



**CREATING MARKETS:
Youth Entrepreneurship and Employment in Five Major Developmental
Sectors: Renewable Energy, Water & Sanitation, Rural Development, HIV/AIDS
and ICT**

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Foreword

Dear YES Family,

The YES Campaign has identified 5 major development areas that are based on the UN Millennium Development Goals that have a target date barely a decade away from today. These are:

1. Renewable Energy
2. Water and Sanitation
3. Rural Development
4. HIV/AIDS
5. Information and Communication Technologies

Yet, the numbers of people who are suffering for lack of proper facilities in these core areas remains appalling. Let us look at some figures that illustrate this:

1. Some 1.6 billion – one-quarter of the world population – have no access to electricity. In the absence of vigorous new policies, products and investment, 1.4 billion people will still lack electricity in 2030. Four out of five people without electricity live in rural areas of the developing world, mainly in South Asia and sub-Saharan Africa.
2. 2.5 billion lack access to clean water and sanitation.
3. Over 70 percent of the world's population lives in rural areas, where youth need local opportunities to build communities and stem migration.
4. Young adults account for half of some 5 million new HIV infections
5. Barely 2 percent in the world have Internet access. In more than 80 countries there are fewer than 10 telephone lines for every 100 inhabitants.

This are massive challenges, and YES has chosen to link their solutions to the provision of employment for youth, which in itself is assuming staggering proportions as the global population increases to more than 6 billion. In order to address these issues, it is absolutely imperative that youth become involved as stakeholders and agents of change in the solution-process. YES is committed to developing employment opportunities and skill-sets among youth that would enable them to be actively involved as development professionals across a range of specializations. This publication is an attempt to pull together relevant background material about these five main sectors that the YES Campaign is focusing on for employment generation.

The publication also showcases the work that has been done our YES Country Networks, in these areas and of the impact that they have had on the lives of youth in their countries. Their achievements are remarkable. At the same time, there is scope, as always, for moving forward with new ventures. With this in mind, this publication also explores new ways of creating employment in these key development sectors.

I am deeply appreciative of the efforts of Arti Pandey, a doctoral student at Boston University, who has authored this publication. She researched and examined the existing writings on the subject, and has prepared this document as a guide for us, as we go through the complementary Summit Sessions.

We hope that this will inspire you to innovate and attempt to further the work of the YES Campaign in your countries. We will do our very best to provide you with the kind of technical assistance that will best empower you to be agents of change and progress. In keeping with this aim, I would like to take this opportunity to direct you to our website where we have a wealth of relevant research material, contributed by you and by other experts in the field: http://yesweb.org/2006/call_papers_mm.htm

The Knowledge Hub for Kenya 2006 also includes a valuable section that has been researched and compiled by our colleague, Karina Kumari. She has carefully chosen and set-up this collection of papers, research materials and e-book materials for the Summit. These can be accessed at http://yesweb.org/2006/other_pubs_mm.htm

I hope that this will be of help to you as we journey through this Summit, and return to our countries, richer by virtue of our shared knowledge and experiences over the course of these few days.

Lastly, I want to thank everyone for participating and pledge my continued support to the cause of our professional development as practitioners of the art of changing the lives of individuals and communities, for the better.

In solidarity,



Poonam Ahluwalia
Executive Director
YES Campaign



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“... The Goals offer a compelling platform for business involvement. The target for water, for example, is to cut in half, by the year 2015, the proportion of people without access to safe drinking water. That requires making 270,000 new connections per day until then – something that Governments, NGOs and development agencies alone simply cannot do. I could give you similar numbers for many of the other targets, and for the broader development investments needed to achieve them, from energy to telecommunications.

The Goals are intended, first and foremost, to help people. But they can be good for business: first, because helping to build the infrastructure is an enormous business opportunity; and second, because, once it is built, business will find larger, eager markets in place.”

UN Secretary-General Kofi Annan address to the World Economic Forum, Davos, Switzerland

Introduction

The Millennium Development Goals (MDGs) are possibly the most important development commitment made by world leaders on a common stage at a turning point in history: at the dawn of a new century of human endeavor pledged to improving the lot of all peoples, and to protecting our shared planet from the thoughtless plunder of Man. On September 18th, 2000 the General Assembly of the United Nations adopted Resolution 55/2, the United Nations Millennium Declaration, in which they enshrined the principles that guide their vision for a better, safer, healthier world for all.

We recognize that, in addition to our separate responsibilities to our individual societies, we have a collective responsibility to uphold the principles of human dignity, equality and equity at the global level. As leaders we have a duty therefore to all the world's people, especially the most vulnerable and, in particular, the children of the world, to whom the future belongs.... We will spare no effort to free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty, to which more than a billion of them are currently subjected. We are committed to making the right to development a reality for everyone and to freeing the entire human race from want. We resolve therefore to create an environment – at the national and global levels alike – which is conducive to development and to the elimination of poverty.... We must spare no effort to free all of humanity, and above all our children and grandchildren, from the threat of living on a planet irredeemably spoilt by human activities, and whose resources would no longer be sufficient for their needs. We reaffirm our support for the principles of sustainable development...

The MDGs in turn have inspired programs that are working towards reaching their set targets by the year 2015. The United Nations and its agencies are involved both as implementing bodies as well as funders for other non-profits. One venture that stands out amidst the many is the Youth Employment Summit (YES), which was conceptualized as an Action-Campaign by the Education Development Center (EDC), a US-based international non-profit. The main objective of the YES Campaign is to tackle the global crisis of youth unemployment that is manifesting itself in more than one way in countries where youth are being recruited into terrorist factions, whether directed towards immigrants, or towards foreign powers. Indeed, youth unemployment is not an issue that we can afford to ignore. It affects our lives and the lives of our families and friends, either directly or indirectly. The numbers indicating this issue as given below are staggering and beg immediate action.

There are 1.1 billion young people (age 15-24) in the world

935 million youth live in developing countries
500 million youth live on less than \$2 per day
238 million youth live on less than \$1 per day

Youth unemployment has skyrocketed to an all-time high of 14.4%

This represents a 4% increase (24 million) since 1993
611 million youth are now in the workforce
577 million of these youth (94%) are either unemployed or underemployed
Reducing the youth unemployment rate by half would add at least \$2.2 trillion to global GDP

Youth unemployment is more severe than the overall unemployment problem

Youth unemployment rate is 8% higher than the total unemployment rate (14.4% vs. 6.3%)
In developing countries, youth are 3.8x more likely to be unemployed than adults
Youth represent only 25% of the global workforce, but 47% of the world's unemployed

In the future, youth unemployment will increase

Youth employment will grow 0.2% over the next 10 years
Youth population will grow 10.5% over the next 10 years

Population growth is expected to occur in regions least equipped to put youth to work

Nearly 100% of world population growth between now and 2050 will occur in Latin America, Africa, and Asia

Source: PRB, *2005 World Population Data Sheet*; UN News Centre, *Global youth unemployment skyrockets to all-time high*; ILO, *Facts on Youth Employment*

The YES Campaign was launched by 1600 delegates from 120 countries at the 2002 Alexandria Summit, co-chaired by Mrs. Suzanne Mubarak and Hon. William J. Clinton. It has resulted in the creation of a network among 70 different countries around the world that are joined by the common goal of creating more employment opportunities for youth.

It works by accomplishing three main objectives:

1. Provide knowledge and skill-based capacity-building facilities to the youth so that they can both obtain as well as generate employment for themselves and others.
2. Promote in-country youth employment that is linked to the development challenges most crucial to the region.
3. Build in-country coalitions among the public, private and third sectors in order to develop national strategies that will promote policies and projects for widespread youth employment.

Furthermore, in conjunction with these the YES Campaign also identified 5 critical development sectors, related to the MDGs, as opportunities to promote youth employment and enterprise development. These sectors were chosen not only because they have great need, but also because they offer fertile ground for self-employment for trained and enterprising youth, provided they have adequate input in terms of financial and technical assistance.

- **Renewable Energy (RE):** Organize youth to assemble, install, service, and market RE systems
- **Water and Sanitation:** Improve the availability and supply of safe water and sanitation services
- **HIV/AIDS:** Increase awareness of and develop solutions to fight HIV/AIDS
- **Rural Development:** Mobilize youth to develop agricultural extension programs
- **Information and Technology (ICT):** Develop programs to support ICT-based entrepreneurship

The YES Campaign and Millennium Development Goals

| | Goal | Target | YES Campaign |
|--|--|--|---|
| | Eradicate extreme poverty and hunger | - Halve, between 1990 and 2015, the proportion of people whose income is less than US\$1 a day - Halve, between 1990 and 2015, the proportion of people who suffer from hunger | - Provide education, skills-training, micro-credit, technical assistance and opportunities for self-employment and employment to youth such that they can provide for themselves and their families. |
| | Combat HIV/AIDS, malaria and other diseases | Have halted by 2015 and begin to reverse the spread of HIV/AIDS | - Run programs and youth groups that combine HIV/AIDS awareness with livelihood development. |
| | Ensure environmental sustainability | - Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources - Reduce by half the proportion of people without sustainable access to safe drinking water - Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020 | - Place emphasis on programs that link youth employment opportunities to one of these sectors: <ul style="list-style-type: none"> • Renewable energy • Water and sanitation • Rural development |
| | Develop a global partnership for development | - Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory, includes a commitment to good governance, development and poverty reduction - nationally and internationally - In cooperation with developing countries, develop and implement strategies for decent and productive work for youth | - Place emphasis on livelihood opportunities that are connected to the information and technology sector. - Use the global summits to highlight the issue of trade barriers among developed and developing nations, and how these can be overcome by outsourcing and welcoming foreign direct investment. |
| | | - In cooperation with the private sector, make available the benefits of new technologies - especially information and communications technologies | |



In this discussion paper, we will examine each one of these developmental sectors and the possibilities of youth employment that they hold. Lastly, we will give examples from existing YES projects that show how these opportunities can be exploited and made a force for the good, with the right input from external sources.

Renewable Energy

Water, sun, wind, biomass, and the earth are our five main sources of renewable energy (RE). Each of these is ours by virtue of being on a green, life-giving planet that has the ability to replenish its depleted resources by using the elements that make up the earth and give it the capacity to carry life. Even as we look into each of these RE sources further, it is important to keep in mind that these do need to be used wisely and we must not take them for granted. Let us take the example of water, which as we know is a renewable resource that goes through our environment as part of the water cycle. At the same time, we are also aware that there are parts of the world where water is a scarcity, where water is being rationed out like gold. Indeed, we have vast water bodies that cover three-fourth of the earth's surface area. Yet, pollution by Man is an imminent threat to the continued supply of clean water to us, and to the preservation of the ecosystem. First and foremost, we must understand that RE sources need to be handled with care and respect. The duration of time that they remain renewable and viable sources of energy depends upon the manner in which we utilize them.

