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**DRAFT AGENDA FOR ACTION
ON
TECHNOLOGY, EMPLOYMENT AND POVERTY ALLEVIATION IN
THE ARAB COUNTRIES**

AN OUTLINE

UN ECONOMIC AND SOCIAL COMMISSION
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AN OUTLINE

Introduction

The present Agenda for Action on Technology, Employment and Poverty Alleviation (ATPA) is essentially conceived in support of the Global Employment Agenda (GEA) launched by the International Labour Organization (ILO). It addresses a subset of GEA objectives in full harmony with the latter initiative's conceptual framework and will additionally reinforce modalities adopted for GEA implementation.

The Agenda is also intended as a vehicle for fulfilling the goals of the Millennium Declaration. As such, it is designed to create bases for national, regional and international cooperation over an extended period ending in 2015.

ATPA will act as an umbrella to a host of initiatives and programmes, national and regional, aimed at harnessing selected new technologies for employment creation and poverty alleviation. It seeks to promote:

- social and economic development policies conducive to the creation of decent work opportunities and poverty alleviation, including reviews of:
 - macroeconomic and sectoral development policies;
 - trade development strategies;
 - labour policies and social protection measures;
 - national and sectoral technology innovations, policies and implementation strategies;
- specific pilot projects aimed at:
 - employment creation and poverty alleviation through the establishment of new institutional forms, e.g. technology parks and technology incubation schemes, designed to catalyze the implementation and dissemination of new technologies for employment creation and poverty alleviation;
 - human resource development and support for the adoption of new technologies by small and medium enterprises;
- well-defined initiatives to disseminate new technologies and related skills with emphasis on the role played by small and medium enterprises in technology dissemination, employment creation and poverty alleviation;
- cooperation among national, regional and international agencies within specific frameworks and with a view to achieving well-defined objectives in technology dissemination, employment creation and poverty alleviation.

ATPA will run parallel to, and support, rather than replace or compete with, other existing initiatives and programmes designed by other international and national organizations with a view to employment creation and poverty alleviation. In fact, ATPA will actively seek to coordinate its own activities with those of concerned international and regional organizations as well as recent initiatives aimed at technology dissemination for development, e.g. the United Nations Task Force initiative.

The Agenda will be divided into four 3-year phases, each with well-defined programmes of activities and specific objectives. Evaluation exercises will be implemented towards the conclusion of each phase in order to evaluate results and methodologies before launching subsequent phases and to maintain consistency and coherence. Each phase will include a core initiative constituting its backbone, with satellite initiatives and related activities to cover specific actions.

A core initiative for the first phase in ATPA implementation is described below. It is designed to incorporate feasibility studies, pilot facilities and full-fledged projects in selected country settings and sectors. Subsequent phases will build upon results achieved as well as open up new areas of activity with similar objectives, i.e. harnessing technology for employment creation and poverty alleviation.

The ESCWA/ILO Forum on "Technology, Employment and Poverty Alleviation" will provide an opportunity for a review of the present and other supporting documents. Following the Forum, it is hoped that practical steps will be taken by concerned organizations to incorporate ATPA within their own work programmes and initiate relevant planning and fund raising activities.

A. Conceptual framework

A.1 Introduction

Increasing the productivity of labour constitutes the basis upon which competitive gains are made by enterprises and nations. Enhanced competitiveness, on the other hand, is of crucial value in sustainable, non-inflationary creation of new employment opportunities and overall improvement in living standards and working conditions. The role that may be played by new technologies in this quest cannot be overemphasized. Examples illustrating how new technologies can increase employment opportunities and alleviate poverty are given in Frame 1.

While technology-mediated productivity growth plays an important role in enhancing competitiveness, many of the benefits due to such growth may not be realized in the absence of policy frameworks and strategic plans aimed at building technological capacity and sustained competitiveness.

Frame 1. Examples of new technologies for employment creation and poverty alleviation

- ICTs can provide tools for new job creation and enhanced competitiveness and productivity, through tele-working, enterprise networking and efficient linking of job seekers and employers;
- ICTs can enhance employability and earning power through improving literacy, and disseminating novel educational and life-long training systems;
- Renewable energy technologies facilitate access to fresh water and electricity, leading among other things to enhanced hygiene and health conditions, lighting, powering of plants and telecommunications facilities, and improved educational services;
- New materials technologies help create value-added with attendant benefits for workers in poor communities, e.g. using local material inputs in construction applications;
- Modern biotechnologies help farmers realize greater profits out of growing new crops with reduced requirements for pesticides, herbicides and other expensive agricultural inputs and with evident benefits for the environment.

