

ICT and Enterprise Development

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Dear YES family:

The dream has come true! Four years after that the YES Campaign was launched in the Bibliotheca Alexandrina (BA) in 2002, we gather again in the same place for a mid-YES Campaign Forum with its leaders.

YES Alexandria Forum 2007 is possible thanks to the joint efforts of the Youth Employment Summit (YES) Campaign, Inc., (USA) and Bibliotheca Alexandrina, (Egypt) and the Arab Reform Forum. We want particularly thank to Dr. Ismael Serageldin and his team at BA for his permanent support as a YES Campaign Committee member and host of this forum.

The YES 2007 as a mid-YES Campaign Forum, has been planned to build and strengthen the capacity of the YES Country Networks, across the globe, to undertake in country youth employment projects and programs. The goal of the Forum will be to share good practices and foster synergies among the YES Country Networks.

The deliberations and activities at the Forum will centre around three identified sectors namely, Information and Communications Technologies (ICT); Integrated Rural Businesses; and Youth Employment and the Role of Social Entrepreneurship. We want to specially thank to YES Egypt for having prepared the toolkits in this three sectors which will help to build up the capacity of the YES networks on it.

We hope that you will enjoy these days with the YES family and that you will share with your peers as well as you will take advantage to exchange and learn from the experts, development practitioners, donors, government and business leaders that will also join us during the forum.

We expect that this forum will renew the commitments of the YES family members and our partners, to build the core competence and the capacity of the young leaders to lead a youth employment movement across their countries.

In solidarity,

Poonam Ahluwalia
President
YES Inc.

Dear YES Leaders:

Welcome to YES Alexandria Forum 2007!

This Forum is particularly important for all of the YES family since it is a mid-YES event organised primarily for the leaders and members of the YES Country Networks and other key stakeholders from across the world.

We want to specially thank Bibliotheca Alexandrina (BA) and YES Egypt team for the great support we have received to organize this forum. Without their support this forum would not have been possible.

YES Alexandria 2007 intends to build capacities and support for the leaders of the YES Campaign in different parts of the world in order to develop strategy and programs for youth employment and entrepreneurship.

It is very important for all of us to put it into perspective that this Forum is the result of the conclusions and recommendations of the YES Coordinators Workshop in Kenya and that it is the first-ever capacity-building forum for YES Coordinators. Its key objectives are:

1. To frame and move forward the strategic goals of YES Inc;
2. To train and develop capacities of YES Coordinators and other participating youth in three strategic areas for entrepreneurship development: Information and Communications Technologies, Integrated Rural Businesses, and Youth Employment and the role of Social Entrepreneurship.
3. To strengthen the YES Networks by building capacity in three thematic tracks: Community Building, Program Development, and YES Programs; and
4. To build and strengthen institutional capacity by fostering linkages and synergies between the YES Coordinators and YES Inc.

We are confident that after YES Alexandria 2007, the YES Campaign leaders will be ready to move forward it to the next phase at the global, regional and national levels! Welcome to a new era at YES!

Warm regards,

Dacil Acevedo Riquelme
Global Networks Coordinator
YES Inc.

Dear YES Family and Partners,

In September 2002, the historic city of Alexandria has witnessed our launch of the YES Campaign with the gathering of 1600 youth leaders from 120 countries embracing the same values of unity, and adhering to a global youth vision. Hundreds of networks have been strongly established, thousands of plans have been effectively set, and hard work has taken off in almost all parts of the world.

Now, 5 years have passed the launch, and the YES family is coming together to review measures, evaluate actions, and set more goals to meet; all under the umbrella of better livelihood for the world youth, who make roughly 1.2 billion according to the UN's World Youth Report 2006. That enormous human force is the fuel of the future, and the driven force for a brighter tomorrow. The future of the world lies in their hands.

It is truly my happiness to welcome you all again on the lands of the beautiful Alexandria, my hometown, and the birthplace of the YES Campaign. It is with so much sincere gratitude and honest appreciation, we extend our heart-felt thanking to the prestigious Bibliotheca Alexandrina, pioneered by the legendary Dr. Ismail Serageldin, that gave, and still giving enormous support, guidance, and advice to the movement. The YES Campaign would not have been globally recognized, if it were not for the excellent management of Poonam Ahluwalia, YES Campaign President, and her very qualified team, and partners from all over the globe.

YES Egypt has recently celebrated the 4th anniversary on the establishment of the Sustainable Development Association (SDA), the NGO which was co-founded by the YES Egypt Team during the very first months of the Campaign, acting as its legal entity, and currently operating a great number of local, regional and international youth projects. The SDA has been committed to a doctrine of democracy and leadership rotation, highly manifested, and successfully experienced in moving the chairing from Mr. Abdallah Sobeih, after 4 fruitful years, to myself.

Many thanks go to the BA Team, YES Team, and our local, regional and global partners,

YES we strive to solve the problem,
YES we hope for better world
YES we work together

Haythem Kamel

YES Middle East and North Africa Region Coordinator

Executive Summary

As information and communications technologies (ICT) continue to spread into all sectors of social and economic life, it became a vital tool for creating knowledge based society, building and sustaining human development. It has transformed our world from the industrial society into an informational one.

For that reason, knowledge has become an essential key for production, and a basic determination for creativity. The Info-Technological revolution which is led by advances in ICT is restructuring

the global social economic equation— moving from income divide to knowledge divide. The revolution is spearheading the growth of knowledge societies in developed countries and raised much interest among civil society, markets and the agents of change.

While more than 850 million people in developing countries are excluded from a wide range of information and knowledge tools, the poors in those developing countries remain much isolated economically, socially and culturally from the burgeoning information and progress in arts, science and technology. In addition the global economy of capital investment is flowing to where the potential opportunities for reward can be found. These opportunities will be located in these places or regions where new values and creative ideas can be realized.

This paper is not an academic paper, but it is one done from a youth to youth. It is not the solely point of view or experience of the author. It is from readings and selecting aspects, results and goals offered, presented and achieved by the international committee to empower youth in ICTs through the two phases of the "World Summit on the Information Society" (WSIS). This paper is based on some produced reports and documents published in WSIS, YES, and the M+5 summits . Ideally it focuses on the best examples from different countries presented there—mainly developing countries—about the use of Information and Communication Technologies (ICT) led by youth to create self-employment opportunities.

1.0 Introduction

Information Society has been one of the key terms used to describe today's world, as ICT have brought revolutionary changes impacting every aspect of our society— connecting cultures, creating new opportunities for education, restructuring employment, generating new economies, and changing citizens' relation to government. Recognizing these and other paradigm shifts are typically seen as the natural development of the modern liberal tradition. Information and Communication Technologies/ICTs represent to today's world what industrial machines represented during the industrial revolution; they have revolutionized ways of working, transformed the economy, had an irreversible impact on the way people live, and have shaped a new "information society".¹ It is about a second industry revolution but this time based in the information and communication arena.

"In 2003, participants of the largest effort to direct the use of development of ICTs, the World Summit on the Information Society (WSIS), declared a common, global desire and commitment² to build a people-centered, inclusive and development-oriented information society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life"³. As the United Nations has created the World Summit on the Information Society, a political process in two phases emerged. The first was Geneva 2003 and the second was Tunis 2005, which it is now in process. The second phase, brought world political, business and civil society leaders all together to create a shared vision for the information society, and implement an Action Plan to ensure equitable access to technology, and harness ICTs for development - in areas such as education, employment, the environment, health, and sustainable livelihoods.

For that reason *"the year 2005 represented a historic opportunity to the global development initiatives unite; through the five-year review of progress toward the achievement of the MDGs at the Millennium Summit + 5 (M+5) in New York in September"*. Followed by, the second phase of the World Summit on the Information Society (WSIS) in Tunis. These two summits were ideal platforms to mobilize the political will and action around a common understanding of the nature and range of the challenges and opportunities involved; creating open channels to engage decision makers, politics, private sectors, civil society leaders' ... all together as "stakeholder groups"; practically youth considered one of the key "stakeholder groups"⁴; they have played an increasingly prominent roles in both of the international level decision-making, and civil-society movements. Obviously, today youth lead thousands of organizations and projects around the world in addition to being the leaders of the future.⁵ More over, youth were one of the most organized and successful stakeholder groupings in both of the two phases of the WSIS processes through participating and speaking, publishing regular newsletters and producing daily media covering blogs, conducting significant national-level outreach, awarded by several achieved awards in the

¹ Sarrocco, "ELEMENTS AND PRINCIPLES OF THE INFORMATION." www.itu.int. 19 Jul 2007

² Willard, Terri, and Maja Andjelkovic. A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development. '1st ed'. Canada: IISD , 2005.

³ WSIS Declaration of Principles

⁴ In the 1992 UN Conference on Environment and Development in Rio, youth were identified as one of the key "stakeholder groups" in Chapter 25 of Agenda 21.

⁵ Moraitis, Nick, Terri Willard, Maja Andjelkovic, Youth Sourcebook. '1st ed', Canada: IISD, 2002.

merit of ICTs and much more. Clearly, if it is to achieve its ambitious goals, the WSIS now must continue to engage young people, the path-breakers of the ICT revolution⁶, and to achieve "information society" well based on socialization of information and knowledge.

The paper begins with setting some key definitions related to ICTs and Information Society, and an introduction "*linking between Information Society and Sustainable Development*"⁷ as a global scenario, exploring the role of Youth in WSIS.

Part 2: provides an overview on the ICTs' applications, including a brief abstracts for each of these applications.

Part 3: presents some projects that succeeded to use ICTs to create youth employment opportunities and are concrete examples of youth fighting against the digital divide.

The paper concludes with discussions on how to promote a National Information Society with Sustainable Development Policies

Finally, this paper ends with the recommendations which will be implemented by the YES Network Leaders according to their local needs.

⁶ See: <http://www.wsisyouth.org>

⁷ Willard, Terri, and Maja Andjelkovic. A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development. '1st ed'. Canada: IISD , 2005

2.0 Understanding ICT

If we accepted the notion that ICTs has a potential for the development and that the future depends on choices made in our society today, then one must try to grasp what impact ICT will have on sustainable development/SD and how we may formulate sustainability in ICT solutions. But first of all, we must understand what ICT is. A question that is more difficult to answer than one might think. Even from a narrow technological perspective, ICT is hard to define.

2.1 What is ICT?

Information and Communication Technologies broadly refer to set of activities that facilitate—by electronic means—the capturing, storage, processing, transmission, and display of information.⁸ Information and Communications Technology is *"an umbrella term that includes computer hardware and software; digital broadcast and telecommunications technologies as well as electronic information repositories such as the World Wide Web or those found on CD-ROMs (Selwyn 2002). It represents a broad and continually evolving range of elements that further includes television (TV), radio, mobile phones, and the policies and laws that govern these media and devices"*⁹

Information and communication technologies are the tools that underpin the emerging *"information society."* While no universally accepted definition for Information Society exists, it can be defined as *"society in which the creation, distribution, and manipulation of information has become the most significant economic and cultural activity. An Information Society may be contrasted with societies in which the economic underpinning is primarily Industrial or Agrarian"* (TechTarget 1999). *"information" exchange between people and through networks of people has always taken place. The ICT enablement of information exchange, however, has radically changed the magnitude of this exchange, and thus, factors such as timeliness of information and information dissemination patterns have become more important than ever"*¹⁰. As *"information"* is *"the data that has been organized and communicated"*¹¹ while *"knowledge"* has been described as *"the set of statements, facts or ideas; presenting a reasoned judgment or an experimental result, which is transmitted to others through some communication medium in some system systematic form"*¹². In addition, both of the *'information'* and *'knowledge'* both considered being main pillars in achieving the *"socialization of knowledge"* in order to build *"information society."*

⁸ OECD definition cited by Cynthia Hewitt De Alcántara (2001): *The Development Divide in a Digital Age: An Issues Paper*, UNRISD, Technology, Business and Society Programme Paper Number 4, August 2001, United Nations Research Institute for Social Development, Geneva, p. 3.

⁹ Steve Vosloo: Willard, Terri, and Maja Andjelkovic. *A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development*. '1st ed'. Canada: IISD, 2005

¹⁰ Steve Vosloo: Willard, Terri, and Maja Andjelkovic. *A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development*. '1st ed'. Canada: IISD, 2005

¹¹ Romer, P., "Endogenous Technological Change", *Journal of Political Economy*, 98:5 (1990)

¹² Daniell Bell (1973:175)

And the term of "*socialization of knowledge*" is used to "*express the idea of transforming the private and individual knowledge to public and collective knowledge*"¹³.

Another term commonly used to describe the changes produced by information technology is the "*digital divide*" term which refers to the gap between those who benefit from digital technology and those who do not. While the term *digital economy*; this expression emphasizes the new opportunities created by transforming information into a binary digital code. The digital economy refers to more than the boom and bust cycle of many new ventures that aim at tapping the potential of the Internet for commercial purposes. The more profound effect of ICT is likely to be in improving the efficiency and reach of the mainstream production of goods and services, in both the public and private sectors of the economy. Based on this we can defined the The "*global digital divide*" is a term used to describe "great disparities in opportunity to access the Internet and the information and educational/business opportunities tied to this access ... between developed and developing countries"¹⁴ (Lu 2001 p. 1). Unlike the traditional notion of the "digital divide" between social classes, the "global digital divide" is essentially a geographical division.

Within the context of ICTs and Information Societies; we should refer to:
"*environmental information systems*" and "*eco-efficiency*"

"*environmental information systems*": The definition of environmental information is very wide and many researchers link between sustainable development and the information society focusing on the potential for information systems to assist decision-makers "to monitor and evaluate the state of the environment"¹⁵ using computer and information management technology to solve environmental problems and improve environmental stewardship. Environmental information system (EIS) programs seek "to increase the quality, efficiency and accountability of decision-making processes through applications that systematically use environmental information. In this regard EIS development seeks to enhance the use of harmonized environmental data sets through improving data availability; facilitating access to data; ensuring that data is internally consistent; and ensuring that different data sets match each other."¹⁶ .

While the term *eco-efficiency* was coined by the World Business Council for Sustainable Development (WBCSD) in its 1992 publication: "Changing Course". It is based on the concept of creating more goods and services while using fewer resources and creating less waste and pollution. The 1992 Earth Summit endorsed eco-efficiency as a means for companies to implement Agenda 21 in the private sector, and the term has become synonymous with a management philosophy geared towards sustainability.

¹³ Diogo André de Assumpção, Willard, Terri, and Maja Andjelkovic. *A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development*. '1st ed'. Canada: IISD , 2005

¹⁴Lu, Ming-te (2001). Digital divide in developing countries. *Journal of Global Information Technology Management* (4:3), pp. 1-4.

¹⁵ Willard, Terri , and Michael Halder. *The Information Society and Sustainable Development- Exploring the Linkages*. Winnipeg, Manitoba, Canada: IISD, 2003.

¹⁶Environment Information Systems in Sub-Saharan Africa. "About EIS." <http://www.grida.no/eisssa/about/eis.htm>.

According to the WBCSD definition, eco-efficiency is *achieved* through the delivery of "*competitively priced goods and services that satisfy human needs and bring quality of life while progressively reducing environmental impacts of goods and resource intensity throughout the entire life-cycle to a level at least in line with the Earth's estimated carrying capacity.*"¹⁷ This concept describes a vision for the production of economically valuable goods and services while reducing the ecological impacts of production. In other words eco-efficiency means producing more with less.

In 2002, the book *Cradle to Cradle: Remaking the Way We Make Things* was published by Michael Braungart and William McDonough about the ideas of eco-efficiency and its practical applications.

*"Eco-efficiency in the production and consumption of goods and services-environmentally is benign to alleviate the impact of further economic growth on world ecosystems."*¹⁸

¹⁷ World Business Council for Sustainable Development. "Cross-cutting Themes: Eco-efficiency." <http://www.wbcd.ch/templates/TemplateWBCSD4/layout.asp?type=p&MenuId=NzA&doOpen=1&ClickMenu=LeftMenu>.

¹⁸ M. Amidon, Debra.. *The Innovation Superhighway: Harnessing Intellectual Capital for Collaborative Advantage.* Butterworth-Heinemann , November 2002.

2.2 Socio-Economic Differences and ICT Capacity

“Information and Communications Technology can support sustainable development, in the fields of public administration, business, education and training, health, employment, environment, agriculture, and science within the framework of national e-strategies.”

WSIS Plan of Action, December 2003

Progress towards an information society must show benefits at all levels of the society, as ICT has long been a crucial element in measuring and achieving sustainable development, the digital divide is large within developing countries (in comparison to developed countries), however, it can be seen that applying of ICT technologies is assisting in closing this gap, and providing a platform for development in all areas and at all levels. Today people live in a society where transformation of information and knowledge based on the opportunities for individuals and communities to be information producers as well as consumers, where *socialization of knowledge exists*. In such society, ICTs are indispensable in day to day economic activities as well as in daily life. However, how individuals utilize ICT to access equal opportunities differ from country to another and from person to person due to economic, physical, geographical, and other reasons¹⁹.

Therefore the social context and the emerging information culture of ICTs should be given higher priority than purely technical and commercial considerations. It should integrate local initiatives to explore the opportunities presented by ICTs and incorporate participatory communication and learning processes. ICTs should be linked to traditional communication forms to meet identified needs and reach specific groups (especially youth, women, and indigenous people).

