ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA

RESPONDING TO GLOBALIZATION: SKILL FORMATION AND UNEMPLOYMENT REDUCTION POLICIES

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ABBREVIATIONS AND EXPLANATORY NOTES

AFESD	Arab Fund for Economic and Social Development
ALESCO	Arab League Educational, Scientific and Cultural Organization
ALO	Arab Labour Organization
API	Arab Planning Institute
CDC	Curriculum Development Centre
DACUM	Developing a Curriculum
ECES	Egyptian Centre for Economic Studies
FDI	foreign direct investment
GCC	Gulf Cooperation Council
GDP	gross domestic product
GNP	gross national product
ICTs	information and communication technologies
ILO	International Labour Organization
INJAZ	Economic Opportunities for Jordanian Youth
IT	information technology
NGO	non-governmental organization
OECD	Organization for Economic Cooperation and Development
R&D	research and development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

References to dollars ($) are to United States dollars, unless otherwise stated.
A dash (—) indicates that the amount is nil or negligible.
A hyphen (-) indicates that the amount is not applicable.
A slash (/) between years (1998/99) indicates fiscal (financial) or academic years.

Introduction

The present study is a follow-up to *Globalization and Labour Markets in the ESCWA Region* (E/ESCWA/SD/2001/5), which revealed that the productivity of labour forces in ESCWA member countries has failed to improve in recent times. It attributes this to the fact that work forces in these countries are uncompetitive and lack the required skills for advancement.

The present study is concerned with education. Most advocates of the development process consider education to be the most important weapon in the fight against poverty and unemployment in the current era. However, the fact remains that insufficient attention is afforded to the provision of quality education, which is capable of alleviating poverty and reducing unemployment.

During the past decade, ESCWA member countries have invested heavily in education. This has been to no avail. Unemployment and underemployment rates have increased, to varying degrees, in all countries of the region. Moreover, graduates are increasingly unable to find suitable employment.[1]

Research shows that the majority of projects pertaining to education aim to achieve the following:

(a) Broaden access to education;
(b) Increase attendance at schools;
(c) Curb dropout and failure rates;
(d) Modernize curricula and textbooks;
(e) Enhance the qualifications and training of teachers;
(f) Install management information systems;
(g) Improve assessment processes.

However, the full impact of these strategies with regard to the employability of graduates has not been sufficiently assessed. In fact, figures pertaining to the mid-1990s for the region indicate an increase in unemployment and underemployment rates among the educated labour force and greater socio-economic disparities.

Research indicates that the public education system in the ESCWA region has failed to respond to the needs of the present generation. Indeed, few students have the opportunity to acquire the necessary skills to ensure rewarding and suitable employment. Therefore, increasing numbers of graduates have been caught up in the vicious circle of unemployment and poverty.

This study investigates the reasons for this situation and proposes strategies for improvement. It seeks to discover whether the problem is located in regional education systems, regional labour markets or in both. It also attempts to ascertain whether demand for labour is too low to match supply or whether there is a demand for different skills. The study attempts to outline methods to rectify the situation.

The education authorities in ESCWA member countries have made little attempt to introduce reforms to school curricula that are capable of responding to the challenges of the twenty-first century. The majority of reforms have concentrated on increasing the representation of science and mathematics in curricula, whilst reducing emphasis on community social issues and life skills. However, education reforms must encourage and enable students to gain skills that ensure employment within the context of globalization.

The present study examines the most recent advances related to the acquisition of skills in advanced countries, with reference in most cases to Organization for Economic Cooperation and Development (OECD) countries. It attempts to determine what types of education and training systems best suit the requirements of globalization. Chapter I examines the new challenges related to education and skill building. Chapter II considers the challenges faced by developing countries with regard to acquiring suitable

[1] Levels of unemployment and underemployment are important indicators of the external efficiency of educational systems as they inversely reflect the percentage of graduates acquiring employment-related skills.

employment skills in the context of globalization and highlights the problems faced at every level of the education system. Chapter III details the drawbacks of the education and training systems in ESCWA member countries. It also develops previous research carried out by regional organizations that include the United Nations Development Programme (UNDP), International Labour Organization (ILO), United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank and the Arab Planning Institute (API). Chapter IV presents case studies related to Economic and Social Commission for Western Asia (ESCWA) member countries and chapter V summarizes conclusions and recommendations.

This study reveals that the interdependence of education systems and the requirements of labour markets cannot be easily resolved by one form of action. Indeed, respective countries must formulate individual human development programmes and implement local labour market policies that take into consideration the fact that competitive advantages in global labour markets increasingly depend on the acquisition of skills. Therefore, some form of assessment process pertaining to education and its related programmes must be established within the framework of the individual labour management programmes of respective countries. The ultimate goal of this is to reduce unemployment and underemployment.

I. NEW CHALLENGES IN EDUCATION AND SKILL BUILDING

A. INTRODUCTION

During the last quarter of the twentieth century, advances in technology have effected great changes in the work place. Indeed, the possession of traditional skills is no longer a guarantee of employment in the new era. The impact of the present technological revolution is on a par with that of the industrial revolution in its time. In fact, advances in telecommunications, informatics and a wide range of digital technologies have affected all levels of society in developed countries and have resulted in the widespread use of the Internet as a means of information exchange and a tool for the transmission of ideas and concepts. The Internet has greatly enhanced the process of research and development (R&D), and has enabled businesses to operate more efficiently. Moreover, the lower costs of technology and further technological advances are contributing to the ongoing transformation of the world.

Such global developments entail certain requirements. These include the necessity for individuals and educational institutions to acquire and promote twenty-first century skills. This is based on the fact that traditional skills pertaining to the gathering, organization, evaluation and communication of information are insufficient with regard to securing or maintaining employment in the modern era. The present goal of education is to ensure that students acquire the necessary skills for a lifelong process of continuous and interactive self-education. A generation ago, such a goal would have been a formidable challenge: today, it is a possibility. Many contemporary students have access to a continuous education process. However, they do not always have the means to make the most of this process. Indeed, students that wish to take advantage of the advances that have been made must be able to acquire the relevant skills.

B. CONTEMPORARY CONCEPTUAL TRENDS IN EDUCATION AND SKILL FORMATION

Globalization has wrought many changes in a relatively short period of time. This has dramatically transformed the process of acquiring knowledge. For example, memorizing and storing data is no longer a central facet of modern educational systems. In the modern era, students must be taught how to process and evaluate information that is readily available at the click of a mouse. Indeed, the goal of the present education system must be to develop cognitive skills and awaken the natural curiosity of students.

Given this scenario, education aims to transform students from passive recipients of information into more active and interactive participants in the process of learning. At the same time students must acquire and develop skills that enable them to enter an increasingly competitive labour market and to join an expanding global community. To achieve these goals, educational establishments must provide students with ready and equal access to the appropriate tools and resources.[2]

In addition, the concept of lifelong learning has become increasingly relevant. Those who desire to keep pace with rapid advances in technology must regularly update knowledge and skills. Therefore, education can no longer be viewed as an isolated experience that ends after a specific period of time. Instead, it must be viewed as a lifelong process that begins in childhood and extends indefinitely. Opportunities for learning must extend beyond classrooms to the home, workplace and to an array of non-traditional educational institutions. In this regard, information and communication technologies (ICTs) are a means of ensuring that individuals bridge the gap between traditional and non-traditional modes of education. The Internet has enabled people to gain access to information in general, and in particular, to the databases of a large variety of educational institutions, irrespective of geographical or time concerns. ICTs, via the Internet, have revolutionized the traditional passive form of education and enabled a new form of interactive learning.

[2] International Labour Organization (ILO), *World Employment Report 2001: Life at Work in the Information Economy* (Geneva, ILO, 2001), p. 209.

C. NEW DEFINITIONS OF LITERACY[3]

In the twenty-first century, the traditional definition of literacy, the ability to read and write, has been expanded to incorporate the concept of computer literacy, which can be defined as having sufficient knowledge and skill to be able to use a computer, in addition to other forms of technological and information literacy. However, traditional skills, namely, reading and writing, remain utterly relevant to the contemporary student. These skills enable people to access and utilize knowledge both via the printed page and through the Internet.

In fact, computer literacy is only one of a host of other new skills that modern individuals must acquire. These skills are related to the technological developments that continue to transform the world. These developments include an ever-increasing range of digital technologies that make it possible to generate and share information in ways that were not conceivable a short time ago. These technologies or tools are transforming the way people learn, work and participate as citizens of a global community. To use these tools effectively, individuals must acquire a new form of literacy and new skills. These skills must incorporate the ability to use new technologies and to adapt to new methods of learning, gathering, analysing and communicating information.

Therefore, students and teachers must acquire or improve the following skills:

(a) *Technology literacy*. This is the ability to use new media, namely, the Internet to access and communicate information and ideas effectively;

(b) *Information literacy*. This is the ability to gather, organize, filter and assess information and to form valid opinions concerning its relevance and quality;

(c) *Media creativity*. This is the capacity of individuals to produce and distribute information to a wide range of audiences;

(d) *Social responsibility*. This is the ability to consider the social consequences of information posted on the Internet.

These innovative concepts of literacy pose challenges in the following key areas:

(a) *Education*. All decision makers, frameworks and establishments in this field must endeavour to provide students with the means to develop new skills. However, those in the field agree that efforts in this regard have so far fallen short of expectations. Attempts at modernization have so far focused on updating school equipment, namely, computers and software, rather than training teachers for their new role;

(b) *Skills for the workplace*. Employers often expect a considerable level of technical proficiency from employees, but do not always have a proper understanding of the importance of implementing relevant training programmes. In addition, there is limited awareness of the need to update training programmes to keep pace with rapid technological developments;

(c) *Civic/government engagement*. Some governments in the region have implemented measures to deliver services electronically. However, this process is in its early stages and has yet to have a significant impact. Moreover, public administrations and legislative bodies are not always aware of the need to become more accessible and transparent at all levels. In addition, many people are ignorant of how to use the Internet and the number of Internet users in the region is low compared with some parts of Asia, Europe and the United States of America. Therefore, governments, in partnership with non-governmental organizations (NGOs), must increase efforts to ensure that their citizens have access to modern tools and that they have the means to make use of them more effectively.

[3] This section is largely derived from AOL Time Warner Foundation and Bertelsmann Foundation, "White paper", presented at the 21st Century Literacy Summit, Berlin, 7-8 March 2002.

D. LITERACY REQUIREMENTS OF THE NEW CENTURY

Educators and the private and public sectors share the responsibility of ensuring that the benefits of the new information revolution are shared among all sections of society. However individuals are the real masters of their fate in this regard. It is only when the individual realizes the importance of acquiring and improving knowledge and skills that such a goal can be achieved.

To ensure that the literacy requirements of the new era are met, innovative approaches and methodologies must be implemented in the areas of education, the workplace and civic/government engagement. Individuals, institutions, namely, schools and businesses and the State must implement these approaches. The interaction between approaches and parties is illustrated in the table below:

TABLE. INDIVIDUAL, INSTITUTION AND STATE INTERACTION WITH REGARD TO EDUCATION

	Education	Workplace	Civic engagement
Public sector	Education ministries	Labour and trade ministries	Government, Parliament
Organization	Kindergarten, schools, universities	Businesses and unions	Non-governmental organizations
Individual	Students, teachers, parents, administrators	Employees, human resources officers	All citizens

Source: AOL Time Warner Foundation and Bertelsmann Foundation, "White paper", presented at the 21st Century Literacy Summit, Berlin, 7-8 March 2002.