Forms of Renewable Energy:

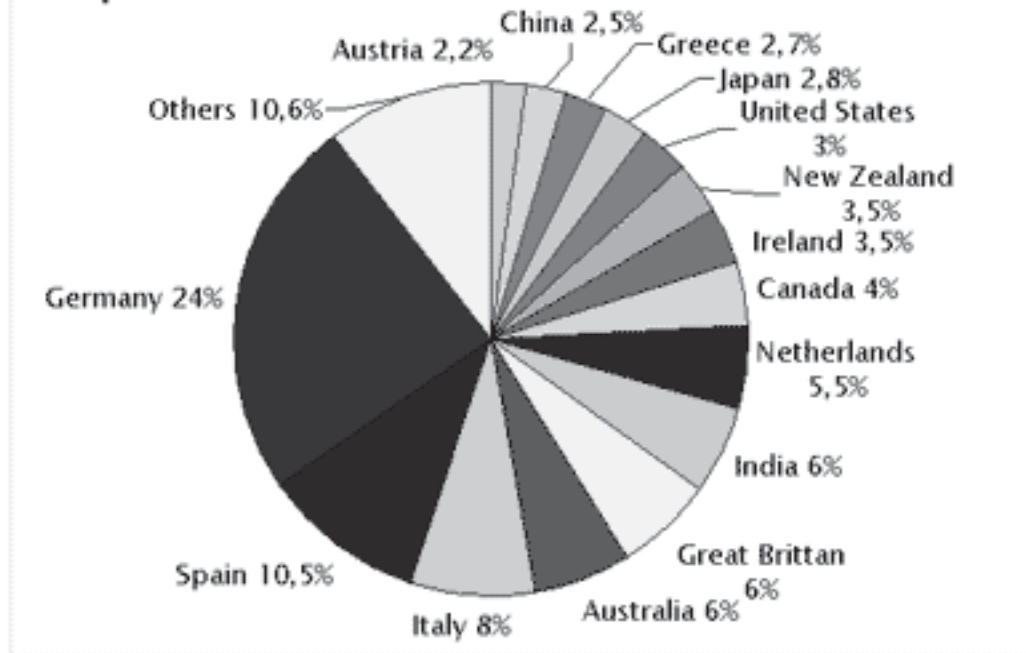
Water, wind and solar energy are well known sources of electricity. They are harnessed and distributed by using specialized equipment. Their distribution across the globe, like that of most sources of energy – both renewable and non-renewable – is highly uneven. Countries in South Asia and Africa are rich in solar energy; while countries like Denmark, Netherlands and Spain are rich in wind power.

Wind Energy

Wind turbines are used to harness the kinetic energy in the wind and convert it into electrical energy by coupling mechanically rotating blades to a generator. The energy thus generated is supplied through the local utility grid, either large or small-scale. The large-scale utility grids for supply of wind energy to homes are similar to the coal, hydro or natural gas electrical grids for energy supply. A single large-scale wind turbine produces enough energy to power hundreds of homes. Clustered together in a wind farm, turbines can produce enough energy for thousands of distant homes and businesses. Small-scale wind generation provides local, on-site power to a home or business. Turbines are placed at the same site where the electricity will be used. Any additional energy that is generated, exceeding the needs of the user, can be sent to the local electrical grid (Canadian Wind Energy Association, n.d., *Wind Energy*).

It is the cleanest form of energy, with practically no emissions and minimal effect on the surrounding area. Denmark, which is the leading producer of wind energy, sells 90% of its production to other countries. Notably, this energy resource is also a source of 20,000 jobs in Denmark (Danish Wind Industry Association, n.d., *Did you know?*). The following pie-chart shows the wide distribution of countries that are buyers of Danish wind-power.

Top markets 2004



Source: Danish Wind Industry Association

Notes: Based on the sale in MW.

Water Energy

Water energy is most commonly harnessed for production of hydropower by making use of the kinetic energy gained by water when it is dropped from a high elevation. Typically, water dammed in a lake or reservoir is released through turbines and generators to produce electricity. Other sources of water energy generation include use of tides and waves. For example, tidal energy schemes capture water at high tide and release it at low tide. Wave energy generation devices fall into two general classifications, fixed and floating. In both cases, the oscillating motion of an incoming and outgoing wave is used to drive turbines that generate electricity (Srinivas, n.d.).

Solar Energy

There are a variety of technologies that have been developed to take advantage of solar energy. Without going into great detail into each, we would like to mention the five main technologies currently in use (National Renewable Energy Laboratory, 29 December 2005, *Learning about renewable energy and energy efficiency: solar energy basics*).

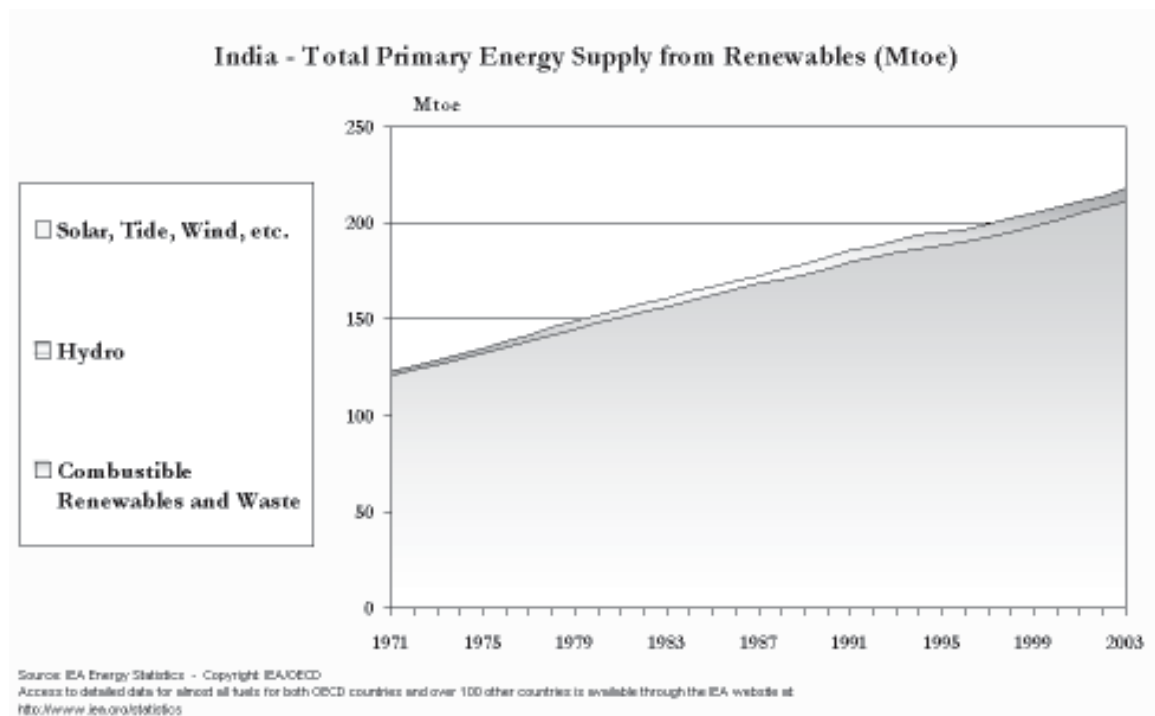
- Concentrating solar power systems: Using the sun's heat to produce electricity. These have given rise to a new generation of power plants, with concentrating solar power systems that use the sun as a heat source. There are three main types of concentrating solar power systems: parabolic-trough, dish/engine, and power tower. A simpler use of this technology can be seen in solar cookers, which are widely used in the developing world to cook food.
- Passive solar heating and day-lighting: Using solar energy to heat and light buildings, by taking advantage of this natural resource by making use of features such as south-facing windows, materials that absorb and store the sun's heat into the sunlit floors and walls, sunspaces and *trombe* walls.

- Photovoltaic (solar cell) systems: Producing electricity directly from sunlight by using solar cells that are often used to power calculators and watches. They are made of semiconducting materials similar to those used in computer chips. When sunlight is absorbed by these materials, the solar energy knocks electrons loose from their atoms, allowing the electrons to flow through the material to produce electricity. This process of converting light (photons) to electricity (voltage) is called the photovoltaic (PV) effect.
- Solar hot water: Heating water with solar energy to heat water used in buildings and swimming pools.
- Solar process heat and space heating and cooling: Industrial and commercial uses of the sun's heat with technologies such as ventilation air preheating, solar process heating, and solar cooling as well as photovoltaics, passive heating, daylighting, and water heating, which are also used in residential buildings.

It is important to note that technologies for harnessing RE are continuously being researched, updated and modified. This is a field of enquiry that continues to grow, expand and add to its knowledge and utility base.

Bio-energy

Bio-energy covers a spectrum of energy activities, from direct production of heat through combustion of fuel wood and other biomass residues, to the generation of electricity, and the production of gaseous and liquid fuels and chemicals. In developed countries, it usually involves the combustion of biomass residues for heat and electricity. In developing countries, biomass in the form of wood and agricultural residues is often the most common fuel for cooking and heating. Indeed, biomass dependence for cooking is very high in rural areas, across most developing countries in Africa and Asia. One reason for this dependence is that wood and charcoal are relatively inexpensive, but over-reliance on wood is proving to be problematic in that it is leading to deforestation, as trees are chopped to meet the fuel needs of growing populations. **Table II** below shows the use of RE in India, and it is clear that it has been rising steadily over the past few decades. This in itself is a good sign; however, RE usage also needs to be carefully planned and accounted for, in order to ensure that it is managed and protected in order to provide maximum coverage for the longest period of time possible.



In North and South America, the production and use of ethanol in transport is an established and growing option (International Energy Agency, 2004). Brazil is a shining example of what can be accomplished with ethanol run vehicles. After nearly three decades of work today 7 out of 10 cars in Brazil are run not on gasoline, but on ethanol. The Wall Street Journal writes, “At current prices, Brazil can make ethanol for about \$1 a gallon, according to the World Bank. That compares with the international price of gasoline of about \$1.50 a gallon. Even though ethanol gets less mileage than gasoline, in Brazil it’s still cheaper per mile driven. As a result, ethanol now accounts for as much as 20% of Brazil’s transport fuel market. . . . The use of alternative fuels in the rest of the world is a scant 1% (Luhnow & Samor, 16 January 2006).”

Geothermal Energy

The geothermal resource is the internal heat of the earth. Resources of geothermal energy range from the shallow ground to hot water and hot rock found a few miles beneath the Earth’s surface, and down even deeper to the extremely high temperatures of molten rock called magma. Its use covers a range of options from power generation to space heating and/or air conditioning. One of the advantages of geothermal energy is that it is viewed as a base-load power, i.e. not faced with the concerns of intermittent supply (International Energy Agency, 2004; US Department of Energy, 10 August 2006, *Energy efficiency and renewable energy: Geothermal energy basics*). In the United States, most geothermal reservoirs of hot water are located in the western states, Alaska, and Hawaii. Wells can be drilled into underground reservoirs for the generation of electricity. Some geothermal power plants use the steam from a reservoir to power a turbine/generator, while others use the hot water to boil a working fluid that vaporizes and then turns a turbine. Hot water near the surface of Earth can be used directly for heat. Direct-use applications include heating buildings, growing plants in greenhouses, drying crops, heating water at fish farms, and several industrial processes such as pasteurizing milk (Ibid.).