There is a need to build awareness among decision makers and stakeholders, including regional organizations and private sector, on the need for investment in ICT capacity building at all levels of formal and non-formal education. This includes training development workers to incorporate ICTs in their activities. Furthermore, emphasis should be placed on training women and youth about using ICTs and ensuring the inclusion of disadvantaged groups. In order to cover the shortage of content, applications and access to existing data of particular interest to the local needs.

Beyond physical access, data needs to be timely, retrievable and easily applied by a broad range of users. There is now the opportunity for participation by small and decentralized content providers, ensuring that information is available in local languages and reflects local cultures. Procedures should also be implemented to enable feedback and widen participation in the development of these information resources.

The informational needs of various users should be identified in order to develop user-specific, locally-sensitive content and applications. The role of civil society and the private sector is a key in this identification process²⁰.

¹⁹ For example: differences between developed and developing countries ,disabled and Non-disabled People

²⁰ "Work Shop Report: The role of information and communication technologies in rural development and food security." *SD dimensions*. November 2000. The Food and Agriculture Organization of the United Nations (FAO). 20 Jul 2007 <http://www.fao.org/sd/CDdirect/CDre0055a.htm>

2.3. Youth and ICT

“While technology shapes the future, it is people who shape technology and decide what it can and should be used for”

The UN Former Secretary-General Kofi Annan

Youth are growing demographically, the total number of youth – globally is about 50% of the world's population²¹ making up more than two-thirds of the population of some developing nations. Trends show that about 85% of the world's youth reside in developing countries. By accepted statistical principles, the UN defines youth as those who fall within the 15 to 25 years of age²².

Yet, young people have too often been seen as a burden rather than an asset, a group to be taught but not to teach, and to receive but not to give. Youth need to be engaged in decision-making processes related to the information society - as students, and as citizens with an affinity for technology, they are informed stakeholders in the evolution of education and innovation. *“Youth should be encouraged to share their ICT knowledge through peer-to-peer learning, and contribute to the creation of meaningful curricula. Indeed, they are creators and consumers of technologies (more than anyone else). They are early adopters and adapters of technologies have grown up with, what they know more about than their parents, what gives them an edge; ranging from mobile telephones to email SMS to radio and television. In 2005 it was estimated that there were close to 1 billion internet users worldwide”*²³.

2005 show that youth accounted for 43 percent of all internet users ages 15 and older in China, 50 percent in Armenia, 53 percent in Bolivia, 60 percent in Egypt, 61 percent in the Kyrgyz Republic, and 70 percent in Indonesia. These proportions, similar to those for 2002 and 2003, suggest that approximately 130–160 million of the 269 million new internet users between 2000 and 2003 were 15 to 24. Although youth are more likely than older age groups to use the new ICTs, the use among youth varies dramatically. Across countries surveyed in 2005, the share of 15- to 24-year-olds who have ever used the internet varies from less than 1 percent in Ethiopia to 12 percent in Indonesia, 13 percent in Ghana, 15 percent in Egypt, 29 percent in Armenia, and 53 percent in China. Young people around the world are more able to access information and connect to ideas and people outside their countries. A social experiment involving users in 166 countries, measuring the number of steps required to connect to designated targets, found that the popular notion of “*six degrees of separation*” between any two people in the internet world is not too far wrong: the median number of steps required to connect users in different countries is seven²⁴. Some surveys show youth between 25- to 50-year-olds are more likely to communicate with people in other countries. A remarkable 44 percent of Romanian youth and 74 percent of Albanian youth reported having communicated with someone abroad in the last month. Telephone is the most common means of communication, but SMS and e-mail are also very popular²⁵. Although one of the main

²¹ World Youth Report, UNDESA 2005

²² World Youth Report, UNDESA 2005

²³ Internet World Statistics, <http://www.internetworldstats.com/stats.htm>, November 21, 2005. Accessed on June 25, 2007, Available on <http://www.internetworldstats.com/stats.htm>

²⁴ Dodds, Muhamad, and Watts (2003).

²⁵ David J. McKenzie. "Youth, ICT, and Development.", The World Bank, 2006

reasons for many youth to use computers, the internet, and mobile phones is entertainment—playing games, downloading music, and chatting with friends

As, both business and social entrepreneurs, youth are creatively using technology to address community needs²⁶. They feel more comfortable using Information and Communications Technology (ICT) to further expand their knowledge.

In addition, unemployment rates²⁷ amongst young people are consistently higher than that of the general population. ICTs provide new opportunities for job creation –and youth themselves are the most likely to provide entrepreneurial leadership in ICT industries, by creating jobs for themselves, and for others. Youth need support for their enterprises -- a level playing field and access to financing and infrastructure. Further, government regulations must be created to ensure safety, equity, and job security in the workplace. *"The documents should reference the UN Millennium Development Goals which demand that global partnerships are to be created to ensure decent and productive work for youth"*.²⁸

On the other hand, there are many international meetings held around 'information society issues', ranging from high-level policy discussions to very practical workshops. Some are very formal, and some are informal. Currently a comprehensive calendar of [WSIS-related events](#) is maintained by the WSIS Executive Secretariat. Other ICT event calendars can be found on [TakingITGlobal](#), and the [Global Knowledge Partnership](#) website.

Unfortunately the WSIS Youth Caucus has no funding to support conference participation. Sometimes individual conferences may provide limited financial assistance for speakers, contributors or participants from developing nations. But *Youth Hope the Action Plan* will be concise and time-bound document which contains clear means of implementation. The Youth Caucus is presenting Youth Creating Digital Opportunities (YCDO) and the YCDO Fund as a key partnership initiative to support youth-related activities around networking, policy and especially the replication and scaling up of youth projects within and between regions.

²⁶ Moraitis, Nick, Terri Willard, Maja Andjelkovic, Youth Sourcebook. '1st ed', Canada: IISD, 2002.

²⁷ **Unemployed youth** are youth who are actively seeking employment but are unable to find it. **Underemployment** is defined as the underutilization of labor (skills and economic capacity). In addition, **informal employment** is defined as employment "unregulated by the institutions of society." (Portes et al., 1989)

Youth represent only 25% of the global workforce, but 47% of the world's unemployed. **In the future, youth unemployment will increase:** a) Youth employment will grow 0.2% over the next 10 years. b) Youth population will grow 10.5% over the next 10 years

Ref.: International Labour Organization, "Facts on Youth Employment". Accessed on July 26, 2006, Available online at <http://www.ilo.org/public/english/bureau/inf/download/wssd/pdf/youth.pdf>

²⁸ WSIS Youth Caucus

2.4. The digital divide as challenge for youth employment

"Knowledge increasingly defines the line between wealth and poverty, between capability and powerlessness and between human fulfillment and frustration. A country able to mobilize and diffuse knowledge can rapidly raise its level of development, help all its citizens to grow and flourish and take its proper place on the 21st century global stage"

Rima Khalaf Hunaidi, Regional Director, Regional Bureau for Arab States, UNDP

Clearly the development of the Information and Knowledge Society shows outstanding differences between individuals, places, cities, countries, and regions, thus leading to the existence of the so-called digital divide. Despite the potential benefits that can be offered by Information and Communication Technologies (ICT) developing countries face significant obstacles to ICT access due to a wide variety of reasons including technical, economic, legal and educational factors.

There is immense information and communication technology (ICT) gap, a "digital divide", *"between developed and developing countries. A person in a high-income country is over 22 times more likely to be an Internet user than someone in a low-income country. Secure Internet servers, a rough indicator of electronic commerce, are over 100 times more common in high-income than in low-income countries. In high-income countries, mobile phones are 29 times more prevalent and mainline penetration is 21 times that of low-income countries. Relative to income, the cost of Internet access in a low-income country is 150 times the cost of a comparable service in a high-income country. There are similar divides within individual countries. ICT is often non-existent in poor and rural areas of developing countries..^{29"}.*

Figure 1: Internet Backbone Capacity³⁰
 Intraregional Internet bandwidth as a percentage of total international bandwidth

Region	1999 (in per cent)	2005 (in per cent)
Africa	0	1
Asia	6	35
Europe	70	72
Latin America	5	12
US and Canada	28	21

Source: *Global Internet Geography (2006)*.

ITU statistics show that from 1994 to 2004, the number of mobile telephone subscribers per 100 inhabitants grew from near zero to 19 in the developing countries and from five to 77 in the developed countries. For the same time period, the number of fixed telephone lines per 100 inhabitants grew from four to 13 in the developing countries and from 49 to 54 in the developed

²⁹ Press, Larry, Marie-Elise Dumans, and Mongi Hamdi. THE DIGITAL DIVIDE REPORT: ICT DIFFUSION INDEX 2005. New York and Geneva: UNCTAD, 2006.

³⁰ The table shows the percent of international capacity within the regions as a percentage of the total international capacity (within and outside the region); See: THE DIGITAL DIVIDE REPORT 2005

countries. While, access to and use of the technology is not evenly dispersed regionally. For example, ITU said to be in 2004 Europe's mobile penetration rate stood at 71 per cent – two times that of the Americas at 43 per cent; four times that of Asia at 19 per cent; and eight times that of Africa. Less than one out of ten people in Africa subscribe to a mobile service.

The digital divide also occurs within countries. Computer and mobile phone ownership and internet and SMS usage are highest among youth in urban areas and with more education and higher household incomes. In Indonesia, 59 percent of university students had used the internet and 95 percent SMS, compared with 5 percent or less among youth with only primary education³¹.

Much more, the digital divide appears within gender aspects. In some countries, young women access the internet less through these public access points than young men do. In Ghana, 16.5 percent of male youth use internet cafes, more than twice the 6.6 percent for female youth. Women may not feel comfortable or may be restricted from attending these public points alone or after certain hours. Even at school, girls may find it harder to gain access. In Sub-Saharan Africa, enrollment rates of boys greatly exceed those of girls, so girls compete with a large number of boys for scarce computer resources. In contrast, young women do not appear to have less access to mobile phones than young men, and may actually use them more in some countries³². While European women are using the Internet more than ever and surfing more efficiently than men, a survey reveals. The number of female Web users increased 29 percent between February 2001 and February 2002 to 25.1 million in France, Germany, Italy, Spain, Sweden, Switzerland and the UK combined. This compared to an increase of 24 percent male users from 31.9 million to 40.1 million during the same period. Men are online for longer periods although women spend more time doing everyday tasks such as shopping, organizing travel, banking online and sending e-greetings cards, according to the latest research from UK-based Internet analysts Jupiter MMXI.³³

In 2005 men spent an average of 11 hours a week online compared to women who spent around 9 hours a week online. However, in 3 years the hours spent online by female internet users has grown by 63% and for men it has grown 54%³⁴. Wide-ranging look at the way American women and men use the internet shows that men continue to pursue many internet activities more intensively than women, and that men are still first out of the blocks in trying the latest technologies. At the same time, there are trends showing that women are catching up in overall use and are framing their online experience with a greater emphasis on deepening connections with people.

On the other hand, (within the context of digital divide in ICT among youth), the number of educated youth continues to grow worldwide. There is insufficient knowledge about the use of ICTs in schools, the distribution of ICT skills among students and the role that ICT-based skills has in terms of future employment opportunities. According to recent studies, the current generation of youth is assumed to be the best educated so far. However, vast numbers of children are still not in school, and equally large numbers among this group are illiterate.³⁵ According to a

³¹David J. McKenzie. "Youth, ICT, and Development.", The World Bank, 2006

³²Mar Gadio (2001).

³³Polizaiani, Michele. European women fuel Internet boom." [CNN.com](http://www.cnn.com) March 21, 2002

³⁴EIAA Digital Women Report 2006. EIAA: The European Interactive Advertising Association, Accessed on July 9, 2007, Available www.eiaa.net.

³⁵Policy Coherence Towards East Asia: Development Challenges for OECD Countries, OECD,2005

recent study by UNESCO (2005) one of the most significant divides between the world's richest and poorest countries refers to the amount of schooling a child is expected to receive. A big part of this difference due to the provision of higher education. More specifically, it is found that the average length of tertiary education is more than 30 times greater in the ten countries with the highest participation rates compared to the ten with the lowest rates.

"Since the education, and more specifically the tertiary level, can be considered both as an explicative factor of the existing gap and as a strategic tool for its reduction, a comparative analysis of some available education indicators would be advisable. More specifically, the following figure which shows the rates of access to university education and the expected length of education, which can be interpreted as the number of years that a child at age 5 can expect to be enrolled in the considered educational level. This second indicator is a particular case of the School Life Expectancy (SLE) which indicates the average duration of schooling but not the grades reached (since it computes years spent repeating grades, the SLE results overstate duration per child in countries with high repetition rates)"³⁶.

Figure 2: Rates of access (%) and average length of education

	Rates of Access to University Education (%)			Expected Length of Education (years)	
	Total	Male	Female	University	Total (primary to tertiary)
Africa	8	10	7	0.2	7.8
North America	55	48	62	3.1	14.3
South America	29	26	32	1.6	13.7
Asia	16	18	15	1.0	9.9
Europe	59	52	66	3.0	15.4
Australia	53	47	59

Source: UNESCO (2005)

Many governments now recognize the need to develop sustained strategies to increase access to and improve the quality of education. The education access-divide compounds all other access divides. Societies that have low levels of literacy and formal education are also most likely to be those who lack computer and technical skills, which contribute to a vicious cycle of capacity constraints, under development, and poverty.

Furthermore, the access-divide can be compounded in some countries with the introduction of new technology in a social setting where scarce resources and opportunities are distributed

³⁶ Jesús López , Ana and Rigoberto Pérez. "Networking Universities to Bridge the Digital Divide." International Journal of Instructional Technology and Distance Learning, Vol. 3, No. 5, Spain .

asymmetrically³⁷. To benefit the world community, the successful and continued growth of this new information world of today requires global cooperation and harmonization in different business and social domains. The UN General Assembly has called for a gathering of world leaders to discuss the ICT opportunities and challenges -- World Summit on Information Society. This summit aims at highlighting the opportunities and challenges offered by ICT in our current and future societies. Among the greatest opportunities is the creation of quality jobs for the world youth (especially among girls who present 50% or more of the world's population³⁸, and disabled people³⁹).

Given that the majority of the world's unemployed live in countries with minimal welfare systems, no employment equates to no income and therefore no food, no shelter, no medicine and none of the other basic necessities of life. In countries where family represents the only safety net, the unemployment of those that should be key breadwinners extends the negative financial impact of unemployment to entire families. The UN estimates that 88 million among the youth are currently unemployed, and the rates of unemployment among this group are highest in Western Asia, North Africa and sub-Saharan Africa⁴⁰. There is growing pressure on young people to compete in an increasingly globalized labor market. According to the International Labor Organization (ILO), the number of unemployed youth, about 80 per cent are in developing countries and economies in transition where youth unemployment is growing annually at more than 15 percent. The situation is particularly troublesome in many Asian countries, where economic growth is hardly able to keep pace with job creation efforts for the youths entering the job market each year⁴¹.

But youth unemployment has other national and global impacts notably increased violence, crime and political instability. Desperation can drive many people into living outside the law both to survive and as a means of expressing dissatisfaction at the apparent neglect of their very existence. Many of the most unstable countries are also those with very high youth unemployment rates.

If provided with an enabling environment and opportunities, youth in both developed and developing countries can be key agents for social change, economic development and technological innovation. Youth bring with them boundless energy, imagination, creativity, ideals, and a limitless vision for their future and the societies in which they live. If not utilized, they are a wasted resource. Thus, it is imperative that youth are harnessed as part of society. This can be achieved through providing sustainable and decent employment and livelihoods opportunities for them. Much more, can be achieved through setting ICT applications in all fields; such as "*public administration, business, education and training, health, employment, environment, agriculture,*

³⁷ Ahmed, Nahleen . YOUTH AND ICT AS AGENTS FOR CHANGE. The Global Alliance for ICT and Development, UNDESA, 2006.

³⁸Global e-Government Readiness Report 2005

³⁹ Disability is defined in terms of a limitation in the ability to work: those respondents reported to have a "health problem or disability which prevents them from working or which limits the amount or kind of work they can do" are counted as having disabilities. However, young people with disabilities often have among the least access, due to higher likelihoods of low income and education, and to physical barriers such as internet cafes that are not wheelchair accessible or equipped with the necessary technologies

⁴⁰ World Youth Report 2005

⁴¹ Global Youth Entrepreneurship Forum 2006

*and science within the framework of national e-strategies*⁴² and empower communities to utilize these applications and create real sustained development.

One of the most powerful tools for creating such development in today's world is the new information and communications technologies that are available in most countries, often at extremely unequal levels. Young people are often the leading innovators in the use and spread of ICTs. Youth are increasingly using these technologies as tools for social change in their lives. They are organizing and creating global initiatives and businesses using these new technologies. The advantages of making these tools available and applicable to youth in countries around the world will have a great impact at addressing the youth employment challenge. The digital divide is real and best practice examples of ICT-generated employment for youth, **shown** that we can turn the digital divide into digital opportunities.

