member countries
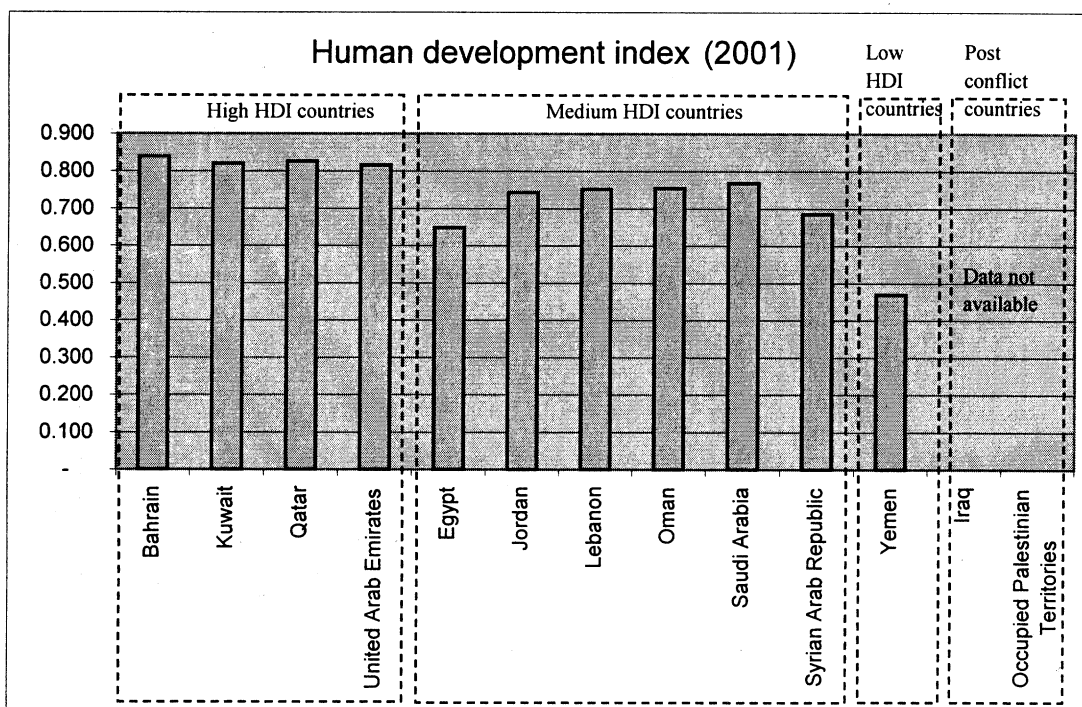
The following presents macro-level and micro-level factors that leverage from the variety of ICT applications with the objective to extend the life opportunities of the least fortunate and bring about benefits to both wealthy and poor. Equally important is to strengthen the interaction that exists between these two levels.

A. MACRO-LEVEL INTERVENTIONS

The effects of macro-level interventions on poverty and unemployment have critical policy implications. A number of issues that are impacting the use of ICT from a macro-level perspective are discussed below:

(a) The surfacing of global cities[19] as a command point for increasingly complex production processes: The way that the global economy is expanding has placed an important role on global cities, such

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[19] Sassen loosely defines global cities as "centers for the servicing and financing of international trade, investment, and headquarter operations." Globalization and Its Discontents: Essays on the New Mobility of People and Money. Saskia Sassen. 1999.

as London, New York and Tokyo. ICT plays a crucial role in allowing these cities to fulfil their global functions. The networking matrix of global cities and the link to global and regional circuits of capital are just two examples of the potential of ICT. Cities in the region with some evidence of world city formation are Abu Dhabi, Dubai and Riyadh[20];

(b) The end of the Nation State as a spatial unit and the emergence of regionalism: Cities are more and more assuming inter-state economies and are the knots for creating and supporting regional integration for Western Asia. ICT can exponentially increase the benefits of sound transportation infrastructure and trade protocol though the implementation of a regional broadband telecommunication infrastructure and the development of bilateral and multilateral agreements to promote ICT regional integration projects;

(c) The move from government to governance: This move is increasingly pushing Governments to assume a more strategic role by ceasing to be a provider of services and rather become an enabler of these services. This shift requires more logistical, administrative, and management support whose efficiency and effectiveness can be facilitated by ICT.

B. MICRO-LEVEL INTERVENTIONS

Micro-level interventions will examine the internal dynamics through which ICT applications and expertise are transferred to institutions and citizens as well as the capabilities offered by ICT to mediate such transfer in order to reduce poverty and create employment. The following is a list of important micro-level interventions:

(a) The rise of productivity: ICT increase the level and quality of output, given the same amount of labour, capital and material;

(b) The increase in labour capacity: As people obtain new ICT skills and capabilities their efficiency will increase. This is also reflected in the shift of career to adapt and cope with new changes and building indigenous ICT skills;

(c) The increase of competitiveness: As firms optimise their processes and reduce their costs by using ICT applications such as supply chain management and enterprise resource planning software, they become more competitive;

(d) The increase in access to information: The empowerment through access to information can create earnings opportunities through their catalytic and leveraging effects.

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[20] Global networks linked cities, edited by Saskia Sassen, 2002. According to the globalization and world cities research group and network (GaWC), page 100 (Taylor et al).