However, in addition to implementing new approaches, efforts to meet the literary requirements of the new era must focus on ensuring that individuals have ready and equal access to relevant tools and resources. This means that educational institutions must formulate new priorities along the following lines:

(a) *Fundamentals first*. Twenty-first century literacy skills must be built on a solid foundation of traditional skills, namely, reading, writing, mathematics and science;

(b) *Other literacy vehicles*. Students can then progress to the acquisition of new technology related skills;

(c) *Methodology of learning*. One of the most important issues in the information age is to learn how to learn. True learning in the modern sense is the ability to use new technologies, not to enhance the memorization of facts, but to gather, organize and evaluate information, to solve problems and to conceive practical ideas in real-world settings;

(d) *Intentional learning*. New technologies have made it possible to establish environments in which learning is increasingly self-directed and tailored to individual needs and aptitudes. This empowers students whilst making them more responsible;

(e) *Open schools and classrooms*. Students must be encouraged to use new tools to share ideas both within the classroom and beyond it. In addition, teachers must be trained to integrate new technologies, learning applications and new information sources into core curricula;

(f) *Security and conscientiousness*. New methods, standards and ethics must be established with regard to new technologies. Students must be taught to use their new knowledge in a responsible and effective manner.

E. BASIC SKILLS IN THE NEW ERA

The acquisition of new skills is vital with regard to dealing with the globalization-inspired transformations in social trends and lifestyle. Traditional learning skills are developed at the primary level of education. In addition, children acquire other basic skills, abilities and knowledge at that level that enable

them to operate in the economic and social context of the twenty-first century. The development of such skills and abilities begins within the immediate family environment and continues throughout the various stages of life.

The typical student profile comprises certain skills, qualities and abilities. Skills can be classified in many ways.[4] However, they tend to fall under the following headings:

(a) *Life skills*. These are the skills that pertain to everyday life. They include motor development and coordination, nutritional maintenance and stress management skills;[5]

(b) *Social skills*. These skills pertain to the ability to communicate and interact with other people;

(c) *Inter-cultural skills*. These skills pertain to the ability to appreciate the difference between races, cultures and religions in addition to being tolerant and adaptable with regard to other people. The importance of these skills is growing as inter-cultural interaction increases;

(d) *Economic skills*. These skills pertain to economic abilities;

(e) *Skills for the information age*. These skills pertain to the ability to use new forms of technology, in particular the Internet. It is imperative that students acquire these skills as early as possible.

It therefore follows that modern learning must be built on a solid foundation of basic traditional skills. It must emphasize the development of the ability to learn, identify problems, find answers and apply solutions. Moreover, modern teaching methods must focus on the development of critical thinking by means of problem solving assignments and projects. Modern education establishments must also incorporate the teaching of sound studying habits and the promotion of self-motivation as early as possible. In addition, new forms of technology have made an interactive approach to learning a reality. Therefore children who have access to the appropriate tools are able to determine the manner, pace and framework of their individual learning processes, to a much greater extent than ever before.

F. SKILLED EDUCATORS

Effective curricula and sound educational systems depend on skilled educators or teachers. This responsibility is even more pronounced in the era of globalization.

Educational establishments must ensure that teachers have a clear vision of the purpose of new technologies and are aware of the most effective means of integrating them into curricula and delivering them to students. Therefore, teachers must be trained in all aspects of computers and ICTs.

Unfortunately many teachers are not trained or prepared for their new roles and a large proportion of the technologies installed in educational establishments are underused.[6]

The role of teachers is not limited to ensuring that students meet the requirements of curricula. They are also required to promote values of understanding and tolerance and to generally guide and shape impressionable minds. Therefore efforts must be exerted to ensure that teachers are well paid and their endeavours appreciated.

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[4] The ILO *Glossary of Selected Terms*, 1986, defines a skill as an acquired and practised ability, or a qualification needed to perform a job or certain task competently. This is a multidimensional concept as the term skill covers a broad range of physical, cognitive and interpersonal abilities.

[5] U. M. Sedere, "Reforming education: The crisis of vision", *Globalization and the Low Income Economies* (United States of America, Universal Publishers, 2000), p. 170.

[6] According to Bertelsmann Foundation, *2000-2001 Annual Report*, 2001, fully competent information technology (IT) teachers are rare. For example, in 2000 only 15.5 per cent of teachers in Germany used the Internet for classroom purposes, compared with 53 per cent of teachers in the United States.

This goal of ensuring that there are adequate teaching training programmes must be a component of an integrated process that includes governments and regional organizations, thereby ensuring maximum use of resources and reductions in costs.

G. THE APPROACH OF MEMBER COUNTRIES OF OECD

Efforts to ensure that citizens in OECD countries have twenty-first century skills tend to be limited to improving basic and often specific technical proficiencies in everyday business life. These include the use of computers, the Internet, operating systems and certain software applications. Businesses often assume that employees acquire such skills prior to the date of employment and do not feel compelled to implement related training programmes in these areas.

However, new technologies are becoming increasingly important in OECD countries. Indeed, large segments of the population of those countries can be defined as knowledge-skilled workers.[7] Furthermore, traditional learning processes, such as the memorization of facts, are diminishing in importance and are being replaced by processes that promote the ability to learn in an autonomous manner. Indeed, the ability to search for information, to develop analytical skills, reason and solve problems has become a priority.

Accordingly, education in OECD countries is centred on the following criteria:

(a) The ability to master information gathering tools;

(b) The creation of a new role for teachers related to building and sharing knowledge. Teachers are gradually changing from lecturers to technology users, mentors, researchers and knowledge producers;

(c) The updating of textbooks and the increasing use of instructional software, PCs, interactive media and satellite educational communications;

(d) The exchange of ideas, opinions, problem solving and experiences within work groups and among virtual communities.

Otherwise, it is the responsibility of employers to develop the skills of employees. A knowledge network connects a large number of employees electronically, and enables them to communicate, share ideas, work in teams and ultimately learn from one another. The tools used in this regard include knowledge banks, database facilities, online forums, video conferencing and electronic blackboards. Indeed, firms in OECD countries have realized the importance of creative training programmes.

[7] For example, 150,000 students were enrolled in regular higher education degree courses in Finland and 200,000 adults were enrolled in continuing education programmes prior to 2000. In addition, more than 3,000 institutions offered online training in the United States during this period, while 85 per cent of community colleges are expected to offer distant education courses by 2002 according to Jamil Salmi, “Higher education at a turning point”, background paper submitted to the Expert Panel on Information Technology and Development Priorities; Competing in a Knowledge-based Global Economy, Beirut, 15-16 May 2000.

II. GLOBALIZATION, EMPLOYABILITY AND SKILL FORMATION IN DEVELOPING COUNTRIES

A. INTRODUCTION

The work environment has been radically transformed in recent times. This can be attributed to the fact that computerization, the information revolution, the Internet and globalization have increased competitiveness among nations, firms and individuals.[8] Furthermore, foreign direct investment (FDI), business strategies, management practices and business practices are being shaped within a global environment. These developments have transformed the global economy. They also have profound implications for education and training in developing countries.

The World Bank, ILO and UNDP, *inter alia*, have published reports that document recent economic, employment and labour market trends in the context of globalization. The general consensus is that there is a widening gap in terms of the participation of countries in the knowledge-based society, and the opportunities that countries, enterprises and individuals are able to reap from this participation.

These trends have resulted in benefits for some groups and hardships for others. The benefits of globalization include career opportunities, improved living standards and prosperity; the drawbacks are insecurity with regard to employment and unemployment, declining living standards and poverty. In fact, the gap is widening between various groups within countries as well as among countries in terms of access to decent incomes, work opportunities, participation in the economy and social empowerment. Those who are poorly educated and trained tend to be the losers in the process of economic change, even during periods of economic growth and declining unemployment.

These inequities, can to a certain extent, be lessened by the adequate development of human resources, including the development of an educated and skilled workforce. This is crucial for countries, enterprises and individuals that wish to benefit from the process of globalization. This development of resources can be guaranteed by ensuring that people are in a position to gain knowledge and build the requisite skills to profit from new opportunities. In other words, by ensuring that people are suitably educated and trained.

Education and training are a means of generating employment opportunities, enhancing productivity and increasing the incomes of various groups of people. Therefore, education is an important component of the economic and social development process. However, the success of education depends on its focus. This must always be directed at developing the knowledge and abilities of individuals and the capacity of entire societies with regard to benefiting from globalization. It must enable workers to update their technical skills on a regular basis and to make full use of rapidly developing technologies. The goal of education must also be to teach people twenty-first century behavioural and social skills, teamwork standards and flexibility.

Ensuring that such an education is as widely available as possible is a means of improving the employability of large sections of society. While basic education and training are the foundation for the employability of an individual, continuous training and lifelong learning provide the means to build upon that base and maintain employability throughout a lifetime.

The adequate development of human resources is a fundamental requirement in the battle to resolve the inequities of globalization. However, it is insufficient in itself to ensure sustainable economic and social development, or to resolve all the issues pertaining to the employment challenge. Efforts to this end must be consistent with, and an integral part of, comprehensive economic and social policies. Investments in quality education must be made within the context of a stable political and macro-economic environment, with equitable social services and flexible labour markets.[9]

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[8] Economic and Social Commission for Western Asia (ESCWA), *Globalization and Labour Markets in the ESCWA Region* (E/ESCWA/SD/2001/5).

[9] ILO, *Annex 2: Resolution Concerning Human Resources Training and Development*. Available at: http://www.ilo.org/public/english/employment/skills/recomm/report/annex2.htm.

B. CHALLENGES FACING DEVELOPING COUNTRIES

1. *Introduction*

The crucial question for developing countries is: How can education meet the challenges of the twenty-first century? These challenges do not pertain to traditional literacy or traditional forms of schooling; they relate to a different set of goals. To meet the challenges of the twenty-first century, education must aim to do the following:

(a) Generate awareness in students concerning the nature of the modern economy, including its values, attitudes and practices;

(b) Ensure that this informative process is inclusive and does not further exploit marginalized classes;

(c) Ensure that sound work ethics are instilled into the new generation;

(d) Improve the quality of life of all people;

(e) Ensure the benefits and avoid the drawbacks of globalization.

Developing countries must ensure that these goals are realized. Furthermore, they must encourage citizens to acquire knowledge and develop skills that will enable them to compete in international markets. Indeed, one of the main goals of education must be to enable all people, in particular, students and the unemployed, to gain access to decent work and to be included in the global economic and social sphere.

2. *Students*

Students are one of the key pools of human resources for developing countries in the new era. In fact, a properly educated student body is crucial for those countries wishing to access and harness the dividends of new technologies in the fields of production and R&D. Therefore, students must acquire certain skills at certain stages of the education process. These skills and stages are outlined as follows:

(a) General digital literacy, including computer and communication technology, must be taught at the primary and secondary stages of education. These basic skills are a foundation for future knowledge;[10]

(b) New skills must be introduced at the secondary and tertiary stage. In addition, students must be prepared for future training in the increasingly sophisticated sphere of applied work-related activities. At this stage students acquire skills related to employment;

(c) The tertiary stage of education goes beyond the mere acquisition of skills. Universities and higher education institutions are expected to contribute, through research, to the development of human knowledge and to the generation of ideas. They also act as channels for the acquisition, transfer, adaptation and diffusion of knowledge.

Students must acquire analytical and problem solving skills at all stages of the educational process, thereby equipping them to be able to extend the learning process throughout their lifetime.

In the long run, the aim of egalitarian policies that give broad sections of the population access to education and training is to reduce income disparities within, and between, countries. This is a key challenge for developing countries.

[10] A new definition of literacy has been in operation in Japan since 2000. It states that to be truly literate, a person must be computer literate. Conference on Labour Markets and Education in Japan, United Arab Emirates, 14-15 December 2002, as cited by *Al Hayat*, 29 December 2002, p. 14 (in Arabic).

3. *Unemployed*

The education system must also target the unemployed in addition to other marginalized groups. To this end, programmes that retrain and rehabilitate workers must be implemented. These must focus on groups that are at particular risk of falling into the poverty trap, namely, unskilled labour, those who have lost jobs as a result of the restructuring process and women. These groups often do not have the skills that would enable them to benefit from the technological revolution and globalization.

Therefore, education programmes targeted at these groups must focus on developing basic skills, including basic literacy and numeracy. They must also endeavour to enable them to develop employment skills that will be of use with regard to emerging industries. All programmes must be complemented by appropriate economic and social measures, namely, job-search assistance and financial support for the start-up of new businesses.

Box 1 illustrates the importance of a qualified labour force.