To bridge the gaps in information sharing the YES Campaign, in partnership with TakingITGlobal, has developed a Global Knowledge Resource on Youth Employment (GKR). The GKR is an invaluable resource database and communication mean, where all stakeholders of youth employment can share and access innovative initiatives, useful toolkits, and comprehensive research and publications. The YES Campaign recognizes the value of information sharing and relationship building in promoting sustainable development. A medium for sharing knowledge can be a powerful tool for youth employment and key to sustaining livelihoods. Efforts to address the challenge of youth employment are often hindered by a lack of information surrounding effective strategies, education and training programs, and opportunities for collaboration. The GKR connects stakeholders groups from ALL sectors of society, with an interest or role to play in youth employment around the world. The Global Knowledge Resource encourages individuals and organizations to share their expertise with each other, and to invite new participants into efforts to enhance the livelihoods of young people. Therefore, through the GKR users can learn from the experiences gained and shared by others from all over the world, effectively leapfrogging elements of projects and fast tracking sustainable development and youth livelihood creation⁴³

"We are resolute in our quest to ensure that everyone can benefit from the opportunities that ICTs can offer. We agree that to meet these challenges, all stakeholders should work together to: improve access to information and communication infrastructure and technologies as well as to information and knowledge; build capacity; increase confidence and security in the use of ICTs; create an enabling environment at all levels; develop and widen ICT applications; foster and respect cultural diversity; recognize the role of the media; address the ethical dimensions of the Information Society; and encourage international and regional cooperation. We agree that these are the key principles for building an inclusive Information Society."

WSIS- Declaration of Principles

⁴² WSIS-Declaration of Principles

⁴³ GLOBAL KNOWLEDGE RESOURCE: Accessed on July 12, 2007, Available <http://www.yesweb.org/gkr.htm>

2.5. ICT Application: Benefits in All Aspects

Progress towards an information society must show benefits at all levels of society, as ICT has long been a crucial element in measuring and achieving sustainable development, the digital divide is large within developing countries (in comparison to developed countries) however, it can be seen that the application of ICT technologies is assisting in closing this gap, and providing a platform for development in all areas and levels.

2.5.1 e-Government

“Implement e-Government strategies focusing on applications aimed at innovating and promoting transparency in public administrations and democratic processes, improving efficiency, and strengthening relations with citizens and business to achieve more efficient allocation of resources and public goods...”

WSIS Plan of Action, December 2003

“E-Government” refers to the use of information technologies by government agencies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government and management. That could result less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.”⁴⁴ (where starts the “ “?”).

ICT applications in government organizations mainly have three categories. These categories focus on:

- Applications common to all government organizations (common applications) such as personnel systems, financial systems, Document management systems, etc.
- Applications that are jointly used by multiple government organizations such as recruitment applications.
- Applications that are specifically used by one government organization.

The public sector institutions in advanced and developing countries started adopting the concepts of electronic systems in performing their daily activities and in providing better services for citizens. This concept was further promoted when these institutions provided these services through the internet to the individuals, government departments and the private sector. The information technology has great influence over the way people work, go shopping or

⁴⁴ "Definition of E-Government" 2007. The World Bank .25 June 2007
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/EXTEGOVERNMENT/0,,contentMDK:20507153~menuPK:702592~pagePK:148956~piPK:216618~theSitePK:702586,00.htm> |>.

communicate. This requires rectified interaction between citizens and local government departments.

As the public sector departments seek capacity enhancement to fulfill their duties and interact with the global economy which is linked through the internet, utilization of the information technology proved to be essential at all walks of life and thus many countries decided to adopt the idea of “E-government” which aims to fulfill duties as well as provides services to citizens, more promptly and efficiently, proposing a set of solutions to meet the challenges involved and to aid a more seamless transition to Information Society as: Authentication, e-Payment, Automation, Process Workflows, Networking, and Access.

According to the World Bank, *“Information is a critical ingredient for development. The more information that the poor possess, the greater their sense of empowerment. Empowered citizens can more readily hold governments accountable. With greater information the poor also are better able to organize and take actions to improve their quality of life.”*⁴⁵

And one of the best practices highlight uses of e-government tools in projects focused on improving delivery of services to citizens and empowering grassroots, especially youth and employment through information was the “Village Information Kiosks for the Warana Cooperatives in India”⁴⁶ The stated goal of the Warana "Wired Village" project is not only to increase the efficiency and productivity of the sugar cane cooperative, but also to provide a wide range of information and services to 70 villages around Warana. The project aims at giving villagers access to information, in their local language, about crops and agricultural market prices, employment schemes from the government of Maharashtra, and educational opportunities especially for youth. <http://www.mah.nic.in/warana/>

2.5.2 e-Business

“Governments, international organizations, and the private sector, are encouraged to promote the benefits of international trade and the use of e-Business, and promote the use of e-Business models in developing countries and countries with economics in transition.”

WSIS Plan of Action, December 2003

Broadly speaking, the term “e-business” (or Electronic Business) refers to using the Web-based technologies for doing business. The term ‘e-business’ covers both e-commerce (buying and selling online) and the restructuring of business processes to make the best use of digital technologies, it could be defined as any business process that relies on an automated information system. The term “e-Business” was coined by Lou Gerstner, CEO of IBM⁴⁷

“E-business is using the network and distributed information technology, knowledge management, and trust mechanisms to transform key business processes and relationships with customers,

⁴⁵ " Case Studies - Empowerment through Information ." The World Bank. 5 July 2007 <<http://go.worldbank.org/MYTEYM8A00>>.

⁴⁶ Case study author: Simone Cecchini (scecchini@hotmail.com) and Monica Raina (monica@cclan.iimahd.ernet.in). For further information: <http://www.mah.nic.in/warana/>

⁴⁷ Retrieved from "http://en.wikipedia.org/wiki/Electronic_business"

*employees, suppliers, business partners, regulatory parties, and communities. E-business is about changing business models to create new or increase value for the customer*⁴⁸.

In practice, e-business is more than just e-commerce. When organizations log online, they have to decide which e-business models best suit their goals.⁴⁹ While e-business refers to more strategic focus with an emphasis on the function that occurs by using electronic capabilities, e-commerce is a subject of an overall e-business strategy. E-commerce seeks to add revenue streams using the World Wide Web or the Internet to build and enhance relationships with clients and partners and to improve efficiency using the empty vessel strategy. Often, e-commerce involves the application of knowledge management systems.

E-business involves business processes spanning the entire value chain: electronic purchasing and supply chain management, processing orders electronically, handling customer service, and cooperating with business partners. Special technical standards for e-business facilitate the exchange of data between companies. E-business software solutions allow the integration of intra and inter firm business processes. E-business can be conducted using the Web, the Internet, intranets, extranets, or some combination of these.

On the other hand, E-business in developing countries is challenged by two key factors: the prospects and timeframe for improving infrastructure such as affordable, reliable Internet access (no Internet = no e-business); and the likelihood of current and future demand for e-business transactions and web-based services in developing countries. In matter of fact, there are a number of obstacles facing e-entrepreneurs in developing countries. As there are many issues in expanding and diversifying sales in both international and domestic markets. Key limitations include lack of information about market opportunities, inadequate access to financing, and insufficient capacity to satisfy the quality, cost and logistical requirements of overseas customers.

One of the best practiced models about developing e-commerce and e-business models to be used by NGOs is: *"Selling products online - The Perfect Storm"*⁵⁰. Founded by Sabastian Junger, the Perfect Storm Foundation (PSF) offers educational and cultural grants and scholarships to the children of commercial fisherman.

In 1998, Ned Savoie, owner of a Web development company called Harbour Light Productions, saw the PSF featured on a local television show. Inspired by the show and the book, Ned tracked down the PSF and offered to build a Web presence. The site promotes the PSF and engages the community. As a relatively new organization, the Foundation needed to promote their name and mission. They received a donation of t-shirts and sweatshirts, had the logo added and started selling them in local shops and through the Web site. The volume of orders was increasing, and

⁴⁸ Craig, James , and Dawn Jutla. *e-Business Readiness*. 1st ed'. Addison-Wesley Professional, 2000.

⁴⁹ Paul Timmers, (2000), *Electronic Commerce - strategies & models for business-to-business trading*, pp.31, John Wiley & Sons, Ltd, ISBN 0-471-72029-1

⁴⁹ Sleurink, Arjan . "E-business for NGOs." January 2002. The International Institute for Communication and Development (IICD) . 12 Jul 2007 <www.iicd.org>.

⁴⁹ Sleurink, Arjan . "E-business for NGOs." January 2002. The International Institute for Communication and Development (IICD) . 12 Jul 2007 <www.iicd.org>.

⁵⁰ Sleurink, Arjan . "E-business for NGOs." January 2002. The International Institute for Communication and Development (IICD) . 12 Jul 2007 <www.iicd.org>.

PSF decided to move to a shopping cart system that processed the credit cards for them. Online sales have not been astronomical, but are definitely more manageable now that PSF has a streamlined system in place. They get about 15-25 online orders per week, with individual orders averaging \$26 plus shipping and handling.

E-commerce has been worth the effort and everything has been running smoothly. PSF promotes the site and online shop by making sure that any press reference to the Foundation includes a reference to the website. PSF advises nonprofits just starting out in e-commerce to be prepared to fulfill the orders and build in shipping and handling charges. PSF also makes online donating available to their audience, but it has not been as successful as the online store.

Lessons learned of this case:

- Thinking like a business can help a NGO prepare for e-commerce.
- Knowing and understanding potential "customers" will help an organization to decide what products to offer online.
- NGOs must also make sure that their audience knows how to find them online.

Another initiative developed by non-profit efforts for sustaining e-business activities and maintaining self-employment through civil society (non profit) initiatives was for the "International Telecommunication Union" (ITU). Through operational ITU projects, women engineers from the 3 500-member Association of African Business Women can provide remunerated remote translation services. The solutions provided through these projects also make it possible for local goods to be sold by women producers in Mauritania and networks to be created that are vital in ensuring a proper supply chain. ITU projects delivering e-employment solutions help to improve social conditions because they contribute to increasing the income of micro-businesses and enable sustainable development⁵¹.

On the other hand, YES campaign implemented some programs and projects to educate self employment empower youth in business. One of YES practiced program was:

The Mentorship Program- Southern Africa Region.

In 2003, YES South Africa began *The Mentorship Program*. This innovative program matches young entrepreneurs with businessmen in the private sector, providing youth with practical guidance and support. To date, 465 participants have received help writing business plans, managing basic operations, and securing funding. Due to its remarkable success, YES replicated the program in Angola, Mauritius, the Democratic Republic of Congo, and Zambia in 2005 with plans to expand to Botswana, Kenya, Namibia, Swaziland, Tanzania, and Zimbabwe.

Another example of linking between e-business and youth empowerment through civil society is the:" OrphanIT". It delivers a host of IT services locally and internationally by training and employing disadvantaged youth in developing nations to work on web development, data processing, business process outsourcing & online marketing projects. This project clearly demonstrates how the poor and vulnerable in developing countries (disadvantaged youths and

⁵¹ <http://www.itu.int>

orphans in particular) have a chance to 'piggy back' on ICTs to improve their lives and generate income on a sustainable basis. Currently, approximately 100 students are employed on an ongoing, part-time basis.

Under this project, GLOW centres (Global Opportunities on the Web) have been established. These are organic creative enclaves that give the young opportunities to shape their own destinies in the fast growing field of remote services and business process outsourcing. By partnering with some of the world's leading ICT companies, Orphan IT⁵² has been able to work collaboratively as an online micro enterprise development association. The first GLOW centre is in Manila with the second centre being built in Chennai, India. Other centers are underway in Latin America and Africa.

2.5.3 e-Environment

“Governments, in cooperation with other stakeholders, are encouraged to use and promote ICTs as an instrument for environmental protection and the sustainable use of natural resources.”

WSIS Plan of Action, December 2003

According to WSIS Action Plan, e-environment refers to use and promote ICTs as an instrument for environmental protection and the sustainable use of natural resources to achieve sustainable development goals. As Government, civil society and the private sector are encouraged to initiate actions and implement projects and programs for sustainable production and consumption and the environmentally safe disposal and recycling of discarded hardware and components used in ICTs. Also, establish monitoring systems, using ICTs, to forecast and monitor the impact of natural and man-made disasters, particularly in developing countries, LDCs and small economies.

Countries with economics in transition face difficulties choices in the name of economic progress when also trying to implement their desired environmental policies. Environment issues can often be contradictory to government strategies and at the same time costly. On the other hand, sustainable development has been delegated primarily to environment ministries despite the best efforts of its practitioners to articulate a holistic vision of integrated economic, social and environmental decision making. While information society specialists within national governments have primarily been drawn from the fields of telecommunications and economic development, each has emerged from a different community with a different vocabulary and process for determining national priorities. The lack of interaction between these two policy communities is currently serving to reinforce stereotypes of both fields.

Sustainable development is seen as pertaining primarily to environmental issues and grassroots social development, while the information society is perceived as being more relevant to the economic development potential of urban elites. These stereotypes miss the reality that sustainable development and the information society are operationally interconnected. Both terms are increasingly used by civil society and academics to refer to a desired global future that is casting its shadow upon our current time and decisions. For sustainable development to be effective and

⁵² <http://www.OrphanIT.com>

efficient, it must harness the institutions and tools of the information society. And for the information society to sustain itself, it must pay careful attention to the stocks and flows of resources (material and human) and energy that underpin it⁵³.

*"In 1992, global policy-makers recognized the importance of information to decision-making in Chapter 40 of Agenda 21. The chapter recognizes that, "[i]n sustainable development, everyone is a user and provider of information considered in the broad sense. That includes data, information, appropriately packaged experience and knowledge. The need for information arises at all levels, from that of senior decision-makers at the national and international levels to the grass-roots and individual levels." Recommended activities included bridging the data gap and improving the availability of information for decision-making. In addition, The two phases of the World Summit on the Information Society provide an excellent opportunity to integrate sustainable development principles and practices into the institutions and policy frameworks that are shaping the information society. Similar to earlier United Nations' summit processes, the WSIS has sparked wide-ranging multi-stakeholder dialogues at the regional, national and sectoral levels. In some instances, these civil society groups are introducing national WSIS delegations to the policy development processes and priorities that have resulted from the WSSD and the MDG negotiations. While this may help to ensure that the WSIS Declaration and Action Plan address previously negotiated development priorities, the national level policy outcomes may, in the long run, be even more profound. Environment and social development organizations that have become active in the WSIS process are increasingly demanding involvement in the crafting of national e-strategies and information and communication technology (ICT) policies and insisting that these reflect sustainable development goals."*⁵⁴

One of the best practiced efforts to link between Information Society and Sustainable Development was a scoping study for IISD. In 2003, IISD led a scoping study to assess the potential for engaging researchers younger than 30 in linking information society and sustainable development policy-makers, and in catalyzing changes in policy and practice in developing countries around the convergence of the two communities. IISD's literature revealed that while considerable research on the information society and sustainable development had been conducted, it was primarily focused on applications and policy frameworks in Europe and North America. Key areas of convergence in these regions include:

- policies and practices regarding environmental information systems;
- eco-efficiency and innovation;
- negative environmental consequences of the information society;
- modifying consumer demand and values; access to information and public participation;
- and
- poverty reduction.

Relying on the conclusions of the scoping study, and seeking to enrich the dialogue, IISD⁵⁵ coordinated a national policy research project in Costa Rica, Kenya, South Africa, Brazil, India and Egypt, with the hope of introducing new approaches based on the more mature state of

⁵³ Willard, Terri , and Michael Halder. The Information Society and Sustainable Development- Exploring the Linkages. Winnipeg, Manitoba, Canada: IISD, 2003.

⁵⁴ Willard, Terri , and Michael Halder. The Information Society and Sustainable Development- Exploring the Linkages. Winnipeg, Manitoba, Canada: IISD, 2003.

⁵⁵ <http://www.iisd.org/infosoc/issd/scoping.asp>

national dialogues around sustainable development. Tapping into the vast diversity of Southern interpretations of the information society and sustainable development, seven young researchers from these countries endeavored to connect policy-makers, practitioners and academics from the two communities, via national consultations and workshops.

2.4.4 e-Health

“Promoting collaborative efforts of governments, planners, health professionals, and other agencies along with the participation of international organizations for creating reliable, timely, high quality, and affordable health care and health information systems. Also efforts should be made in promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens’ right to privacy.”

WSIS Plan of Action, December 2003

According to WSIS Action Plan, e-health is about how to *“Promote collaborative efforts of governments, planners, health professionals, and other agencies along with the participation of international organizations for creating a reliable, timely, high quality and affordable health care and health information systems and for promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens’ right to privacy. Facilitate access to the world’s medical knowledge and locally-relevant content resources for strengthening public health research and prevention programs and promoting women’s and men’s health, such as content on sexual and reproductive health and sexually transmitted infections, and for diseases that attract full attention of the world including HIV/AIDS, malaria and tuberculosis. Also, alert, monitor and control the spread of communicable diseases, through the improvement of common information systems. Much more, Promote the development of international standards for the exchange of health data, taking due account of privacy concerns. And encourage the adoption of ICTs to improve and extend health care and health information systems to remote and underserved areas and vulnerable populations, recognizing women’s roles as health providers in their families and communities. Strengthen and expand ICT-based initiatives for providing medical and humanitarian assistance in disasters and emergencies”*.

As of December 2003, UNAIDS reported that an estimated 40 million (34 million to 46 million) people were living with HIV/AIDS around the world. Ninety-five percent of these people live in developing countries where resources and health care are very limited. During 2003, approximately 5 million people became newly infected and over 3 million people died. The prevalence in people ages 15 to 49 with HIV/AIDS in Sub-Saharan Africa was 8.0 percent, in the Caribbean 2.5 percent, and in South and Southeast Asia 0.6 percent. Whereas South and Southeast Asia was the third highest region in prevalence, it was the second highest in numbers with between 4.6 million to 8.2 million people infected, with 2.1 million of those infections in young people. Sub-Saharan Africa had between 25 million to 28.2 million infected people and the Caribbean had between 350,000 to 590,000 people living with HIV/AIDS. This figure for South

and Southeast Asia is of particular concern since the epidemic started more recently in that region.⁵⁶

Young men and women ages 15-24 are at the centre of the global HIV/AIDS epidemic. Close to half of the new infections are occurring in young people. Every day 6,000 more young people become infected with HIV, and most of them do not even know they are infected. Sixty-two percent of infected young people are female.¹ In addition, young people often have to care for family members with HIV/AIDS⁵⁷.