III. IMPLEMENTATION MODALITIES

The point of departure for using ICT for poverty reduction and employment creation is to identify key development challenges pertaining to each country or impoverished community and then investigate and analyse how ICT, as a tool for socio-economic development, could make a positive and sustainable impact to combat poverty and create employment. Similarly, regional ICT projects must be designed in such a way to complement each other in order to pave the way for a regional integration.

Recognizing that ICT is not an end by itself, initiatives have to exploit the ICT potentials as a powerful tool that can produce effective results when applied comprehensively in an overall development strategy. There is no "one-size-fit-all" approach that has proven effective for using ICT for poverty reduction. Moreover, poverty in the ESCWA region varies by country and level of economic accomplishment. ICT cannot eliminate the need for political stability as it is the case for Iraq and Occupied Palestinian Territories nor can it eliminate illiteracy, as it is the case in Egypt.

The following provides some recommendations for harnessing ICT for employment creation and poverty reduction in the ESCWA region:

(a)   ICT will benefit the poor more significantly when information is exchanged both ways to and from impoverished communities; i.e. the poor will not just receive information but will also share local knowledge with other communities;

(b)   Statistics related to ICT diffusion are usually national average. More detailed and accurate surveys need to be conducted for targeted areas where employment is to be created and poverty to be reduced;

(c)   The need to keep intermediaries might be a necessary mechanism in some cases at least for the near future. ICT enables bypassing middleman and intermediaries organization; although, in some cases, the latter are needed to organize local supply of goods and services and to act as clearing houses to assure quality and to generate needed volume to serve external markets;

(d)   ICT is an agent of change, i.e. does not create change but more likely acts as a catalyst for triggering change through the emergence of new coalitions. A typical example is the spill over effect that ICT generates, such as attracting Foreign Direct Investment (FDI).

(e)   National poverty line, human poverty index (HPI-1)[21] and Gini coefficient[22] constitute useful indicators for monitoring progress of work and for providing a preliminary snapshot of current issues;

(f)   SMEs are the main source for employment creation in rural areas and especially for countries with low to medium HDI;

(g)   Establishment of effective linkages throughout the value chain that is generated from any ICT-based projects. These linkages are mandatory for any ICT-based projects, they supplement the technical output with the needed business alliances and networking for sustaining an economic viable structure and forging effective sales and distribution channels;

(h)   Awareness creation of decision makers is important to capture political will, access new funds, and increase visibility to expand popularity of initiative/projects.

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[21] A composite index measuring deprivations in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living. http://www.undp.org/hdr2003/indicator/indic_16_1_1.html.

[22] The Gini coefficient is a measure of the income inequality in a society. it is a number between 0 and 1. where 0 means perfect equality (everyone has the same income) and 1 means perfect inequality (one person has all the income. everyone else earns nothing). http://en.wikipedia.org/wiki/Gini_coefficient.

This approach, recommended for countries with low and medium HDI, capitalizes on initiatives launched by civil society institutions/private sector to improve the status of impoverished communities. The main advantages behind this approach are the short-term positive impacts on poor communities and the ability to supplement the lack of resources of local Government authorities to serve their communities[23].

Moreover, this approach leverages on the strong relationship between civil society institutions, the private sector and community leaders to initiate, maintain and reinforce structures that serve impoverished communities. Typical observed relationships in the region are based on personnel acquaintance between a community leader and civil society/private sector representative, or in the form of a donation from philanthropists to help develop a particular area or community.

The following is a recommended methodology for proper implementation through bottom up initiatives/projects:

(a) Identification of priority projects for poverty reduction and employment creation to be implemented in a selected community or area, in consultation with member countries, regional and national NGOs;

(b) Provision of feasibility studies and detailed business plans;

(c) Establishment of partnership with local and regional stakeholders;

(d) Allocation of necessary funds;

(e) Selection of pilot projects;

(f) Delivery of technical assistance and training;

(g) Fine-tuning the whole process though lessons learned during the implementation of pilot projects;

(h) Dissemination of these projects in other communities or areas.

**Figure 3. Bottom up approach**
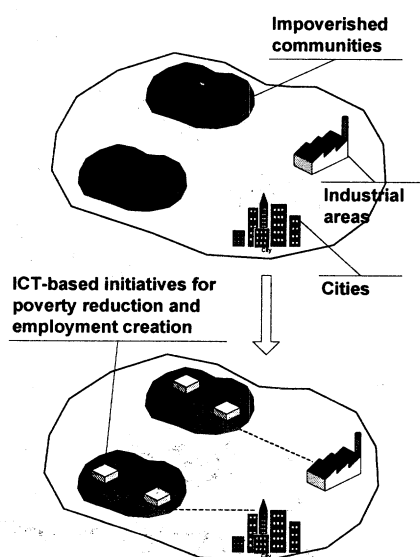
Source: ESCWA.

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[23] "The most striking about modern industry is that it requires so much and accomplishes so little. Modern industry seems to be inefficient to a degree that surpasses one's ordinary powers of imagination. Its inefficiency therefore remains unnoticed." Quoted from Small is Beautiful, by E. F. Schumcher. http://www.serve.com/ecobooks/smbeaut.htm.