A.2 Productivity and new technologies

New technologies play the part of both catalyst and primary input in efforts aimed at sustained productivity enhancement. Their role is exerted through a number of direct and indirect mechanisms. New information and communications technologies (ICTs) in particular have demonstrated a variety of benefits in a number of essentially different settings. The adoption of new ICT inputs can raise productivity by:

- facilitating access by workers and management to educational and training material;
 - helping enterprises achieve higher efficiencies and lower costs as they communicate with one another and with regulatory authorities, seek improved sourcing and access to markets.
- Further examples of contributions by ICTs and other technologies to employment creation and poverty alleviation are presented in frame 1.

A.3 Employment and innovation policies

Rendering employment central to economic and social policies is one of the major challenges facing planners worldwide. An even more important challenge for the developing Arab countries is the creation of a climate that is conducive to sustained technological innovation. Both challenges are directly related to human resource development and labour standards.

According the highest possible priority to employment and innovation policies is of the essence in achieving productivity growth and improved competitiveness. It is only on the basis of such policies that concrete benefits may be achieved, including a less inflation-prone environment and poverty alleviation.

In particular, national innovation policies will need to be formulated, and continually refined, with emphasis on:

- the development of human resources;
- creation of fresh employment opportunities;
- implementation of improved labour standards;
- promotion of innovation and employment-friendly new institutional forms.

Employment and innovation strategies based upon the above policies should pave the way for major changes in the manner with which the Arab countries attract foreign investment, enhance enterprise growth and launch fresh entrepreneurial initiatives. In all of these domains new technologies can play important roles to enable, catalyze and accelerate change.

A.4 Competitiveness, new technologies and new modalities for cooperation

Facing the competitive challenges posed by an increasingly global market will necessitate more effective modalities for national, sub-regional and regional cooperation. New technologies can play an important role in facilitating joint ventures in production and services going beyond traditional boundaries, both institutional and national. Numerous examples of possibilities offered by new technologies in enhancing such cooperation are already evident in fields such as the tourism and transport sectors.

Additionally, implementation of new technologies will promote integration of otherwise disjoint economic activities both at the national and regional levels, thereby enhancing overall competitiveness and creating new employment opportunities.

B. Priorities for national action plans on technology, employment and poverty alleviation

B.1 New technologies for improved productivity and decent work

Providing decent work opportunities is an important objective in achieving socioeconomic growth regardless of a country's position on the development ladder. Nevertheless, national particularities influencing the relationship between decent work and socioeconomic performance will need to be considered in the design of novel and improved approaches to labour market institutions and the propagation of the best models and practices.

Success in propagating decent work opportunities rests upon improved working conditions, from the viewpoints of health, safety, economic returns and extended social protection. Doing away with child labour and discriminatory policies and practices is an essential objective in disseminating decent work opportunities.

With this in mind, policies should extend the scope of social protection and promote social dialogue between workers and employers both in the private and public sectors.

Strategies and initiatives designed to implement such policies should recognize the role played by the sustained promotion of new technology inputs in achieving salient and long-lasting objectives. In particular, ICTs can play an important role in disseminating instructional material as well as information about labour standards, worker rights and obligations. Even communications between workers and their unions may be vastly facilitated through implementation of new technologies.

Through the use of computers and networks in government and enterprises many routine tasks are reduced or eliminated, thus improving the work environment and worker productivity. Automation and control systems based on computers and robots can also reduce work-related risks and hazards leading to injury of workers in industrial processes.

Allocating public expenditure to wider and low cost access to ICTs by poor populations will make important contributions to poverty alleviation strategies by creating new job opportunities. In most cases, this will entail considerable technology development and adaptation to facilitate access by poor populations to relevant content.

Other new technologies also play significant roles in achieving important objectives in the creation of a wider scope for decent work opportunities. Thus, new air and water treatment methods, resting, for example, upon recent developments in new membrane materials and selected biotechnologies provide worker protection while simultaneously enhancing quality and productivity.