The Link between Energy and Poverty

- Some 1.6 billion people – one-quarter of the world population – have no access to electricity. In the absence of vigorous new policies, 1.4 billion people will still lack electricity in 2030.
- Four out of five people without electricity live in rural areas of the developing world, mainly in South Asia and sub-Saharan Africa. But the pattern of electricity deprivation is set to change, because 95% of the increase in population in the next three decades will occur in urban areas.
- Some 2.4 billion people rely on traditional biomass – wood, agricultural residues and dung – for cooking and heating. That number will *increase* to 2.6 billion by 2030.
- Lack of electricity and heavy reliance on traditional biomass are hallmarks of poverty in developing countries. Lack of electricity exacerbates poverty and contributes to its perpetuation, as it precludes most industrial activities and the jobs they create.
- Investment will need to focus on various energy sources, including biomass, for thermal and mechanical applications to bring biomass, for thermal and mechanical applications to bring productive, income-generating activities to developing countries. Electrification and access to modern energy services do not *per se* guarantee poverty alleviation.
- Renewable energy technologies such as solar, wind and biomass may be cost-effective options for specific off-grid applications, while conventional fuels and established technologies are likely to be preferred for on-grid capacity expansion.

Source: International Energy Agency, 2002, *World Energy Outlook*.

Advantages of Renewable Energy:

This brief snapshot of energy statistics with respect to the poverty of nations brings us to the vital question of what individuals and communities stand to gain by investing in RE.

- Possibly, the most important outcome of greater interest and investment in RE sources would be a world that honors its commitment to sustainable development practices. Reduced emissions and safe

RE technologies can lead to an environmentally healthy planet where pollution of the air, water and atmosphere is significantly reduced. This in turn directly affects the lives of all living beings on this planet in a positive, life-enhancing fashion.

- Energy security and lesser dependence on fossil fuels can change the political dynamics between countries in a major way. Wars over oil and natural gas can become a thing of the past, as RE sources that are abundant, diverse and indigenous meet the energy needs of the earth’s population.
- RE sources are a better alternative, also because they are more user-friendly and meet the specific infrastructural needs of rural communities, of newly industrializing and developing countries. As the cost of RE production falls over the next few years, and their demand increases, the developing world would be well-advised to look towards its existing resources and develop cost-effective, large and small-scale mechanisms for providing energy to its people from renewable sources of wind, water, sun and biomass.
- Last but not the least, RE generation and distribution provides increased local and regional employment opportunities in energy infrastructure manufacturing, installation and maintenance in both the developing and the developed world. In other words, it is a ripe source of new job creation, as well as self-employment.

Job Creation in the Renewable Energy Market:

The RE industry creates jobs for skilled workers, as well as for unskilled laborers. It provides desk jobs for wage-earners and opportunities for entrepreneurs to start their own RE venture. This is an industry that has great potential for job creation both directly and indirectly. While the process of energy generation and delivery is in itself a source of jobs, it also has positive affects on all aspects of the primary, secondary and tertiary sectors of the economy. As these become more productive, they too open up job opportunities. Indeed, physical infrastructure including electricity, a regular water supply, fuel for transportation and cooking, for ICT needs, for temperature control in buildings are key aspects for encouraging an entrepreneurial climate in the country. All these can result from a solid, well-formed RE sector. The importance of this sector in job creation cannot be underestimated. **Table III** examines the types of jobs that are created by the different RE industries:

| Type of RE | Types of Jobs | Job Creation Potential/ Examples |
|--|--|--|
| Renewable energy technologies in general | Design Assembly Maintenance Engineering Manufacturing Management Marketing Financing & Funding | |
| Solar Energy | · Engineers and scientists for research and development; · Managers, engineers and skilled workers for manufacturing; · Consultants, managers, engineers, electricians and technicians for installation and maintenance. · Many people are also involved in marketing and transportation/ delivery of components. | PhotoVoltaic (PV) lighting systems for 1,625 households where 33 solar engineers/workers are employed in different categories.(ASVIN Programme: development and dissemination of solar energy systems for villages in the Himalayan Region of India) |

| Type of RE | Types of Jobs | Job Creation Potential/ Examples |
|----------------|--|---|
| Biomass Energy | <ul style="list-style-type: none"> · Engineers, scientists for research and development, consultants, and skilled workers in biomass manufacturing industries, sizing and installing systems, sales etc; · People in marketing and transportation/delivery of components; · Technicians and electricians for installation, reparation and maintenance. | Biomass energy systems have maximum job potential – both directly and indirectly. Once biomass based energy systems provide reliable energy services, it can lead to setting up of agro-based industries in rural areas. In India alone, biomass energy has the potential to create 3-4 million jobs |
| Wind Energy | <ul style="list-style-type: none"> · Jobs in wind energy are associated with manufacturing of different components of wind energy systems; · Transportation/delivery of components; · Installation as well as management of power plants; · Operation and maintenance. · In most developing countries, large wind turbines are normally imported so that the full potential of employment generation is not realized at the national level. | Although wind energy has less potential for creating direct jobs except for designing, construction and setting up wind farms or mills, recent technological advances have made wind energy one of the most reliable and economical renewable source of energy. It has great potential to create jobs in remote areas by providing a reliable source of energy. |
| Water Energy | <ul style="list-style-type: none"> · Engineers, consultants, and skilled workers in civil construction, power generation and distribution; · People in marketing and transportation/delivery of components; · Technicians and electricians for installation, reparation and maintenance; | Hydropower energy systems have maximum job potential – both direct and indirect basis. Once commissioned, besides energy, normally small hydro projects can also provide water for irrigation, which can be pumped to desired locations. This can increase agricultural productivity many folds and consequent on/off farm income generation activities. |

Source: Youth Employment Summit, 2003, *Rethinking the Future: Youth Employment Opportunities in Renewable Energy*.

YES Campaign and Entrepreneurship Promotion in Renewable Energies:

Having examined the RE sector and the immense scope for employment that it holds, we would now like to present a few examples of what has been accomplished by the YES Campaign in this sector over the last 4 years.

Promoting RE Innovation - The Global Environment Facility Program (GEF)

With an \$800,000 grant from GEF, YES Headquarters selected five youth entrepreneurs for a two-year RE Fellowship (2003-2005). The Fellows received technical training and business management skills, as well as seed grants to fund and technical support to implement their businesses. The winners and their projects included:

- Michelle Chawla of India who supplied rural households with solar lanterns and cookers and provided local orchards with solar fruit dryers
- Emmanuel Korbla Edudzie of Ghana who installed micro-hydropower generators in mountainous off-grid areas and trained local youth in their operation
- Levan Kobakhidze of Georgia who sold portable photovoltaic (solar) panels to small businesses as part of a broader public awareness campaign about climate change and alternative sources of energy
- Jane Tawina Kopa of Malawi who introduced wind-powered pumps to provide water for a community's vegetable farm and organized a complimentary training program for rural youth about alternative energy sources and agricultural operations
- Ursula Carrascal Vizarreta of Peru who installed biomass gas power generators in semi-urban areas and introduced solar kitchens in locations with year-round radiation

FUNDACION E & YES in Mexico

As a direct result of the YES 2004 Global Summit, FUNDACION E received a US\$250,000 grant from UNIDO to promote young entrepreneurs in the renewable energy sector. FUNDACION E and UNIDO have since developed a strategic alliance with Instituto de Investigaciones Electricas (Institute for Electric Research), the main institute for training renewable energy specialists in Mexico. Ten young candidates were chosen and are currently under training. They are learning not just about the renewable energy sector, but also about entrepreneurship. They are also being provided with technical assistance, mentoring, promotion materials and liaison opportunities with investors to ensure that they do indeed get seed capital to get started on their business ventures. Since FUNDACION E has been working with the government of Mexico to understand the needs of the energy market among underserved communities in the country, these new enterprises are being geared towards this sector and towards rural areas, in particular. This venture has also been productive for the Instituto de Investigaciones Electricas, in that they have been able to expand their traditional curriculum for renewable energy training to include a section on entrepreneurial education. FUNDACION E contributed in developing this section, and it is now helping young professionals realize that they do indeed have the means and the opportunities to generate employment for themselves and others. It is a valuable training component to add, especially in the developing world where the struggle for employment is intense.

Renewable energy entrepreneurship for augmenting youth employment in Zambia

YES Zambia started this project in 2003 with technical and financial assistance from UNIDO. Renewable energy entrepreneurship is still in the early stages of development in Zambia. Recognizing the key role that renewable energy technologies can play in promoting income generation activities and augmenting youth employment in rural areas, UNIDO has been supporting national efforts in this direction. It has been contributing to the Zambian Government's objective of providing electricity and reliable energy services to rural areas.

YES Zambia obtained a grant for US\$65,000 from UNIDO in order to establish a pilot project to demonstrate the effectiveness of various renewable technologies to provide electricity and reliable energy services that would also become income generating activities; provide training and build capacity of youth, especially women, to act as entrepreneurs and energy providers in rural areas. The three major outcomes of this project were:

- Creation of a renewable energy lab at the Elias Mutale Training Centre, in Kasama, Zambia
- Training of 50 Master Trainers in renewable energy enterprise development, who then trained another 250 youth at the Training Centre within the year.
- Creation of a vibrant renewable energy enterprise development network composed of institutions, experts, NGOs, youth, with membership drawn from all 23 districts in Zambia.

Currently, the project is working on a microfinance plan for the government to support the youth-led capacity that has been mobilized by this renewable energy project.

Enhancing employment opportunities based on renewable energy technologies for youth in India

The YES Campaign in partnership with SRT Rural Institute in Andhra Pradesh implemented a project funded by UNIDO on “Enhancing Employment Opportunities Based on Renewable Energy Technologies for Youth in India.” The project which started in December 2004 came to a close in March 2005, and was funded by a seed grant of US\$50,000.

The project established a Renewable Energy Training Centre with a solar laboratory and a solar demonstration park for training youth in renewable energy enterprises. YES and SRT Rural Institute held a series of multi-stakeholder consultation meetings with the private sector industries in the region, and developed an innovative curriculum with an emphasis on entrepreneurial culture. They trained over 700 young men and women, within four months, as technicians and entrepreneurs in the field of renewable energy technologies.

Finally, the project also led to an informal partnership with a leading private sector company, Shell India Ltd. Not only did this add value to the process of developing the training curriculum, it also helped to absorb large number of trainees for purposes of marketing, installing and maintenance of the products marketed by the company. The trainees currently find employment with the solar companies in and around Hyderabad.