Young people looking for meaningful, secure, income-generating work make up a sizable proportion of the population in developing countries. Demographic trends show that the total number of youth globally is about 50% of the world's population and about 85% of the world's youth reside in developing countries⁵⁸ by accepted statistical principles. In terms of numbers, about 724 million youth and children are estimated to be living on less than \$2 a day, a significant number of whom are illiterate, unemployed, and living with HIV/AIDS. Poverty and limited access to healthcare and education can create situations that make young people more vulnerable to HIV infection⁵⁹.

Although linkages between youth and poverty need more extensive research to determine the long-term impact on issues that affect the youth, the fact that many of the MDGs are youth oriented (education, health, HIV/AIDS, etc), underscore the need for policies to be better targeted in order to reach these goals, particularly taking the needs of the youth into consideration.

The focus on youth and health is obvious. Not only does it mean addressing the wellbeing of a critical mass of the world's population from both common health problems and life threatening diseases such as HIV/AIDS, but ultimately from dying young. The chronically poor, for example, die early in life, without realizing their full potential. It is therefore, crucial to address the inter-generational cycle of poor health and poverty to ensure that it is effectively broken. More importantly, it is necessary to stress that health is a basic human right and the MDGs aim to make basic health services available to all, including access to medical care, information on sexual and reproductive health, and gender equality⁶⁰.

Youth unemployment and underemployment are related to social problems such as poverty, crime, drugs, and health problems (such as: malnutrition, malaria, HIV/AIDS). To be relevant and effective, youth employment strategies cannot ignore these problems. The major threats to the health of young people include HIV/AIDS and other sexually transmitted infections, malaria, and tuberculosis. Of all the major causes of avoidable deaths in developing countries, HIV/AIDS has created an especially serious social crisis, robbing communities and nations of their young and most economically productive members in record numbers. As HIV/AIDS spreads among young,

⁵⁶ Santis, Wendy, Cheryl Vince Whitman, Sridar Venkatapuram, Laurie Rosenblum, Michael Rosati, and Puneetha Palakurthi. HIV/AIDS and Employment: Protecting Young People and Involving Them in Work-Related Solutions. 2003. HHD, YES, and EDC.

⁵⁷ Ibidem.

⁵⁸ World Youth Report, UNDESA 2005.

⁵⁹ Santis, Wendy, Cheryl Vince Whitman, Sridar Venkatapuram, Laurie Rosenblum, Michael Rosati, and Puneetha Palakurthi. HIV/AIDS and Employment: Protecting Young People and Involving Them in Work-Related Solutions. 2003. HHD, YES, and EDC.

⁶⁰ Ibidem.

educated populations, the economic cost of the disease will also increase due to the need for and impact on skilled labor.⁶¹

Young people have always been and will continue to be the part of the population that is most vulnerable to HIV/AIDS because they often begin their sexual behavior before they have the knowledge and skills to protect themselves or because they are exploited by others. However, they are also capable of making responsible decisions to protect themselves when given the necessary information, skills, and support and are able to educate and motivate other young people to make safe choices. Young people are a valuable human resource that has the potential to significantly increase and sustain an effective response to the spread of HIV/AIDS. Therefore, we must give top priority to involving young people throughout the region in the fight against HIV/AIDS in the form of meaningful work.⁶²

Thus, attention to investments in health, health advocacy and education deserves priority because improving adolescent health will lead to poverty reduction, a decrease in the incidence of high-risk pregnancies among undernourished teenagers, and ultimately, contribute significantly to reducing child mortality (MD Goal 4)⁶³.

In the context of developing countries where economic security is the primary goal for much of the population, youth involvement and long-term commitment to some diseases as HIV/AIDS work cannot be only voluntary. The essential components of enabling young people to become involved are to identify and develop opportunities in HIV/AIDS work, create greater awareness of those opportunities, and provide skills training and mentoring, including through paid work. In addition, all work settings ideally should have HIV/AIDS policies and programs to protect all workers, and enhance the use of ICTs and Networks. Youth can help ensure that prevention messages are meaningful to young people, stigma-free, relevant to their daily lives and communicated through effective channels, and that all care takes into consideration the needs of young people and is "youth friendly." Youth can be included in all phases of research, program design, implementation, outreach, monitoring, and evaluation⁶⁴.

Here YES Networks can be actively involved in creating youth involvement in health management activities. YES Networks are youth-led national coalitions that work with diverse stakeholders to develop projects and programs that promote youth employment. Membership in these networks includes youth-serving organizations, business groups, development agencies, and government officials, but it is the youth participants who are keys to the networks' success. There are several YES Networks in different countries that have projects related to HIV/AIDS. Some of the networks are currently carrying out vocational training and peer education. For example: In partnership with HHD, YES, the Ministry of Youth Services, the Ministry of Education and the

⁶¹ Santis, Wendy, Cheryl Vince Whitman, Sridar Venkatapuram, Laurie Rosenblum, Michael Rosati, and Puneetha Palakurthi. HIV/AIDS and Employment: Protecting Young People and Involving Them in Work-Related Solutions. 2003 . HHD, YES, and EDC

⁶² Ibidem,

⁶³ Issues Paper: Youth and ICT as Agents for Change. Global Alliance for ICT and Development, UNDESA, 2006.

⁶⁴ Santis, Wendy, Cheryl Vince Whitman, Sridar Venkatapuram, Laurie Rosenblum, Michael Rosati, and Puneetha Palakurthi. HIV/AIDS and Employment: Protecting Young People and Involving Them in Work-Related Solutions. 2003 . HHD, YES, and EDC

Andhra Pradesh AIDS Control Organization, the YES Academy is launching two projects in Andhra Pradesh (AP), India that involve youth in HIV/AIDS work: (1) training a group of youth leaders to work on HIV/AIDS issues and services and (2) developing an HIV/health curriculum and component for the community service program of college students⁶⁵.

On the other hand, today ICTs are at the heart of modern healthcare systems and services and can distribute information worldwide, in particular to the developing world. National and international e-health initiatives are challenged by deep-rooted problems and lack infrastructure and investment. Nevertheless, through ICTs, technology offers the prospects for a longer and healthier life is being used to boost human health, hygiene and nutrition. Many remote villages that lack easy access to hospitals and medical facilities are now being helped by telemedicine and digitized health information, which are helping millions of citizens improve their daily lives. Promising public and private partnerships are now underway throughout the world; the examples below highlight the work of several of these⁶⁶.

One of the best models to use ICTs in health advocacy is Journey of Life Radio Show⁶⁷ – Ethiopia

It is about: A radio serial drama that began airing in 2001 in Ethiopia designed to encourage young adults at risk to protect themselves from HIV/AIDS and unwanted pregnancies by depicting characters engaging in either risky or safe sexual behavior. The goal is to help Ethiopians understand how easy it is to become infected with HIV, as well as how easy it is to protect oneself from the virus. The radio series "Journey of Life" portrays characters with whom audiences can identify. While vulnerable, these characters are empowered to take steps to protect themselves and their loved ones against unwanted pregnancies and infections.

A final impact evaluation of the 26-week radio soap opera revealed that personal risk perception rose to 66.2% after listening to JOL. While almost all listeners (97.6%) believe that HIV/AIDS is a serious health threat in Ethiopia, they also believe strongly (96%) that they have the power to avoid HIV infection. Most respondents (86.6%) agreed or strongly agreed that after listening to JOL they wanted to change their lives for the better. Specifically, the vast majority of urban youth listeners (95.9%) said that JOL influenced them to protect themselves against HIV/AIDS. Females reported a stronger behavioural impact from JOL than males. 66.2% of urban youth surveyed in the final evaluation agreed that they were susceptible to HIV infection. Most listeners (95.1%) agreed that JOL made them believe there were effective ways to avoid HIV infection. Over 95% of the listeners said that JOL made them feel hopeful about avoiding HIV infection. Almost all of the listeners (97%) agreed that JOL made them believe that having children when they weren't ready was harmful. Females felt greater perceived severity than males from having children when they weren't ready.

Another project is "eSwasthya - health in a card- India" The objective of this project is to provide healthcare to the poorest section of the population. The target group is the hardcore poor in

⁶⁵ Santis, Wendy, Cheryl Vince Whitman, Sridar Venkatapuram, Laurie Rosenblum, Michael Rosati, and Puneetha Palakurthi. HIV/AIDS and Employment: Protecting Young People and Involving Them in Work-Related Solutions. 2003. HHD, YES, and EDC

⁶⁶ WSIS Success Stories "e-health": Accessed on July 27, 2007, Available <http://www.itu.int/osg/>

⁶⁷ <http://www.comminit.com/evaluations/idkdv2002/sld-2370.html>

Madhubani, a district in Bihar. The idea is to deliver healthcare through ICT so that the poor regions in Bihar are not left behind in terms of healthcare facilities and modern technology as India moves forward.

Health ID cards are given to residents, to popularize the project and raise awareness about healthcare services that are newly available. These cards link residents to a new world of information that will help in terms of hygiene, population control and other advancements in healthcare. When the underprivileged start making use of these facilities, diseases and illnesses eradication and population control objectives can be met. Through this and the eventual creation of Internet kiosks, it is also hoped that the local community can increase literacy rates and gain valuable computer skills in order for them to join the job market. It is also hoped that the health centers will be self-sustainable after five years of operation.

ICT has been used as a backbone for this project because of the various positive features that are linked to it. The connectivity of the health centre via the Internet will usher in a new dimension to the rural sector by exploring areas like e-governance, e-commerce, e-health, and so on. Special emphasis is on the holistic health of women citizens. The program will increase the number of medical personnel per facility by instituting the project as a revenue-sharing system with medical practitioners, to entice those previously avoiding work in smaller towns because of smaller salaries.

The immediate effect of eSwasthya⁶⁸ is improvement in the healthcare system for rural people. However, it also aims to provide local residents, particularly unemployed youths, with basic computer training. This has a two-pronged effect — the youths are able to maintain the eSwasthya in their own community; in addition they are equipped with a new skill that will open new doors and opportunities.

2.5.5 e-Learning

“Develop domestic policies to ensure that ICTs are fully integrated in education and training at all levels, including curriculum development, teacher training, institutional administration, and management, and in support of the concept of lifelong learning.”

WSIS Plan of Action, December 2003

The "e-learning" term is a general term used to refer to computer-enhanced learning. It is used interchangeably in so many contexts that it is critical to be clear what one means when one speaks of "e-Learning". In many respects, it is commonly associated with the field of Advanced Learning Technology (ALT), which deals with both the technologies and associated methodologies in learning using networked and/or multimedia technologies. Along with the terms *learning technology* and Educational Technology, the term is generally used to refer to the use of technology in learning in a much broader sense than the computer-based training computer or *Computer Aided Instruction* of the 1980s. It is also broader than the terms On-Line Learning or *Online Education* which generally refer to purely web-based learning. In cases where mobile technologies are used, the term M-Learning has become more common.

⁶⁸ <http://www.biesindia.org/eswasthya>

"e-learning" can also refer to educational web sites such as those offering learning scenarios, worksheets and interactive exercises for children. The term is also used extensively in the business sector where it generally refers to cost-effective online training. As Virtual classes offer personalized monitoring coupled with flexibility in the management of learning and greater autonomy in the acquisition of knowledge. Apart from the institutional programs on offer, the internet is becoming the most medium of self-instruction by providing tools for informal learning and allowing the creation of virtual classes. The internet has already given rise to virtual communities of learners, which will predictably increase in number and diversity at all levels of education. Large distance education institutions have emerged, in the developing as well as the industrialized countries⁶⁹.

In the long term, "*e-learning*" is expected to do more than bring about radical change in the pace of learning. Some experts believe that open and distance education may replace schools and the classroom model altogether. Some are already looking ahead to a time when, in addition to learning at home, there will be community learning centers with no separation between age groups and no distinction between periods of work and holidays. Intended for children and adults alike, they would provide guidance and counseling services, and work stations linked to databases and to the Web. Teachers would be there to give guidance to learners, with simulation occupying a prominent place. But for the time being, generally speaking, the relationship between distance and learning has yet to be clarified, for communicating does not suffice to put a message across. It takes more than retrieving and exchanging information by a click of the mouse to build up and share knowledge. This is why there are still unanswered questions about how valid *e-learning* may be. Can virtual communities really replace real-life communities in every respect? Can distance tutoring be conducted on trust? How can we be sure that the sharing relationship inherent in teaching and learning will not suffer from the many and varied ways in which knowledge can be acquired?⁷⁰

"e-learning" is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face-to-face teaching. Today, as we are witnessing the advent of a global information society where technology has increased the amount of information available and the speed of its transmission beyond all expectations, there is still a long way to go before we achieve genuine knowledge societies. Knowledge societies are about capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development. They require an empowering social vision that encompasses plurality, inclusion, solidarity and participation.

According to WSIS principles all citizens (especially youth) should receive a modern, quality education, with access to the worldwide resources available on the Internet and equal opportunities for learning should be secured of age, gender, class, or geographical location. Learning ICT is characterized by a high level of flexibility and is open-ended, targeting all age brackets, and can be tailored to different needs. Educational institutions and prospective students must appreciate that learning doesn't stop at a certain age or career age.

⁶⁹ Towards Knowledge Societies. UNESCO , 2005.

⁷⁰ Ibidem.

The new information and communication technologies have created new conditions for the emergence of knowledge societies. Added to this, the emerging global information society only finds its *raison d'être* if it serves to bring about a higher and more desirable goal, namely the building, on a global scale, of *knowledge societies* that are a source of development for all, first and foremost for the least developed countries⁷¹. "e-learning" considered one of the most flexible tools that can be used to empower knowledge societies and enhance education systems, especially in developing countries.

E-learning is beginning to make an appearance in high and secondary education systems in most of developed countries (and on a narrow scale in developing countries). For example: it has been applied in United States for secondary education and is directed at three target audiences: learning at home (this concerns about 1 million pupils in the United States), schools in difficulty for which an alternative is needed, and secondary schools that cannot teach everything and want to supplement the range of courses on offer with those available on the internet.⁷² The developing countries are following this trend, as the example of the Indian National Open School shows. As can be seen, distance education can meet very different educational needs and challenges, and its development will involve the use of far more flexible models than those used in traditional education. The improvement of online courses and the attractiveness of the diplomas on offer open up new opportunities, especially in the most lucrative sectors such as high-level university education, vocational training and continuing education. In the short term, mixed models are expected to expand most in formal education – the same does not, of course, apply to informal education.

One of the best practiced models to enhance "e-learning" is a government initiative: "*The National Grid for Learning in the United Kingdom*"

Linking as it does as many libraries, museums, schools and learning centres to form a far-reaching virtual educational resource centre. These ubiquitous repertoires of knowledge are therefore set up to be accessible everywhere. In this sense, the very term "distance education" is ambiguous, as it can be said that connectedness spells the death of distance. This is why, when we talk about new forms and schemes for distance education, we must think in terms of new ways of putting individuals and knowledge face to face. At the same time, the expansion of distance education does not herald the end of the economic constraints on access to knowledge. *E-learning* will be up against the same challenges as research and other activities involving a high degree of knowledge – the challenges of access. We are beginning to see the patenting of learning methods, and some teachers are demanding copyright for their courses. Politicians are slow to respond and to take decisions on crucial questions such as: What kinds of exemption from copyright are acceptable for education and research?

Another example of "e-learning" which used to empower youth is: "*Open School BC-Canada*"

As mentioned before, currently there are more than 1 billion youth between the ages of 15 and 24. This represents more than 15% of the global population and 85% of these youth live in developing countries. Unemployment or under-employment levels for this population tend to be two to three times higher than for the general adult population. Those youth that are employed are in low-paying jobs with little or no protection

⁷¹ Towards Knowledge Societies. UNESCO, 2005.

⁷² Ibidem.

Most of these youth have also made the transition from school to the work force. They are not looking for after-school jobs. There are many reasons why youth leave school prematurely: a need to earn money for the family and a lack of interest in traditional classrooms are two of the most often cited reasons. This issue is magnified when it comes to girls. According to UNICEF Canada, the majority of the world's early school leavers are girls⁷³. Moreover with current technological advances and public cutbacks in spending, developing economies are not in a position to create enough employment to fulfill the needs and demands of their youth. What this means is that an environment of mass unemployment is being created on a scale not seen before. A holistic approach to mitigating the problem could include a combination of youth training, support for entrepreneurship, public investment in education and health, and an enabled business environment.

One way of providing learning opportunities to these youth is through eLearning. eLearning, especially combined with an open learning model, provides the flexibility and power that many youth are looking for in a learning environment. Since many of these youth are required to work (or search for work) during the day they are clearly unable to attend traditional face-to-face classes. eLearning can alleviate this problem by allowing youth to learn wherever and whenever it suits their needs.