As illustrated in figure 3, the results emanating from this approach will be in the form of small and fragmented initiatives/projects that are in most cases a spontaneous reaction to grassroots activities aiming at resolving a condition limited in scope and scale. The mushrooming effect induced from the bottom up approach of using ICT for employment creation and poverty reduction will pave the way for launching national and regional initiatives. It is worth noting that the bottom up approach does not have to be restricted to a single country, it could also be adopted by international/regional organizations to trigger a number of pilot projects aimed at building capabilities of local Governments representative and NGOs as well as creating a successful prototype to get the necessary political will to use ICT for employment creation and poverty reduction.

B. TOP DOWN APPROACH: ROLE OF POLICY-MAKERS

This approach, essential for all ESCWA member countries, pursues the implementation of policies originating from the need to resolve the weaknesses of economic and social structures. Governments have to encourage grassroot organizations to bring substantive change in the lives of poor people and in creating jobs. At the same time, policy makers, recognizing that the bottom up approach alone will seldom be able to solve economic and social problems on a national level, have to provide an enabling environment for promoting ICT-based initiatives geared towards employment creation and poverty reduction.

As illustrated in figure 4, the results emanating from this approach will be in the form of long-term initiatives/projects aiming at resolving a condition large in scope and scale. The effect induced from the top down approach of using ICT for employment creation and poverty reduction will support the existing initiatives implemented by civil societies. An example of a typical project is the development of ICT infrastructure connecting impoverished and isolated segments of the population to main cities, industrial areas, and education sector.

Figure 4. Top down approach
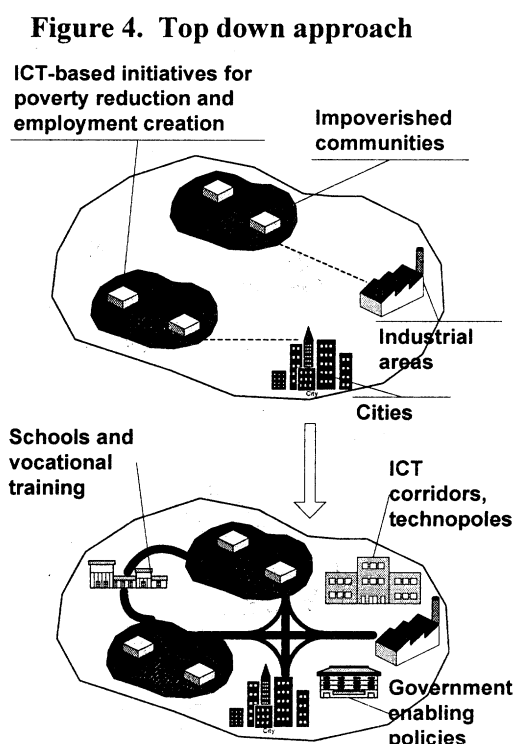
Source: ESCWA

The following is a list of initiatives[24] to harness ICT for employment creation and poverty reduction:

(a) Investigating national income poverty line[25] and unemployment rate for each country in order to set a well-defined baseline for monitoring progress of work and supporting the decision making process of policy makers. Recent values for these two indicators are not up-to-date and even absent in most ESCWA member countries;

(b) Investment in ICT infrastructure through the deployment of national broadband backbone in order to cover a wide area and link isolated segments of the population. This initiative is not sufficient if it is not accompanied by Government support to offer competitive pricing for telecommunications services; Egypt is a pioneer among ESCWA member countries to forge an agreement with Internet Service Providers (ISPs) to offer free Internet access to their citizens;

(c) Development policies to boost the ICT sector and industry with an objective to provide legal security, maintain information privacy, allow e-payment, enforce intellectual property rights, support electronic signature, and fight cyber crime while increasing the traffic of electronic transactions over the Internet;

(d) Partnership with private sector to inject technical and financial resources into government based ICT initiatives. More specifically SMEs are a major source for capacity building and employment creation; thus, ESCWA member countries have to adopt policies that encourage entrepreneurial development, such as tax holidays and micro finance schemes;

(e) Research and development (R and D) to increase national research management skills and build leading ICT capabilities, as well as produce commercial opportunities. Typical initiatives would be in the form of ICT incubators, technopoles, technology parks, and centres of excellence in the field of software development and ICT legislative studies;

(f) The education sector being the ideal place for nurturing the human capacity building of nations in the transfer and disseminations of ICT skills, education curricula should be reviewed to include up-to-date ICT courses and teachers have to be trained to use new learning methodology. These changes should be implemented in parallel in schools, universities and vocational training institutions;

C. HYBRID APPROACH: SOLVING THE PROBLEM FROM BOTH ENDS

The proposed hybrid approach establishes a balance between the bottom up and top down approaches by delivering an attainable solution for solving short-term and long-term problems associated with employment creation and poverty reduction. The main objective is to mitigate the risks associated with organizations working in isolation, be they governmental or non-governmental, which allow relations of patronage and is prone to corruption. This approach includes a self-controlling mechanism that questions the underlying apolitical agenda behind many existent initiatives.

Figure 5 illustrates the foundation for a hybrid approach framework that has the potential of overcoming poverty and unemployment challenges by implementing an integrated solution aimed at solving the problem from both ends.

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[24] ESCWA, Capacity building in selected ICT applications in ESCWA member countries Volume 1, E/ESCWA/ICTD/2003/6.

[25] This activity could also include the calculation of human poverty index 1 and 2 as well as GINI coefficient for measuring income distribution.