Box 1. Case studies: Bangalore and Bangladesh

The respective experiences of Bangalore and Bangladesh illustrate the importance of a qualified workforce within the context of globalization. FDI is important for both countries.

Bangladesh has a large pool of cheap labour that is capable of adapting rapidly to on-the-job training. This factor has been an important contribution to the large surge of investment in the garment industry during the 1970s.

However, the situation in Bangalore is rather different. A highly skilled workforce, including young and energetic graduates skilled in computer programming, software and hardware management and maintenance and in the English language has made Bangalore a popular place for high-tech industries.

The situation in Bangalore highlights the fact that quality labour is central to attracting high-tech investments. These investments can positively transform the economies of developing countries and enable them to benefit from the process of globalization.

A comparison of these two cases reveals that countries only benefit from a low wage structure in the short term. This cannot be sustained in the medium and long term without updating and upgrading the skills of the workforce. In fact, given the nature of competition in global markets, economies based on low wage/quality labour will lose out to the economies of countries with better quality or more highly skilled labour forces. To this end, education reforms and planning of human resource development is of critical importance.

Source: Adapted from U. M. Sedere, "Reforming education: The crisis of vision", *Globalization and the Low Income Economies* (United States, Universal Publisher, 2000).

4. *Developing basic skills*

In many developing countries, schools have failed to provide the type of education that is capable of integrating the labour force into the new economy. This can be attributed to the fact that there has been little focus on the development of basic skills. The basic reading, writing and arithmetic skills of a primary education are insufficient in the modern age. As contemporary societies become more complex, many countries are broadening the scope of basic education to include new knowledge and skills that can be adapted to the demands of working and living in a society defined by knowledge and information.

Basic education is concerned with the development of basic skills. It teaches foundation or basic skills, namely, literacy, numeracy, social skills, learning-to-learn skills and the ability to solve problems. Such skills are fundamental for living and working in society, for acquiring advanced skills and for making use of new technologies. Basic education is particularly relevant for young females as it improves their opportunities for future employment and their capacity to earn. Furthermore, it has economic and social ramifications for society as a whole. Therefore, many countries are investing more resources in this area.

Furthermore, basic education lays the groundwork for the development of core work skills.[11] This is the second stage of the basic education process. These skills pertain to the non-technical skills necessary for performing a job and operating in society. Their goal is to enable workers to constantly acquire and apply new knowledge and skills. They build upon, strengthen and often overlap with foundation skills. These skills include the following:

(a) Learning-to-learn skills;

(b) Literacy and numeracy skills;

(c) Communication skills;

(d) Problem-solving skills;

(e) Creativity skills;

(f) Personal effectiveness skills or attributes, namely, self-esteem, goal-setting and motivation, skills related to personal and career development;

(g) Group effectiveness skills, namely, interpersonal, teamwork and negotiation skills;

(h) Organizational and leadership skills.

Core work skills also incorporate labour market navigation skills. These include skills related to the following areas: job search, identification of career options and opportunities and identification and evaluation of jobs and training opportunities.

Developing countries wishing to improve the formation of basic skills must integrate resource allocations and investments in educational programmes and employment policies with a comprehensive education and development policy.

The third stage of the basic education process incorporates the concept of lifelong learning. This concept is reflected in the developmental policies of a growing number of countries. The OECD approach to education policy emphasizes the fact that learning occurs during the entire course of lifetime.[12] Informal learning, which takes place in the home, the workplace, the community and within society, is as important as formal education and training. Its key features are the needs of the person wishing to acquire knowledge, diversity of requirements, and an emphasis on self-motivation with regard to learning. This stage recognizes that the learning objectives of an individual may change over the course of her/his lifetime.

However, one thing that must go hand in hand with the acquisition of basic skills is the need to raise awareness concerning the positive and negative impact of modern life on the individual, family and community as a whole. Education must attempt to develop appropriate skills in tandem with fostering respect for different cultural, family and moral values.

5. *Employability*[13]

A crucial challenge facing developing nations is to fight poverty. This can be done by ensuring economic growth and generating employment opportunities. However, these endeavours do not necessarily

[11] Also generally known as essential skills (Egypt), basic skills (European Union), critical enabling skills (Singapore) and key skills (United Kingdom of Great Britain and Northern Ireland).

[12] Organization for Economic Cooperation and Development (OECD), *Education Policy Analysis: Education and Skills,* 2001.

[13] This section is largely derived from ILO, "Training for employment: Social inclusion, productivity and youth employment", *Human Resources Training and Development: Vocational Guidance and Vocational Training*, Report V, fifth item, International Labour Conference, eighty-eighth session (Geneva, ILO, 2000).

guarantee the employability of individuals. This is a key outcome of education and higher levels of training. Indeed, the employability of individual is related to the ability to do the following: (a) secure and retain employment; (b) improve productivity and earning prospects; (c) compete effectively; (d) be mobile with regard to occupation; and (e) secure another job if necessary.

According to the World Declaration on Education for All and Framework for Action to Meet Basic Learning Needs:

> "Individuals are considered to be most employable when they have broad-based education and training, basic and portable high-level skills, including teamwork, problem solving, ICT and communication and language skills, learning to learn skills, and competencies to protect themselves and their colleagues against occupational hazards and diseases."[14]

In addition, they must have the flexibility to update their skills. This combination enables people to adapt to a constantly changing work environment in the new era. Employability is not merely a function of training. Indeed, the employability of a worker can only be sustained in an economic environment that promotes job growth and rewards individual and collective investments in human resources training and development.

Therefore, education and training are vital with regard to improving the employability of individuals and preparing them for a rapidly changing and increasingly demanding work environment.[15]

The employability assets of an individual comprise knowledge, skills and attitudes on at least three levels. These are as follows.

(a) Baseline assets. These include basic skills and essential personal attributes, namely, reliability and integrity;

(b) Intermediate assets. These include occupation-specific skills, generic or key skills, namely, communication and problem-solving skills and key personal attributes, namely motivation and initiative;

(c) High-level assets. These include skills that contribute to organizational performance, namely, team work and self-management skills.

Moreover, the modern work environment requires competent individuals who are able to apply knowledge in different contexts and under varying technological conditions and who can respond independently and creatively to situations as they arise. Competence is generated through a learning process that lasts a lifetime. This is a markedly different course of events from that envisaged only a few decades ago, and applies to almost all workers in developed and developing countries alike.[16] Fostering employability by building competency has important policy implications at the level of general or basic education, initial training and the lifelong learning process.

C. A NEW APPROACH TO BASIC EDUCATION

The social and private benefits of education are most marked at the primary levels of schooling, regardless of country.

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[14] Conclusions, *World Declaration on Education for All* and the *Framework for Action to Meet Basic Learning Needs*, World Conference on Education for All: Meeting Basic Education Needs, Jomtien, Thailand, 5-9 March 1990, paragraph 9.

[15] Indicators pertaining to Latin America reveal that on average, people require a minimum of 12 years of formal schooling to gain access to decent employment opportunities, according to the Economic Commission for Latin America and the Caribbean (ECLAC), "Youth and employment in Latin America and the Caribbean: problems, prospects and options", a paper prepared for ECLAC and presented to the Youth Employment Summit, Alexandria, Egypt, September 2002, p. 5.

[16] ILO, *World Employment Report 1998-99*: *Employability in the Global Economy; How Training Matters* (Geneva, ILO, 1998).

The objectives of basic education are being expanded beyond a mere preparation for higher education. Indeed, basic education lays the foundation for employability.[17] Basic education provides individuals with the minimum requirements of the workplace such as literacy and numeracy. It also develops aforementioned foundation and core skills. Another important requirement of basic education is to develop the social skills of children at an early age in addition to developing their understanding of citizenship and the culture of work.

D. A NEW APPROACH TO INTERMEDIATE EDUCATION[18]

Intermediate school education plays a vital role with regard to enabling students to acquire more advanced cognitive and other skills. It prepares them for higher education and/or further training in the labour force. In the modern age, secondary education prepares students for increasingly sophisticated occupations. It also promotes a wide range of competencies that enable productivity and encourages self-employment. It provides the basis for trainability. Secondary education must also teach problem solving, flexibility, agility, resourcefulness, teamwork, learning-to-learn and entrepreneurship skills.

In certain developed countries, students between the ages of 11 and 15 years old choose between academic or vocational courses. Those who opt for the academic stream are prepared for tertiary education and entry to university. This choice is defined by pressure to meet the competitive requirements of higher education and entails very little employment-related course work. However, academic streams in schools are increasingly attempting to develop mobile core work skills, namely, teamwork, problem solving, ICT, entrepreneurship, communication and language, and learning-to-learn skills. These skills reinforce the employability of an individual and subsequently help them to adapt to rapid changes in the workplace and society.

Those who opt for the vocational stream embark on a range of programmes that are work-based in content. Given that compulsory basic education is being extended, students are tending to opt for vocational education at a later stage of academic life. Vocational education and training are also increasingly emphasizing mobile core work and employability skills. These span a broad spectrum and range from school-based learning, including work familiarization and practical exercises, to alternating periods of accredited learning at school and in a business, often in the form of modern apprenticeship.

Developing countries must be encouraged to adopt this type of model. One possible means of realizing this goal is to amalgamate general and vocational education, thereby solving the problem of unemployment to some extent (see section E below).[19] This would enable students to acquire technical skills and general education simultaneously. To this end, funding for the development of human resources must be channelled into the provision of appropriate skills and training as opposed to pure theoretical traditional learning.

E. A NEW APPROACH TO VOCATIONAL EDUCATION AND APPRENTICESHIP[20]

1. *Integration*

The aim of vocational education is to enable individuals to meet the demands of the labour market. In the modern era, this involves a focus on science and technology. The most critical issue facing developing countries is to find the appropriate balance between scholastic education and the development of mobile

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[17] "Basic education is more than an end in itself. It is the foundation for lifelong learning and human development on which countries may build, systematically, further levels and types of education and training." Extracted from "Meeting basic learning needs", *World Declaration on Education for All*, Article 1, paragraph 4, World Conference on Education for All: Meeting Basic Education Needs, Jomtien, Thailand, 5-9 March 1990.

[18] ILO, "Education, initial training and skills for employability and work", *Learning and Training for Work in the Knowledge Society*. Available at: http://www.ilo.org/public/english/employment/skills/recomm/report/ch_3.htm.

[19] U. M. Sedere, op.cit., p. 113.

[20] ILO, "Education, initial training and skills for employability and work", *Learning and Training for Work in the Knowledge Society*. Available at: http://www.ilo.org/public/english/employment/skills/recomm/report/ch_3.htm.

skills and occupation-oriented training. This balance has been achieved in many countries by integrating vocational and academic education.

The complete reform of the secondary school system in Norway in 1994 is an example of such integration. This built on the existing right to universal basic education in the country. Within the framework of the reforms, all 16 to 19 year olds were given the right to remain within the system and receive three years of upper secondary education. The outcome was an increase in the acquisition of mobile skills during vocational training exercises, an increase in the number of students awarded vocational certificates and a consolidation of the qualifications of those students aiming to enter higher education. Concurrently, it reduced, or even eliminated the number of dropouts from upper secondary education.

At the present time, vocational education, including apprenticeship training is an integral part of upper secondary education in Norway. The basic vocational education model offers the student a three-year education, with various vocational streams (see box 2). Schools often provide both theoretical and practical courses. The number of basic courses during the first years of study has been reduced from more than 100 to 13. In addition, the vocational curriculum has been broadened, to include an emphasis on the development of mobile skills, namely, languages such as Norwegian and English, mathematics, natural science, sports and physical education.

Box 2. Upper secondary education in Norway: academic and vocational pathways

"The first two years of upper secondary education are given at school. The student must choose different, more specialized courses during the second year. These are provided in schools while others are workplace-based. The academic track entails three-year courses. Under the vocational track the third study year has been transformed into two years of apprenticeship training. Apprenticeship schemes were extended to economic sectors that had no previous experience of them, and many vocational courses, previously entirely school based, were transformed into the new model of two years of school based education followed by two years of apprenticeship training (2+2). The concluding specialized training takes place in the workplace. In total there will be 190 different craft or journeyman's certificates."