Open School BC⁷⁴, one of Canada's leaders on designing K-12 eLearning materials provides an excellent example of how eLearning can prevent the problem of youth unemployment before it occurs. Open School BC is currently developing an online course called Planning 10. This course is aimed at 15 year-old youth. The course aims to prepare students for life after school by encouraging them to plan all aspects of their lives, including academic scholarships, career, money management, personal health and well being, as well as the personal attributes they might need in order to be successful in life.

Much more, "e-learning" is not all about students' luxury. But it could be an effective tool to sustain employment opportunities for teachers (especially in developing countries, targeting women who prefer teaching at home) by establishing home Teaching Centres. Teacher will be able to receive service charges from their students and earn income in a culturally acceptable manner. One example is the *Literacy Centers and Schools- YES Pakistan*:

This project has been designed by YES Network Pakistan to provide disadvantaged school going girls of rural high schools who are about to finish their high school education with the opportunity to acquire technical training in ICTs and improve english proficiency during their school time or immediately after their high schools exams so that they might not return to their homes and end up their lives at home. It will harness the potential of ICT for the cognitive, social and economic empowerment of disadvantaged girl children.

After the devastating earthquake that struck Pakistan in 2005, YES has partnered with the National Commission on Human Development to launch the Pakistan National Youth Service Program, a one-year rehabilitation program intended to improve current relief efforts. The purpose of this

⁷³ See: <http://www.unicef.ca/mission/girlsEd/index.php?lang=en>.

⁷⁴ <http://www.pss.gov.bc.ca/osbc/>

initiative is to enable youth to help themselves. This program has established 50 female adult literacy centers, 3 skill development centers, and 3 non-formal schools for approximately 2,000 girls and women.

The project began by establishing computer labs in three rural girls' high schools with the objective to teach an additional subject IT and improve their proficiency in English which is already taught as a compulsory subject but most students fail in it. It is based on the felt need of the community. There is a great demand for ICT and English language teachers who have reasonably good command over these subjects. a) They are needed as teachers in private schools b) as computer operators in private sector industries, commerce and trade c) selected girls based on merit will also be enabled to establish home based English and Computer Teaching Centres.

After graduation, these young girls were able to establish home based English and Computer Teaching Centres. And then, receive service charges from their students and earn income in a culturally acceptable manner. They will repay the cost of the computer provided to them on easy instalment basis without interest with a view to recycle the money for purchase of new computers for subsequent generations of students.

2.5.6. e-Content

“Provide content that is relevant to the cultures and languages of individuals in the Information Society, through access to traditional and digital media services.”

WSIS Plan of Action, December 2003

The development of information and communication infrastructures and technologies alone does not fulfill the promise of a knowledge-based information society. Good quality contents and innovative applications are required to build an inclusive, people-centered and development-oriented Information Society. Education and culture, health care and science, delivery of public administration services and electronic forms of participation, business and commerce depend all in the last instance on two things: accessible and functioning technological platforms and user centered e-contents and applications⁷⁵.

There is a need to narrow the Content Gap. Build bridges between both of the local and global contents. A global mechanism is needed to select and evaluate the best of contents in order to provide essential information to people and markets, to consumers and decision makers on what is already available in terms of diversity, on what is best practice in terms of richness of media and on what is the value add for users in terms of creating a global knowledge society. *"Local content is clearly an underlying aspect of sustainable development"*⁷⁶.

The ability of ICTs to enhance the generation, dissemination and consumption of content for local people, means that the convergence of sustainable development and the IS around local content is

⁷⁵ UN Global Alliance for ICT and Development (UN GAID) Community of Expertise in e-Content and Creativity World Summit Award and Network (WSA-net). UN GAID. Accessed on July 11, 2007, Available < <http://www.ungaid.org/en/system/files/Community+of+Expertise+in+e-Content+and+Creativity.pdf> >.

⁷⁶ Ibidem.

inevitable and mutually beneficial. But what exactly is meant by local content? Berger (2000) and panelists at an ICT conference in Johannesburg grappled with this question: “Thanks to technology, is all cultural production nowadays to be homogenized under this bland term—a term that conceals more than it reveals. Are museum display producers, radio dramatists, newspaper journalists and Web site designers all to become ‘content-producers?’”⁷⁷.

"A definition of local content is difficult to find. This is perhaps due to the fact that “the concept of ‘local’ is vague” (Hampton 2003). Depending on the context, “local” could refer to a country, a village, a language or a cultural or special interest group. Furthermore, depending on the perspective taken, one person’s local could be another person’s global. A study commissioned by the United Kingdom Department for International Development in 2002 (Ballantyne) arrived at the definition used in this paper: that “local” refers to a community, which is defined by “its location, culture, language, or area of interest.” Furthermore, the study considered local content as content coming from a community; this content was either created by the community, or taken from external sources and then adapted by the community to meet its needs. Once adapted and “assimilated into the knowledge base of the community” (Ballantyne 2002), it is considered content local to that community, which can then be “exchanged and shared, locally or globally, in various formats, packages and media.”⁷⁸

One definition of local content is “*the expression of the locally knowledge of a community—where the community is defined culture, language, or area of interest*” (Ballantyne 2002). “*It is useful to understand that content has expression and application (Ballantyne’s terms for “creation and consumption”) on a local and/or global level. For example, a community radio station is a content source of local expression and local application, in other words, locally-produced content for a local audience. The opposite end of the scale is global expression and global application, such as international news agencies that “draw on local content from all sources to address global issues”* (Ballantyne 2002)”⁷⁹.

And of the best practices to empower youth is: "Open Knowledge Network Mobile-Kenya"

The Open Knowledge Network (OKN) is an international initiative that supports local content creation in local languages with the support of ICTs. In Kenya, the OKN Mobile project³ was set up to exploit the potential of short-message-service (SMS) messages; in a country with “40 per cent unemployment and over 60 per cent of the population living on less than US\$2 per day” (Open Knowledge Network Mobile 2005), a booming mobile market provides the means by which most people communicate. The project aim is to “provide timely, appropriate and relevant information which can help transform peoples’ lives in the developing world as set out by the MDGs” (Open Knowledge Network Mobile 2005). It involves “end-users in the product development process to ensure community information needs are met.” Since 2003, OKN Mobile has launched the following SMS services:

- job alerts aimed at blue-collar workers and employers, currently with over 10,000 subscribers;
- tips on pertinent health issues such as Breast Cancer and HIV/AIDS;

⁷⁷ Steve Vosloo, Willard, Terri, and Maja Andjelkovic. A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development. 1st ed'. International Institute for Sustainable Development (IISD), 2005.

⁷⁸ Ibidem.

⁷⁹ Ballantyne, P.2002, Collecting and Propagating Local Development Content, Accessed April 12, 2005.

- MyQuestion, an SMS2Email service that allows people to anonymously ask HIV/AIDS and breast cancer related questions and receive answers; and
- the Community News service distributed for free to over 5,000 subscribers in Kibera.

Based on the success of these products the following additional services will be launched later in 2005: a medication reminder service, an entrepreneurial supportchannel and an IT Q&A service. OKN Mobile generates and disseminates local content using ICTs to support sustainable development in the following ways: it stimulates job seeking activities as well as educates its subscriber base on health issues; it provides content specifically for women; and fosters local culture through its community news service⁸⁰.

And the YES Campaign had the initiative to empower the e-content for sustainable development, in order to help youth to create new opportunities and achieve a knowledge based society. Through the YES Academy is the umbrella under which all the YES Campaign pilot projects and other services are implemented. There is a physical YES Academy based in Hyderabad India - for all Indian projects. Currently, 10 projects have been funded and are in various stages of development. YES Academy projects are designed with the belief that provided with the right policy environment, appropriate programs, credit and market linkages, and mentoring - young people can be empowered to be entrepreneurs and employment creators. The YES Academy provides and facilitates technical expertise, incubation support for new enterprises, identifies new sectors for employment, engages diverse stakeholders, develops demand-driven curriculum and trains and builds the capacity of the youth and development practitioners.

YES Academy⁸¹ serve youth by: Participatory Project Design, Youth Led Innovative Program Implementation, Seed Grant Projects for Entrepreneurship Development, Developing multi-stakeholder partnerships for program design, Building local capacity for program implementation, Using new technologies for livelihood generation, Community Driven Development, Initiating Pilot projects, Livelihoods based approaches to enterprise development in: Renewable Energy, HIV/AIDS, IT, Rural Development, Water and Sanitation.

2.5.7 The Importance of Arts, Culture, Heritage and Indigenous Knowledge Local Content⁸²

"Indigenous Knowledge" (IK) (also known as: Traditional Knowledge (TK) and Local Knowledge LK) generally refer to "the matured long-standing traditions and practices of certain regional, indigenous, or local communities. Traditional knowledge also encompasses the wisdom, knowledge, and teachings of these communities. In many cases, traditional knowledge has been orally passed for generations from person to person. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, and songs, and even laws. Other forms of

⁸⁰ Steve Vosloo, Willard, Terri, and Maja Andjelkovic. A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development. 1st ed'. International Institute for Sustainable Development (IISD), 2005.

⁸¹ http://www.yesweb.org/init_programs.htm

⁸² Steve Vosloo, Willard, Terri, and Maja Andjelkovic. A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development. 1st ed'. International Institute for Sustainable Development (IISD), 2005.

*traditional knowledge are often expressed through different means*⁸³. *"Herbal medicine is a good example of indigenous knowledge, which has affected the lives of people around the globe. Indigenous Knowledge is unique to a particular culture and society. It is the basis for local decision-making in agriculture, health, natural resource management and other activities. Indigenous Knowledge is embedded in community practices, institutions, relationships and rituals. It is essentially tacit knowledge that is not easily codifiable."*⁸⁴.

Worth mention here that, "Indigenous Knowledge" is not recognized as "knowledge" by all who study it since it includes beliefs, values and practices. It is about communities, people, and nations. According to the UNESCO's definitions, indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations and their ancestral territories, and their ethnic identity, as basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems

Indigenous Knowledge (IK) typically distinguishes one community from another. It is defined as *"unique and traditional, rooted in a region and traceable to a specific culture, and not universally available. Each local content has its own Intellectual Property; it is "the output of intellectual activity. As The knowledge and wisdom of all cultures should be valued and promoted. The use of ICTs has the potential to either undermine local cultures through the creation of a globalized mono-culture; or to enhance the ability of all peoples to express themselves and share of their wisdom what they choose to, in a way that strengthens their own local languages, cultures and identities"*⁸⁵. 'Indigenous Knowledge and Local Needs of Information' major concern had been focused around the need for localized content to be freely (or cheaply) and locally available and the ability or capacity of people to use and adopt that information for better lives⁸⁶ and to keep the intellectual property/characters of each culture at the same time.

Taking a broad view of local content, one that can work when applied to any sector, will help people to make the connection between their needs, their personal and wider community motivators, and how ICTs can meet these. This is an important step for increased ICT adoption. Local content is a major area of convergence between sustainable development and the Information Society, cutting across many sectors. It is relevant in that it is the product of a move towards greater access to information, transparency, accountability, cultural diversity and the empowerment of people to participate in decision-making that affects them. It can be seen as the currency of a community in the Information Society. The national Information Society Strategy should, therefore, not limit local content using ICTs to arts, culture, heritage and Indigenous Knowledge, but rather give it a broader definition that allows it to play its important role as a

⁸³ Ahrén, Mattias, Indigenous peoples' culture, customs, and traditions and customary law - the Saami People's perspective, Arizona Journal of International and Comparative Law 21(1). Symposium - Comparative Analysis: Culture, Customs, and Traditions of Indigenous Peoples: Defending Diversity: Case Studies

⁸⁴ Indigenous Knowledge for Development: A Frame Work for Action. November 4, 1998. World Bank: Africa Region. July 2007 <<http://www.worldbank.org/afr/ik/ikrept.pdf>>

⁸⁵ OneWorld International, "Advocacy Position for Indigenous Knowledge, Local Content and IPR." GKP. 18 July 2007

⁸⁶ Pratim Sarker, Partha . "Summary of discussions on the topic Knowledge Societies." Indigenous knowledge and information for local needs:Information Society: Voices from the South. DO Channel. Accessed on June 20, 2007, Available <<http://www.digitalopportunity.org/article/view/65291>>.

contributing factor to achieving sustainable development. “Indigenous Knowledge can contribute to a sustainable development strategy that accounts for the potential of the local environment and the experience and wisdom of the indigenous population.” Because “cultural and linguistic diversity is an essential dimension of people-centered information and communication societies” (WSIS Civil Society Plenary 2003), it is commendable that the national IS strategy encourages efforts that promote local values, traditions, languages and resources through Indigenous Knowledge Systems and arts, culture and heritage⁸⁷.

Within the context of the empowering Indigenous Knowledge and building knowledge based societies, The YES Campaign implemented pilot projects/programs and other services through which young people can be empowered to be entrepreneurs and employment creators by identifying their local content and needs. For example one of these projects is YES Latin America Network: under the leadership of regional and global coordinator Dacil Acevedo Riquelme, the seventeen country networks of YES Latin America have capitalized on a shared cultural identity to foster regional cooperation and exchange. Overseen by regional headquarters in Panama, consistent reporting and information sharing has enabled YES Latin America to develop a unified marketing and funding strategy. The results have been impressive as the region has already undertaken multinational projects, including the Levi Strauss Relocation Project in Honduras, Costa Rica, and Mexico, which trained over 3,000 displaced workers.

Internationally one of the best practices to empower communities and enhance youth employments is eLangViet (e-Vietnamese Village)



Vietnam is one of the Pacific Asian countries experiencing both the development divide against economically advanced countries and the internal digital divide. The complex ethnic mosaic of the country as well as the wide gap in revenues sets forth a premise for traditional social fragmentation. Which implies multiple technological spin offs. Disparities between rich and poor, between rural and urban population as well as between grassroots communities are tangible in terms of educational level, health status, quality of life, access to resources, and respectively to job opportunities and high income.

In order to intervene efficiently in this difficult context, eLang Viet⁸⁸ partners have taken the challenge to address the issue of overall social development through the creation of an online network based on easy-to-understand Vietnamese-language know-how in health, education, agricultural production, crafts and trade. Information and knowledge can be accessed by the poorest sections of Vietnamese society through computers based in specially developed community telecentres. In addition, the local grassroots community is provided with relevant IT training in order to awake their curiosity and enhance their creativity and potential of autonomous action. The beneficiaries of the project are urged to take advantage of the facilities offered while bringing them the awareness of the value of the skills learnt to make their own decisions and choose their future personal and professional development. This approach can assure a sustainable and fruitful outcome of the project activities.

⁸⁷ Steve Vosloo, Willard, Terri, and Maja Andjelkovic. A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development. 1st ed'. International Institute for Sustainable Development (IISD), 2005.

⁸⁸ <http://www.elangviet.net>

eLangViet operates initially in eight pilot villages with population of about 70 000 persons spread across six provinces. This pilot stage will last for two years before the network is rolled out across the provinces and then the country, based on the lessons learned. A further goal of the future deployment of the project on a national level would be to strengthen its domestic markets, contribute to the improvement of the general welfare and lead targeted coherent action for poverty reduction. This project has as partners to UNCTAD and UNDP under the Global Programme on Globalization, Liberalisation and Sustainable Human Development⁸⁹.



Baldati (My Village) – Lebanon

Baldati is a patriotic environmental & heritage preservation oriented resource promoting national development, cultural solidarity and tolerance and local empowerment. Once the platform was set up, members organized in groups build on new content to develop the website. Baladati members aim at developing simple and practical methods by which to revive Lebanese villages, reunite their communities, support their institutions, and encourage dialogue at all levels.



Baldati⁹⁰ - The World Villages was brought up by the awareness of the need of finding a simple and practical way to empower communities. An initiative was launched to create a virtual network of villages and community members through the Internet believing that communication is the first step in solving the social problems of villages, since these problems are aggravated by the solitude and isolation of village societies.

There are two possible memberships. Club & hobby fellows could exchange opinions, useful links or explore detailed local geographic maps. The second “plan” offers the opportunities to get involved in several activities including training, promotion and eco-tourism. The site is not purely informative and goes interactive in order to raise awareness and incite peoples to get in touch with other members with the same origins or similar interests. Different discussion and action groups are mobilized through the website. Hyde Park, the Lebanese Parliament forum offers to members numerous information and analysis on hot political issues such as elections, parliamentary debates and

projects for new lows. Ecology and heritage preservation are promoted through a comprehensive set of thematic data, picture gallery and historical highlights. Clubs on health issues, photography, architecture, music, sports and leisure are structured and vehiculed by electronic means. Events organization, registration and payments are online.

The concept of the website was driven by the idea to connect lebanese villages, local communities and diaspora inside or outside Lebanon on the net so people could share visions, thoughts and

⁸⁹WSIS Stocktaking Database and quoted from <http://www.itu.int>

⁹⁰<http://www.baldati.net>

concerns. Thus, Baldati reveals as a framework for virtual community life without borders. As a virtual place of socialization, intense communication and genesis of social consensus and mutual understanding, Baldati is a social facilitator and grassroots resource. We could regret therefore the lack of important facilities in Arabic.

Baldati.com is a portal containing at present links among and to more than 1468 Lebanese village, 20 club, 192 Diaspora countries. The project is currently covering Lebanon but there are ongoing efforts of making it regional. The concept of accessible and open to all virtual community is likely to answer to social development imperatives in the Middle East area.