Figure 5. Hybrid approach
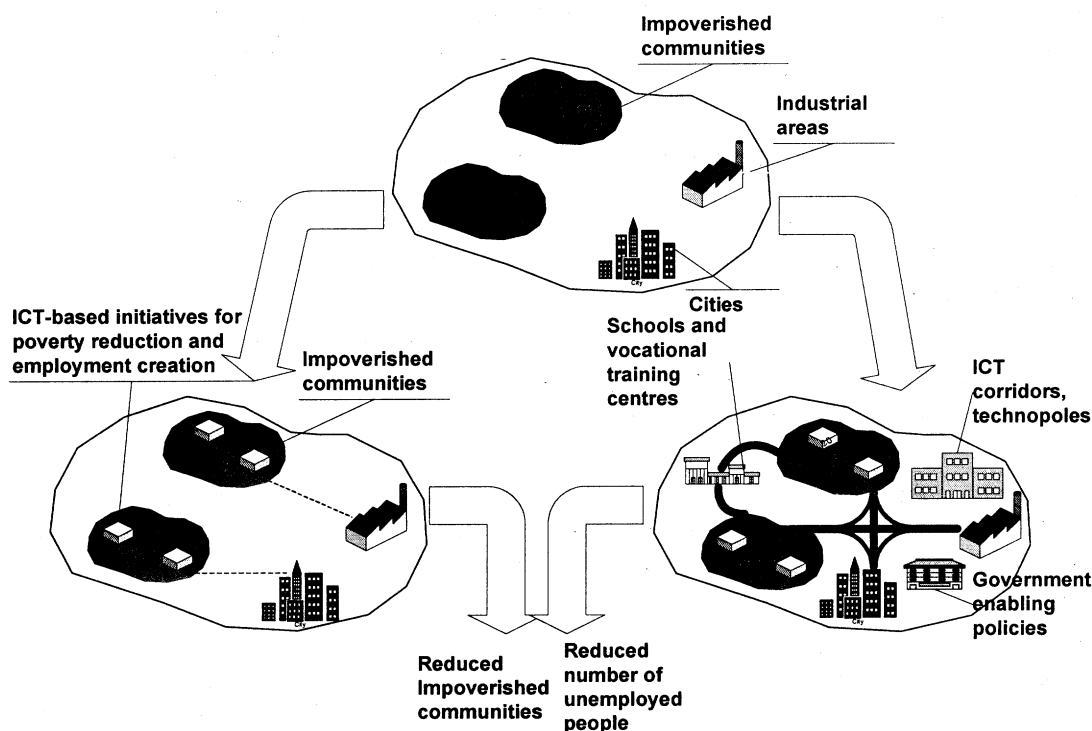
Source: ESCWA

D. ROLE OF DIFFERENT STAKEHOLDERS

All stakeholders, through the proper channels and media, should be involved one way or another in planning, designing, implementing, and evaluating ICT initiatives for poverty reduction. Responsibilities should be divided among stakeholders based on their added values; thus nourishing the idea of ownership and instigating a national dialogue on the use of ICT for employment creation and poverty reduction. The following is a list of major stakeholders along with a brief description of their role.

(a) Governments: To define an enabling policy and legislative framework as well as allocate public resources;

(b) International and regional organizations: To act as a catalyst and to provide the framework within which initiatives on poverty reduction and employment creation will be developed;

(c) Private sector: To provide technical expertise, business sustainability and to develop new and existing markets, especially the small and micro enterprises;

(d) Civil society and NGOs: To connect with local and regional communities and to participate in the implementation process. Involving the civil society contributes to the creation of more pluralistic and democratic political systems.

(e) Education sector: to share knowledge and research results.

E. INDICATORS OF ACHIEVEMENT

Whether quantitative or qualitative methods of evaluation are used to monitor progress of work or to assess results, it is important to cross check one set of data with another. Defining the right indicators of achievements is one of the crucial tasks while designing an evaluation method. This section lists a number of

performance indicators that could be used to judge achievement and that would supplement the two targets set for eradicating poverty in the MDG. The indicators are:

(a) Number of pilot projects launched, number of successes, number of failures, and number of pilot projects with sustained operations;

(b) Number of new jobs created and of increased income by gender and age;

(c) Threshold values for poverty and unemployment, for example HDI, HPI, Gini, national poverty line, and unemployment rate;

(d) Real GDP: percentage increase/decrease of real GDP because it is measured in constant prices, the prices for a specific base year, and it adjusts gross domestic product for inflation.

It is important to design indicators carefully and to make sure that they reflect what they are intended to measure. Additionally, it is strongly advisable that ESCWA member countries agree on a common subset of indicators that could be used to provide comparative measurements from one country to another as well as to assess impact and progress on a regional level.

IV. RECOMMENDED STRATEGIC PLAN OF ACTION

The combination of efforts from all stakeholders is essential to tackle and reduce poverty and unemployment. Importance should thus be placed on two complementary approaches: the bottom up approach which can produce immediate short term effects usually is not capital intensive, and the top down approach which shows that Governments can play a vital role through the development of enabling policies and regulations. Actions in the latter approach remain the most subtle and have long-term effect.

In the above context, social impact analyses should be carried out when designing macroeconomic and structural reforms in order not to destabilize cultures or impose foreign cultural values. Additionally, these assessments should be conducted with a view to generating more informed debate at the regional and national levels, as well as assisting in the selection of appropriate sequencing and the identification of actions to limit anticipated negative socio-economic effects.