The promotion and adaptation of new technologies through research activities in the member countries will be essential in all of the above areas. Research will be needed to create a body of relevant and up-to-date knowledge on wages, employment conditions and discriminatory practices, thereby enabling the formulation of workable policies and implementation strategies.

Indicators of success in promoting decent work opportunities on the basis of new technologies may include:

- tangible improvements in work conditions both from a wide perspective and in reference to specific issues relating to safety, health and labour welfare;

- cost and time required for access to, and implementation of, new technology inputs, possibly as compared to other countries and regions.
- extent of ICT development and adaptation targeting poor populations;
- degree of efforts aimed at disseminating standards emphasizing decent wages for decent work using ICT tools;
- expenditure on the development, adaptation and dissemination of education, training and skill formation aimed at poor populations;

B.2 Promoting entrepreneurship and private investment

Small and medium enterprises (SMEs) are a principal source of employment opportunities. Educational systems and enterprise promotion policies should incorporate the needs of SMEs and encourage their growth. Additionally, specific policy and legislative instruments will be required to integrate the needs of enterprises with those of their labour force.

Programmes aimed at national and local economic development should be implemented and an exchange of good practices for SME promotion encouraged. These programmes should assist in the formation of an environment that caters for employment creating start-up enterprises, particularly those based on new technologies. In many instances this will entail the institution of legislative and fiscal reforms as well as the creation and dissemination of new institutional forms, such as technology incubators and technology parks.

Promotion of social dialogue between entrepreneurs and workers should be another area of concern in crafting measures to implement policies. In this respect, technology can play an important part in facilitating interaction among workers, as well as between workers and entrepreneurs.

Indicators of success for the above-mentioned areas should include:

- decreased cost and time required for setting up SMEs;
- increased number of employment-creating start-up enterprises being launched;
- improved access to credits and venture capital;
- enhanced support for new technology inputs for SMEs;
- transparency of regulations and procedures.

B.3 Technologies for promoting employability and adaptability

Education and training promote employability and adaptability with subsequent benefits for economic growth. New technologies, ICTs in particular, have demonstrated immense potential in relation to delivery and constant improvement of educational and training packages. Furthermore, ICTs may be used in the dissemination of information about employment opportunities and related skill demand.

National policies should focus on providing sufficient public and private investment directed towards access to education, training and life-long learning with emphasis on poor regions and communities. Legislative and regulatory instruments are also needed to guarantee acceptable levels of protection for intellectual property rights and accreditation systems.

Thorough research accounting for the ambient conditions surrounding the relationship between learning, labour mobility and access to decent work opportunities, will be vital to the drafting of such policies.

Indicators of success in this area are:

- growth in public expenditure on education and training;
- increased school enrollment with regard to a number of age groups;
- increased availability of, and access by poor populations to, ICTs in support of life-long education and training;
- enhanced IPR legislation and its enforcement;
- progress in accreditation systems for distance learning and training.

B.4 Making the future more socially and environmentally sustainable

Over the past few decades, inequality, interdependence and environmental degradation have combined to create conditions of endemic poverty with attendant social problems in many of the developing countries. The Arab countries have not been immune to their impact.

The fact that a large proportion of employment opportunities now available in these countries depend on obsolescent technologies that deplete natural resources, contributes to a vicious circle that may only be broken through the introduction of new environmentally sound technologies that encourage employment growth and local participation in technology development and dissemination.

National policies designed to create employment and alleviate poverty should address issues regarding the integration of employment creation strategies with those designed to ensure environmental protection and technology development. In particular, the employment consequences of environmentally sound technologies and production methods should be thoroughly researched with the variety of member country conditions in mind, as should the social consequences of sustainable developments in environmental terms. Promotion of social research and dialogue will be instrumental in arriving at sustainable solutions.

Indicators in this area are:

- growth of employment opportunities in the development and dissemination of environmentally sound technologies and in sectors that utilize such technologies;
- investment in research, development and dissemination activities targeting environmentally sound technologies as well as relevant social activities and the assessment and implementation of their outcome;
- enhanced awareness of strategies and plans promoting growth and sustainable development of SMEs.

B.5 Attaining a macroeconomic environment conducive to employment growth

A growth and employment oriented macroeconomic environment is essential for enhancing investment in productivity and employment promoting measures. International aid programmes should be modeled with this objective in mind, emphasizing knowledge transfer and sharing, debt forgiveness, and favoring a more open global trading system that respects environmental and labour standards.