Water and Sanitation

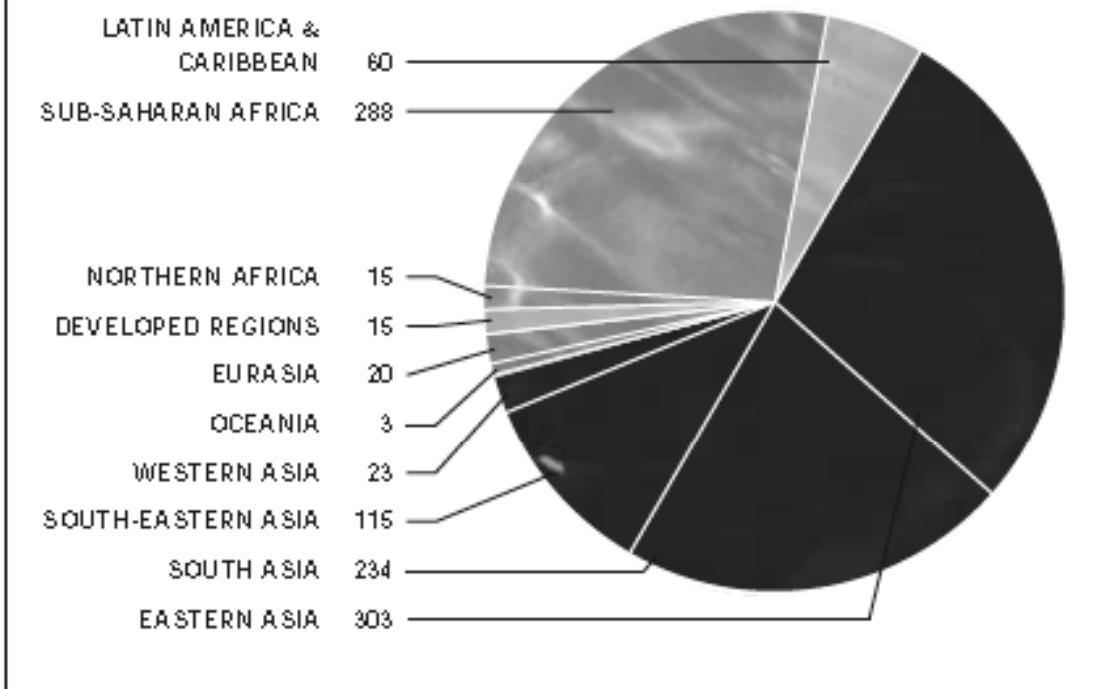
Water, one of our RE sources, is nevertheless a valuable natural resource that needs careful management and oversight. It is also a resource that though essential to human, animal and plant life is in short supply in many parts of the world. This is often the case because of differential patterns of rainfall in different regions of the world, but it is also fast-becoming a rare resource because of the unthinking, unplanned manner in which it is being tapped and polluted. Closely linked to the issue of water, is the problem of sanitation or the hygienic disposal of waste materials. This includes proper toilet and sewer facilities that are clean, well-maintained and protected against potential leaks into ground water resources.

This is an issue of vital importance since polluted water and lack of proper sanitation facilities together lead to a number of deadly diseases: cholera, dengue, diarrhoea, guinea-worm disease, hepatitis, Japanese encephalitis, malnutrition, ringworm, scabies, typhoid and many others. The numbers that are affected by lack of water and sanitation facilities are mind-boggling. The World Health Organization (WHO) records that around 1.1 billion people globally do not have access to improved water supply sources, whereas 2.4 billion people do not have access to any type of improved sanitation facility. About 2 million people die every year due to diarrhoeal diseases; most of them are children less than 5 years of age (WHO, 2006). Undoubtedly, the most vulnerable populations are the poorest, living in conditions of extreme poverty, whether in rural areas or in city slums. These areas normally have no facilities for drainage of human wastes or rainfall, both of which mix during the rainy season and flow through the unpaved streets, becoming a lethal mixture carrying diseases that spread by touch and consumption. Indeed, provision and maintenance of toilets and sewer systems, of wells, taps and water-pipes require a solid commitment and investment from municipal bodies or private entrepreneurs. It is however a life-giving service to the community, which would prevent deaths caused by water-borne diseases.

In the following pie-chart 'improved drinking water' includes piped water connections and standpipes etcetera. At a glance, it is possible to deduce that Sub-Saharan Africa and Asia are in sore need of improving their drinking water facilities. In terms of sheer numbers, the number of people without improved water sources in China alone is equal to the number of unserved in all of Africa (Ibid.). This does not come as a surprise since a large portion of the world's population is concentrated in the two countries of India and China alone. The main problems which aggravate this situation are lack of priority given to this sector, a lack of financial commitment, lack of sustainable mechanisms for the upkeep of to maintain water and sanitation services, inadequate awareness about water, sanitation and hygiene issues, and sadly deficient water and sanitation facilities in public places including hospitals, clinics, schools etc.

More than one billion people, most of them in Asia, are still without improved drinking water sources

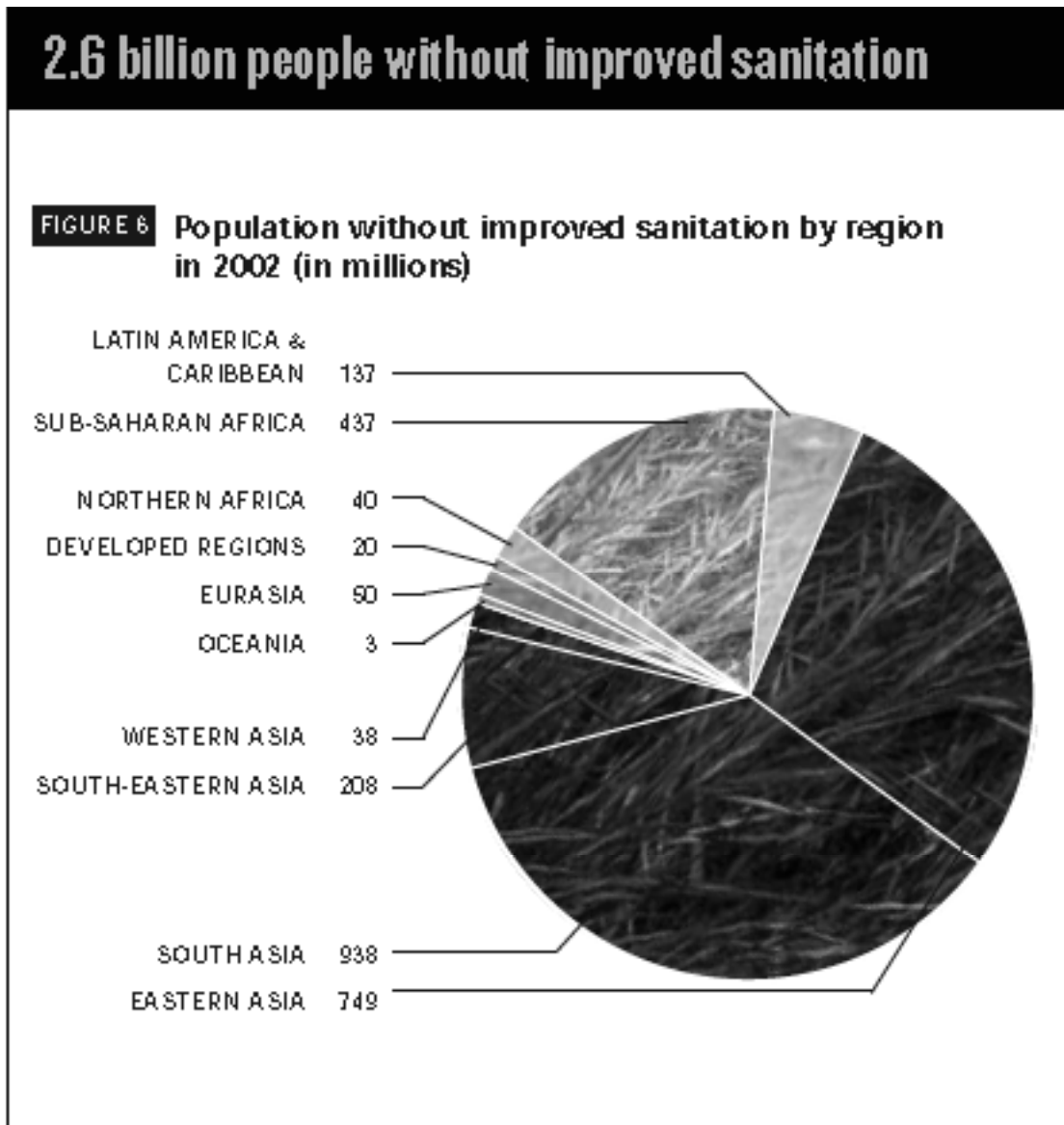
FIGURE 2 Population without improved drinking water sources by region in 2002 (in millions)



Source: World Health Organization and United Nations Children’s Fund, 2004, *Meeting the MDG drinking-water and sanitation target: A mid-term assessment of progress*.

Similarly, global sanitation coverage though much improved over the past decade still escapes the reach of some 2.6 billion people. Sanitation coverage in developing countries (49 per cent) is only half that of the developed world (98 per cent). India and China continue to figure as the biggest culprits in this regard as well: Over half of those without improved sanitation – nearly 1.5 billion people – live in China and India.

The twin problems of water and sanitation provide fertile ground for social and business entrepreneurs who are seeking to solve this problem. The 7th MDG target which aims to reduce by half the proportion of people without access to safe drinking water by 2015, and to improve the lives of at least 100 million slum dwellers by 2020 demands participation from the public, private and third sector. Though water and sanitation are normally considered the responsibility of government bodies, the private sector is also beginning to implement large-scale initiatives. However, small-scale, locally-led initiatives initiated by entrepreneurs have been found to be less expensive and more user-friendly (Voorden, 2003).



Source: World Health Organization and United Nations Children’s Fund, 2004, *Meeting the MDG drinking-water and sanitation target: A mid-term assessment of progress*.

Youth Employment in the Water and Sanitation Sector:

Jobs that are catering to the demands of the water and sanitation industry would come under the category of eco-jobs, along with employment in the energy, agriculture, and environmental sectors. Employment opportunities are available for trained water and sanitation engineers, as well for development practitioners who are implementing projects on the ground. However, jobs for youth in this industry are not many in number; though this sector does hold immense potential for expansion of youth employment opportunities. In her paper on *Youth employment and entrepreneurial opportunities in water and sanitation* (2003), Carolien van der Voorden lists a number of possible alternatives for youth looking to enter this industry. The following summation is taken from this paper and examines potential employment grounds for youth:

The Informal Economy and Small, Independent Providers

Looking at the many business opportunities for independent providers, only a few stand out with regard to opportunities for youth employment. The picture of a typical independent provider of water or sanitation services in a sub-Saharan African city shows a versatile man, risk and publicity averse; capable of raising important sums of money when necessary, but without a logo or a front office. He seeks no loans from the bank, nor does he pay the city business tax, if he can avoid it. He can and does cover many bases, depending on what is most profitable today. This is not the picture of a very young person. However, many independent providers do employ staff – albeit not always officially, and with little job security – and that is where the opportunities lie for youth to pick up jobs.