2.6 Perspective Based on Seven Keys Principles

Information and Communications Technologies [ICTs] can create unknown opportunities for generating sustainable livelihoods. ICTs is a vision of how new technologies can be used to enhance the impact and effectiveness of young people around the world working to address the youth employment challenge and how to change the digital divide into digital opportunities.

Youth unemployment has become one of the biggest developmental challenges in almost every country in the world in recent years. The present inability of many developing countries to utilize the potential of ICT has caused a widening global technology gap. Youth represent only 25% of the global workforce, but 47% of the world's unemployed. In developing countries, youth are 3.8x more likely to be unemployed than adults. In the future, youth unemployment will increase: a) Youth employment will grow 0.2% over the next 10 years. b) Youth population will grow 10.5% over the next 10 years⁹¹. Unprecedented opportunities for youth entrepreneurship therefore continue to exist in this sector.

Worldwide efforts to decrease the digital divide are being strengthened based on the realization of the importance of ICTs in economic and social development. Building the capacity of young people to use ICTs for development is a developmental imperative as youth are amongst the most innovative users of technology. YES networks are implementing projects⁹² to increase ICT literacy and foster youth led ICT-growth in the developing world. Seek to achieve the objective of promoting youth employment through the use of ICTs. Providing technology alone to areas devoid of the modern machines and equipment is not the goal. The aim is to empower Youth around the world to use ICTs to spearhead their activities and action plans. Explore ways in which ICTs can enhance information societies. The YES Campaign recognizes that increased individual capacity improves the livelihoods of youth. In order to classify its innovative education and job skills training programs, YES has adopted the existing "6 Es + Education"⁹³ framework:(Employment Creation, Entrepreneurship, Environmental Sustainability, Empowerment, Education) to ensure youth empowerment.

⁹¹ Ref.: International Labour Organization, "Facts on Youth Employment". Accessed on July 26, 2006, Available online at <http://www.ilo.org/public/english/bureau/inf/download/wssd/pdf/youth.pdf>

⁹² See: [State Of The YES Campaign](#)

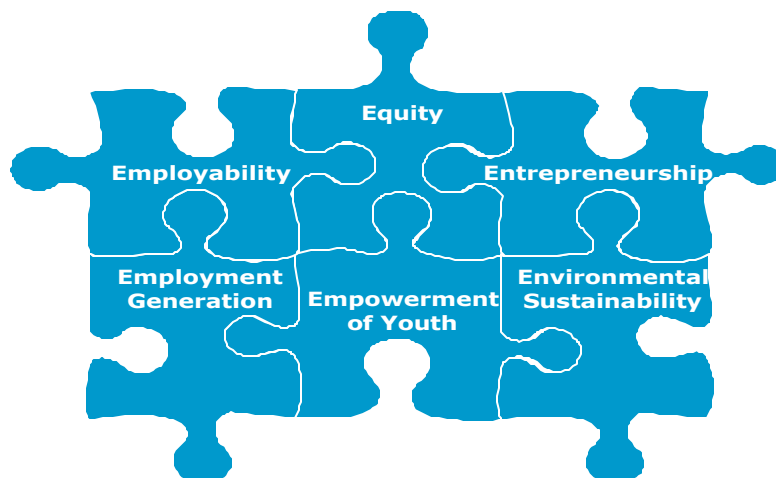
Available on:

http://www.yesweb.org/thematic%20publications_Kenya%20Summit%202006/state_of_the_yes_campaign.pdfhttp://www.yesweb.org/thematic%20publications_Kenya%20Summit%202006/state_of_the_yes_campaign.pdf

⁹³ The "6 Es" presented in the next figure

Figure 3: The 6Es of YES Framework For Action

The YES Framework for Action



Source: www.yesweb.org

The Youth Employment Network (YEN) initiative, developed by the UN in collaboration with the World Bank and ILO, urges governments to incorporate youth employment goals into comprehensive employment policies and to stimulate broad based employment-intensive growth as the best means of creating employment for young people⁹⁴. Four areas have been highlighted for national action:

- ? *Employability*: the need for governments to invest in education and vocational training for young people, and improve the impact of those investments;
- ? *Equal opportunities*: the need for governments and enterprises to give young women the same opportunities as young men;
- ? *Entrepreneurship*: the need for governments to make it easier to start and run enterprises to provide more and better jobs for young women and men; and
- ? *Employment creation*: the need for governments to place employment creation at the centre of macroeconomic policy.

Richard Curtain in his paper "*Generating youth employment through information and communication technologies: best practice examples and strategies*"⁹⁵; emphasizes the importance to youth employment prospects of tapping the potential of ICT. Proposing seven specific ways for governments to give effect to the previous recommendations. The first is the need for governments to provide opportunities for young people to acquire ICT literacy, technical skills in ICT, and to look to ICT industries to provide employment or entrepreneurial opportunities for young people. Governments are also exhorted to make greater use of both new and traditional information and communication technologies as tools for development and to close the ICT gender gap in terms of access to ICT. Governments are encouraged to use infrastructure development and appropriate trade and fiscal policies and legislative frameworks to create an enabling environment

⁹⁴ <http://www.ilo.org/public/english/employment/strat/yen>

⁹⁵ Curtain, R. Generating youth employment through information and communication technologies: best practice examples and strategies. Youth Employment Summit-YES2002: EDC, 15 June, 2002..

for ICT diffusion. Finally, governments are urged to use public-private partnerships to bridge the digital divide.

The following principles, first proposed in a background paper for the Secretary General's Youth Employment Network, serve to highlight key themes in the recommendations of the High-level Panel.⁹⁶

- (i) the importance of the role of youth entrepreneurship in creating employment opportunities from ICT;
- (ii) the value of public-private partnerships in making the most of the employment potential of ICT for young people;
- (iii) how ICT opportunities can also assist vulnerable groups of young people;
- (iv) ways that ICT can help link the informal sector to opportunities in the world economy, and;
- (v) the importance of putting young people in charge, starting with young people's input and to ensure that they have a key responsibility for the outcomes.

⁹⁶ Curtain, R (2000): 'Identifying the Basis for a Youth Employment Strategy Aimed at Transitional and Developing Countries,' commissioned by the United Nations Social Development Division (<http://www.un.org/esa/socdev/youthemployment/research.html>).

3.0 Learning for Action: Best Practices of ICT in Promoting Youth Empowerment and Entrepreneurship

“Most new jobs won’t come from our biggest employers. They will come from our smallest. We’ve got to do everything we can to make entrepreneurial dreams a reality.”

- Ross Perot

Within the context of youth empowerment and enhancing employment and entrepreneurship in ICTs; this section will present pioneer initiatives and projects empowered by Youth (or for Youth) in the term of utilizing ICTs. Most of the presented models had been recognized and awarded internationally in the merit of scope making a real and meaningful difference in communities around the world through ICT. Worth mention here that the presented projects are not necessarily powered by the YES Campaign.

3.1. ICT for the of Entrepreneurship and Employment

The YES Academy is the umbrella under which all the YES Campaign pilot projects and other services are implemented. There is a physical YES Academy based in Hyderabad India - for all Indian projects. Currently, 10 projects have been funded and are in various stages of development. YES Academy projects are designed with the belief that provided with the right policy environment, appropriate programs, credit and market linkages, and mentoring - young people can be empowered to be entrepreneurs and employment creators. The YES Academy provides and facilitates technical expertise, incubation support for new enterprises, identifies new sectors for employment, engages diverse stakeholders, develops demand-driven curriculum and trains and builds the capacity of the youth and development practitioners. It serves Youth through a number of products and services:

- » Participatory Project Design
- » Youth Led Innovative Program Implementation
- » Seed Grant Projects for Entrepreneurship Development
- » Developing multi-stakeholder partnerships for program design
- » Building local capacity for program implementation
- » Using new technologies for livelihood generation
- » Community Driven Development
- » Initiating Pilot projects
- » Livelihoods based approaches to enterprise development in: Renewable Energy, HIV/AIDS, IT, Rural Development, Water and Sanitation

Many projects has been launched under YES Academy⁹⁷ as: "CMEY Micro enterprise", "Leadership and Employability Skills for Youth in Urban Slums in Hyderabad", " HIV/AIDS and Youth Employment (Regional Program)", "Eco-Entrepreneurship Skills Training Programs", and much more.

⁹⁷ Retrieved from: <http://www.yesweb.org>

3.2. ICT for the Entrepreneurship and Employment for Disadvantaged Youth.

DDD Cambodia : GKP Youth Award 2003 - Overall Winner: Employment and Entrepreneurship. **It is considered to be one of the** projects which has received numerous recognitions and awards. The Global Knowledge Partnership⁹⁸ named DDD as one of the best practices in the Asia Pacific Youth Leaders in ICT Workshop and it has also been selected as a finalist in a World Bank award. And has been honored by the Ministry of Social Affairs, Labor, Vocational Training and Youth Rehabilitation of Cambodia for working with disabled people and was recognized as a good organization and received support from the Ministry of Commerce, Cambodia.

Digital Divide Data (DDD)⁹⁹ is a project that involves disadvantaged youth in Cambodia in an integrated educational, vocational training and work program. Digital Divide Data (DDD), a data outsourcing center in Cambodia that employs only youth who are orphans, land mine victims, physically disabled, or trafficked, with each of the more than 100 employees receiving vocational training and scholarships to continue their education. Including people with disabilities, such as landmine and polio victims, as well as orphans and women victims of violence. In its first two years of operation in Phnom Penh, DDD has increased its revenue and grown to employ a staff of more than 100 people, rapidly becoming a financially sustainable enterprise.

The idea behind the project is to connect young people, who are struggling to survive in one of the world's least developed nations, with the global economy. DDD does this by creating non-profit data entry outsourcing centres that only hire individuals under 25 who are orphans, physically disabled or trafficked women.

DDD's operations are completely ICT based. Input is received in the form of digital images. DDD employees convert these to ASCII files, create databases, add HTML and then email the output to clients around the world. The centre has 50 computers and each employee spends most of his time working with ICT. DDD has also put in place a management information system that tracks work through its digitization pipeline, maintains finances and monitors productivity, punctuality and quality.

The benefits of the project are enormous. In developing countries like Cambodia, most young people cannot complete secondary school education. Students drop out of school because they cannot afford the fees and have to support their families. DDD's employees not only benefit from having a job and wages far above local standards, but they also receive scholarships for education, health benefits, vocational counseling and work in a safe environment. This gives them the confidence and self-esteem that come from self-reliance.

DDD's social mission is to break the cycle of poverty by providing training and job opportunities. For Soy Sokorn for example, further education was an impossibility. He supports his immediate family of five, and helps support an extended family of 12. He now studies computers and English while working part-time at DDD. Keo Sambath who lost a leg in a landmine explosion, is

⁹⁸ See: <http://www.globalknowledge.org>

⁹⁹ <http://www.un.org.kh/undp/ict4dToolkit/aboutddd.htm>

improving his IT skills at DDD, and is enrolled in a degree programme. Muny is a young woman disabled by polio. Her stint with DDD resulted in a rapid improvement of her computer skills, English and self-confidence. She now works as a translator for the Australian Embassy, netting a high income for one so young, and has become a role model for others with polio who are struggling to overcome the stigma society has placed on them.

DDD's underlying philosophy is that the world must do more than build Internet lines and give computers. There is an added responsibility to connect the people to these resources in an empowering way that results in a tangible benefit in their everyday life. Since its inception in Phnom Penh two years ago, DDD has benefited more than 80 disadvantaged youths. All have received in-house training and work experience, and all have been enrolled in outside certificate or degree programs with DDD paying for their education.

Its business became a financially self-sustainable enterprise within 9 months, and has to date, earned more than USD140,000 in revenue. Clients include Bain Capital, the Harvard Crimson student newspaper, Mobitel, the local cellular phone provider, Tufts University Library and the University of Chicago

DDD's partners include a wide variety of institutions, NGOs and businesses. In Cambodia, DDD works with Wat Than School, Future Light Orphanage, New Life Foundation, SME Cambodia, Cambodia Women Coordination Council, and Cambodia Volunteers Coordination Council. It has a strategic partnership with CyberData in Delhi, India, which assists with work that is challenging and has provided DDD with proprietary double entry software. Among sponsors for its scholarship programme are Mekong Project Development Facility, the Asia Foundation, USAID, World Bank, Rotary Club of Denver, Soros Foundation and Kearny Alliance¹⁰⁰

3.3 Sustainable Development: Local Content Using ICT s

"CyberEthiopia Initiative" ¹⁰¹

Success Strategy: Africa's oldest alphabet, the Ethiopian, used for written communication since 100 BC, has been facing the challenge of the digital multilingualism and the development of the local script for digital use. Moreover, the Ethiopians' digital inclusion and full participation in the information society has been perceived as a major endeavour and targeted action has been undertaken through CyberEthiopia¹⁰² in order to assure it.

The CyberEthiopia initiative has the following objectives:

- Information dissemination: the website of the organisation has the ambition to serve as a reference on the World Wide Web for timely, relevant and accurate information related to Ethiopia and the Ethiopians.

¹⁰⁰ Retrieved from: www.digitaldividedata.org. (2003). *ICT for Development Success Stories*. Global Knowledge Partnership, ISBN 983-2588-05-7

¹⁰¹ Retrieved from: <http://www.itu.int>

¹⁰² <http://www.cyberethiopia.com/home>

- Technology boost: research, technology studies and applications are developed to advance the usage of the millenary Ethiopian alphabet on the Internet and encourage activities related to the usage of the new technologies by Ethiopians at large.
- Communication upgrade: the organization is intended to foster dialogue, collaboration and knowledge sharing among Ethiopians (both inside and outside the country), in particular by offering local content and appropriate e-forums in local Ethiopian languages in an open, free, and democratic spirit.
- ICTs for Development: the aim of initiating a “cyberculture” among Ethiopians through ICTs in numerous domains with regards to the overall development of the country. In accordance with the objectives outlined above, the organization is engaged in the pursuit of the a variety of activities, from press releases and electronic services to e-forums on various socio-economic, cultural and other issues of interest in line with defined rules of conduct and hence enhance information exchange between various civic and professional networks.

The strategy of the initiative is working successfully and the number of visitors on the website is constantly growing. The resources provided not just serve as valuable input for professionals and wider public in various fields of expertise (health, engineering, economy, agronomy, journalism and media, business, decision-making, etc) to reflect and act on how to build a multi-level, fluid and efficient network, fully benefiting from the in-land and Diaspora potential of Ethiopia.

3.4 Using ICT for Poverty Reduction

Plan International: "I am a Child, but I have my Rights too!" - Senegal

"I am a Child, but I have my Rights too!" was produced on radio in 1998 by Plan International¹⁰³. Today it is a highly successful program that explores the concept of "edutainment" (entertainment and education) and has helped to increase awareness about children's rights. The radio production can be heard on Internet via the website of Plan's partner, One World Radio (<http://radio.oneworld.net>).

With children as the main actors in the show, the program creates stories that are broadcasted in seven West-African countries: Burkina Faso, Guinea, Togo, Mali, Senegal, Guinea Bissau and Benin.

The show informs parents, children and authorities about their roles and responsibilities with respect to the UN Convention on the Rights of the Child (UNCRC). The stories promote the right to go to school, to have access to potable water, to grow up healthy, and so on. Hundreds of children have participated in the shows and productions have been made in 20 languages. The show is broadcast in up to 20 radio stations in each country. The overall goal of Plan's radio project is to promote the rights enshrined in the UNCRC in a region where not enough is known about children's rights, and girls are not sent to school. A radio campaign on the Rights of the Child is needed because "children do not even know that they have rights here!" (Girl, 14, Senegal). *The radio campaign tells children good things and adults should start to listen to what*

¹⁰³ <http://www.plan-international.org>

they say" (Boy, 17, Burkina Faso). *"I think the campaign can make people change. Maybe it can give them the idea to send their girls to school"* (girl, 14, Senegal).

The success of the program lies in its unique use of the concept: by children, for children. When the public hear children analyzing concerns and working on solutions, even policy makers sit up and listen.

On the other hand, when children are invisible in a society - so are children's rights. The children participate on the show as actors. For instance, eleven-year-old Poda Yeri was on one of the shows where she played the role of a little girl who is beaten by her uncle, Abdoulaye. She had to cry a lot to make the play seem realistic; to simulate on the radio what other children live through every day. Radio listeners will hear a moving story of a child who is suffering; who has no one to love her; who is unfairly punished. Some will see themselves in the story, or will think of a neighbor, or a cousin.

More often than not, the drama moves people enough to realize that everything possible must be done to protect the rights of all children. The radio campaign has been recognized by all stakeholders as one of the most successful projects in promoting the rights of the child in West Africa. "I am a Child, but I have my Rights too!" has filled a void created by a lack of quality, focused, purpose-driven media for children in West Africa. Interviews and group discussions have shown that the show has had an impact. Children have started to clean up school courts and advise their parents on basic hygiene. They put up plays in their neighborhoods or start discussions at home to spread awareness about children's rights. Parents and teachers have started to listen to what children have to say. They are even finding arguments to send their girls to school or to stand up against female genital mutilation. It is assumed that the campaign has been effective in rural areas as well, where radio is the only source of information. The show has mobilized children to become advocates for their own rights; this was especially apparent among the children who had participated directly in the production or broadcast of the campaign. These children said that they were happy to have contributed towards improving the lives of other children, and in raising awareness among their own parents. The show also serves as an example that children are capable of talking about important issues and coming up with creative solutions. Children can be actors and not merely spectators in defending their rights.