Multidisciplinary research involving national institutions and international partners is required to develop effective policy instruments for combating recession, sustaining acceptable employment levels, preventing cutbacks in education and training programmes, and the formulation of monetary targets for poverty reduction.

The study of the impact of globalization and the relevance of international policy for global macroeconomic stability should be continually explored by local and collaborative research activities often on the basis of new technologies. An area of considerable priority and seminal importance in this context would be to devise modalities for the cooperation of organizations such as ESCWA, ILO, UNESCO, UNCTAD and others in these activities.

Indicators in this area include:

- success in implementing international aid and national programmes with the aim of creating a growth and employment oriented macroeconomic environment;
- public and private expenditures on education, training and continuous skill formation;
- developments in healthcare schemes with emphasis on benefits for the poor;
- research activity on pertinent issues including the implications of globalization and international trade policies on employment and poverty alleviation at the national and sectoral levels.

B.6 Making use of global, regional and national alliances

Well-defined joint ventures amongst concerned organizations, which are dedicated to researching and promoting effective strategies with elements that incorporate national and regional particularities, will play an important role in employment, productivity growth and poverty alleviation. Enormous benefits may be gained through coupling regional initiatives, such as the present agenda, to global alliances and initiatives aimed at the dissemination and implementation of new technologies for sustainable development.

The urgency and variety of objectives to be tackled will necessitate participation by different players at different levels. Thus, national governments, enterprises, and institutions involved in social and economic development, such as UN agencies and development banks or funds, will need to enter into long-lasting strategic alliances and partnerships. Given the range of objectives and players, it will be imperative to set specific targets and allow for close evaluation within a dynamic planning framework.

Different needs and particularities in the employment and technology spheres will necessitate customized approaches to employment and poverty alleviation strategies. Nevertheless, it should be possible to make use of linguistic, social and cultural similarities in numerous initiatives targeting, for example, human resource and enterprise development.

C. Core Initiative on Technology, Employment and Poverty Alleviation in the Arab Countries

The Initiative on Technology, Employment and Poverty Alleviation in the Arab countries aims at establishing national pilot facilities to promote the utilization of selected new technologies in job creation and poverty alleviation, through well-defined programmes and project portfolios.¹

Substantive studies and technology assessment exercises will be carried out. Technical assistance will be provided to the member countries through the Initiative in the design and management of their pilot facilities and offshoot projects. Recent initiatives, in developed and developing countries targeting poverty alleviation on the basis of entrepreneurial activities that utilize new technology inputs, will be viewed and analyzed at the outset to identify factors that led to their success/failure.

C.1 Objectives

The objectives of this Initiative include:

- Identifying possibilities posed by selected new technologies for poverty alleviation through education and training, employment creation and the enhancement of the competitiveness of existing enterprises in selected sectors.
- Elucidating policy and strategy options to facilitate the introduction and dissemination of selected new technologies with specific reference to employment creation and poverty alleviation in well-defined national and sectoral contexts.
- Identifying specific modalities for the implementation of new technologies in educating and training poor populations and allowing them access to decent work.
- Launching pilot projects to evaluate, and promote new technology inputs with specific reference to decent employment and poverty alleviation.
- Designing national and regional initiatives in selected sectors on the basis of concepts and modalities elaborated in pilot studies and other activities;
- Setting up networks and new institutional forms, e.g. technology and enterprise incubation schemes, focusing on employment creation and poverty alleviation opportunities.
- Providing technical assistance and support to member countries implementing national technology dissemination and evaluation schemes, as well as related studies and research activity, with the aim of employment creation and poverty alleviation.
- Laying down foundations for regional and sub-regional networks and initiatives dedicated to the use of new technologies for socio-economic development in general and for poverty alleviation, in particular.

C.2 Approach

A modular and phased approach will be adopted in the Initiative's design with a view to:

- optimizing benefits;
- facilitating monitoring and evaluation;
- promoting opportunities for cooperation and coordination among concerned parties/stakeholders, as it will allow those involved in its implementation to achieve tangible benefits out of each activity they partake in.

¹ ICTs, biotechnologies and new materials technologies will be considered.