The following outlines a proposal for a strategic plan of action that can be conceived as guidelines to inspire and stimulate national and regional actions aimed at reducing poverty and creating employment in the ESCWA region.

A. CONSOLIDATING POVERTY AND UNEMPLOYMENT MEASUREMENTS

International poverty measurement, such as that which uses the one-US-dollar-a-day as a minimum income to classify the poor from the non-poor, does not replace the need for developing regional and national poverty income indicators. The ESCWA region suffers from the lack of relevant and up-to-date poverty and unemployment measurements. The following actions should be undertaken and surveys, conducted by national statistical office or by regional and local organizations, should be publicized and executed every two years. The main actions are:

(a) Development of national poverty lines (see box 3);

(b) Calculation of HDI, HPI, and Gini coefficient;

(c) Computing unemployment rate by gender, age, and industry;

(d) Conducting statistical surveys by industry, especially the ICT industry. Typical data to be provided are revenues, employment, contribution to GDP, R and D expenditures, capital expenditures, trade, and salary survey.

Box 3. Thailand

In Thailand, poverty income has been established since the early 1970. The approach used is called the Nutritional Adequacy Approach. The latter identifies the nutritional requirements of the Thai people by different age and sex; the obtained result is known as the food poverty line, which is the minimum income that is needed to get the nutritional adequate food items. Additional calculation is done to get the minimum income required to get the non-food items. These two poverty lines are then added to obtain the total poverty line, or simply the poverty line for Thailand.

Source: IT for Poverty reduction: Sample cases from Thailand, second edition, NECTEC, Dec 2003.

B. INCREASING ACCESSIBILITY TO ICT

The dissemination of ICT is to a large extent due to public policy subsidizing ICT enterprises and the award of ICT related public projects. ICT enterprises and civil society actors are also main channels for spreading the use of ICT. It is essential to transfer the skills acquired in the use of ICT to enhance productivity and competitiveness thus leading to greater prosperity. The main actions are:

(a) Implementing ICT community centres (refer to box 4 for a success story) that provide telecommunication links and ICT services for personal and community capacity building while serving as central points for personal and entrepreneurial skill development, employment creation, lifelong learning and community building. Suggested location for these centres could be in municipalities and public schools (see annex 2 for further details);

Box 4. Drishtee and the Gyandoot project

"Drishtee is a software platform for enabling governance, commerce, education and health services. It facilitates communication and information interchange within a localised intranet between villages and a district centre. Dishtree services are delivered via Information Kiosks that are owned by local villagers., The kiosks are financed through a Government-sponsored loan scheme. User fees are charged at the kiosks for the services provided. Kiosk owners are trained to operate the Drishtee system and services. Drishtee Ltd was established following the success of The Gyandoot Project in Dhar, Madhya Pradesh. The Gyandoot project began in December 1999. The goal of Drishtee is to replicate the Gyandoot model throughout India.

The following services are currently offered at the Gyandoot kiosks:

• Agricultural Information.
• Copies of Land Records.
• Online Registration of Applications
• Online Public Grievance Redress
• Village Auction Site.
• Transparency in government"

Source: ICT for poverty reduction in Asia, Global Knowledge partnership, ISBN:983-2588-03-0

(b) Refurbishing PCs for distribution to disadvantaged communities and education institutions (see box 5). This project makes good use of the hundreds of thousands of working PCs that are routinely discarded in Western Asia as computer hardware is replaced by the latest technology. The project should be executed in partnership with private and public organizations and should seek to maintain sustainable operation. It should work toward harnessing private investment and encouraging entrepreneurship and SMEs to capture this market and make business work for the poor as well as create new jobs (see annex 3 for further details);

Box 5. Success story for refurbishing PCs

In United Kingdom, Computer Aid International, a NGO registered in England and Wales, is refurbishing computers for reuse in school and community organisations in developing countries. So far up to 20,000 PCs have been shipped. Computer Aid International, working in partnership with organisation in UK and overseas, aims at maximising the volume and quality of recycled computers, increasing the number of UN organisation donating their used PCs, deriving maximum social value from recycled PCs, and providing training and workshops.

Source: www.computer-aid.org

(b) Supporting the creation of a digital public library or hybrid libraries that offer life-long learning as well preserving national and communal knowledge. This project should also help combating illiteracy, therefore improving the chances for employment;

(c) Developing digital Arabic content to increase the usage and assimilation of ICT. This requires the emergence of an industry that produces Arabic content and applications suited for local needs as well as preserve the rich and varied cultural heritage in the region;

(d) Increasing the use of Open Source Software (OSS) in order to develop affordable solutions that meet the needs of the ESCWA region more specifically SMEs, educational and health institutions, and the public sector.

Building a sustainable ICT sector and integrating it within national and regional strategies enable the economy of the ESCWA region to catapult forward as it did for India (see box 6). In essence, effective, efficient, and productive growth in the ICT industry can only be accomplished with the help of the private sector. On the other hand, Governments can also help by championing ICT-based projects and paving the way for new ICT initiatives[26]. The challenge is to be able to scale and replicate successful initiatives through public-private partnerships. Main actions are:

(a) Establishing strategic partnership agreements and setting up offshore companies that recruit local manpower;

(b) Encouraging the development of software industry and profiting from the windows of opportunities presented in the export market;

(c) Investing in building ICT skills through education, namely in primary, vocational and university levels. It is crucial to develop computer courses and classes for housewives, unemployed and people with special needs. These courses will provide instructions in computer literacy, software solutions, and training for teachers and students;

(d) Creating and disseminating new institutional forms such as technology incubators and technology parks.