The radio campaign is the first regional initiative and is supported with other related activities such as the creation of children's clubs, cartoon books, and teachers' guides. A Plan WARO media website has been created as part of a global strategy to promote the rights of the child, inform the general public about them and involve children in development projects. Soon, there will be a video project that is produced by young people for young people. The children will be involved in creating the content for the video, by choosing specific issues to deal with — issues that they find affect their own lives. The films will cover a wide range of themes such as early marriages, drug addiction, environmental pollution, disabled children, street children, sexual exploitation and abuse, child labour and HIV/AIDS.

Finally, a new radio show will be created in 11 West African countries entirely hosted by children. And all these are in motion now, because of "I am a Child, but I have my Rights too!" The project is partnered with five radio professionals who help coordinate activities at the regional level, seven

national coordinators, 10 to 25 radio stations in each country and One World Radio which made audio productions available on the Internet.

3.4 ICT for Environmental Protection

"YWAT Project: Youth-Led Water Initiatives Database"

YWAT¹⁰⁴ was born at the Youth World Water Forum in Netherlands in 2001, and aims to increase awareness of, participation in and commitment to water-related issues and activities among young people. It has presence in the following countries: Bangladesh, Belgium, Bhutan, Cameroon, Colombia, Cote d'Ivoire, Egypt, Eritrea, France, Germany, India, Iran, Japan, Kenya, Latvia, Lebanon, Malawi, Mexico, Morocco, Mozambique, Nepal, Netherlands, Pakistan, Peru, Poland, Russian Federation, Somalia, South Africa, Spain, Sri Lanka, Sweden, Togo, USA, Ukraine, United Kingdom, Venezuela.

YWAT also wants to establish a global movement of young people who are interested in water, initiate and form local YWAT units to affect decision making processes in water-related issues at local and global levels. Key to the project is the YWAT NETWORK, a website with a database of youth-led water initiatives, contact information of relevant organizations, and YWAT members worldwide. This project makes extensive use of email and its website to promote activities, and disseminate information.

YWAT will expand and grow by adopting new members who start 'youth-led initiatives', focus on local and grass-roots level activities, and organize conferences and workshops with the aim of raising awareness

3.5. ICT and Women Empowerment

"eSeva (e services) of West Godavari District, Andhra Pradesh, India"

The project e Seva (e services)¹⁰⁵ in the district of West Godavari, in the province of Andhra Pradesh in India, was initiated as a tool to introduce ICT in the rural areas, especially to women. Using ICT, the project provides these people with access to various C2C (citizen-to-citizen) and C2G (citizen-to-government) services. Web-enabled rural kiosks termed e Seva centers, have been established at the mandal (a sub district unit of administration) level. A unique feature about these centers is that they are run and managed by the women from self-help groups, positioning them as information leaders, and helping to bridge the gender divide. The women's groups act as change agents while drawing strength from the project. ICT has played a crucial role in facilitating this change. Another important aspect of the project is that it replaces the traditional form of governance and its accompanying deficiencies with a modern, more open, transparent and responsive service delivery system.

¹⁰⁴ <http://www.ywat.org>

¹⁰⁵ <http://www.westgodavari.org>

The e Seva centers run on a district portal that allows access to various citizen centric services. These services range from the issuance of various certificates to getting information about programs and also go to the extent of allowing citizens to network with each other for mutually beneficial transactions. Citizens can file grievances at these centers. Every grievance is acknowledged and transferred online for field action. They can also publicise their projects and goods through the portal for online auctions. Even a marriage bureau has been operationalised so that prospective brides/grooms can place their bio-data online to attract suitable offers, thus making the search for life partners easier and more cost-effective. Through the portal, the centers expect to provide a virtual meeting place for the citizens to discuss issues relating to their districts/villages, their problems and prospective solutions.

The citizens can freely interact with each other and post their ideas. This acts as an online forum for them to vent their grievances, air their opinions and cause necessary social change. It also provides an opportunity to conduct opinion polls on important topical issues leading to improved decision-making. The kiosks have also become an important mode of communication between the administration and the community. The initiative began in the year 2002 and has been steadily gaining ground.

The benefit is that rural villagers no longer have to travel for miles and go through lengths of red tape in order to get financial grants or access various government services. It has empowered the women's self-help groups who own and run the kiosks. Moreover, the women who run the centers are trained to use ICT and they become information intermediaries and information leaders. This change in their status has helped improve their relative bargaining power.

Most of these self-help groups come from the poorest segments of the society and the project helps them achieve economic independence. With almost over 80 kiosks operating in the district, the project has been able to carry out more than 300,000 transactions relating to various C2C and G2C services.

These centers have been able to deliver 120,000 certificates while over Rs 50 million has been collected for the payment of electricity bills without any hitches. All the centers are doing good business and becoming self-sustainable. They are earning anything between Rs 6,000 to Rs 15,000 per month. Over 5,000 various grievances from citizens have been channeled through this project; over 4,000 of them have been redressed.

The project has helped in the creation of a knowledge and information economy thereby bringing in more opportunities and prosperity to the impoverished areas of this district. It helps dispel the myth that IT solutions are not for the poor and not for women.

4.0 Public Participation Puzzle

Improving information technology is a way to improve the decision making process to be more reliable and less risky in its results, because it would accelerate the way of making reliable information from ground measurements, and allow more transparency in the modeling processes. Higher the communication capacity, higher the potential of humanity's sustainable development. Information technology gives powerful tools - and no solution - for sustainable development.

4.1. Public Awareness and Access to Information

“Never doubt that a small group of thoughtful committed citizens can change the world; indeed it’s the only thing that ever has.”

Margaret Mead 1901-1978

4.1.1. Access to Information

Citizen access to government data is recognized to bring both economic and social benefits. Many studies have corroborated the fact that involving youth in political processes is important for the future, as it forms a pool of youth who embrace life-long political activities and become leaders.¹⁰⁶

According to Richard Heeks¹⁰⁷ available data (which is presented by the government) will be useful if citizens crossed the barriers to use it, by recognizing some of the less tangible access barriers, such as knowledge and motivation.

Most of the time the presented data are not enough, as many other resources could be used only if that data transformed into information in order to be applied for citizen learning, decisions and actions:

? *Data into information.* Data remains data unless citizens have the skills and expertise to turn it into information. In particular, they need the knowledge: to assess.

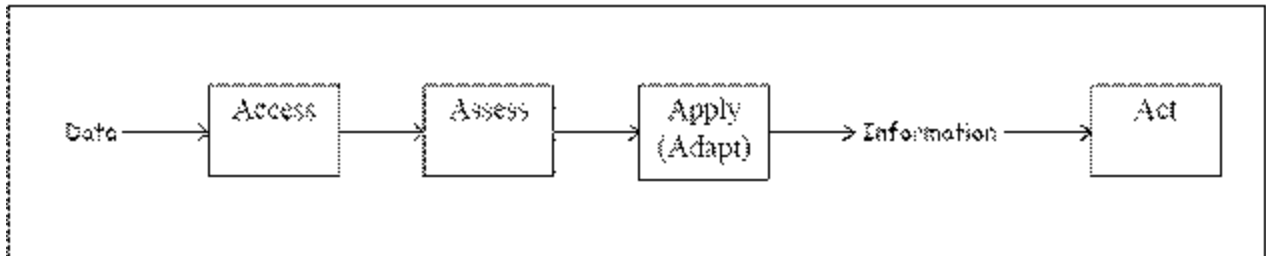
? *Information into action.* Information about new government tax rules is of no value if you cannot afford to pay tax. Information about a government decision that may damage your community is of no value if you lack the money, time, motivation or power to challenge that decision. Information about new employment opportunities is of no value if you lack the skills or knowledge to take up those opportunities. Barriers to resources for action therefore constrain citizens even if they can access information.

Here Richard Heeks presents a model which takes understanding beyond just access issues to the whole chain of steps that turn government data into citizen action.

¹⁰⁶ Youniss.

¹⁰⁷ HEEKS, RICHARD. "Government Data: Understanding the Barriers to Citizen Access and Use." Information Systems for Public Sector Management 10(October, 2000):

Figure 4: The Information Chain



Source: HEEKS, 2000

The model is a reminder of the steps and barriers that citizens face in making use of the government data. It is also a reminder that disadvantaged citizens will remain disadvantaged because of inequalities at a broad range of resource endowments – knowledge, skills, money, power and others – regardless whether they can access data using IT. Then, access to data and access to IT might be necessary but they far from sufficient conditions to enable effective citizen use of government data to achieve socialization of information and knowledge in local communities.

In order to create solutions and balance development with sustainability, and empower citizens, especially young people as future citizen leaders. Young people need to build their existing capacities, acknowledging that data remains data unless citizens have the skills and expertise to turn it into information. In particular, youth need the knowledge: to assess and get involved in their communities' development and to be future citizen leaders.

4.1.2. Access to Public Participation

Youth hold great energy and potential, yet, they are rarely involved in national, regional and international policy development. As a result, youth lack the framework, support and legitimacy required for sustained action, and policy implementation lacks buy-in from this key grassroots constituency. In order to build on youth's existing capacity, decision-makers must integrate their knowledge, vision and experience, and provide opportunities for greater participation of young people in policy-making¹⁰⁸ and community development. And that's what exactly happened in a pioneer Initiative (targeted developing countries) for "*Engaging Young People in the Policy Change Process*"¹⁰⁹, as the IISD has worked with its partners on youth engagement, training and capacity building in a project: "The Next Generation Policy Directions Research Project" aimed to engage national stakeholders in the IS and SD policy communities in seven developing countries.¹¹⁰ It did succeed to prove that young people can overcome different barriers by

¹⁰⁸ Youth Creating Digital Opportunities Action Plan 2004.

¹⁰⁹ Dongtotsang, Dolma, Terri Willard, and Maja Andjelkovic. *Engaging Young People in the Policy Change Process*. May 2006.

¹¹⁰ The project was financed by Canada's International Development Research Centre and coordinated by IISD. Eight researchers from South Africa, Kenya, the Philippines, Costa Rica, India, Egypt and Brazil were recruited to engage stakeholders in the IS and SD debate by answering the question: "What national information society policy changes would help better achieve the country's SD goals and strategies?" The researchers produced case studies on issues linking IS and SD in their countries, and the collection was published under the title, *A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development*, the approach was based on three elements: participation in networks; carrying out policy research; and involvement in decision-making fora at

creating innovative solutions to achieve sustainable development goals, the project proved practically that if youth are to realize their capacity as an indispensable building block to achieving economic, environmental and social sustainability

4.2 Promote National Information Society and Sustainable Development Policies

In a study for Raoul Zambrano¹¹¹ estates that from the early 1980s, a few developing countries began adopting national ICT policies, particularly to promote the development of a national ICT sector. This process was propelled, to a large extent, by the advent of the personal computer and increasing demand for related hardware and software applications. The emergence of the global network economy in the 1990s, fueled by the digitalization of telecommunications and later on by the rapid expansion of the Internet, offered new opportunities for a wider variety and number of developing countries to adopt national ICT policy frameworks. But, while the strategies pursued by each country have unique features, the role assigned to ICT can be broadly characterized as follows:

- ICT as a production sector which involves policies focusing on the development and/or strengthening of ICT-related industries such as computer hardware, software, telecommunications equipment and ICT-enabled services. This can be accomplished through either;
 - a) an export-based focus or
 - b) a national capacity focus.

- ICT as enabler of socio-economic development which involves the adoption of holistic, cross-sector policies and strategies which aim to harness the uniqueness of ICT to accelerate a wider development process. This in turn can be accomplished through:
 - a) a global positioning focus
 - b) a development goals focus

But building an "information society" needs both policies (production development and socio-economic development). On the other hand, most of the studies about ICT development strategies suggest that, in order to reap the benefits of ICT for development, it is necessary to involve the full range of actors in the public and private sector in a process that is inclusive, open and participatory. These processes need strategic compacts. And one of the key elements is the involvement of all sectors not only in the design of strategies, but also, and perhaps more importantly, in their implementation in such a way that each has specific roles and responsibilities.

Strategic partnerships are required to aggregate the capabilities and resources to address the pervasive market failures in developing countries and to create win-win situations for the various sectors and stakeholders involved. Neither the government nor the private or non-profit sectors

international and national levels. the project design included a number of different types of capacity-building and institutional support

methodologies:

- Initial training
- Learning by doing – through the project,
- Ongoing intellectual and institutional support

For further see: http://www.iisd.org/pdf/2006/infosoc_young_people_policy.pdf

¹¹¹ Zambrano , "Sustainability at the Speed of Light: Opportunities and Challenges for Tomorrow's Society ." Facing the Policy Challenges. Dennis Pamlin . WWF Sweden, 2002 .

alone can achieve this objective –each is dependent on the cooperation of others to accomplish its goals and further enhance sustainable development processes.

A good example for strategic partnerships especially involving the private sector is in Germany: Ahead of the United States and Japan, Germany is the world's leading exporter of research-intensive goods, with exports of 428.3 billion euros. Sixty-five percent of German businesses belong to the category of innovators.

The German economy's high level of innovation is also shown in the number of applications for patents relevant to the world market. With 288 patents registered per million job holders, Germany stands significantly above the average of the OECD countries.

At the basis of the expansion of the research- and knowledge-intensive branches of the economy is the improvement in the German international cost competitiveness, on the one hand.

On the other hand, the good economic situation in Germany is creating additional opportunities for businesses to invest more in research and development.

According to Schavan, conditions are favorable for this expansion: higher business profits, large gains in productivity, lower labor-unit costs, reduced rates of inflation and, last but not least, the downward course of business taxes.

With its 6 billion euro program for research and development and its strategy for the development of the high-tech sector the government has established favorable guidelines, a fact acknowledged by the think tanks in their report. For the first time there is an integrated concept for the innovation policy.

The proposed interlinking between economy and science will be consistently pursued. Leading markets for exports and leading-edge areas for research and technologies will be developed.

A change in paradigm has been produced in the science policy through the Pact for Research and Innovation and the Excellence Initiative. These have allowed the federal government to improve sustainable conditions for leading-edge research and academic output.

In this context, it seems likely that Germany will be investing 3 percent of its gross national product in research and development by 2010. This was the goal set for the European Union by the Council of Europe in its Lisbon meeting. "With the joint efforts of the German states (*Länder*) and the economy we can achieve this objective," remarked Schavan.

Now Germany has the largest Information and Communications Technology (ICT) industry in Europe. The sales volume reached €134 billion in 2006, or 20.8% of Europe's total market share.

Over 800,000 individuals are directly employed in the ICT industry and another 950,000 ICT experts in other branches such as automotive, medical technology and logistics industries. Over 80% of all innovations in these other branches are driven by ICT and 5,600 patents in 2006 prove

the high degree of innovation in the Germany's ICT industry – surpassed only by the USA and Japan.

Germany's excellent research community invented new standards such as Fraunhofer Society's music file MP3 format. All major manufacturers and software companies have research facilities in Germany and companies such as AMD, Intel, SAP, IBM, Microsoft, Oracle, Dell, Sony, Nokia and Samsung chose Germany as a location for major operations in Europe.

With a volume of over €57 billion, Germany is one of the largest exporters of ICT products and services worldwide.

Germany's vibrant internet commerce has over 50 million active internet users who purchased over €46 billion in products and services via the internet in 2006. The annual growth rates are over 33% and German internet B2B sales reached an astonishing volume of €392 billion – over 30% of the total volume in the European Union.

The German government has placed special emphasis on the ICT industry and published the new research and incentives program "ICT 2020" at CeBIT 2007 fair in Hannover, the world's largest ICT trade show.

As already mentioned before, today people live in a society where transformation of information and knowledge based on the opportunities for individuals and communities to be information producers as well as consumers, where *socialization of knowledge exists*. In such society, ICTs are indispensable in day to day economic activities as well as in daily life. However, how individuals utilize ICT to access equal opportunities differ from country to another and from person to person due to economic, physical, geographical, and other reasons¹¹².

Different degrees of access to technology and connectivity mirror the social and economic divides within countries and between countries. Increase in access to ICTs will not, by itself, reduce poverty or secure freedoms on a sustainable basis. But there is a real danger that lack of access to ICTs, and to the spaces where decisions are made about information and communications infrastructure, content and services, can deepen existing social exclusion and create new forms of exclusion.¹¹³ Academic studies on ICT and society show that there is a range of issues which make clear that the Information Society like any society will have winners and losers, beneficial consequences of ICT and harmful applications. A review of these academic studies shows that there are no simple and straightforward effects of ICT on society. Mostly effects are multiple and contradictory. New positive developments are accompanied by neutral and negative effects¹¹⁴

To benefit the world community, the successful and continued growth of this new information world of today requires global cooperation and harmonization in different business and social

¹¹² For example: differences between developed and developing countries, disabled and Non-disabled People

¹¹³ Global Information Society Watch 2007. APC and ITeM, 2007.

¹¹⁴ Rommes, E., 2002: Gender Scripts and the Internet. Philosophy and Social Sciences. Enschede: Twente University, p. 300

domains. The UN General Assembly has called for a gathering of world leaders to discuss the ICT opportunities and challenges -- World Summit on Information Society. WSIS organized by the ITU in 2 phases: Geneva 2003 and Tunisia 2005. The 1st phase of the World Summit on the Information Society (WSIS) was held at Geneva from December 10th to 12th, 2003. It was the first UN Summit to involve civil society and the private sector in a multi-stakeholder process. Key topics discussed in this phase included infrastructure, access, applications, cultural diversity, ethics, training, intellectual property, freedom of expression, human rights, internet governance and the role of ICTs in education and employment. WSIS Phase I saw as its outcome the signing of two documents: The "Declaration of Principles" covering the basic principles that should guide the Information society and the "Plan of Action" which outlines how the goals and principles of the declaration will be achieved. The 2nd Phase of the World Summit on the Information Society held in Tunisia from November 16th to 18th, 2005 and mainly focused on two policy areas: Internet Governance and Financial Mechanisms.