Moreover, the Initiative is designed to incorporate essential elements in programmes that have been proclaimed as constituting the focus of attention in a number of national, regional and international organizations, rendering present and future cooperation readily attainable.

C.3 Activities

The Initiative will be implemented through a number of component activities aimed at:

- conducting substantive studies and surveys;²
- organizing expert group meetings and expert panels;
- carrying out feasibility and detailed planning studies;
- setting up pilot schemes targeting technology incubation and start-up enterprise development in cooperation with concerned host institutions in the member countries;
- concluding agreements with concerned national, regional and international institutions in support of the establishment of technology and enterprise incubation facilities, the development and dissemination of educational and training material, etc.;
- acting as hub to prospective networks and following-up on networking and other cooperative arrangements;
- implementing technical assistance and support to affiliated member-country initiatives aimed at the assessment and dissemination of specific new technology-based ventures with special emphasis on poverty alleviation.

Once established, pilot facilities and training programmes, etc., will be linked/networked to promote effective coordination as well as optimal cooperation and resource sharing. Directors of national and regional institutions involved will constitute a "virtual board of directors" of this network.

C.4 Outputs

Output elements will materialize through the execution of specific projects or satellite initiatives (see next section). Output elements will include:

- Substantive and analytical studies of opportunities posed by selected new technologies for poverty alleviation;
- Frameworks for policies, strategies and action plans to promote new technologies in poverty alleviation in response to specific national and sectoral considerations.³
- Technical assistance to concerned governmental and non-governmental organizations in the design and management of national and regional poverty alleviation policies and schemes, including pilot facilities and projects.
- Plans for setting up specialized networks for policy, strategy, planning and assessment of new technologies with specific reference to employment creation and enterprise promotion.
- Pilot facilities to deliver:
 - technical assistance;
 - incubation services and schemes;
 - training of trainers/advisers;
 - business start-up support modalities.

² These studies will consider, for example, the initiative undertaken by public and private sector enterprises with a view to reviving cottage industries in central Italy. They would also examine and evaluate initiatives designed to promote employment creation and poverty alleviation launched in a number of developing countries, e.g. in Latin America and even in some of the countries of the region as well as developed countries, will be closely examined.

³ In addition to national analyses and case studies to provide background for policy, strategy and planning outlines.

- Training packages for:
 - trainers of entrepreneurs and apprentices in the implementation of new technologies in specific enterprises;
 - staff from concerned national institutions in the design of national initiatives and individual projects aimed at the utilization of selected new technologies in poverty alleviation.

Pilot facilities referred to above will include hardware, software and organizational/networking components.

C.5 Target groups

Activities will involve decision makers, educators, local and international researchers and experts from a variety of disciplines.⁴ Entrepreneurs, employers and employees in selected sectors will also be trained in the design and implementation of action plans aimed at poverty alleviation through new technology inputs and networks aimed at enhancing socio-economic development through capacity building in new technologies.

C.6 Duration

The duration of this initiative is tentatively set at three years as a preliminary estimate.

C.7 Regional and international cooperation

ESCWA and ILO will seek cooperation with concerned agencies including UNDP, UNESCO, UNCTAD, AFESD and ITU. The United Nations ICT Task Force and Trust Fund will also be approached for direct support.

Substantive and material support for the present Initiative will also be sought from firms, research institutions, as well as concerned regional and international bodies from the developed countries, notably in Europe.

This will be in addition to the participation of national and concerned civil society institutions in the member countries.

⁴ Thus technologists, economists and social scientists will be involved in:

- undertaking substantive and feasibility studies;
- the organization of expert panels;
- planning pilot and other facilities;
- providing technical assistance to concerned member country institutions.

Additionally, the involvement of a variety of institutions will be sought in the implementation of the Initiatives activities. Emphasis will be made on both governmental and non-governmental organizations. Involvement of organizations representing private sector institutions will be particularly sought.

D. Projects for future action

D.1 Pilot projects:

Success stories from around the world provide evidence that new technologies can lead to job creation and put to the service of poor populations and disadvantaged communities, and improvement in their economic situation.

Frame 2 presents examples from two Arab countries, namely Egypt and Jordan, where multipurpose community telecentres were recently created in remote and rural settings to help disadvantaged communities gain access to ICTs. Such telecentres provide various services needed by citizens in their daily life and work, including access to information, education and training. Members of remote and rural communities served by such telecentres, particularly women and youth, become better informed and more productive within their own environment.