Box 6. Performance of India's ICT sector

In 2002-2003, according to the estimates of the National Association of Software and Service Companies (NASSCOM), total revenues of India's software and services industry are projected at approximately US$12 billion, out of which US$9.5 billion are generated from exports. India's software sector is second only to the US, and global corporates continue to increase the outsourcing of their software requirements to Indian companies, despite a slowdown in overall IT spending.

Source: http://www.nasscom.org/artdisplay.asp?Art_id=2346.

D. REVIEWING ICT PUBLIC EXPENDITURE AND DEVELOPMENT POLICY

Although it is difficult to determine the exact expenditures on the use and development of ICT environment in ESCWA member countries, Governments should spend more on contracting ICT development projects and on maintaining and upgrading ICT infrastructures. The latter being one of the pillars of the new knowledge-based economy, it could increase existing foreign direct investments and capture new ones. However, none of these expenditures has a significant effect without changing the attitude of many civil servants to ICT. Moreover, development policies geared toward harnessing ICT for poverty reduction and employment creation, particularly in rural areas, are necessary to eliminate the hurdles to equitable ICT access. Main actions are:

(a) Developing strategies for implementing affordable, secure, and reliable ICT connectivity and for compensating the lack of ICT infrastructure in rural areas;

(b) Subsidizing or removing telecommunication and utility[27] costs related to the operations of initiatives targeting impoverished communities;

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[26] For example, large ICT contracts and projects might include capacity-building partnerships between local and multinational companies; participation of local ICT companies in the early phases of e-government and e-commerce planning process; as well as Government publishing of a five-year plan, which elaborates its planned ICT expenditure. Source: E/ESCWA/ICTD/2003/6, Capacity building in selected ICT applications in ESCWA member countries Volume 1, July 2003.

[27] Such as Internet membership, telephone costs, and electricity bills.

(c) Designing government structural reforms though building the capabilities of policy makers and upgrading government employees ICT skills;

(d) Developing a Web site on ICT for poverty reduction. The proposed project contributes to the creation of a dynamic Web site that uses the results and recommendations of a number of studies and reports as a benchmark to monitor progress and to empower decision makers to become committed activists for alleviating poverty. The Web site should be periodically updated with latest major findings on ICT and poverty reduction. It is advisable to have ESCWA develop such an integrated database in order to cover the whole region (see annex 1 for further details);

(e) Implementing a labour market information service that offers information on employment opportunities and career planning market. The objective is to reduce unemployment in rural and impoverished areas through the implementation of a system that provides access to temporary and permanent jobs, especially employment prospects for occupations that permit entry into the labour market with little or no post-secondary education and little or no previous work experience. The employment application will assist in finding jobs, retrieving career-related information, career planning, and linking to other job search sites (see annex 4 for further details);

(f) Developing relevant content that serve poor communities and that help unemployed citizens.

E. DEVELOPING AND SUSTAINING SMEs

SMEs are a major source of employment creation and renewed economical growth. This is almost certainly the case in most countries in which SMEs have contributed to extending entrepreneurship in rural areas and providing sustained livelihood to impoverished communities. But much remains to be done, and there is great potential for employing ICT for SMEs, particularly those that are based on traditional mode of production. Main actions are:

(a) Disseminating and developing affordable ICT-based applications for assisting SMEs in reducing operational and administrative costs, increasing productivity, and accessing new distribution channels. Typical application would be the deployment of e-commerce solutions coupled with appropriate marketing campaign;

(b) Abolishing restrictive government policies and regulations that hinder the development of SMEs and that facilitate the dissemination of ICT as a tool for increasing productivity, capacity, and competitiveness;

(c) Securing financing programmes and micro-finance schemes that supports the development of SMEs; this will entail the development of new specialized financial institutions and intermediaries that have appropriate structures for servicing SMEs.

F. REVITALIZING THE ROLE OF WOMEN

It is important to recognize and enhance the functions and activities of women inside the family for alleviating poverty, combating illiteracy, and nurturing values that expand the boundaries of the human will. Although progress to solve gender inequality in the ESCWA region has been recorded over the past years, the gender gap remains a challenge throughout the Arab world. It has become a known fact that gender inequality contributes to poverty, slows economic growth and reduces human well-being. Main actions for revitalization the role of women using ICT are:

(a) Organizing training courses for women, especially housewives and those with a low level of education, to use ICT skills to generate and present content that addresses their practical and strategic needs;

(b) Developing ICT community centres dedicated for women in urban and rural areas. The centres aim at empowering women to play a proactive role in sustainable development and poverty reduction in ESCWA member countries and are envisaged as a means of increasing women's own effectiveness and

opportunities as well as to enhance their employability. These centres will provide access to ICT and basic office tools for self-employed women and can host a day-care centre or kindergarten facility.

G. BUILDING THE E-WORKER

E-worker, a new method of working that is shaping the future of work in the knowledge economy, uses ICT to carry out work independent of location. Unlike teleworker[28], e-worker can be anywhere such as working at the customer location, on the road, or at home. Typical jobs that can be e-worked are ICT specialists, sales, and management consultants.