At the first Preparatory meeting of WSIS Phase I young people from different youth organizations around the world came together and formed the Youth Caucus in order to provide substantial policy input to areas that affect young people. Participation in the Youth Caucus was open to everyone interested in the thematic and membership of the group soon grew to more than 200 young people worldwide who facilitated their discussions through an internet mailing list provided by TakingITGlobal. Members of the Youth Caucus participated in all the Preparatory meetings leading to WSIS Phase I as well as in all the sub-committees established by civil society and in the governmental process by speaking in plenary sessions and having representatives on official delegations. At the same time, National Information Society Youth Campaigns were developed by members of the Youth Caucus in more than 20 countries. In Phase II the Youth Caucus kept its focus on policy engagement while in addition to that extending its National Youth Campaigns to rural areas, by launching its Rural Youth National Campaigns on the Information Society. Also, a World Summit Youth Award has been awarded to outstanding youth projects during a gala at WSIS Phase II.

Globally youth is about 50% of the world's population¹¹⁵ making up more than two-thirds of the population of some developing nations. The full and effective participation of youth in the life of society and its decision making will ensure building and designing of the future. The voice of youth needs to be heard at all levels – national, regional and international and the participation of young people in the development and implementation of initiatives around youth employment and education, among others, is absolutely necessary if those programs are to effect real change. Youth are clearly leaders not only of the future, but also of today.

Based on WSIS principles; a number of inquiries has been raised up and need to be answered about youth involvement, as:

- How to engage young people in local, national and international decision making processes and develop international and national e-strategies?
- How to support youth-led initiatives to help bridge the digital divide?
- How to ensure fair labor standards for young people, and empower youth employment and entrepreneurship in ICTs.

¹¹⁵ World Youth Report, UNDESA, 2005.

- How to use ICTs to develop national educational strategies and mainstream in both of formal and non-formal education systems?

4.3 Solving the puzzle

Dear YES Leaders,

This section is your contribution in writing the toolkit, introducing "ICT" and the needed conditions to create an "Information Society", after you had been exposed to Best Practices of ICT in Promoting Youth Empowerment and Entrepreneurship, and with your understanding of the situation of your country.

Now we ask you to fill this section, and share with the YES family the process of writing a new success story, we will collect all the workshop participants' entries to create one universal YES recommendation, to teach the world the ART of creating social entrepreneurs in ICT.

YES Team.

1. In regard to aspects of the *ICT*, what are the positive regulations in your country that support "*information society*" and "*sustainable development*" ? and why?

Regulation such as Law, culture orientations, behavior...etc.

2. In regard to aspects of the *ICTs*, what are the negative regulations in your country that support "*information society*" and "*sustainable development*" ? and why?

Regulation such as Law, culture orientations, behavior...etc.

3. What are the opportunities in your country that you assume they are supporting *ICTst*? and why?

Opportunities such as funding initiatives, international organizations aiming to foster "*information society*" and "*sustainable development*"... etc.

4. What are the threats in your country that you assume they are challenging "*information society*" and "*sustainable development*"? and why?

Opportunities such as funding initiatives, international organizations aiming to foster sustainable development... etc.

5. What are the Strengths of your country YES Network that you assume they are Support "*information society*" and "*sustainable development*"? and why?

Strength such as adequate resources, human capital, management structure ... etc.

6. What are the weaknesses in your country that you assume they are challenging "*information society*" and "*sustainable development*"? and why?

Weakness such as shortage of resources, absence of human resources... etc.

- 7. Please, tell us if you are inspired in this training workshop with any idea, and what are you going to do in order to implement it?**

The question is so polite but it is not optional, we simply ask you how you are going to implement your understanding of this workshop's content in your country. And by the way describe your plans.

- 8. Over here, write to your self a letter, we are going to send it to you after six months as a reminder to accomplish the commitment you have promised to do after YES Alexandria 2007**

Don't forget your address...!

9. Did you get benefited from this workshop, please tell us the positive and the negative points?

The negative points allow us to be better in the future, and the positive points give us the confidence in our methods and work. So please, be fair and judge the work done.

5.0 Conclusion

Since there are still governments that are not able yet to fulfill the basic demands to achieve the Millennium Development Goals (MDGs), then it is even harder to join the ICT revolution for their nations. Thus, the digital divide will remain and the gap between develop and the developing world will continue to be increasing.

For sustainable development (SD) to be achieved, it is a must, to promote the tools of the information society. And in order to have a sustainable information society; it is a must to consider the socio, economic, and the environmental needs, besides the local content of nations.

Then, Governments are exhorted to make greater use of both new and traditional information and communication technologies as a tool for development, as well as are encouraged to implement strategies references to the UN Millennium Development Goals. ICTs can create unknown opportunities for generating sustainable livelihoods. This could be easily achieved by building strategic partnerships among all parties in societies. As governments alone won't be able to achieve this objective.

There is a role for both of the private and non-profit sectors in helping governments to achieve the MDGs -each is dependent on the cooperation of others to accomplish its goals and further enhance sustainable development processes.

Many developed countries' future and economic and social developments depends to an increasing extent on their innovation performance.

Today, research and development (R&D) – intensive industries in some of these developed countries account for more than half of all industrial production. Here comes the role of the civil society and international agencies in raising awareness of the local communities about the important of such kind of businesses that invest more in research and development.

Youth should be aware that ICT is not about providing technology alone to areas devoid of the modern machines and equipments. Simply, ICT is a way of living. Also, young people should know that using ICT is not that hard. ICT could be simple as using pens and papers. ICT is for all; it could be for young and old, it could be for poor and rich.

ICT is not Luxury...ICT is Life

ANNEX

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ANNEX 3: YES Inc

ANNEX 4: YES Egypt Network

ANNEX 5: About SDA

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About YES Inc.

Let us be clear. Half-educated, unemployed youth, with no prospect of being integrated into a better future is a prescription for disaster. If young people do not have a stake in the existing social order and political order, if they do not feel there is a way for them, why should they sacrifice today for a better tomorrow? Why should they have an interest in protecting the stability and social safety of that system?

Ismail Serageldin Vice President, World Bank May 1999

On September 11, 2002 under the Co-Chair of Mrs. Mubarak and President Clinton, the Youth Employment Summit (YES) launched a Campaign to create a systemic approach to youth employment generation. YES was launched by over 1,600 delegates from 120 countries, including 45 ministers. Four years of global consultation culminated in five dynamic Summit days that led to the development of a concerted response to the problems faced by unemployed youth. In four years by the end of 2007 the Campaign had organized 3 Global Summits – Egypt, Mexico, Kenya and 2 Regional Forums – India and Paraguay; launched over 80 YES Country Networks, initiated more than 400 projects all over the world, and published more than 100 original publications.

YES Inc. serves the following objectives:

- (1) Build the YES Fund: Global Fund for Youth Entrepreneurship (Clinton Global Initiative)
- (2) Build Capacity of the YES Leaders: in over 70 countries to develop programs with YES Networks.
- (3) Organize the 3 remaining YES Summits: Azerbaijan 2008, (To be defined) 2010, Alexandria 2012.
- (4) Develop Youth Social Entrepreneurship programs: through the Institute for Youth Social Entrepreneurship, a partnership initiative between YES Inc. and Cambridge College.

Our Challenge – consider this:

- ⇒ World population has reached 6 billion. One billion are young people between the ages of 15 - 24 years, out of which 850 million are living in developing countries.
- ⇒ Estimates project that over the next three decades the global labor force between the ages of 15 - 24 will increase in sheer numbers by another 1.2 billion. Most of this growth will be in developing countries.
- ⇒ One of the greatest challenges facing the world is to generate productive work opportunities for the young people in developing countries and enhancing the skill level of youth in developed countries.
- ⇒ Out of 6 billion of us, 1.3 billion live on less than a \$1 a day, and 3 billion under \$2 a day.

Our Design Principles:

Three major principles underlie this mission.

First, the YES Campaign believes that every person is capable of leading and seeks to provide opportunities for youth to realize their leadership abilities. **Next**, the Campaign believes in the power of knowledge-sharing and is aware that many effective practices exist. The challenge is to identify these practices and to create opportunities for dissemination, replication, adaptation, and learning. **Third**, the YES Campaign strives to act as a catalyst that inspires fresh and innovative

approaches to human development by connecting critical stakeholders in the private and public sectors. The Campaign focuses on youth, the creative change agents of today, to drive this effort.

(1) Build the YES Fund – A Global Fund for Youth Entrepreneurship. In today's world with burgeoning populations there are just not enough jobs in the private and public sectors. The YES fund will work to create markets and unleash entrepreneurship in developing countries by helping young people to identify business opportunities, prepare their business plans and compete for the best ideas. This fund will support young entrepreneurs to participate in the Business Plan competition and the winners will be provided small-scale risk capital, start-up funding, credit and loan guarantees, and innovative business development services to start their businesses.

(2) Build the capacity of the YES Leaders To generate an in-country infrastructure of youth-led networks to disseminate information, develop programs, be advocates for innovative policies, and implement projects that promote youth employment and leadership. Currently there are over 80 YES Country Networks in various stages of development. They will be provided leadership and entrepreneurship training to help them develop the systems and partnerships needed to generate youth employment.

(3) Organize the 3 remaining YES Summits (Azerbaijan 2008, TBD 2010, Alexandria 2012): To continue to hold and maintain a burning focus on the issue of youth unemployment on the global agenda: we do this by convening stakeholders at our Global Summits which have been held in Egypt 2002, Mexico 2004 and Kenya 2006. The next one in 2008 is in Azerbaijan. At these Summits – the youth delegates meet with experts, donors, practitioners, and other stakeholders to develop program and policies that will help build in-country capacity to provide the education, training and other services needed by young people to find productive work.

(4) Develop the Youth Social Entrepreneurship program this program will provide the practical training and development services for engaging and inspiring young people to 'be the change they want to see'. It will take the lessons learnt and pathways unfolding through the work of the YES Leaders over the last 8 years to become a leading program for building the capacity of young people to be change makers. It aims to become a source for innovative and creative solutions for action in the social sector. All of the programs offered will have a theoretical and a project based approach to learning. It will be organized through the Institute for Youth Social Entrepreneurship a joint partnership of YES Inc. and Cambridge College.

...All good ideas are pipe-dreams if not backed by committed leadership and investment – we are seeking yours. We have spent the last five years placing the issue of youth employment on the global agenda, making a call for action, building coalitions, and piloting good ideas. We need your help to move the Youth Employment Campaign to the next level to our shared passion for generating youth employment to the resources that can make it happen. We have uncovered bubbling youth leadership and drive; identified promising sectors for employment generation; enrolled world leaders; built partnerships; discovered quantifiable, innovative and practical solutions; and overseen the development of world-wide youth networks that provide the perfect vehicle for unleashing the talents and energies of youth to create sustainable livelihoods. With your active involvement we can make a world of difference in the lives of thousands of youth in developing countries around the globe. We invite you to make a difference

...After the final no there comes a yes and on that YES the future of the world hangs..."
Stevens (1879 – 1955)

~ Wallace

About Bib Alex

About YES Egypt

Sustainable Development Association SDA, the YES Egypt host Agency, based in Alexandria, developed a long term Action Plan to engage the Egyptian youth in several activities in order to raise their capacities through the available opportunities all over the world. It has been made possible through creating or participating in long term partnerships as the Global Knowledge Partnership (GKP), which allows SDA to have direct cooperation with various leading ICT institutions, there are the Ministry of Information and Communication Technology, and the Egyptian Federation for youth, among others. We also need to mention that SDA/YES Egypt and other civil organizations established the Egyptian Youth NGOs Federation, and the Egyptian Youth Consultant Group for the National Youth Policy for Youth Employment with the Support of H.E. Mrs. Aicha Abdel Hady Minister of Manpower and Migration in cooperation with the Youth Employment Network YEN/ILO and other various stakeholders.

This year 2007, SDA/YES Egypt has a plan to raise the awareness among students in the preparatory schools. YES Egypt Network is actually creating a structure between schools in Alexandria, where the university students and graduates will provide solid information about the job market opportunities and challenges, allowing the young generation can take its chances on solid bases.

Now that almost half of the YES Campaign Decade is over, this project is in its preparation stages to be launched in September 2007 in cooperation with the Ministry of Education. Additionally, thanks to the support of the World Bank Public Information Center, YES Egypt, is also launching the International Model of United Nation (AIMUN) in focus of Sustainable Development in countries emerging out of conflicts, followed by a mass capacity building program across Egypt, to inform youth about the World Bank opportunities, researches and the Global Challenges.

2008 and 2009 are appearing as good years, too. By the dates, YES Egypt is launching a program for young women from excluded areas to be informed and trained about ICT opportunities. This initiative has been approved by The Anna Lindh Foundation and Digital Opportunity Trust.

And in cooperation with the Anna Lindh Foundation, SDA/YES Egypt will host 2 major projects, the first one in July 2007 which is the water campaign (the BIG Jump) that aims to raise the awareness about water issues and environmental awareness, which is implemented in 6 different locations all at the same time in Jordan river , France, Spain , Italy and Morocco beside Alexandria which is implemented through the SDA

Another project which will be implemented in Alexandria next November 2007 titled (Crossroad of Cultures) with youth participants from Spain , Czech Republic , Turkey , Netherlands , Tunisia and Egypt to demonstrate a cultural festival in Alexandria, at the same time a big number of projects are implemented and going on within SDA members and Staff.

More than 200 SDA members have participated in wide number of projects and capacity building program in more than 30 countries since the establishment of YES Egypt. This is all a result of well established training tools and specialists to increase the knowledge amongst other youth in Egypt. In 2005, H.E. Mrs., Suzan Mubarak, First Lady of Egypt, honored the Euro-Med Youth Award from the European Commission, which one of prizes was won by SDA.

About SDA¹¹⁶

Sustainable Development Association (SDA) is a Non-Governmental Organization (NGO) based in Alexandria, Egypt.

SDA gives a hand to young people to let each encountered resistance to their goals, and overcame the tremendous odds against them to discover the new horizons of opportunities at local, national, and international levels. We work tirelessly for young people paving them the way for a better future. We were officially registered in 2003, and our board is considered to be one of the youngest and most dynamic in the country.

Our main objectives are to encourage and enable youth, by identifying the key problems facing them and their society, and to give them the necessary skills to address these problems. The organization complements the school and the family, filling needs not met by either. At the organization young people discover the world beyond the classroom. They develop self-knowledge, and the need to explore and to know more.

The SDA helps young people to develop intellectually and socially. The SDA is a challenge for adults as well. It is a way to improve understanding between generations. In the service of young people, adults receive valuable training and experience adding to their own personal development.

Our vision is to create a society in which young people play an active role, and in which their needs and desires are fully represented, respected, and achieved.

We see SDA as a dynamic, innovative social movement with good resources, simple structures, and democratic decision making processes in which organization, management and communication are effective at all levels, and work together to achieve our objectives.

Our mission is to contribute to the education of young people, and to help build a better generation in which young people are self-fulfilled as individuals and play a constructive role in society.

This is achieved by:

- Meeting the needs and aspirations of young people.
- Focusing on the distinctive contribution SDA can make to the education of young people, particularly through indirect and non-formal methods.
- Reaching out to more young people by encouraging participation.
- Attracting and retaining well qualified staff and consultants with experience in youth issues.
- Working with others to better serve young people, by enabling each individual to become the principal agent of his or her own development as a self-reliant, supportive, responsible and committed person.

Assisting young people to establish a value system based upon humane social and personal principles.

¹¹⁶ www.sda-web.org

About the Author

Amira Sobeih has worked as a researcher and reporter with SDA since September of 2002 (as she joined the SDA on early stage from the beginning of founding the organization). She has successfully engaged in a number of collaborative policy research projects, developed training materials and delivered workshops. In the process she developed the (Geographic_Information Systems_(GIS)_in_Egypt_) paper which presented Egypt in a scoping study to assess the potential for engaging researchers younger than 30 in linking information society and sustainable development policy-makers, and in catalyzing changes in policy and practice in developing countries around the convergence of the two communities, led by the International Institute for Sustainable Development (IISD), funded by the International Development Research Centre (IDRC), the paper discussed in the World Summit on Information Society in two workshops, 3 national workshops: two in Bibliotheca Alexandria, and in the youth panel of Cairo ICT. Mapping for Change- Kenya 2005 .

Previously, she worked in the private sector in Onyx .co and SGS in Egypt,

Amira Sobeih served in different projects in the scope of youth activities, awarded with various institutions, communities & NGO. She has received many Certificates of Merit in the scope of youth activities and management: Process Improvement, Learn Six Sigma and a Certificate of Achievement for successfully completing Leadership Training Program by Cambridge College in partnership with the Education Development Center, Inc. USA.

Amira Sobeih 's major study is law (Alexandria University, Egypt.)

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A Developing Connection: Bridging the Policy Gap between Information Society and Sustainable Development –GIS in Egypt-

Geographic Information Systems (GIS) in Egypt: Supporting Natural Resource Management and Local Development