Next to this, activities such as hand carting of water from door to door are often dominated by young men – usually from rural areas who have been in the city for less than ten years. This work is relatively easy to come by because the initial investment is low and the market is very open. The typical water carrier is young (under 25), relatively poorly educated, and suffers from a low social standing. Where women were involved in standpipe operation or hand carting, this could be traced back to government policies to promote the participation of women in economical activities.

The Formal Sector

The above section talked mainly about the jobs for poor and marginally educated youth. However, with growing university enrolment numbers in almost all developing countries, there is also a growing army of young, highly educated professionals who need to be given the chance to gain experience. While university research projects and civil society organizations offer some opportunities for these youth to become involved, in many countries more structural positions and opportunities for young professionals need to be created in order to enter into the mainstream professional water and sanitation circuit.

The Third Sector and Community Management

Many organizations working with people-centered approaches and facilitating or promoting community management processes have discovered the potential of youth groups – next to women’s groups – in strengthening their message and carrying out community mobilization and other awareness-raising activities. In Medinipur, a district in the state of West Bengal in India, a highly successful state-wide sanitation mobilization has been running since 1990, and has so far led to almost 2.5 million households building improved latrines and practicing improved hygiene behaviour. At village level, the program is run for a large part by village youth clubs, working with households to make them aware of the need for improved sanitation and hygiene and assist them in constructing latrines (UNICEF, 1994).

YES Campaign and Youth Employment in the Water & Sanitation Sector:

This is one sector in which the YES Campaign has not been able to make major in-roads, though this will hopefully, change over a period of time, as more individuals, agencies and governments begin to make the connection between water and sanitation supply and potential youth employment opportunities.

Securing Water Access in Swaziland

Five successive years of drought in a significant portion of Swaziland have created food instability and increased hunger and poverty levels. In response, YES Swaziland has advocated that access to safe water is the catalyst for promoting development, particularly in rural areas where the most poverty-afflicted Swazis reside. The availability of reliable and safe water would help stabilize the agricultural industry, the largest portion of the economy. The hope is that this could deter youth urban migration, a situation that has escalated social ills in recent years.



The government of Swaziland recognized YES Swaziland's commitment to water sanitation in July 2005. YES Swaziland hosted a workshop for all stakeholders and presented a water and food security plan. As a result, the Swazi government implemented a National Food Security Policy, drafted a National Water Security Policy, formed a Water Crisis Committee, and implemented community training programs focused on innovative water sanitation practices. YES Swaziland is working towards the goal of having every Swazi gain access to clean drinking water by 2015.

Rural Development

More than 75% of the world's poor are concentrated in rural areas. This is a target population that cannot be ignored if the MDGs are to succeed in meeting their targets. Before we go any further, we need to understand exactly who we are referring to when we speak of the 'rural poor.' According to the World Bank (2003), the rural poor are not a homogeneous group, and behind the aggregate numbers are the various diverse entities that make up the rural poor. They could be broadly classified into five categories: a) the landless (those without any crop land); b) those with a low asset base, or smallholders (farmers with up to two hectares of cropland); c) pastoralists (those who are not settled in any specific area and who derive most of their income from pastoral livestock); d) rural women (especially women-headed households); and e) ethnic minorities and indigenous populations. These are the most vulnerable populations in rural areas, and their standard of living is noticeably lower – often at existence-level – than that of the wealthier sections of rural populations. However, the standard of living in rural areas in the developing world is in great need of improvement for everybody, across the board. **Table IV** below gives us a snapshot of the immense density of rural populations in certain regions like South Asia, Middle East & North Africa, and also of their immense lack in terms of improved sanitation facilities and drinking water facilities, and in terms of value-added agriculture and agricultural machinery. This, it should be pointed out, only provides a glimpse into one mode of rural employment – agriculture. For most of the rural poor, agriculture on their own land is not an option; instead, they make handicrafts from natural materials, weave carpets, keep livestock, rely on fishing or forestry, and hire out their services as day laborers. Their numbers are huge, and these few statistics do not speak of their plight.

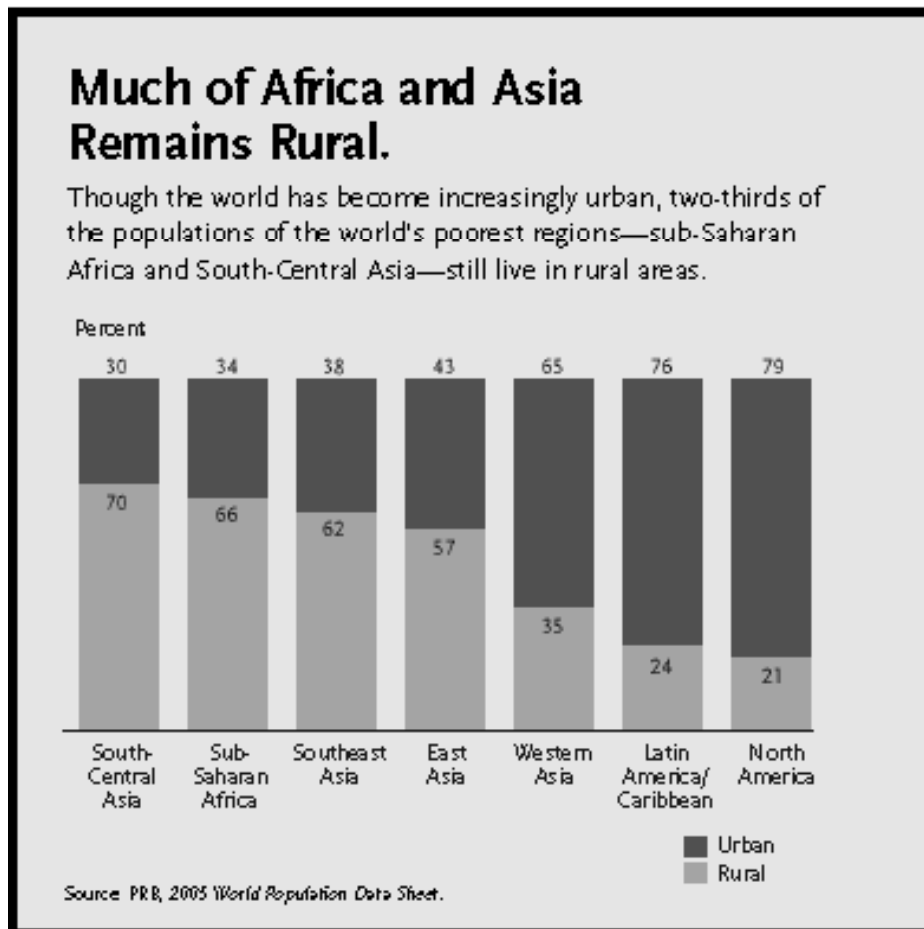
RURAL DEVELOPMENT INDICATORS

| Rural Development Indicators, 2004 | South Asia | Sub-Saharan Africa | Middle East & North Africa | Latin America & Caribbean | Europe & Central Asia | East Asia & Pacific |
|---|------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------|
| Improved sanitation facilities, rural (% of rural population with access) | 22.6 | 25.9 | 55.6 | 44.1 | 63.5 | 35 |
| Agriculture, value added (% of GDP) | 21.3 | 16 | 12.2 | 8.6 | 8.2 | 13.1 |
| Improved water source, rural (% of rural population with access) | 79.9 | 45 | 78.6 | 69.4 | 80 | 68.7 |
| Land under cereal production (hectares) | 124163712 | 85796256 | 26453234 | 50903752 | 116683048 | 132344896 |
| Permanent cropland (% of land area) | 2 | 1 | 1 | 1 | 0 | 3 |
| Agricultural machinery, tractors per 100 hectares of arable land | 1 | 0 | 1 | 1 | 2 | 1 |
| Rural population density (rural population per sq. km of arable land) | 586 | 355 | 670 | 212 | 126 | 559 |

Source: The World Bank, 2006, *Data & Statistics: Rural Development*



Indeed, the fight against poverty will be decided in the villages, not the cities. The problems that face the rural poor are diverse and inter-related. Corruption, lack of political will and investment leads to lack of infrastructure in the form of roads, electricity, drinking water, schools, hospitals, proper irrigation and agricultural facilities, to name a few. The list is endless and touches the day-to-day lives of every single person who lives in a village. Villages are marginalized for new employment opportunities and they are pushed aside in favor of cities. The rural poor find it difficult to get loans from banks to start their own business, they are ignored at police stations should they need to register a complaint. The government machinery recognizes them as powerless and consequently, is neither attentive to their needs, nor to their cries for help. This in turn, causes village youth to migrate to the cities in hordes where their living conditions in the slums may be worse than what they were in the villages.



Though there is a general consensus that villages need to be brought to the forefront of development, there are not many development professionals who are willing to migrate to the villages and live their lives in circumstances which are fertile ground for action, but are also supremely difficult to work and live in. Then again, villages are often riddled with hierarchies of caste, gender, ethnic/religious minority, and these in turn make development work more challenging, as the obstacles come from the people themselves, and changing people's attitude takes time and education. The illiteracy rate in rural areas is much higher than in urban areas; furthermore, rural women will have a still lower rate of literacy than rural men. There are many levels of complexity and intricacy to village life; solutions for rural development need to be localized to meet the needs of the region, and wherever possible they need to be initiated by trained villagers who can work instinctively at the grassroots

level, without being intimidated by the higher tier of government/NGO machinery. Rural development in villages must be about empowerment and awareness among the people, not just about throwing aid at them from the outside. It needs a lot of commitment, and a great deal of patience and an excellent understanding of life and knowledge patterns in villages. It can be done, but it cannot be done in a hurry!

The Issue of Rural Youth Employability:

Rural youth often move to cities in search of suitable employment. This may not be their first option, but they are compelled by lack of opportunities in their own village and by the pressing need for earning a livelihood so that they in turn, are able to stand on their own feet, start and support a family. These are important issues for youth, and ones they must address to the best of their abilities. There is much that can be done to help young people in rural areas such that they are educated, trained and able to find employment within a rural context, and are then able to construct a good life for themselves and their family over a period of time.

Education

Possibly, the single most important aspect for enhancing youth employability is provision of relevant education and training. Village schools are often one-room affairs, where the quality of education and teaching is dismal. Consequently, children move from one grade to the next without learning real literacy and numeracy skills that would stick with them for a life-time. Primary education needs to address itself to the context of the village, while also acquainting children with the world outside. It needs to be relevant and helpful to them, such that their world is acknowledged in the texts they study. If the schools succeed in retaining their pupils, they must then make the curricula at the secondary and higher levels equally relevant to the children and youth. More than one track should be offered: vocational, agricultural, academic and technical. Each of these, hold potential for future learning and employment. Above all, there needs to be greater investment into educational institutions at the village-level such that the quality of the curriculum and teachers is assiduously worked upon, improved, and constantly monitored over the years.