Source: Ministry of Education, Research and Church Affairs, "Upper secondary education", in ILO, "Education, initial training and skills for employability and work", *Learning and Training for Work in the Knowledge Society*. Available at: http://www.ilo.org/public/english/employment/skills/recomm/report/ch_3.htm.

2. *Informal sector*

However, with regard to developing countries, the biggest challenge in this area pertains to the provision of vocational training and initial work experience that is capable of solving the primary causes of youth unemployment, namely, lack of experience and lack of training. The impact of vocational training must be maximized through the use of strategies that target youth and combine training with internships. This must be supported by stringent monitoring and evaluation mechanisms and by a sound support system. This system must include the provision of financing, information and the creation of networks for young entrepreneurs wishing to establish viable micro-enterprises and small businesses.

In this regard, training can be one of several instruments that address the challenges of the informal sector. The informal sector is not a sector in the traditional sense of economic classification. It is the name given to the unofficial, unaccounted for economic activities, in particular the survival activities, of people in a variety of situations. Employment in the informal sector is often unprotected and for the most part, characterized by low earnings and low productivity. The role of training is not to prepare people for the informal sector, or to expand the informal sector. Rather, the goal of training is to operate in tandem with other instruments, including the provision of credit and social protection and labour laws, to improve the performance of enterprises and the employability of workers. The aim of this is to transform marginal, survival activities into decent work that can be fully integrated into mainstream economic life. Prior learning and skills gained in the sector must be validated, as they facilitate access to the official labour market for informal workers.

In this context, informal apprenticeships, which can be defined as apprenticeships that occur outside an educational institution, are another form of training that is common in countries that have a significant informal economic sector. It is a popular form of work experience and one that may be more widely applied as a means of augmenting the supply of skilled trainees. On the down side, it does have some shortcomings, namely, it provides very little general basic education. However, Governments and NGOs hope to overcome this drawback by offering artisans economic support, training and learning materials.[21]

3. *Image and flexibility*

Another considerable problem with regard to vocational training is the way it is perceived by the public. Vocational training and apprenticeship programmes have a poor image which must be enhanced. This can be achieved by improving the status of teachers involved in technical education and boosting their skills and competencies. In addition, the value of vocational education, which is on a par with general or traditional forms of education, must be stressed.

However, in addition to these efforts and given the increasingly profound changes taking place in labour markets, vocational education and training must become more flexible. It must concentrate on developing overlapping competencies; providing skills for groups of occupations rather than for specific occupations; promoting the spirit of entrepreneurism and teaching the basic principles and techniques of management.

4. *Conclusion*

All efforts to improve vocational training and apprenticeship programmes must aim to provide training in the wide range of substantive areas and processes. Efforts must strive to form training chains that meet the needs of young people at the following four stages:

(a) At school;
(b) After leaving the education system and entering the labour market for the first time;
(c) During low-productive informal activities or unemployment;
(d) During employment and at times when labour market participation needs to be improved.

In addition, students must be prepared to update knowledge and skills as old skills and previous knowledge become obsolete. They must also be prepared for the advent of a radically new labour market in which traditional wage-employment is the exception and self-employment, in the era of entrepreneurship, is the rule.[22]

F. PROBLEMS RELATED TO HIGHER EDUCATION

1. *Introduction*

The strengthening of basic education and skill formation, in tandem with the provision of adequate opportunities for acquiring advanced knowledge, is one way of ensuring that individuals reap the benefits of emerging technologies. The ability to assess, select, adapt, use and develop new technologies is the core of technological competence. This is becoming a critical determinant of the competitiveness of countries in the era of globalization. This competence can only be achieved through the establishment of institutions of higher education that aim to equip individuals with the necessary advanced knowledge and skills. Such institutions are expected to produce new knowledge through research and to serve as channels for the

[21] For an example of how ICTs have boosted informal services in India, see ILO, *World Employment Report 2001: Life at Work in the Information economy* (Geneva, ILO, 2001), p. 122.

[22] For more details on the importance of technical and vocational education, see United Nations Educational, Scientific and Cultural Organization (UNESCO), "Technical and vocational education and training: A vision for the twenty-first century", Second International Congress on Technical and Vocational Education, Seoul, 26-30 April 1999.

acquisition, transfer, adaptation and dissemination of knowledge generated elsewhere in the world.[23] These institutions must integrate innovative scientific, mathematical, information technology (IT) and technology management programmes into their curricula. As such, they would serve as links between universities and the economy.

2. *Task Force on Higher Education*

With this in mind, experts from developing countries, UNESCO and the World Bank formed the Task Force on Higher Education and Society to study the link between higher education and prosperity in any given country. They concluded that without more and better higher education, developing countries would find it increasingly difficult to benefit from the global knowledge-based economy.[24] According to the Task Force, higher education systems in developing countries are under great strain. They are chronically under-funded whilst facing escalating demands. The teaching body in these countries is often underqualified, lacks motivation and is poorly rewarded. Students tend to be poorly taught, and the curricula are inadequate. In addition, teaching methods are often outmoded and rote learning is common. Such passive approaches to teaching have little value in a world where creativity and flexibility are at a premium.[25] There are notable exceptions, but across most developing countries, the potential of higher education to promote development is being realized only marginally.

Improving the credentials of teaching staff is very difficult in developing countries. This can be attributed to an ill-conceived incentive structure. Monetary compensations offered to teachers are usually low in comparison with the material opportunities provided by alternative professional occupations. Furthermore, wage increases are governed by bureaucratic years of service evaluation rather than by teaching abilities, successes, initiative or publications and research. In addition, students are faced with several problems not related to their primary performance of achievement. These include overcrowded classes, inadequate libraries, poorly equipped laboratories and non-existent student services. What is more, many students reach the university level academically unprepared for higher education; poor basic and secondary education, combined with a lack of proper academic evaluation and selection constitutes the root of this problem. However, educational institutions rarely respond to this detrimental situation by offering remedial programmes to inadequately prepared students.[26]

Moreover, the benefits of higher education are eroded by the fact that cultural and political factors, namely, favouritism and nepotism contribute to the unemployment or underemployment of graduates from higher learning institutions. For example, students, in particular females, tend to opt for the humanities and the arts in accordance with their traditional role rather than subjects that would maximize their opportunities in labour markets. Such subjects often offer limited job opportunities and lead to unemployment. However, it is often the case that there is a demand for qualified science graduates that is not realized. In addition, information concerning future demand in labour markets is not readily available.

3. *Research and funding*

The area of research is another challenge related to higher education in developing countries. It is a particular problem for universities, which play a major role in the transmission and generation of knowledge. Recent pressures to expand higher education have in many cases diverted universities from pursuing research. Funding problems have exacerbated this situation. The inability to pursue research isolates scholars and scientists; they are unable to keep up with developments in their own field. Furthermore, it forces highly qualified professionals to seek opportunities elsewhere. This brain drain can be reversed by ensuring that

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[23] W. D. Haddad, "Rethinking education and skill formation for the age of globalization and information", paper presented at the Mediterranean Development Forum 1998, Marrakesh, Morocco, 3-6 September 1998.

[24] International Bank for Reconstruction and Development (IBRD), Task Force on Higher Education and Society, *Higher Education in Developing Countries: Peril and Promise* (Washington, D.C., World Bank publication, 2000).

[25] Ibid., p. 23.

[26] Ibid., p. 24.

developing countries improve governance in higher education institutions, provide greater intellectual opportunities and ensure higher professional salaries and better working conditions. In addition, Governments can encourage the return of professionals by developing incentives related to academic freedom, international collaboration and enhanced job security.[27]

Indeed, funding is an important component of education in the new era. In this regard, adequate investments in resources such as books, instructional material, computers, teachers and the learning environment are vital. In fact, a number of studies on East Asian countries[28] reveal that increased investment in the software of learning rather than the infrastructure of education have a positive impact on the quality of education and ultimately benefit the nation.[29]

4. *Conclusion*

Developing countries wishing to benefit from globalization must strengthen all aspects of the higher education system in order to achieve the following objectives:

(a) Satisfy demand for an increasingly rewarding education;

(b) Adequately train individuals within the context of modern society;

(c) Provide a forum for the examination of societal problems and identification of appropriate solutions;

(d) Provide a framework within which the culture and values of societies can be studied and developed.

G. SHARING RESPONSIBILITIES BETWEEN THE PUBLIC AND PRIVATE SECTORS

1. *Public and private responsibilities*

Governments, in cooperation with other agencies, have a duty to guarantee that quality public primary and secondary education is made available to all. Qualified teachers and trainers are fundamental in this regard. They enable young students and adults to reach high academic and vocational standards. A successful education system ensures that teaching staff are recruited, educated, trained and retrained and receive satisfactory remuneration.

In addition, such a system ensures the provision of adequate career guidance, job placement, career and employment counselling and market information services. These play an essential role in the fight against unemployment. The promotion of a career development culture is particularly important with regard to ensuring employability and facilitating the transition from the education and training stages to productive employment.[30]

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[27] Brain migration and underdevelopment in the field of technology is resulting in a widening gap between developed and developing countries. Indicators reveal that the number of research and development scientists and technicians per capita was 3.8 per 1,000 people in developed countries compared to 0.4 per 1,000 people in developing countries during the 1990s. In addition, a much higher proportion of the population in developed countries study science at the tertiary level. These countries spend 2 per cent of gross domestic product on research and development activities. This figure amounts to 0.5 per cent or less in the majority of developing countries. Ibid., p. 69.

[28] Ibid., p. 70.

[29] W. D. Haddad, "Rethinking education and skill formation for the age of globalization and information", paper presented at the Mediterranean Development Forum 1998, Marrakesh, Morocco, 3-6 September 1998, p. 11.

[30] Levels of unemployment and underemployment are important indicators of the efficiency of educational systems in any country as they are directly related to the percentage of graduates acquiring employable skills and joining the workforce. Sedere, op. cit.

The cost of education and training must be viewed as a sound investment for any society as it ensures development, growth and quality of life for all. National governments, in their role as managers of the resources of a society, must assume the primary responsibility for investing in basic education and initial training. This responsibility includes the protection of certain groups that suffer from social exclusion or discrimination. In addition, national governments, in their role as employers, must assume the responsibility of investing in the training of public sector employees.

However, investing in education is not the sole responsibility of governments; the private sector also has an important role to play in this regard. The responsibilities of enterprises and individuals must be recognized and, where appropriate, encouraged. These responsibilities are particularly appropriate with regard to investment in workplace-based and continuous education. These forms of education are designed to increase the employability of a worker and the competitiveness of enterprises. The contribution of the private sector can be facilitated through partnerships between national governments, the business community and social agencies.[31]

The exact nature of the role of governments with regard to higher education has been extensively debated. Opinions vary: at one end of the spectrum governments need to maintain extreme state control over education and at the other end, they must exercise complete laissez-faire. In authoritarian systems, the state has complete control over the educational system: it owns, finances and operates higher educational institutions. Politicians frequently appoint directors and dictate degree requirements. Many developing countries adhere to this model on the rationale that Governments are entitled to control the systems that they fund. However, the major principles of good governance tend to be undermined within these systems. This is particularly true in countries where the direct involvement of politicians has generally politicized higher education, thereby increasing opportunities for corruption, nepotism and political opportunism.[32]

Growing awareness of the disadvantages of state control has led many countries to adopt alternative models of governance. These ensure a balanced form of state supervision, while respecting the need for academic freedom and autonomy. Such a balance can be achieved by forming independent boards that include representatives of national governments, institutions of higher education, the private sector and other key parties such as student organizations and research agencies. These bodies require clear mandates, well-established operating procedures and full autonomy.

2. *Funding*

Governments must build a general economic environment that incorporates incentives that encourage individuals and enterprises to invest in training activities. Indeed, a vibrant economy reaps the most benefits from a diverse network of public and private providers of technical education. These should operate in healthy competition within a national framework of quality assurance. In addition, Governments should be considered as providers of last resort. This would ensure that certain segments of the population are not overlooked or excluded from training programmes.