E-worker places an economic value on remote working and necessitates a system to remunerate such work. The economic value of women's work at home could also be considered as one of the major results of this project. A successful e-working model necessitate new business model based on the following:

(a) Early involvement of the IT department/division to support e-working in order to provide remote access solutions and network security;

(b) Reliable telecommunications infrastructure with affordable rates for enabling an effective and efficient e-working environment;

(c) Well-defined job description that usually requires a high degree of information processing, little need for supervision, with clear objectives and measurable outputs to be completed by management;

(d) Selection of the right candidate coupled with proper training, motivation and remuneration; i.e. be self-discipline, good skills in information technology, time management, and communications;

(e) Supervision of e-workers must be based on performance management culture.

It should be noted that:

(a) Isolation and de-motivation must be refrained by having e-workers spend at least one or two days per week in the office;

(b) Tax and social security issues related to e-working needs to be examined.

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[28] Teleworker is usually defined as working from home.

CONCLUSION

In conclusion, this paper highlights the potential and impact of ICT dissemination and sector development in reducing poverty and creating employment. It is intended to set-up a framework for further discussions and development of project proposals derived from the recommended strategic plan of actions mentioned in the above sections. The results will contribute to raising funds and instigating collaboration and partnership among the various stakeholders to achieve the economic development goals of the region.

The point of departure for using ICT for poverty reduction and employment creation is to identify key development challenges pertaining to each country or impoverished community and then investigate and analyse how ICT, as a tool for socio-economic development, could make a positive and sustainable impact to combat poverty and create employment. Similarly, regional ICT projects must be designed in such a way to complement each other in order to pave the way for a regional integration and thus induce economic growth.

With the above in mind, the proposed hybrid approach that establishes a balance between bottom-up and top-down approaches and aims at delivering an implementation modality for solving short-term and long-term problems associated to employment creation and poverty reduction is the preferred one. Its main objective is to mitigate the risks associated with organizations working in isolation, be it governmental or non-governmental, leading to relations of patronage and is prone to corruption. Four main clusters are used to highlight the urgency required to adopt the proposed implementation modality within a framework based on HDI grouping.

The combination of efforts from all stakeholders is essential to tackle and resolve poverty and unemployment. A strategic plan of action calls for a number activities to be taken on national and regional levels. First, there is an urgent need to consolidate and produce up-to-date measurements for poverty and unemployment indicators. Second projects for disseminating and assimilating ICT is suggested in order to assist decision makers and build capabilities. The third set of actions is more on a macro level and aims at building the ICT sector as well as reviewing ICT public expenditure and development policy. The fourth set of actions necessitates developing SMEs and revitalizing the role women and e-worker in combating poverty and unemployment.

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ANNEXES

ANNEX A: LIST OF SAMPLE PROJECTS

The following is a sample of the projects that could be financed and executed in Western Asia and is presented to show the potential of harnessing ICT for poverty reduction and employment creation. Most of these projects are not derived from new concepts and some, such as ICT community centres, are implemented in a number of ESCWA member countries. However, these projects are recommended because they meet the requirement of the region and their concepts have already been tested. The projects' titles are listed in random order.

- Annex 1. ESCWA Web site on ICT for poverty reduction
- Annex 2. ICT centres for poverty reduction and employment creation
- Annex 3. Low cost refurbished PCs for disadvantaged communities
- Annex 4. Labour Market Information Systems (LMIS)

REGIONAL WEB SITE ON ICT FOR POVERTY REDUCTION AND EMPLOYMENT CREATION

Background and justification

In general, studies and reports are static by nature as they depict a theme and analyse it in a given period of time. The proposed project contributes to the creation of a dynamic Web site that uses the results and recommendations of a number of studies and reports as a benchmark to monitor progress and to empower decision makers to become committed activists for alleviating poverty. The Web site should be periodically updated with latest major findings on ICT and poverty reduction.

Project description

This Web site and database aim at raising awareness about poverty and promoting actions that will make a meaningful difference in the lives of the poor people within the ESCWA region. It may contain the following sections:

(a) Overview of ICT and poverty reduction in the region;

(b) A database on ICT initiatives and projects to create employment and reduce poverty in the ESCWA region;

(c) A library of publications and article related to ICT for poverty reduction.

(d) Free downloadable software that are beneficial to be deployed in ICT community centres;

(e) Sample case studies from the region;

(f) Online forum for

(g) Some useful links to finding additional relevant information.

Beneficiaries/end users: Government representative, civil society, local and regional NGOs.

Expected outcome

(a) To offer an online site on ICT for poverty reduction and present an array of opportunities to get involved in this initiative.

(b) To connect people and organizations to ICT projects that are fighting poverty and allow them to learn from each other;

(c) To organize knowledge gained by others working with ICT for poverty reduction throughout the ESCWA region.

(d) To improve the speed and efficiency of serving impoverished communities over the long term.

Technology components

The Web site must allow for standard queries, and viewing. It should have an integrated database for a centralized, controlled data store with the flexibility to allow ESWCA to update relevant information.