Furthermore, networking of telecentres in a given country or region leads to information sharing, enhancing entrepreneurial activities and cooperative ventures.

Frame 2. Community telecenters in Arab countries

In Egypt, three Technology Access Community Centers (TACCs), located in the Sharkeya Governorate, were established in 2000 as pilot projects under UNDP's IT for Development Programme. They are based on partnership between various stakeholders including the Government of Egypt (IDSC and Sharkeya Governorate), Investors Association of the 10th of Ramadan City, and Sharkeya Chamber of Commerce.

Community development and empowerment is the main objective of these telecenters with an important role for continuous training and life-long education of all community members. They are designed to benefit civil society at large, at the village/city level, particularly youth and women, the unemployed, small and medium sized entrepreneurs, as well as traders, educators, and educational institutions.

Jordan launched in the year 2000 a project to implement community telecenters in order to narrow the digital divide between IT-deprived populations and urban users of ICTs in Jordan. These telecenters provide tools to access, search and acquire knowledge in every location in the country. Networking among those communities, will also become possible, facilitating exchange of local information between the various communities.

Telecenters will be set up in one community at a time until they are replicated in all twelve governorates. Ideally, nearly 1,000 ICT community centers are needed to facilitate training and e-supervision in local communities. Twelve centers are planned in the various governorates, while four are currently functional. Funding remains the main obstacle facing this initiative.

In addition to ICTs, a variety of new technologies can also be integrated to facilitate the development of remote and impoverished rural and urban areas. This is illustrated by the "solar.net villages" initiative in Honduras described in Frame 3. Electrical power generated by solar panels in remote villages was combined with the installation of satellite communications to provide the necessary infrastructure for launching micro-enterprises in these villages, thus promoting local employment and delivery of educational services to the local population. The success of the pilot project led to a nationwide initiative to provide thousands of villages in Honduras with similar facilities, resulting in tangible improvements in the living standards of previously neglected communities.

Frame 3. An integrated initiative for remote area development through integration of technologies

The Government of Honduras launched in coordination with UNESCO and the Organization of American States (OAS), an innovative pilot project, known as "solar.net villages." Two very remote and poverty stricken villages in inaccessible rural Honduras were selected: San Ramon in the South and San Francisco, in the West. Basic elements of the project included utilization of solar energy, together with satellite-based wireless technologies as innovative contributions to systems.

The combination of electrical power from solar panels and modern satellite telecommunications allowed the establishment of micro-enterprises based on local products. It also provided the basis for ICT applications such as e-commerce, distance education and tele-medicine. Thus, community participation, technological innovation and education were used to realize real sustainable development

The initial investment cost per capita was about US\$40 and the success of the pilot project led to a nation-wide initiative involving international organizations, foreign private corporations, universities, as well as welfare associations and foundations, in addition to the Honduran government.

Other success stories from Bangladesh, India and Peru are presented in Frame 4. They all show that ICTs can be of enormous importance in providing new opportunities for employment and entrepreneurial activities that help poor populations develop their economic potential and alleviating existing poverty.

Frame 4. ICTs for poverty alleviation in Bangladesh and India

The Grameen Bank initiated a project to empower village women in rural Bangladesh by providing them with loans for purchasing GSM cellular phones. The same bank operated the GSM network and managed the cellular telephone system, providing messaging and incoming call services. This initiative led to the development of entrepreneurial activities by women farmers who were able to acquire additional income to improve their families' economic and social conditions. About 1,100 villages were covered by this initiative with an expected 500,000 cellular subscribers taking advantage of it.

In 1998, the M.S. Swaminathan Research Foundation, with the support of the International Development Research Center (IDRC) launched the "Information Village" research project in Southern India. A group of 10 villages were connected through a voice-and-data communication system with a hub providing connectivity to the Internet. Locally useful content was developed by local staff, offering shared information services to the population of these villages and linking them to the Internet. It provided a sustainable model for the development of rural communities, allowing them to be users and managers of their own information systems.

In Peru, leaders in small rural village, Chincheros, formed a partnership with a national exporter whereby the Internet is used to trade rural produce in US markets. As a result, vegetables produced in this village are sold daily in New York resulting in a five-fold increase of income.