Furthermore, investment can be promoted and resources increased in a variety of ways. Enterprises have a critical role to play in this regard. Implementing certain mechanisms can ensure increased investment in training and guarantee access to programmes. These mechanisms include the following:

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[31] The field of R&D provides a relevant example of how such partnerships are beneficial to all parties concerned, while serving the greater aim of improving education. Governments invest in research projects that ultimately benefit society as a whole while industries seek the possibility of rapid commercial development and application of academic research. Within the spirit of partnership and cooperation, Governments can, through direct investment or financial and fiscal tools, channel research into projects that ultimately benefit the national economy. The private sector can play a key role by imposing hiring standards and setting up scholarships, internships and research programmes. Such arrangements ultimately benefit students, businesses and educational institutions. IBRD, Task Force on Higher Education and Society, *Higher Education in Developing Countries: Peril and Promise* (Washington, D.C., World Bank publication, 2000), p. 73.

[32] IBRD, Task Force on Higher Education and Society, *Higher Education in Developing Countries: Peril and Promise* (Washington, D.C., World Bank publication, 2000), pp. 24 and 63.

(a) Levy systems on enterprises and public grants;

(b) Training funds;

(c) Incentives related to training and learning, namely, tax rebates, training credits, training awards, individual training accounts, collective and individual training rights, sabbatical leave, collective training agreements;

(d) Emulation of national and international best practices with regard to investing in training.

The decision-making process regarding government policies on education and training must be based on genuine tripartite, that is State, private sector and civil society dialogue. It must ensure that partners are given the opportunity to develop the best means to increase investment in training.

H. CONCLUSION

The problems facing education and training in developing countries are considerable; nevertheless, they are surmountable. It is possible to use existing resources more effectively to improve the quality of education and to develop the skill building process. Countries that continue to neglect the relevance of quality education are at risk of becoming increasingly marginalized in the global economy. Furthermore, they are likely to suffer from delayed social progress, and find it increasingly difficult to keep up with other developing and developed countries. Progress is most likely in countries that develop a clear vision of education and that understand the relevance of training with regard to the employability of individuals, the alleviation of poverty, development and growth. Piecemeal reforms must be avoided and a general approach must be developed that advances quality in relation to the development of skills, expands employment choices and achieves economic growth.

In this context, formal education must evolve from merely conveying information to students to offering them the relevant tools for the process of continuous learning. In fact, knowledge can be divided into the following components:

(a) What or procedural knowledge: This involves the transfer of codified knowledge into facts;
(b) Why: Knowledge involving an understanding of basic principles, rules and ideas;
(c) How: Knowledge that derives from direct experience or know-how;
(d) Who: Knowledge that involves the ability to communicate and work in teams.[33]

The availability of information at the click of a mouse has not rendered procedural knowledge obsolete; however, it has made it less important. The need to learn how to acquire facts and transform them into new knowledge is the procedural knowledge of the modern era. Accordingly, the ultimate goal of education is increasingly concerned with the development of cognitive skills. It is also concerned with awakening the curiosity of students and with knowledge related to learning to learn and the drive to learn. Students are being encouraged to shift from being passive recipients of knowledge to more interactive participants in the process of learning. Furthermore, the role of teachers and educators is being transformed. They are no longer required to merely transfer information to students, but to facilitate the acquisition of knowledge. This pedagogical shift is being paralleled by a greater degree of informality in the learning process.[34]

[33] ILO, *World Employment Report 2001: Life at Work in the Information Economy* (Geneva, ILO, 2001), p. 209.

[34] Ibid.

III. OBSTACLES WITH REGARD TO THE DEVELOPMENT OF SKILLS IN THE ESCWA REGION

A. INTRODUCTION

During the latter half of the twentieth century, ESCWA member countries made positive quantitative achievements with regard to literacy. This was achieved by improving access to education and recording increases in the average number of years of schooling per person.[35] By 1995 more than 90 per cent of all males and 75 per cent of females in ESCWA member countries were enrolled in primary schooling, and nearly 60 per cent of males and 50 per cent of females were enrolled in secondary education. In total, illiteracy rates fell significantly between 1980 and 2000 (see annex table 1).

These positive achievements were the result of government policies related to the eradication of illiteracy. Moreover, this improvement was aided by the fact that the pre-1980s illiteracy rates in the ESCWA region were significant and indeed aberrant compared to the rates of other developing nations. However, indicators reveal that the improvement in literacy rates did not result in lower unemployment or underemployment rates. This situation can be attributed to the fact that regional education policies are not meeting the demand side of the labour markets and are failing to produce employable graduates. Indeed, the ideology of the welfare state still governs educational policies.

The situation also needs to be improved with regard to technical education. In this area, the aim has been to promote skills required by the public sector regardless of the requirements of economic development.[36] Therefore, little emphasis has been placed on creativity, know-how and the technical application of theories. This has resulted in the following outcomes:

(a) A decrease in basic illiteracy and an increase in technical illiteracy;

(b) High unemployment and underemployment rates, in particular, among graduates and new entrants to labour markets;

(c) A lack of the skills necessary for inclusion in the global labour force;

(d) Decline in productivity.

These factors, in combination with very high birth rates and increased female employment, have resulted in an expansion of the supply side of the labour market.[37] Unless comprehensive measures are taken to enhance the employability of individuals by means of reforming the educational systems in the region, new graduates face a gloomy future. Indeed, unless the status quo is changed, the region remains vulnerable to economic and social tension and is unable to adapt to the new world economy.

One way of transforming the status quo would be to respond to the challenges of globalization (see box 3).

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[35] The overall weighted average of years of schooling for the Arab region amounted to 1.1 years in 1960 and increased progressively to reach 4.83 years by 2000 according to A.A.G. Ali, "On the challenges of building human capital for economic development in the Arab countries", Kuwait, Arab Planning Institute (API), 2002.

[36] A number of studies have focused on the reasons why such investments in education did not result in higher economic growth rates after a certain threshold point. These include studies by World Bank in 1995; N. Fergany in 1998; J. Page in 1998; L. Pritchett in 1999; and API in 2002.

[37] ILO estimated that the labour force in the Arab region would increase by more than 3 per cent per year between 2000 and 2015. However, the Arab Labour Organization (ALO) estimated that 14 million people out of a labour force of 90 million people would be unemployed by 2000.

Box 3. Challenges of globalization

The globalization process has been accelerated by the information revolution. This can be attributed to the instantaneous transfer of information and interactive communication among people and businesses everywhere. This global village effect has seen an increasing number of countries opening markets to new investments, new ideas and new products from around the world.

In addition, globalization has transformed the major means of production and the nature of economic competition. Increasingly, business, economic and financial activities are generated as a by-product of knowledge and science rather than as a result of the traditional production of manufactured goods and assets. Companies are evaluated in terms of prospects, research and projects as opposed to the criteria of the old economy, namely, acquisitions, real estate and tangible assets.

This new environment poses certain challenges for ESCWA member countries. They must develop strategies that enable them to meet the demands of the new economy. Failure to do this could result in marginalization and diminishing opportunities for social and economic growth.

B. QUALITY OF EDUCATION

"Employment is the vehicle through which education is translated into growth and equitable distribution of this growth. When the link between education and employment is broken, significant resources are wasted and the returns to education diminish."[38]

Research highlights the fact that regional educational systems are not providing students with twenty-first century skills. A number of independent studies have been carried out by regional organizations to assess the quality of education in the Arab world. These include studies carried out by API, UNESCO, Arab League Educational, Cultural and Scientific Organization (ALECSO), Arab Labour Organization (ALO), World Bank and UNDP.

The most recent of these was the *Arab Human Development Report 2002: Creating Opportunities for Future Generations*.[39] These studies concluded that regional educational systems employ rote learning techniques, lack creativity and innovative capacity-building structures, do not have access to new techniques of education, maintain a heavy reliance on state funding and lack the ability to link education outputs to the needs of the labour markets.

Methods of ensuring quality with regard to education in Japan are highlighted in box 4 below.

Box 4. Quality of formal schooling and training in Japan

The development of human resources in Japan has relied on the close coordination of formal schooling and employment-based training. Schools ensure that students who have completed nine years of compulsory education are equipped with basic skills in addition to the skills necessary to work effectively in groups. In this regard, the Ministry of Education of Japan has five primary objectives. These are as follows:

(a) To improve technical basic skills and knowledge for essential occupations;
(b) To instil an appreciation for hard work;
(c) To develop the ability to choose a career consistent with individual character;
(d) To develop the necessary aptitudes for productive citizenry;
(e) To foster public-mindedness.

[38] A. Galal, "The paradox of education and unemployment in Egypt", paper presented at the Conference on Employment and Unemployment in Egypt, Egyptian Centre for Economic Studies (ECES), Cairo, 13-14 January 2002, p. 13.

[39] United Nations Development Programme (UNDP) and Arab Fund for Economic and Social Development (AFESD) (New York, UNDP, Regional Bureau for Arab States (RBAS), 2002).

Box 4 (*continued*)

The aim of these objectives is to create an enlightened and responsible citizenry and to lay the groundwork for effective employment-based training. After graduation, employers offer students training in technical skills and the skills necessary for productive employment relationships. These two types of training reinforce each other with regard to creating a productive workforce. An advantage of the close link between formal education and employment-based training is that it minimizes the differences between the demands of a school education and the demands of the labour markets.

There are two types of employment-based training: technical training and employment relations training. The latter teaches employees how to communicate effectively with co-workers, how to share information and responsibilities and how to deal with conflict scenarios. This type of training occurs informally and includes such interpersonal skills as the knowledge of networking and the understanding of workplace politics.

Another unique learning device in Japan is the employee rotation system. This system is a lifelong process in which a worker is rotated among several assignments over many years and hence is trained in both technical skills and employment relations. As a result, the worker can perform multiple tasks, become more flexible and accept change without resistance.

Source: This material has largely been derived from M. Hashimoto, "Education in Modern Japan: Formal schooling and learning on the job", *Education and the Arab World: Challenges of the Next Millennium* (Abu Dhabi, Emirates Center for Strategic Studies and Research (ECSSR), 1999), p. 207. This is a volume of papers that were presented to ECSSR Fourth Annual Conference on Challenges of the Next Millennium: Education and Development of Human Resources, Abu Dhabi, 24-26 May 1998.

In addition, the level of scientific research and the generation of knowledge in the region are poor. UNESCO data pertaining to the mid-1990s revealed that gross expenditure on R&D in the Arab world was marginal, amounting to approximately 0.14 per cent of gross domestic product (GDP), the lowest figure in the world in terms of spending on R&D. Furthermore, the number of patents held by nationals of Arab countries are negligible. The scientific output of the Arab world, as measured by publications per million inhabitants, is extremely low (see annex table 6). University enrolment in science and technology at both the undergraduate and doctoral levels has actually declined since 1991. In both the public and private sector, the practice of turnkey contracting implies that technology is imported rather than adapted locally to benefit the economy as a whole.

Furthermore, the quality of education in the region is being compromised. This can be attributed to the fact that the institutions that govern the educational system are failing to maintain and improve the standards of teaching staff and the infrastructure for learning and curricula. In fact, the motivation and quality of teaching staff have deteriorated over time. This can be partially attributed to inflation and falling wages and the fact that there are few incentives to invest in training. Teachers are often ill prepared, particularly in the field of primary education. In addition quality is being affected by the severe deterioration of the physical infrastructure of establishments.

This situation has been made worse by a lack of coherent policies pertaining to education. Various studies suggest that contemporary education systems in the region are not designed to impart higher order cognitive skills, namely, flexibility and problem solving, in a useful manner.

Therefore, countries in the ESCWA region must prioritize the following goals:

(a) The elimination of illiteracy;

(b) The provision of universal high-quality basic education, particularly for females and the poor;

(c) The strengthening of the tertiary education system, in particular, the fields of science and engineering;

(d) The provision of opportunities for lifelong learning for all people.

C. CONCERNS WITH REGARD TO THE DEVELOPMENT OF SKILLS

1. *Concerns*

(a) *Acquisition of skills*

Participation in the global economy requires a new set of human skills. Indeed, those who wish to benefit from the new economy must be well educated and capable of greater intellectual independence than has been previously required. They must be flexible and able to continue learning well beyond the traditional boundaries of schooling.