Job-Training

In keeping with this theme, rural youth also need to be provided adequate job-training. This can be in the agro-sector, in handicrafts, in service delivery, in teaching, or in the NGO-sector. These are simply a few examples of the different sectors that can work towards training and employing young men and women from the villages, so that they have an incentive to stay, work and make a life for themselves in the context that they grew up in. Again, both investment and commitment from the relevant bodies needs to be assured in order for this to be realized.

ICT

A huge component of education and training for rural youth can include the introduction and development of ICT in villages. Villages must not be isolated from the rest of the world. As globalization becomes a reality, it is necessary that the farmer, the handicrafts-maker are able to participate as informed players. Telecommunications in the form of the internet, computer, telephone, TV, radio and satellite must be introduced into the daily lives of villages to the extent possible. ICT training centers for youth in villages, should provide not just knowledge about Internet use, but should also equip youth with entrepreneurial and leadership skills. Then again, it is important to remember that a physical infrastructure needs to be put in place to sustain ICT ventures, and greater investment for this purpose from government, private and civil society bodies is necessary.



Youth-based Community Organizations

Finally, youth-based community organizations need to be introduced in villages. Peer support and shared visions go a long way in helping people realize their dreams, even in the face of difficulties. Rural youth peer group organizations - with effective leadership based on strong institutional foundations can:

- Promote learning and build employment and entrepreneurial skills,
- Create cooperative enterprises
- Inspire, empower and motivate youth
- Channel the energies and talents of youth constructively
- Encourage stable and harmonious rural communities
- Add to their enjoyment of life and encourage positive forms of recreation
- Ensure the systematic transfer of livelihood skills from experts in the older generation to the young.

(Sharma, 2003)

Agricultural Extension Services

Finally, in order to improve employment prospects for rural youth there needs to be investment in agricultural extension services which focus on the young. Such extension services should:

- Target young farmers;
- Encourage parents to give land to school leavers;
- Set up agricultural credit schemes to help young people acquire livestock, equipment and other productive assets of their own;
- Encourage food production in order to increase food-security for communities;
- Transmit effective and appropriate ideas and methods in agriculture;
- Employ as many school leavers as possible, with on-the-job training;
- Establish incentives, so that some young workers may eventually become para-professional extension agents,
- Provide leadership and organizational skills training.

(Ibid.)

Youth Entrepreneurship in Rural Areas

Having now examined the different ways in which rural youth employability can be increased, we still have to consider the fact that there will not be enough jobs for everyone. This is a fact that we have to work with. Given this premise, we need to also train and help youth become entrepreneurs, so that they can create and provide employment, instead of seeking it from others. There are certain steps that can be taken to create a more entrepreneurial environment in villages. These include provision of microfinance facilities and credit to rural youth, through banks and formation of microfinance self-help groups led by NGOs. The Bharatiya Yuva Shakti Trust (BYST) in India is an example of an organization that provides support, including micro-finance, for underprivileged youth in order that enthusiastic and innovative youth have the opportunity to set up or develop their own businesses. This needs to be followed up by providing appropriate training and technical assistance to young entrepreneurs, so that they learn how to calculate a cost-benefit analysis and take well-informed risks that do not jeopardize their entire venture. The “Start and Improve Your Business” (SIYB) programme set up by the ILO is an example of a programme which aims to enhance the skills needed for successful entrepreneurship. SIYB has provided training to entrepreneurs and enabled them to start businesses or increase business profits and productivity. Similarly, training needs to be provided to youth in ICT, to enable them to start businesses that further promote technology in their own community. Low-cost technology such as cellular phones, fax machines and basic computers with Internet access have been used by rural youth to establish small kiosks, with low start-up costs, providing communication services in their communities. And

youth have also grouped together and shared the costs and risks of forming larger kiosks or telecentres. This is a growing phenomenon in India.

Finally, having looked at the components of training, finance and technical assistance it is important that acknowledge that entrepreneurship can only flourish in cultures which are conducive to its development. In other words, the government machinery should be welcoming of entrepreneurs, irrespective of whether they are small-scale or big business. Both bureaucracy and corruption must be curtailed so that start-ups are not caught up in an endless cycle of bribes and paperwork; the informal economy must be monitored and formalized to the extent possible in order to ensure fair working conditions for all employees and business owners; and last but not the least, entrepreneurship itself should be encouraged as a respectable option for struggling youth that is approved of by society as a viable alternative to being a regular wage-earner.

YES Campaign and Rural Development Initiatives:

Having examined the many different facets of rural development and youth employment, we now present a few examples of the kind of work that has been accomplished by the YES Campaign in this arena.

Promoting youth employment in Eastern Africa

The United Nations Economic Commission for Africa (UNECA), the Youth Employment Network (YEN), the United Nations Industrial Development Organization (UNIDO), and the YES Campaign are currently preparing a project for the East African region for promoting agri-business among youth. This region, which comprises Burundi, Central African Republic, Congo, Democratic Republic (DR) of Congo, Kenya, Rwanda, Sudan, Tanzania, Uganda and Zambia, has a large youth population which has continued to grow at a fast rate, resulting in large labor forces in a context of economic decline and stagnation.

The regional strategy on youth employment has been developed and US\$100,000 in funding is ear-marked for it. The Plan identifies priorities that are best addressed from a regional level. At the same time, it takes into consideration the fact that even though priorities may be similar at the national level as well, they may have different features and orders of priority within each country. The implementation of the regional plan is being led by a task force on youth employment under the leadership of UNECA and YES. Currently, the task force is working to mobilize resources with the UNECA sub-regional offices in different East African countries.

One of the aims of the regional strategy on youth employment is the development of youth entrepreneurship with an emphasis on rural enterprises. This includes:

- increasing awareness among youth on sustainable and decent livelihood opportunities in agriculture
- creating micro-financing windows for youth in the agriculture sector
- supporting the creation of business development support programs for youth in agriculture
- developing eco-entrepreneurship programs for young farmers, especially young women

The European Commission and YES Africa

The European Commission (EC) has sponsored multiple YES networks, particularly in Africa. In Burundi, the YES Food Security Program received a \$380,000 grant in order to provide over 50 tons of seeds and 2,000 chickens for food and poultry farming in fifteen rural communities. In Egypt, the Euro-MED Program facilitates youth exchanges to numerous countries in Europe and the Middle East and sponsors training courses and seminars focused on inter-cultural learning. Nearly 150 youth have participated in 36 different foreign exchange programs.



Addressing the most pressing needs in Burundi

As of its Food Security Program, YES Burundi recently received \$380,000 from the European Union to implement food security projects in 15 rural communities. In each community, 12 YES Burundi partners received supplies, including seeds, animals, transportation, and veterinary support to help cultivate collective farms. The program was initiated in July 2006 and today the farms employ 180 community members.

YES Burundi also began a small industrial cooperative movement in collaboration with ASAVO, a national NGO. The first cooperative is creating soap using natural resources found in local communities. The necessary equipment was installed early this summer and the cooperative began production in June 2006.

Identifying local opportunities in Romania

In old salt-mining, mountain towns in the north of the country, YES Romania has begun an Agro-Tourism project. As part of this extensive training program in the hotel and travel sector, 3,000 youth have been taught how to manage guest houses for tourists from Eastern Europe and other parts of Romania. Prices for these services have risen from the two- to four-star average rate in the country, demonstrating the increased value tourists place on these services.

Promoting and funding micro-enterprises in Philippines

The first phase of the Community-based Entrepreneurship Program (CYEP) program provided 150 underprivileged rural youth and women with the skills for establishing and maintaining businesses through training sessions on capacity-building, microfinance, and tolerance education. The program also included a mentorship component by pairing participants and formal sector businessmen. Now in the second phase of the program, Philippines YEN is facilitating access to microfinancing through the Youth Entrepreneurship Multi-Purpose Cooperative, created in response to the need to secure access to funding for the 150 participants in the CYEP program.

Reinvesting in the community: Panama

YES Panama has partnered with the Foreign Agricultural Service of Panama to launch its Recycle for Life program. By melting recycled plastic that is sold in international markets, YES Panama is able to reinvest profits into rural communities, funding social projects for children and youth in poverty.

HIV/AIDS

The scourge of HIV/AIDS has swept across the planet with astonishing speed. In the last quarter century, since it was first identified, it has taken the lives of more than 25 million people, orphaned countless children, altered demographic patterns in countries around the world, and pushed countless millions into greater poverty than they faced earlier. Though drugs have been found to keep the disease in check, it is nevertheless potent in its ability to break down the body's immune system and manifest itself by allowing other diseases to flourish in defenseless bodies. Notably, many countries are not in a position to afford these life-saving drugs, and their people are dying for lack of these.

Estimated Number of Young People Living with HIV

| Region | Young Women (15-24) Rate (%) | | Young Men (15-24) Rate % | |
|--|------------------------------|----------------------------|--------------------------|----------------------------|
| | Estimate | Low Estimate-High Estimate | Estimate | Low Estimate-High Estimate |
| Latin America | 0.3 | 0.2-0.8 | 0.5 | 0.4-1.5 |
| Sub-Saharan Africa | 4.3 | 3.7-5.1 | 1.5 | 1.3-1.7 |
| North Africa & Middle East | 0.2 | 0.1-0.3 | 0.1 | 0.1-0.2 |
| South & South-East Asia | 0.4 | 0.2-0.6 | 0.6 | 0.4-1.1 |
| East Asia | < 0.1 | < 0.2 | 0.1 | < 0.2 |
| Eastern Europe & Central Asia | 0.5 | 0.3-0.8 | 0.9 | 0.5-1.7 |
| Caribbean | 1.6 | 0.9-2.3 | 0.7 | 0.4-0.9 |
| North America/ Western & Central Europe/ Oceania | - | - | - | - |

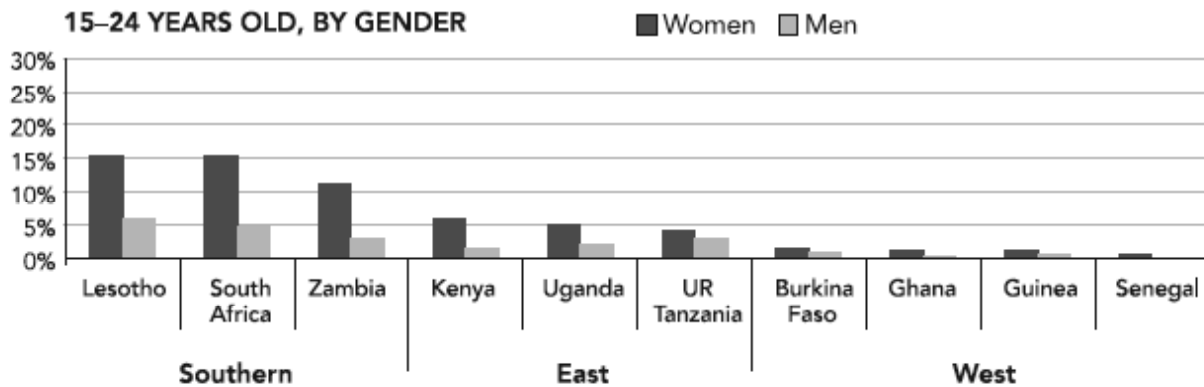
Source: UNAIDS, 2006, *2006 Report on the Global AIDS Epidemic*.