D.2 Project ideas for the Regional Agenda

Selected new technology-based project ideas are briefly discussed below. Most of these ideas have been developed with an eye to actual successes from around the world and can be adapted and expanded in order to accommodate the variety of local priorities and available expertise. The project ideas listed below are classified around general priorities targeting several client groups. While the ultimate purpose is the promotion of access to information to otherwise disadvantaged populations, the goals of each project differ with regard to the role that the dissemination and sharing of information will play in triggering better employment opportunities, increased entrepreneurial activity and microenterprise development, and the overall improvement in living standards. In many cases access to ICTs may promote more than one goal and target more than one client group (e.g. women, youth, physically challenged populations, entrepreneurs etc...). For

example, the establishment of multipurpose community telecentres will bear impact on a variety of client groups in different regards (e.g. education, employment, entrepreneurship, etc...).

a) Promoting Education, Employability & Adaptability

a1. On-line education and vocational training

The speed, efficiency, and falling costs of ICTs have made their implementation in school systems and vocational centres a logical and favorable choice, especially in poverty-stricken areas, but also in rural and remote areas. Conventionally, financial limitations and the lack of qualified personnel make educational resources scarce in these areas, but ICTs can overcome these obstacles by providing the tools to set up on-line courses for high school education and vocational training. This can be done by:

- Creating National Distance Education centres with servers hosting educational material and relevant software packages. Software and content development/adaptation may be outsourced or carried out at these centres. A coordinated approach in the development, adaptation and distribution of teaching and training material may be essential for countries of the region.
- Establishing a wide area network between the national distance education centre and poor urban communities or remote/rural areas, either through the telephone networks, leased lines or wireless connections. Satellite links can even be envisaged for remote areas if considered more feasible. Local area networks may need to be set up in buildings, for multiple accesses.
- Training teachers on the various software packages and methodology for distance education. Once trained, these teachers should participate in the development and adaptation of content.
- Incorporating ICTs in school curriculum to help improve literacy.

a2. New ICT training centres for government officials

The dissemination of new technologies, particularly in government ministries and agencies, requires training the staff on the effective use of these technologies in their work. This training needs to be institutionalized because of the continuous need to upgrade skills of workers, given the quick pace at which these technologies evolve. Such centres will increase employment opportunities for the youth and provide an opportunity for current employees to improve their knowledge and become more efficient.

ICTs need to be used in all domains, particularly for administrative and management tasks of government ministries and agencies. The establishment of a training centre for all government personnel on the use of ICT productivity tools is essential for the modernization of services and the enhancement of their efficiency in dealing with citizens and corporations.

Biotechnologies are of great importance to Arab countries, particularly in the agricultural sector. Since many government agencies are involved in these sectors, training of their employees on issues related to biotechnology applications increases their awareness of critical issues in this domain, such as genetically modified crops, and improves the performance of these sectors.

a3. Labour market information systems

Information about employment opportunities, sectoral employment statistics, occupational market trends, long-term projections as well as information about career planning are important for youth looking for employment, planning establishments, various ministries, and human resource development institutions, including schools, universities and vocational training institutions.

Labour market information systems, consisting of Web sites and distributed databases on various aspects of labour, occupational needs and future trends, need to be developed for Arab countries to allow for better planning at the individual, as well as the institutional levels, of all employment related issues.

b) Promoting Entrepreneurship & Microenterprise Development

b1. New technologies and local crafts

Traditional knowledge and its applications have always contributed to poverty alleviation. However, formal education systems and globalization processes threaten to wipe out local knowledge and the sustainable incomes it generates. In particular, ICT tools can be utilized to promote production and the sale of local crafts such as weaving, pottery, and embroidery. This can include:

- Creating communication networks between women organizations to promote the sale of products by women artisans.
- Developing hardware and software products to assist in product design and the development of e-catalogues.
- Constructing networks for the exchange of technical information between artisans, design advisors and other experts to improve production, marketing, and distribution of local crafts, thereby making them a viable source of income.

b2. Incubation schemes

Technology incubation schemes are of great benefit for enterprise development and ultimate job creation. By nurturing innovative ideas and assisting young graduates in their quest for the creation of new enterprises based on these ideas, incubators give these start-up enterprises a better chance of survival and help them grow and employ more people.

c. Promoting multipurpose community telecentres & support activities

c1. Multipurpose telecentres

Rural and remote communities in Arab countries often lack the necessary telecommunications and computing infrastructure to gain access to information. Setting up multipurpose community telecentres will aid these communities by providing various forms of guidance, training and supplementary educational programmes. These telecentres will facilitate access to relevant information and provide employment opportunities within the communities, particularly for youth and women. They will constitute replicable and adaptable models that help remote and rural communities improve their revenue through better knowledge of the markets and improved management of their resources.