Moreover, academic achievements must be complemented by non-academic market skills. Such skills include creative thinking, innovation, teamwork and self-confidence in addition to the ability to take the initiative, bear responsibilities, meet deadlines, communicate and present information, interact with other cultures and a high level of integrity and honesty. Non-traditional teaching methods would ensure the instillation of such skills at an early stage of the learning process.[40]

Without improved human skills, human resources capital in ESCWA member countries could lag behind that of other countries, resulting in intellectual and economic marginalization and isolation. The possible outcomes of this scenario are that countries could fail to attract FDI, face rising unemployment and underemployment levels and increased poverty and social tension.

(b) *National qualification framework*

One step towards effecting a change is to develop a national qualification framework. This would measure and certify the skills of the labour force. Such a framework must include a fair and transparent means of assessing skills and competencies irrespective of how and where these were acquired, that is, through work experience, everyday activities, or through formal and informal training and education.

To this end, ILO is establishing a database on best practices in developing a national qualifications framework and is conducting a general study on the comparability of different national qualifications frameworks. Certain countries already have such a system. For example, France was one of the first countries to enact a law that allows skills and experience to be assessed, irrespective of how skills have been acquired. In Australia and the United Kingdom of Great Britain and Northern Ireland, assessment mechanisms form one element of emerging national qualifications frameworks.[41]

(c) *Provision of education for all*

However, before the process of developing human resources can reach this advanced stage of skill building and evaluation, it must ensure the provision of a proper education for all people. As stated above, the quality of education in the ESCWA region is deteriorating. This has aggravated dropout and repetition rates. According to World Bank estimates released in 2002, the number of children not attending school, in particular females and the rural poor, is expected to increase by more than 40 per cent within the next decade.[42] A large proportion of dropouts include children from poor families who are likely to join informal labour markets during times of economic hardship. In Egypt for example, the enrolment rate for children in the top quintile of households in terms of wealth remains above 80 per cent, while enrolments in the poorest one-fifth of households are around 50 per cent according to information published in 2002.[43]

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[40] API, *Proceedings*, International Conference on Enhancing the Links between Education and Labour Markets in Arab Countries, organized in cooperation with the Ministry of Finance of Lebanon, Beirut, 4-6 March 2002.

[41] ILO, "Knowledge and skills for employment: An input to the global employment agenda", paper presented at the World Employment Forum, Geneva, 1-3 November 2001, p. 5.

[42] World Bank, *Reducing Vulnerability and Increasing Opportunity: Social Protection in the Middle East and North Africa* (Washington, D.C., World Bank, 2002) p. 57.

[43] Ibid.

(d) *Supply and demand*

Another crucial problem with regard to the development of skills in the ESCWA region is the mismatch between the excessive supply of tertiary graduates in the conventional liberal arts fields and the requirements of a fluid global economy. This mismatch has been exacerbated by increasingly rapid innovations in the field of technology. The development of IT has led to a situation where information is circulated more rapidly than ever before. This in turn has resulted in the creation of new jobs that require special skills and the phasing out of traditional forms of employment. Individuals who possess new skills have access to an extraordinarily valuable resource; those who do not, face under- or unemployment. For example, the access of ESCWA countries and their use of new technologies is very limited. Only 1.8 per cent used the Internet in 2001 and personal computer penetration rate was some 2 per cent during that period, according to ESCWA.

(e) *Investment in R&D*

Another issue related to the development of skills is investment in R&D. According to ILO, investment in R&D is of primary importance with regard to being competitive in the global world. Moreover, this factor can offset the need for other forms of adjustments, namely, exchange rates or reduced wages. R&D activities are also critical with regard to strengthening new lines of production and raising the value-added capabilities of the labour force.[44] In addition, recent indicators reveal that the Arab region has contributed nothing in the area of patents published by patent offices. Such indicators suggest that, despite efforts to expand and improve education, Arab countries are still at a very early stage of building an adequate technological capacity.

2. *Conclusion*

In short, the most critical aspect of the crisis in regional education is its inability to provide the necessary skills for the development of Arab societies. According to UNDP:

"If the current situation is allowed to continue, the crisis can only worsen—this at a time when accelerated acquisition of knowledge and formation of advanced human skills are becoming prerequisites for progress."[45]

The report calls for comprehensive action to reform education systems with the aim of enabling the Arab population to benefit from globalization. It concludes, "The horizons are limitless, the challenge immense, and current efforts are meagre at best."[46]

Given the poor environment for productivity in the region, policies pertaining to the effective acquisition of knowledge must focus on changing attitudes at all levels of society. Individuals must be encouraged to do the following:

(a) Respect science, knowledge, creativity and innovation;
(b) Utilize new discoveries to improve productivity;
(c) Be committed to enhancing the welfare of the society as a whole.

D. PROBLEMS RELATED TO VOCATIONAL AND HIGHER EDUCATION

The educational policies of the majority of ESCWA member countries have concentrated on basic education. This has been perceived as a way to relieve the mounting pressures on an overloaded public higher education system. Some governments have encouraged the expansion of private universities.

[44] Research and development (R&D) expenditure of all Arab countries amounted to $1.9 billion or 0.4 per cent of the world total of $470 billion in 1994. In addition, Arab publications in scientific journals amounted to only 0.7 per cent of total scientific publications in 1995 according to UNESCO (see annex table 6).

[45] UNDP and AFESD, *Arab Human Development Report 2002: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002), p. 54.

[46] Ibid., p. 58.

However, evidence suggests that the majority of graduates from higher institutions are not employable. Therefore, these institutions would appear to have contributed to higher rates of unemployment and to have favoured privileged and urban communities.

In the new era, graduates of technical and vocational education programmes must have broad-based skills that can be applied in multiple disciplines. They must be able to use their skills in new fields and be able to take the initiative in new situations rather than remain confined to a narrow range of professions or to traditional manual skills. However, while the vocational system in the ESCWA region is expanding, problems remain. These include the fact that there has been no analysis of market requirements pertaining to skills, no coherent national strategy and limited interaction with the private sector. In the majority of countries, the system is fragmented, burdened with a surplus of duplicated training programmes and marred by lack of coordination. Such programmes tend to target those who have dropped out of school for academic reasons. Therefore graduates of these programmes are often ill equipped for the job market and remain unemployed for long periods.

For example, in Egypt fewer than 10 per cent of the 52,000 students, who graduated from vocational programmes in 1996, have found decent employment. The remainder have low paying jobs in the informal sector or rely on assistance from Government programmes. In Yemen, there were 5,000 students in 15 public training centres that focused primarily on industry and commerce according to information published in 2002.[47] Moreover, most regional training programmes focus on pre-employment services, rather than lifelong or on-the-job training. The overall result is a labour-supply-driven vocational training system with public funded programmes that do not correspond to labour market realities. The system is not integrated with the needs of the private sector and does not meet the demand for the skills required by the new economy. This often leads to further unemployment of graduates.

Programmes in higher education institutions are often theoretical and do not correspond to modern technological developments or the changing requirements of the economy. Within universities, various disciplines function in isolation from other areas. There is a general shortage of applied technology and inter- and multidisciplinary programmes of study. Moreover there is lack of coordination between universities, community colleges, technical education and training establishments and general education systems. Endeavours to improve this situation must be directed at fostering links with industry. Furthermore, R&D activities must be merged with departmental research with the aim of forging relationships with the production and service sectors.

Therefore, there is an urgent need to assess the quality of vocational and higher education in the region and its ability to ensure that graduates are employable, productive and competitive in line with the requirements of the new economy. ESCWA member countries must examine the successful vocational training systems that have been adopted by many European countries, in particular Austria, Germany and Portugal.

E. INVESTMENT, EDUCATION AND LABOUR PRODUCTIVITY

During the past decade, and within the context of sluggish labour markets, education has expanded horizontally in terms of enrolment without substantive improvements in the quality and enhancement of skills. At the same time, demand for labour has decreased as government recruitment policies reached their peak and employment schemes were discontinued. The ability of the non-public formal sector to absorb the increasing supply of labour has been limited. Such a situation has resulted in a backlash with regard to education, particularly higher education. It has experienced decreasing returns and become a less attractive investment option. This phenomenon has prevailed at a time when ESCWA member countries are in desperate need of the skills needed to adjust to the changes in global labour markets.

Research concerning the considerable investments in education in the ESCWA region reveals that while the average years of schooling per person have increased dramatically in the majority of countries (see annex table 2), growth of output per capita, as measured by real wages, has often been slow and in many

[47] World Bank, *Reducing Vulnerability and Increasing Opportunity: Social Protection in the Middle East and North Africa* (Washington, D.C., World Bank, 2002), p. 58.

cases negative (see annex table 10). In the early 1990s, industrial labour productivity was estimated to be at approximately the same level as in 1970.[48] Furthermore, increases in productivity in other parts of the world have been mirrored by a significant relative decline in the competitiveness of the region.[49]

It is worth noting that this decline occurred after massive investments in gross fixed capital formation and the massive expansion of educational systems in the region.[50] This situation has led to declining labour total factor productivity (TFP) and resulted in unemployment and underemployment of youth, in particular school and university graduates. The main factors behind this deterioration in productivity can be categorized as cultural, institutional, financial and demographic.

F. CULTURAL FACTORS

There are a number of cultural factors that have particular significance with regard to deterioration of productivity in the ESCWA region. These are reviewed in the following subsections.

1. *Prevailing environment*

The prevailing environment in the ESCWA region does not reward the acquisition of knowledge, technical skills, or creativity. Moreover, it does not encourage learning. During past decades higher education in the region has focused on arts, humanities and the social sciences. However, the experience of newly industrialized countries reveals that investments in secondary and tertiary education, particularly in the fields of engineering and applied sciences, are beneficial on a national scale.[51] The experiences of these countries also indicate that prior to embarking on the process of diffusing or adapting new technologies to local conditions, a country must ensure that it has a solid basic scientific education system with a strong emphasis on technology and engineering. Therefore, higher education must not be viewed as a means of achieving social status. Instead it must be viewed as a social investment and as a means of increasing the productivity of individuals.

The fact that increases in the average years of schooling per person in the ESCWA region during the past 40 years have been higher than any other region in the world, with the exception of East Asia (see annex table 2) while productivity has been among the lowest in the world, proves that structural imbalances are an obstacle to the formation of human capital. As traditional skills become increasingly obsolete, higher education must encompass the concept of lifelong education. A culture that encompasses the acquisition of knowledge for the sake of upgrading skills and productivity does not yet exist in the region. Abstract skills such as creativity, self-confidence and the ability to take the initiative are neglected at schools.[52] Creativity is

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[48] Productivity is another challenge: the Arab region has been uncompetitive for some time. According to World Bank data, total factor productivity dropped steadily by 0.2 per cent during the 1960-1990 period. As of 2002, it was virtually stagnant. In 1998/99 gross national product (GNP) per worker in all Arab countries was less than half that of South Korea or Argentina.

[49] According to United Nations Industrial Development Organization (UNIDO), *Industry and Development Global Report 1992/93* (Vienna, UNIDO, 1992, Sales No. E.92.III.E.4), Arab industrial labour productivity per worker, calculated as a percentage of the North American level of productivity in constant 1985 dollars value, fell from 32 per cent in 1970 to 25 per cent in 1980 and to 19 per cent in 1990.

[50] UNDP and AFESD, *Arab Human Development Report 2002: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002), p. 88.

[51] According to ESCWA, *Statistical Abstract of the ESCWA Region*, twenty first issue (E/ESCWA/STAT/2001/7), 72.7 per cent of 1998/99 university graduates majored in the fields of education, arts and business, compared to 6 per cent in science subjects, 7.4 per cent in medicine and 9.8 per cent in engineering.

[52] UNDP and AFESD, *Arab Human Development Report 2002: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002); and D.S. Isfahani, "Will increase in education in the Middle East lead to economic growth?", paper submitted to the International Conference on Enhancing Links between Education and Labour Markets in Arab Countries, organized by API

considered to be an essential component of human capital. The term creativity incorporates proper attitudes to learning, competitive work, teamwork, perseverance, self-confidence and ambition.