ICT CENTRES FOR POVERTY REDUCTION AND EMPLOYMENT CREATION

Background and justification

In most Arab countries, infrastructure falls below potential demand and cannot ensure reliable and affordable access to global networks. Rural and remote areas are mostly deprived from proper ICT infrastructures; citizens in these areas do not even have access to the telephone in their homes let alone the Internet. Community ICT centres provide telecommunications links and ICT services for personal and community capacity building while serving as central points for personal and entrepreneurial skill development, employment creation, lifelong learning and community building.

Project description

This project will be part of a regional initiative on ICT for poverty reduction and will deliver a number of services, namely:

(a) Guidance and counselling services: These services aim at developing helping relationships with members of the community in order to maximize their potential and seek ways to nurture, encourage, and support the development of impoverished communities;

(b) Basic training services: These services, common to all centres, aim at developing the basic skills needed for supporting the objectives of the centres by providing citizens with the tools needed to develop elementary computer skills and to empower them with access to information;

(c) Customisable services: These services constitute the added value services, tailored to fit the needs of the community with the aim of creating employment and reducing poverty. They will focus on five main areas, namely labour market information service, e-commerce, e-government, e-learning, and e-health.

Lessons will be drawn for the purpose of disseminating these pilot experiences to other countries and geographical locations.

Beneficiaries/end users: Farmers, youth, school dropouts, women, unemployed people, and micro enterprises.

Expected outcome

(a) To provide computer training leading to employment;
(b) To provide life-long learning based on the use of ICT;
(c) To increase access of remote and disadvantaged communities to information;
(d) To provide livelihood benefits to impoverished segments of the population.

Technology components

(a) Hardware: Computers\ and network equipment;
(b) Software applications: e-commerce, e-government, e-learning, and e-health;
(c) Internet connection;
(d) ICT training.

LOW COST REFURBISHED PCS FOR DISADVANTAGED COMMUNITIES

<u>Background and justification</u>:

Refurbishing PCs is highly beneficial to reduce the digital divide in disadvantaged communities. In Western Asia, the number of PCs is estimated at 7.5 million in 2001 and 7.6 million in 2002. Assuming that 60% of these PCs will be replaced by new ones after three years, and that among these, 40% will be in good condition to be refurbished, the average number of PCs that are available for refurbishing will be 1.8 million. ESCWA is hoping to capture 5% of these PCs for this project, in other words ESCWA is aiming at having approximately 90,000 recycled PCs for refurbishing.

<u>Project description</u>:

The project aims at benefiting form the hundreds of thousands of working PCs that are routinely discarded in the region as computer hardware is replaced to acquire the latest technology. The project will be executed in partnership with private and public organizations and will seek to maintain sustainable operation. The project will work toward harnessing private investment and encouraging entrepreneurship and SMEs to capture this market and make business work for the poor as well as create new jobs. Potential private partner for this project can be a logistics firm, specialized in freight services, package delivery, and warehousing.

In order to derive the maximum social value from these refurbished PCs, a feasibility study is essential for (a) establishing a mechanism for collecting all used PCs, (b) deploying a workshop of trained local technicians for completely refurbishing and testing each PC, (c) pricing refurbished PC in an affordable way in order to support sustainable operations and cover overhead expenses, (d) and using Open Source Software to reduce costs.

<u>Beneficiaries/end users</u>:   Disadvantaged communities especially youth and women, as well as SMEs.

<u>Expected outcome</u>
     (a) To build a network of SMEs and entrepreneurships in the refurbished PCs business;
     (b) To encourage investment of private sector and develop micro finance schemes;
     (c) To produce affordable PCs.

<u>Technology components</u>

     (a) Hardware: Computers\ and network equipment;
     (b) Technical Training for refurbishing and troubleshooting PC.

LABOUR MARKET INFORMATION SYSTEMS (LMIS)

<u>Background and justification</u>:
Labour market information systems (LMIS) improve ESCWA member countries' capacity to build, sustain, and spread information about labour market information databases. The project aim at making this system available to citizens through Internet kiosk or community centres; the latter will be coupled with guidance and counselling services to assist poor people and unemployed youth in finding appropriate jobs and building their career.

<u>Project description</u>:
LMIS offers information on employment opportunities and career planning market. The objective is to reduce unemployment in rural and impoverished areas through the implementation of a system that provides access to temporary and permanent jobs, especially employment prospects for occupations that permit entry into the labour market with little or no post-secondary education and little or no previous work experience. The employment application will assist in finding jobs, retrieving career-related information, career planning, and linking to other job search sites.

The above is not enough to serve impoverished communities; guidance and counselling services must be offered. The latter service aim at developing helping relationships with members of the community in order to maximize their potential and seek ways to nurture, encourage, and support the development of the impoverished community. Staff should be trained on guidance and counselling services in order to set an atmosphere that is friendly, comfortable, inviting and professional. Typical issues for these services are:

- Encouraging the development of life management skills including decision-making and problem solving;

- Consulting with local authorities on mutual sharing and analysis of information and ideas to assist in preparing and implementing entrepreneurial projects;

- Assisting in finding jobs and planning careers.

<u>Beneficiaries/end users</u>: Ministry of social affairs and labour as well as unemployed citizens.

<u>Expected outcome</u>
(a) To build a national and regional LMIS;
(b) To reduce number of unemployment;
(c) To increase the income and enhance the career of existing employees;
(d) To build capabilities in offering guidance and counselling services.

<u>Technology components</u>
A Web site and a database must be available to the public and allow for standard queries and viewing.