The *2006 Report on the Global AIDS Epidemic* by UNAIDS estimates that about 38.6 million (33.4 million–46.0 million) people worldwide were living with HIV in 2005. An estimated 4.1 million (3.4 million–6.2 million) became newly infected with HIV and an estimated 2.8 million (2.4 million–3.3 million) lost their lives to AIDS. Of these some 24.5 million (21.6 million–27.4 million) or 64% are located in Sub-Saharan Africa. Two million (1.5 million–3.0 million) of them are children younger than 15 years of age. Indeed, almost nine in ten children (younger than 15 years) living with HIV are in sub-Saharan Africa. There were some 12.0 million (10.6 million–13.6 million) orphans living in sub-Saharan Africa in 2005.

These numbers are difficult to grasp in their entirety, but it is surely possible to understand that HIV/AIDS has spawned an entire industry that is involved in research and development for potential cures, in prevention and awareness-raising, in treatment and hospice services for the sick, in caring for orphans and family members of HIV/AIDS sufferers/casualties. This is a sector that needs urgent attention from the world, and if the MDG of halting and reversing the crisis of HIV/AIDS is to be met by 2015, then a strong concerted effort needs to be made by international aid agencies, country governments, civil society, and by individuals.



HIV prevalence (%) by gender in selected Sub-Saharan Africa countries, 2001-2005



Source: UNAIDS, 2006, *2006 Report on the Global AIDS Epidemic*.

Youth and HIV/AIDS:

UNAIDS estimates that people aged under 25 years account for half of all new HIV infections, though it is not possible to get precise global figures. Reaching out to vulnerable youth is absolutely necessary. They must be educated about HIV/AIDS spread, protection and treatment. Schools, media-campaigns, awareness-raising programs run by governments/NGOs that are directed both towards youth and their parents/guardians are of the utmost importance. The message given by these sources can range from sexual abstinence to sexual protection to the importance of honesty in relationships, such that both partners are aware of the others' sexual activity. Above all, it is important that young people are made aware of how this disease is transmitted, and of the options open to them for protecting themselves. These awareness-campaigns must, of course, consider the cultural and religious needs of the community, but at the same time they must reach the most vulnerable populations – the women who are often kept behind the scenes and become unwitting victims of their male partner's sexual activities. Furthermore, HIV prevention and care services need to account for young people living with the disease and whenever possible, equip them with life-skills that allow them to actively participate in society, as contributing members. One such example is of a UNDP program that is being run in partnership with UNFPA, UNICEF and the National Department of Health in three pilot provinces of Eastern Cape, KwaZulu-Natal, Limpopo in South Africa (UNDP, n.d., *Training HIV/AIDS positive youth to enhance their potential for employment*). It encompasses three broad components:

- The “Involving youth in community and home-based care and support initiatives” component (administered by UNFPA) aims at encouraging community and home-based care and support by involving youth in NGOs.
- The “Involving youth in community based-action research and planning on life skills, HIV and sexual violence” component (administered by UNICEF) aims to promote behavioural change by involving youth in action research on sexual attitudes and behaviours, the acquisition of life skills and the relationship between HIV risk and sexual violence.
- The “Training HIV positive youth to enhance their potential for employment” component (administered by UNDP) builds on the GIPA (Greater Involvement of People Infected and Affected by HIV/AIDS) experience and aims to involve youth in work situations at the local level to equip young people living with HIV/AIDS with the skills to enable them to better manage their status, and to enhance their potential for employment.

There is widespread acceptance of the fact that young people themselves are often very capable of delivering the message of HIV prevention to their peers and can definitely be trained to play a part in the development, implementation and evaluation of youth-oriented HIV prevention programs. Furthermore, they can also be trained as development workers who are actively involved in all aspects of HIV/AIDS service-delivery programs. **Table VI** below reflects the possibilities of employment for young people across the continuum of HIV/AIDS service delivery.

| Interventions | Strategies | Roles | Skills/Training |
|--|---|--|--|
| Prevention | Peer education, community outreach, social marketing, school-based health promotion and prevention education, skills building. | Potential for youth involvement in all aspects: program design, implementation, service delivery (especially as peer educators), management, programme evaluation. | - Communication and interpersonal skills, non-judgemental approach. - Training (including background in behaviour change), continuing education, and supervision. |
| Voluntary counselling and testing | Integrated counselling and testing services that are youth-friendly. | Potential for youth involvement in all aspects: programme design, implementation, service delivery (can be trained to provide counselling), management, programme evaluation. | - Communication and interpersonal skills, non-judgemental approach.- Local guidelines and certification process.- Training (including background in behaviour change), continuing education, and clinical supervision. |
| Medical treatment | Early diagnosis and treatment, equal access, appropriate regimen, developing readiness to adhere to treatment, compliance. | - Youth can help advise providers about channels to reach youth and barriers to treatment and care (e.g. stigma, cost, disclosure of status and risky behaviours) - Serve as patient advocates. | - Youth with HIV/AIDS who want to share their experiences.- Training, continuing education, and clinical supervision for patient advocates. |
| Ongoing care of people with HIV/AIDS Care of survivors: | Home-based care (e.g. cleaning, basic nursing care), user friendly and comprehensive one-stop shopping for services, non-judgemental and integrated mental health services, reducing stigma, buddy programs. | Youth can advise health care workers on ways to increase adherence, provide relevant care, and deal with bereavement- Serve as counsellors to other youth (e.g. on importance of early diagnosis, treatment, and ongoing care).- Provide home-based care (e.g. cleaning, basic nursing care) to people of any age with HIV/AIDS. | - Youth with HIV/AIDS who want to share their experiences.- Communication and interpersonal skills, non-judgemental approach.- Training, continuing education, and clinical supervision for counsellors.- Training and supervision in providing home-based care. |
| Care of survivors: orphans and families | Visits and placement by social workers, therapeutic play groups, waiving school tuition/ tuition assistance, non-judgemental and integrated mental health services, reducing stigma, buddy programs, vocational training. | - Pair-up young adults with younger or same-age orphans to create "buddy" system. - Provide counselling, referrals, and skills training to orphans and other family members. | - Communication and interpersonal skills, non-judgemental approach.- Training, continuing education, and clinical supervision for counsellors and skills trainers.- Older orphans, if trained, can provide care for younger orphans. |

Source: Rosati, et. al., 2003.



YES Campaign and Youth Employment in the HIV/AIDS Sector:

The YES Campaign is at the forefront of movements that are linking HIV/AIDS prevention and care facilities to youth employment ventures. The following are a few examples that show the widespread impact of YES programs across the globe.

YES Rwanda and Africare

YES Rwanda is working on an Africare Youth HIV/AIDS Control & Sustainable Livelihoods Project. The target audience is young people between the ages of 7 and 25 years. They are organized to form Anti-AIDS clubs and associations involved in income-generating activities. The Project provides them with basic literacy skills, employment training, technical and monetary assistance to set-up their own small-scale enterprises. It also sensitizes them to the scourge of HIV/AIDS and teaches them how to protect themselves from the disease. Because its training component enables youth to generate income, the program has had a retention rate of nearly 100%. To date, 200 youth have participated in this UN Population Fund-sponsored project.

Urban youth employment and HIV/AIDS in Zambia, Lesotho, Swaziland and Botswana

EQUIP 3 is a USAID funded project that is working to prepare and engage out-of-school children, youth and young adults for their roles in the world of work, civil society and family life. It aims to help countries meet the needs and draw on the assets of young men and young women by improving policies and programs affecting youth in different sectors, such as education, democracy and governance, urban development, health, and agriculture. The program facilitates the involvement of youth in the design, implementation, and evaluation of these activities.

The YES Campaign, which received US\$50,000 to work on this project, prepared a livelihoods-based strategy for prevention of HIV/AIDS, based on intensive research and pilots done in four countries of the South African region: Zambia, Lesotho, Swaziland and Botswana. YES worked to engage municipalities and local governments around provision of services for both youth livelihood and HIV/AIDS prevention. This integrated youth livelihood and HIV/AIDS programming in urban municipalities was structured along these lines:

- training youth in job and business skills that are transferable to various sectors,
- developing entrepreneurs and their access to business development support, mentoring and credit,
- linking youth to financial services, assisting youth to pursue community economic enterprise activities around HIV challenges such as care, treatment and support, peer education,
- providing non-formal community based education programs for older orphans and vulnerable children to enhance their employability and basic education needs,
- improving technical and vocational skills through improved market driven curriculum and training,
- engaging private sector in developing opportunities for internships and apprenticeships

YES acknowledged that unemployed youth in economic need are vulnerable targets for HIV/AIDS. It also recognized that local government bodies can be powerful agents of change, provided they are trained to strengthen provision of existing services, and to realize that employment for the young is also a means of preventing HIV/AIDS among this target population.

Putting HIV/AIDS on the Table in Bangladesh

In Bangladesh, YES has incorporated its HIV/AIDS Awareness and Prevention Program into its broader capacity-building project with national NGO SUBMUS. Working in two districts and with over 500 restaurant workers, of which 80% are under 25 years old, YES and SUBMUS are working to provide these youth with basic human rights and employment opportunities. This project is comprised of five individual programs,

including one on HIV/AIDS prevention, which teaches youth basic facts about the disease as well as reproductive health.

Combining HIV/AIDS Prevention and Specialist Training in Honduras

Faced with one of Latin America's highest HIV infection rates, YES Honduras has dedicated its efforts to the fight against HIV/AIDS. With four programs, YES has reached over 1,000 youth. In partnership with the Alianza por la Niñez, Adolescencia y Juventud, YES has reached over 200 at-risk youth through in-school safe sex education programs. Second, YES began the Sexual Education Program that has trained 200 reproductive health professionals in order to increase access to safe sex education. Third, YES facilitated the National Forum on HIV/AIDS, which brought together approximately 400 youth with reproductive health specialists. Last, YES has reached 300 infected women through the HIV/AIDS Support Group that provides a forum for discussion and support.