Another component of this particular factor pertains to the attitudes of society and individuals towards learning, productivity, creativity and innovation. This has had a marked influence on the rate of progress of society as a whole. This attitude can be transformed through policies that modify traditional structures of society and provide incentives for embracing reform. One of the most effective incentives for transforming attitudes is the provision of real opportunities for social recognition, financial rewards and promotion for those who work in the areas of knowledge and innovation.

2. *Gender gap*

The gender gap is another factor that has contributed to the deterioration of productivity in the ESCWA region. Societies that only utilize half their human resources cannot support their populations, produce a surplus or amass the wealth that is necessary for economic growth. In the ESCWA region, the contribution of women to economic or productive life tends to be marginal. This is despite the rhetoric concerning advances in bridging the gender gap.

Lack of opportunities for the employment of women can be related to the general lack of employment opportunities in the region. However, the real nature of the problem is cultural. In general, women are expected to stay at home, raise children and make little contribution to the decision-making process. Societies in the ESCWA region tend to be patriarchal in nature and are more restrictive than other cultures. In other countries, women are actively encouraged to seek employment and contribute to the productivity of the economy as a whole.

In many countries of the region, the gender gap is apparent from an early age. Girls are less likely to be literate, to receive a secondary education, and much less likely to reach university or a higher vocational training level. Moreover, educated women have less opportunities to enter the work force and a large number of these remain at home when they marry. Women that enter the labour market are often unable to attain positions of responsibility and are paid less than men for the same job. In politics, the participation of women is almost non-existent, with the exception of those who inherit the positions of husbands or fathers. With regard to employment within governments, women tend to be appointed to positions related to education or women affairs. It is true that some governments in the region are slowly trying to improve the conditions of women. However this situation cannot be improved unless the cultural environment undergoes some kind of transformation.[53]

3. *Language*

Language is another factor that has contributed to the deterioration of productivity in the ESCWA region. As stated previously, Arab publications in scientific journals amounted to only 0.7 per cent of total scientific publications in journals in 1995.[54] What is even more worrying is that contributions from the Arab region in this field are declining in comparison with other developing countries.

The following statement was made at a study presented at the American University of Beirut in 2000:

"In 1981 China produced half the Arab returns (of research), in 1987 it levelled out with the Arabs, today (2000) it produces double the research returns of the Arab world. In 1981, South Korea produced ten per cent of the Arab world's returns, in 1995 it almost levelled out".[55]

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and the Ministry of Finance of Lebanon, Beirut, 4-6 March 2002. Both blame the educational system in the ESCWA region for this problem.

[53] For further details see Centre of Arab Women for Training and Research (CAWTAR), *CAWTAR Arab Women's Development Report 2001, Globalization and Gender: Economic Participation of Arab Women* (Tunis, CAWTAR, 2001).

[54] The Arab region published 7,000 papers in 1995; the United States published 249,386 papers and Switzerland published 13,331 papers in 1995.

[55] Antoine Zahlan as quoted in *An-Nahar*, 14 December 2000 (in Arabic).

Furthermore, UNDP commented in 2002 on the fact that translations of scientific texts into Arabic are becoming increasingly infrequent. This has limited regional exposure to new discoveries, ideas and information. Moreover, individuals that are not multilingual are unable to update skills and be competitive in the modern era.[56]

4. *Public sector employment*

The practice of seeking employment in the public sector is another factor that has contributed to the deterioration of productivity in the ESCWA region. Prior to 1985, the majority of ESCWA countries offered graduates guaranteed employment in government offices and public enterprises. Education systems adapted to this scenario by tailoring curricula to the needs of such institutions, and concentrating less on creativity, the ability to take the initiative and practical application skills. Students were not taught the skills required by modern labour markets.

By the second half of the 1980s, it became clear that the traditional approach to State-led development could not be sustained and governments started abandoning guaranteed employment schemes. Educational systems found it hard to adjust to the realities of the new market. This contributed to higher unemployment rates with regard to graduates and a decline in real wages. However, during this process, education systems continued to teach skills related to public sector employment and education became a less attractive investment option.

5. *Other cultural factors*

These relate to widespread favouritism in the recruitment process and lack of geographic and social mobility of skilled workers. Within this context, many workers prefer unemployment to occupying a job that is considered to be of low prestige. Moreover, urban employment is preferable to rural work; white-collar occupations are preferable to blue-collar occupations and management positions are favoured over support work. Such factors impede the flexibility of the labour markets and the mobility of labour in relation to demand.

G. INSTITUTIONAL FACTORS

The institutional factors that have affected education, skill formation, and productivity in the ESCWA region are complex. They are reviewed in the following subsections:

1. *Marginal role of the state with regard to enhancing technological developments*

This factor can be partially explained by the lack of appropriate delivery and management mechanisms related to education. In the majority of ESCWA member countries, governments have been fully responsible for formulating educational policy in addition to funding expenditures pertaining to education and related services at all levels. This means that delivery and management mechanisms are almost entirely in public hands. While the social dimension of education justifies public funding, government subsidies as a portion of total expenditures on education appear to be excessive in most countries, particularly given that these subsidies are allocated inappropriately. They tend to benefit all students irrespective of income and subject of specialization.

A World Bank study attributes this inefficiency to centralized management practices, poor channels of coordination among ministries and minimal participation of the private sector. Private involvement with regard to the supply of education services remains limited in most countries, and there is little or no family,

[56] UNDP and AFESD, *Arab Human Development Report: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002).

student, or community involvement in the management of schools and training centres. These conditions provide few incentives to improve efficiency and the quality of education.[57]

2. *Lack of coordination between public and private sectors*

In the vast majority of cases, education and training systems in the region are centralized and rigid and Ministries of Education are the major providers of services. The limited control of local authorities is compounded by the marginal role of the private sector in the training process. Furthermore, a lack of statutory accreditation regulations hinders the participation of the private sector in the field of education, particularly at the intermediate and tertiary levels. In fact the debate concerning whether education is a public or private entity has been going on for some time. Most researchers agree that education cannot be considered an entirely public entity. However, neither can it be considered purely private. Economists tend to regard education as a quasi-public entity that should be financed and managed by national governments.[58] The consensus is that the social benefits of education often exceed the private benefits. Therefore, government intervention ensures, to a certain extent, that all people have access to some form of education. Indeed, governments must subsidize programmes that fail to attract private investment but that benefit society. This means that governments must determine an appropriate combination of financial support that best promotes the interest of society whilst advancing the participation of the private sector.

At the practical level, the majority of countries in the region have clearly defined goals pertaining to education and training. Moreover, certain countries have already initiated national education and training policies whilst others have reviewed and redefined their goals in the context of the challenges of the twenty-first century. However, this approach is not achieving the desired results. It is failing to deliver quality education. Moreover, it is not sufficiently motivating teachers to improve performance and does not involve parents in the teaching process. Furthermore, the private sector plays a minimal role in determining the nature of education. In other regions private sector participation in the provision of education is increasing at all levels.

Moreover, education systems that need to evolve rapidly cannot afford to be at the mercy of government machinery that can only effect change at a slow rate. There is a need to implement changes that parallel recent developments in education (see chapter I) and to monitor results. This requires a shift in management structure, away from the involvement of multiple ministries towards increased autonomy at the level of educational units, namely, schools, institutions and universities. It also requires increased participation of parents and communities in the management and mobilization of resources. Combined efforts must be aimed at ensuring that the education system improves its performance. This can be further complemented by improving the declining status of the teaching profession,[59] and introducing an appropriate financial incentive structure for teachers.

At all times, however, governments must monitor and regulate the education sector to ensure adequate quality of service and limit the impact of market deficiencies. Governments can use a variety of methods to enforce the quality of education. These include the following:

(a) Improving the ICT qualifications of teachers, with the aim of integrating computer-based education into curricula;

(b) Creating a professional association that formulates codes of ethics for teachers, enhances performance, protects interests and participates effectively in the improvement of education in general and the training of teachers in particular.

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[57] World Bank, *Reducing Vulnerability and Increasing Opportunity: Social Protection in the Middle East and North Africa* (Washington, D.C., World Bank, 2002), p. 57.

[58] J. Hallak, *Investing in the Future: Setting Educational Priorities in the Developing World*, in cooperation with UNDP, UNESCO and International Institute for Educational Planning (IIEP) (Paris, UNESCO and Oxford, Pergamon Press, 1990), p. 78.

[59] A.A.G. Ali, "On the challenges of building human capital for economic development in the Arab countries" (Kuwait, API, 2002).

In conclusion, a major aspect of education and training reforms must be to ensure that all those concerned bear a shared responsibility with regard to investments in education and training. This can be effected through relationships between States, social partners, individuals and other stakeholders. The State must assume primary responsibility for basic education and must promote equal training opportunities for women, youth and other vulnerable groups. The private sector must assume a greater share of the burden of financing education and training and local communities and civil society must bear a larger responsibility with regard to directing education at the local level. This synergy is particularly important with regard to institutions of higher education.

Box 5 highlights the progress that has been made in Costa Rica.

Box 5. Case study: Costa Rica

The goal of educational policies in Costa Rica was to prepare a new generation of students and teachers for the challenges of a technology driven economy. The country did this by establishing the computers into elementary education programmes over a period of 10 years. This transformed a largely agricultural society into the technological capital of Latin America.

From 1988 educational policies in Costa Rica emphasized the development of creative thinking skills and problem-solving abilities in young children. The new programme gave priority to poor underprivileged rural and urban populations. Moreover 90 per cent of its teachers were women, most of whom had never had any experience with computers before joining the programme.

This demonstrates that introducing computer courses at elementary school produces very effective results in the long run. It also shows that effective use of ICT in education cannot be sustained without political support and long-term commitments. As such ICT in education should be prioritized, particularly in deprived and less developed areas that suffer from high unemployment rates. It also demonstrates that children who are familiar with ICT have better chances with regard to job placement and are better adjusted to modern life. At the macro level, countries that seriously focus on ICT education have generated opportunities for economic growth and adjust more readily to globalization.

Source: ESCWA, "Integrating ICTs in education: A long-term strategy for poverty alleviation", a paper presented at the Forum on Technology, Employment and Poverty Alleviation in the Arab Countries and the Consultative Committee on Scientific and Technological Development, Beirut, 16-18 July 2002 (E/ESCWA/TECH/2002/WG.1/9), pp. 5-11.

3. *Lack of coordination between education and labour markets*

There is a definite lack of communication between the supply side of the labour markets, namely, colleges and universities and the demand side, for example, the private sector. This explains the high unemployment rate among university graduates in the region, in particular those majoring in social science and humanities. Unless the focus and quality of higher education is dramatically improved, and more market-oriented programmes are created, the current imbalance between university graduates and labour market demands will be exacerbated in the future. This would lead to an increased waste of resources and underemployment.

This problem has been further aggravated by the weak relationship between educational institutions and the job market. This can be attributed to the continued acceptance of the idea that education is academic and independent of market needs. In developed countries, firms actively participate in sponsoring research, designing vocational and higher education curricula and in work experience programmes. This is rarely the case in the ESCWA region. This must change. Enterprises and educational institutions must build solid relationships. This can be done by ensuring that businesses are involved in the planning of curricula and the training of students.

While it is true that structures pertaining to technical and vocational education in the region are expanding, they are doing so without consideration for labour market needs and without comprehensive national strategies, according to UNESCO. In many countries of the region, vocational training systems offer

training in skills that have little or no relevance to the requirements of the job market. Course materials, methods of training and training tools are often outdated. There are no reliable methods to assess and evaluate the standard, quality and relevance of training courses and outputs. As a result, those who complete vocational training courses are often ill prepared to meet the requirements of modern labour markets and therefore, are likely to become unemployed.[60]

In addition, there is a near, or total absence of, authentic accreditation systems of knowledge, skills and competencies related to particular jobs. This is despite the fact that such systems are necessary to assure quality and standardization of jobs and to increase mobility of the labour force.