Various client groups will be able to use ICT tools, thereby greatly enhancing their employment potential and their capacity to support themselves and contribute to society through entrepreneurial activities. These client groups include women, youth and disadvantaged populations. Entrepreneurial activities by these groups also stand to benefit greatly from access to ICTs. The following examples, derived from pilot and actual projects from around the world, indicate how ICTs may contribute to these goals.

- Women: ICTs may be used to educate and train women, strengthen their community participation and entrepreneurial abilities. Certain ICTs, e.g. Internet and mobile telephones, are particularly useful in disseminating education and training packages, and facilitating sale of produce by women farmers and artisans, thereby enhancing their income levels and living standards
- Youth: ICTs can be used in distance learning, illiteracy eradication and career guidance, as well information on employment opportunities.
- Physically challenged populations: ICTs (both hardware and software) adapted to the specific needs of the physically challenged improve their employability and ability to support themselves while contributing to community development.
- Entrepreneurs: ICTs have demonstrable benefits for enterprises, providing them with training packages as well as allowing easier and more rapid access to sources of raw materials, equipment, services and markets. Through access to shared resources, start-up enterprises can save time and money, allowing them better success opportunities.

c2. Support activities

Support for community telecentres is essential for implementing many of the above ideas. While initially subsidized, telecentres should gradually achieve self-sufficiency once their usefulness is established and they become well rooted in their communities.

Additional projects will be essential to enable telecentres to operate effectively. Thus it will be necessary to:

- Network grassroots organizations so that they may provide better services to their clients. Establishing digital connections between these organizations will enable them to share information about local needs and convey market needs more efficiently to their clients, facilitating the distribution of goods and collection of payment.
- Establish programmes through which network makers and administrators are trained in Internet-related issues, as well as on related regulations and legal aspects.

The Agenda will help formulate design models for the above project ideas with parameters emphasizing specific local needs, objectives, implementation strategies and evaluation procedures. Models developed within the context of the Agenda will be disseminated within and across member countries.

d) Promoting Environmentally Sound Technologies

Integrating solar/wind power with ICT equipment for development in rural and remote areas

Communities in remote areas are often deprived of electricity or suffer frequent interruption of electrical power. Solar/wind-powered stations have the capacity to generate electrical power for illumination, as well as powering satellite-based communications, information networks, plants, and other developmental projects. Rechargeable battery-powered PCs with Internet access can also be used for e-learning and vocational e-training activities.

Combining solar/wind-powered technologies and ICTs, particularly satellite or wireless communications, will help efforts towards sustainable development in these communities by providing new venues for education and training, as well as generating employment opportunities while preserving local values, cultures and environments.

Solar powered technologies may be employed in small water desalination units. Ensuring adequate water supplies for municipal, industrial and agricultural uses is a challenge in many Arab countries. Technology development has resulted in considerable improvements, including availability of multiple technology options, greater flexibility, reliability and cost reduction.

In order to capitalize on such developments, it would be essential to build local capabilities for adapting and disseminating viable solutions and provide relevant services. Research and development capabilities in the Arab countries will need to be thoroughly involved in such activities, together with selected enterprises and their federations. Cooperation with sources of technology in the developed and developing countries, whether in universities, research centres or firms, will further assist in reducing desalination costs and achieving wider dissemination of optimal technologies.

Conclusion

The present Agenda for Action on "Technology, Employment and Poverty Alleviation" constitutes the basis and framework for the achievement of the Millennium Declaration. It will be implemented in a manner allowing its further development and evolution over the period of its execution. Cooperation and coordination among national, regional and international institutions concerned with technology dissemination, employment and poverty alleviation, will lie at the roots of its activities.

ILO and ESCWA will seek to promote this Agenda through individual as well as joint activities, and in cooperation with their national constituencies, international partners and the donor community.