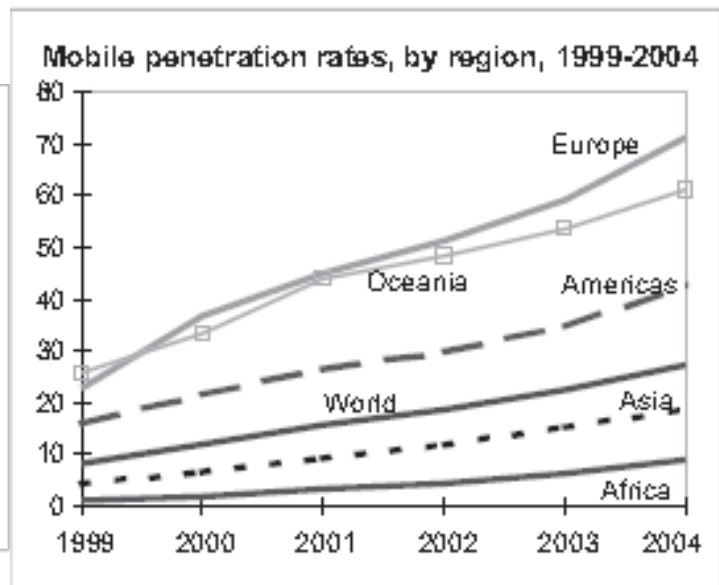
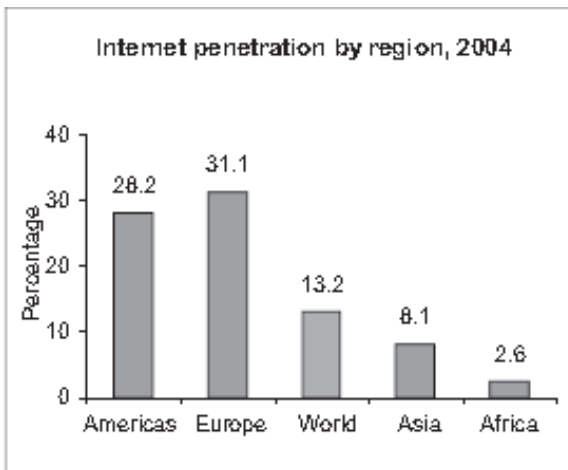
Making HIV/AIDS Education a Profession in Tanzania

YES Tanzania's has reached 36,045 people to date. With its partners, the Grassroots Media Trust and the Tanzania Rural Association for Progress, the network has taught 10,500 primary school and 2,512 secondary school students. The program has also has trained 156 traditional birth attendants, 56 traditional healers, and 40 volunteers in HIV prevention. Lastly, YES has established eight reproductive health centers.



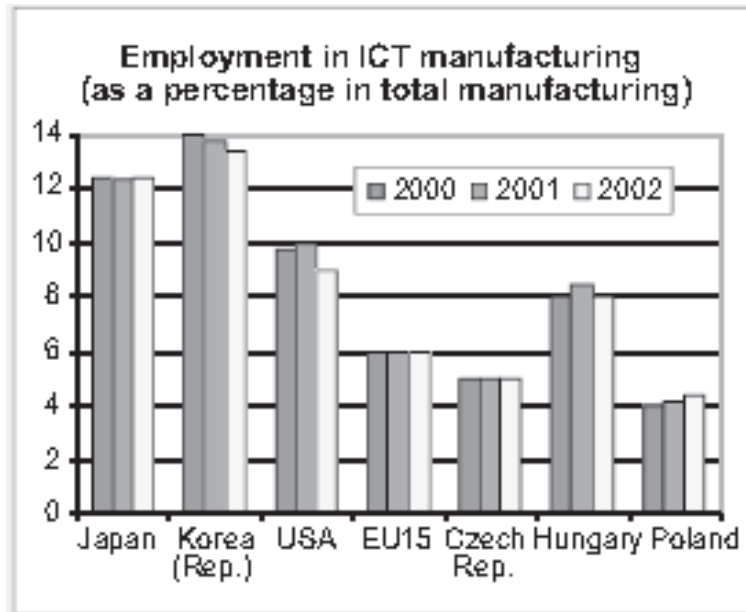
Information and Communications Technology

The ICT sector includes a number of different services, including fixed land-lines, mobile phones, internet services through broadband and cable. It is also a sector that is growing rapidly and holds immense potential for generating employment opportunities for budding entrepreneurs and wage employees. There are number of young entrepreneurs involved in ICT ventures and this field, in particular, is very well patronized by youth. However, the differences in the spread of ICT technology vary widely from the developed to the developing world, from one region to another, from one nation to another. It is easy to infer from the charts below that whereas the Americas and Europe are well connected in terms of mobile and Internet usage, Africa has much scope for progress and growth in this sector. Even though the developing world is experiencing a rapid profusion in ICT, it still lags substantially in comparison to the developed countries.



Source: ITU World Telecommunication Indicators Database and ITU adapted from 3GToday.com; International Telecommunication Union, 2006, *World Telecommunication/ICT Development Report 2006: Measuring ICT for Social and Economic Development*.

This is also a sector that provides employment to skilled workers and entrepreneurs who are looking to tap into the growing needs of people for better and faster ICT services. Employment in the ICT sector can range from manufacturing and retail to installation and customer service. A range of employment skills are required to fulfill these functions, some of which can be provided by the employer as on-the-job training. For others, however, it may be necessary to be proficient in the language of computers and telecommunications, either through formal educational programs or through extensive, practical hands-on experience. As is evident from the following chart, Japan and Korea lead in creation of manufacturing jobs in the ICT industry, and approximately 13.75% and 12% respectively of total manufacturing in these countries in the year 2002 was from only one sector, that of ICT manufacturing.



Source: ITU adapted from EU; International Telecommunication Union, 2006, *World Telecommunication/ICT Development Report 2006: Measuring ICT for Social and Economic Development*.

Youth Employment in the ICT Sector:

There are a number of different opportunities for youth entrepreneurship in the ICT sector. These include entrepreneurial ventures that involve opening an ICT-related service center, such as a computer center where photocopying machines, typewriters, telephones for local and long-distance calls are housed. On the same lines, there are Internet centers as well that provide Internet services on a pay-by-hour basis to customers. Computer training centers that provide certificates and diplomas to aspiring computer technicians are also a viable ICT enterprise.

Employment in ICT is also available to skilled technicians and engineers who are working on hardware or software manufacture and refinement. Web and graphic designers, Internet site developers, entrepreneurs who are running employment agencies, advertisements or tourist services etc. on the web are also employed/self-employed in the ICT sector.

ICT is a burgeoning field with great demand in rural and urban areas alike. It is a field in which an original idea can gross millions of dollars from interested parties. For example, e-mail which was first developed and marketed under the brand name of Hotmail, brought its developer Sabeer Bhatia US\$400 millions when Microsoft bought his invention (Hooper, 24 August 2004, *'Mr. Hotmail' seeks new challenges*). In the developed world a huge proportion of venture capital goes into ICT ventures, though not all of them prove to be successful. This field remains and will continue to grow as a lucrative field for youth entrepreneurs.

YES Campaign and ICT Entrepreneurship:

This is also a sector which has been generously tapped into by the YES Campaign in countries all over the world. The following are a few examples of some of the YES projects that are flourishing.

E-learning and SMEs in Romania

YES Romania received a grant for Euros 28,000 from the Leonardo da Vinci Program to develop a project that would create an environment conducive to e-learning for small and medium-sized enterprises (SMEs) in the tourism industry. The grant is funded from 2005 to 2007. It aims to provide on-line job training to employees



of SMEs and to set up a network for communication and collaboration among different SMEs in the tourism industry across the length and breadth of the European continent. The project will promote cross-company, intercultural, and trans-regional dialogues through e-learning for the improvement of the SME tourism sector as a whole. Having developed the theoretical part, YES Romania has now entered the implementation phase of the project.

Digital Infocentro of Literacy in Peru

In January 2006, YES Peru received a US\$117,570 fund – in cash and as software – from the Microsoft Unlimited Potential Program, as a part of the donation for the implementation of the project “Digital Infocentro of Literacy (DAI).” DAI will be set-up in a community center in the District of San Juan Lurigancho, a very poor urban neighborhood of Lima. It will train 500 youth of low resources and 250 women of grass roots organizations to become computer literate. The ultimate aim is to improve upon their employable skills so that they can earn a place in the competitive labor market.

Introducing ICT to Serbia

Computer skills are essential to success in the formal economy. In recognition of this, YES Serbia and Montenegro has launched a computer-training program that teaches basic software applications and Internet skills. The program received over 600 applications and 200 youth were trained. The program certificate is recognized by the Serbian Department of Employment.

Ensuring ICT safety: Mauritius

While the Internet offers many benefits, it can also pose severe risks if used improperly. YES Mauritius is addressing this issue through its Internet Child Safety program. In conjunction with the University of Mauritius and the Internet Child Safety Foundation (ICSF), YES Mauritius teaches children and parents basic safe web-browsing and Internet security issues. To date, the network has held 15 workshops affecting approximately 1,700 youth.

Training ICT instructors in the Dominican Republic

Through its Programa de Acceso a Tecnologías de la Información y Comunicación (PRACTICs), YES Dominican Republic trains youth in the necessary skills to teach computer literacy courses. These youth then teach classes in rural communities, affecting a much larger population than the network would have been able to reach alone.

Promoting ICT professions: Tamil Nadu, India

In collaboration with the Arena Multimedia Institute of Aptech, YES India launched a scholarship program for youth interested in pursuing studies in computer animation. YES India covers 50% of tuition for disadvantaged youth at Arena, a prominent international technical school in Chennai, India. Youth complete an Animation Specialist program that allows them to seek work in the computer animation industry.

Pakistan National Youth Service Program

As YES Pakistan expands its successful Pakistan National Youth Service Program (PNYS), an initiative that has already reached 1500 youth with the help of 800 volunteers, it continues to promote communication among its individual skill centers. YES Pakistan is currently in the process of developing a nation-wide ICT system that will connect fifteen districts of the PNYS. The system will foster collaboration, communication, and resource sharing.

Conclusion

The YES Campaign made a conscious decision to adopt the five sectors of non-renewable energy, water and sanitation, rural development, HIV/AIDS, and ICT as promising fields for encouraging youth employment and entrepreneurship, since all five of these areas of development are major contributors to the MDGs that have to be met within the next decade. All projects that are being run in these sectors by the YES Campaign have the “6 Es + Education” in common. These are the gold standard for selection and implementation of projects by YES, and have been adopted from the existing “6 Es + Education” framework, designed by the UN Education, Sciences, and Cultural Organization (UNESCO) and YEN. They include:

Employability: To ensure access to appropriate skills training followed by adequate support, regardless of youth location and background. Programs must teach marketable skills and promote self-esteem.

Employment Creation: To adopt policies that will encourage economic growth and promote institutional structures that welcome micro-enterprises.

Equity: To provide equal opportunities for youth to realize their full potential, particularly among marginalized groups in society.

Entrepreneurship: To engender the creativity of young entrepreneurs, who see social and economic opportunities in areas where others only see problems.

Environmental Sustainability: To seek sustainable employment without further damaging the environment.

Empowerment: To bring the unprecedented opportunities of the ICT revolution to under-represented groups in society with a focus on marketing, connectivity, and content.

Education: To provide informal education and skills training to stigmatized members of society.

To conclude, the YES Campaign is actively involved in these five sectors of development, which hold great potential for youth employment and welfare. It is hoped that in the coming decade as we head towards the target date of the MDGs, the YES Campaign and similar ventures will have made a contribution towards their fulfillment, while also improving the lives and livelihoods of thousands around the globe.



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