Another important factor that has resulted in poor coordination between labour markets and education systems in the region, is the lack of an effective database on employment. Secondary and university students in the region need efficient and clear guidance and counselling systems. Education policies must encourage students to transfer from traditional disciplines to those that are related to the global labour markets of the twenty-first century in order to have access to available employment opportunities. The success of such policies depends upon the availability of a market-related educational and job database that assists students in their choice of study prior to entering higher education. This would incorporate the publication of periodic statistics related to available jobs and would categorize graduates according to area of expertise. Such a database could be made available on the Internet and published as a guide.[61] In addition, the role of national employment offices must be enhanced so that they can play a more effective role in locating jobs.

4. *Rigidity of labour markets*

Labour markets in ESCWA member countries are rigid; there is no flexibility as regards labour mobility, rehabilitation of the workforce and the updating and upgrading of skills. Such rigidity can weaken demand for labour, ensures poor returns on education and results in low productivity of the labour force. It can also be claimed that such labour markets fail to reap the benefits of education. In inflexible labour markets, knowledge has more value than creativity. However, in flexible labour markets, creativity ensures prospects for employment and growth.[62] Therefore, unless labour markets are reformed, educational reforms are unlikely to succeed. The present system promotes and rewards the acquisition of academic diplomas rather than skills that enhance the productivity of the worker. Ensuring that a sound system of accreditation and certification is in place is one means of facilitating mobility of labour. This type of system would also be capable of standardizing qualifications awarded by different institutions for different programmes across the region.

5. *Growth of the informal sector and the absence of effective safety nets*

In ESCWA member countries that are not members of the Gulf Cooperation Council (GCC), particular attention must be afforded to the informal sector, which includes small and micro-enterprises. This is the most important source of job creation in the private sector.[63] This can be partially attributed to the specifics of economic growth in the region. In the formal sector, the most important growth occurs in capital-

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[60] V. Billeh, "Reform of education and training systems to promote youth employment in the Arab States", paper submitted to the Sectoral Meeting on Youth and Employment between the United Nations and the League of Arab States, Beirut, 23-25 May 2000, p. 6.

[61] The Human Resources Development Canada Job Bank is one example of such a scheme. ESCWA, "Box 13", *Globalization and Labour Markets in the ESCWA Region* (E/ESCWA/SD/2001/5), p. 48.

[62] For more details on the role of knowledge and creativity in enhancing productivity, see D.S. Isfahani, "Will increase in education in the Middle East lead to economic growth?", a paper submitted to the International Conference on Enhancing Links between Education and Labour Markets in Arab Countries, organized by API and the Ministry of Finance of Lebanon, Beirut, 4-6 March 2002, p. 19.

[63] The microenterprise sector in Egypt employed more than 2.5 million workers in 1.5 million establishments during the mid-1990s. This sector accounted for 77 per cent of jobs in the non-agricultural private sector in 1996 according to H. Handoussa, "Employment, budget priorities and microenterprises", a paper presented at the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002.

intensive enterprises. This limits employment opportunities in the formal sector. The small enterprises of the informal sector are labour-intensive and thus generate employment opportunities. Assistance for this sector must incorporate a set of reforms that support the activities of small enterprises and facilitate their access to the formal sector. The reforms must occur at political, institutional, financial and legal levels.

In times of structural economic transition, safety nets that guard against the undesired effects of change and mitigate the hardships of vulnerable groups are vital. Such safety nets in the ESCWA region have been hindered by problems that limit their effectiveness as tools of social stability. According to a World Bank study on social protection in the MENA region, institutional frameworks lack the capability to implement social protection mechanisms.[64] Moreover, resources are allocated in a haphazard fashion and the delivery of social services is marred by technical ineptitude. Fund raising mechanisms and financing methods are inadequate and unsustainable, which can lead to market discrepancies, particularly in labour markets. Safety nets must incorporate the fact that all people, including those who are unemployed, have the right to a decent livelihood and to adequate training for finding new employment.

H. FINANCIAL FACTORS

The financial factors that impede growth in the areas of productivity and development of skills are linked to the manner in which it is possible to strike a balance between costs and benefits provided. Education in the ESCWA region has increased in cost while allocations have decreased. The majority of ESCWA member countries have achieved universal enrolment at the primary level and a significant increase in enrolments at the secondary level. Moreover, public education systems are facing a major challenge that relates to the fact that while budgets are being decreased, demand for public education is increasing.

Data on public expenditure on education in the region are not consistently available for all ESCWA member countries, nor is it calculated in a standardized manner. Expenditures as a percentage of GDP varied between 1.8 per cent in the United Arab Emirates and 7.9 per cent in Jordan in 1996. For the Arab region as a whole the average public expenditure on education was 5.2 per cent of GDP in 1996. It has been estimated that per capita spending on education in Arab countries dropped from 20 per cent of the amount spent on education in industrialized countries in 1980, to 10 per cent of that spent in those countries in the mid-1990s.[65] Lower expenditures have resulted in lower quality education. This has been compounded by the higher costs of education. Efficiency in education is increasing the student-teacher ratios at the expense of administrative staff-teacher ratios (see annex table 3). This improvement has been minimal in the region.

According to other estimates, investments and expenditure are not used efficiently or wisely. Resources are distributed among the various levels of education in an incoherent fashion. In addition, excessive bureaucratic administrative practices and the regulation of evaluation, employment and promotion have eroded the cost effectiveness and overall quality of the education system. More than 90 per cent of education budgets were spent on administration and salaries, with negligible allocations to R&D in the mid-1990s.[66] There is therefore a clear need to improve the internal efficiency of the educational system.

Governments have justified lack of investments in education, particularly with regard to technology, on account of high costs. Nevertheless, funding problems are not exclusively economic in nature: international experience reveals that integrating technological innovations into the education system is a matter of redefining priorities. There is also the issue of awareness. This concerns the ability to equip individuals with the tools that would enable them to be productively employed in an increasingly competitive global world.

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[64] World Bank, *Reducing Vulnerability and Increasing Opportunity: Social Protection in the Middle East and North Africa* (Washington, D.C., World Bank, 2002).

[65] UNDP and AFESD, *Arab Human Development Report 2002: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002).

[66] V. Billeh, "Reform of education and training systems to promote youth employment in the Arab States", paper submitted to the Sectoral Meeting on Youth and Employment between the United Nations and the League of Arab States, Beirut, 23-25 May 2000, p. 8.

Another problem with regard to investment is that allocations of funds have favoured higher education over basic education, which is the stage at which computer literacy should be taught. In non-GCC countries the average real expenditure per student was estimated at $360 for primary education, $529 for secondary education and $3,169 for tertiary education. Expenditure per student as a percentage of per capita gross national product (GNP) in 1996 amounted to 13.4 per cent for primary education, 19.6 per cent for secondary education and 117.8 per cent for tertiary education. This implies that basic education is compromised because provision of higher education is more expensive. This is not the case with regard to the allocation of funds in prospering countries in East Asia and does not correspond to social returns at various education levels, which are higher for basic education.[67]

Furthermore, there must be serious efforts to increase spending on, and to create an enabling environment for, R&D activities. Such an environment would be characterized by an up-to-date educational system, the establishment or improvement of institutions in the area of applied research, better information services, funding institutions, consulting firms, technical support systems and the support of the public. This can be achieved by investing in areas that are not presently prioritized in the majority of ESCWA member countries. As of 2002, spending on R&D activities in the Arab region represented 0.4 per cent of global spending in that area in 1994. The spending of developed countries represented 2.2 per cent of the global share (see annex table 6). UNDP advises Arab Governments to increase this share gradually to 2 per cent within the next decade. "Otherwise they [Arab countries] will be in danger of falling technologically further and further behind the developed countries."[68]

I. DEMOGRAPHIC FACTORS

Demographic factors have also contributed to the deterioration of labour markets in the ESCWA region. The growth of the labour force in the region has been exceptional compared to other regions in the world. This can largely be attributed to an initial low participation rate in labour forces, high population growth during the past two decades and increased female participation in the workforce. It is estimated that the rate of growth of the ESCWA labour force was 3 per cent during the 1990s, which is higher than that of any other region in the world. Coupled with a sluggish rate of economic growth in the region, this can only lead to higher levels of unemployment.

J. CONCLUSION

The analysis in this chapter illustrates the dimension of the obstacles facing the entire region with regard to endeavours to acquire the requisite skills for boosting low labour productivity. In addition, every country in the region faces specific challenges in reducing unemployment within the context of globalized labour markets.

[67] A. Galal, "The paradox of education and unemployment in Egypt", paper presented at the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 12.

[68] UNDP and AFESD, *Arab Human Development Report 2002: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002), p. 70.

IV. SELECTED CASE STUDIES: EMPLOYABILITY AND EDUCATION

This chapter investigates deficiencies in the relationships among various factors, including education, acquisition of skills, employment and labour productivity in selected countries of the region. With regard to Jordan, the case is made that higher education acts as an impediment to employment. The section on Lebanon argues that acquisition of computer skills must be prioritized with the aim of boosting productivity of the labour force. Improving quality of education in Egypt could reduce under- and unemployment. In the GCC countries, the issue of concern pertains to the lack of core work skills among the national labour force. The last case study refers to the Syrian Arab Republic, where a limited development of skills contributes to the poor performance of the labour force, particularly with regard to the restructuring process.

A. JORDAN: QUALITY OF HIGHER EDUCATION

The Government of Jordan has encouraged the expansion of private universities in an effort to relieve mounting pressures on the public education system. Higher education is a recent phenomenon in Jordan. The University of Jordan was established in 1962 and Yarmouk University was established in 1976. In addition, other public and private universities were established during the past 15 years. In 1990, there was only one private university in the country; as of 2002, there were nine. In addition, three colleges have university status.

The number of students enrolled at all universities increased from 31,049 in 1990/91 to 114,372 in 2000/01. This figure was expected to reach 120,000 in 2001/02.[69] While increases in enrolments can be viewed as a positive phenomenon, it can be argued that quality of education has, in some cases, been compromised. Wider coverage has been at the cost of quality in some private universities. Furthermore, there is a problem with perception. Private universities are considered to be the last refuge for students denied admission to public universities. For example, in 2000/01 the grade requirements for entrance to private universities were lowered from 60 to 55 for the School of Arts and Sciences, and from 80 to 76 for the School of Engineering. Public universities did not lower their requirements for the same period. Another problem is that private universities are not allowed to offer post-graduate studies. This limits the potential for research and restricts curricula and methods of education, which are traditional and do not stress the importance of creativity and innovation. These limitations have a negative impact on the employability of private university graduates.

The distribution of students by field of study is indicative of the problem. According to information presented in 2002, 61 per cent of students in Jordan were enrolled in arts, humanities, social sciences, law, commerce and business administration.[70] Approximately 22 per cent of students were enrolled in sciences, mathematics, computer sciences and engineering. The rate of unemployment among graduates remains high, particularly for those majoring in social science and humanities. These rates drop dramatically for graduates in computer-related sciences and applied sciences. These figures clearly indicate that there is an urgent need to generate programmes that are tailored to demands of the labour market. There is also a need to ensure that academic studies are complemented by the provision of non-academic skills that help graduates to promote themselves in the job market.

It is evident that increasing the number of public universities, promoting investments in private universities and widening the student base are positive quantitative developments that cannot remedy the unemployment and underemployment scenario. However, such measures are not enough to create a skilled and competitive workforce.

Qualitative advances in education must include efforts to do the following:

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[69] A. El-Amine, "Education and unemployment: Social integration in the Arab States", a paper presented at the Fourth Mediterranean Development Forum, Amman, 6-9 October 2002.

[70] T. H. Kanaan and M.A. Kardoosh. "Employment and the labour market in Jordan", paper submitted to the Fourth Mediterranean Development Forum, Amman, 6-9 October 2002.

(a) Bridge the gap between the supply and demand sides of labour markets by improving vocational skills and training;

(b) Strengthen post-school vocational studies;

(c) Increase the capacity for advanced technical studies by developing tertiary level technology institutions;

(d) Ensure that education systems are more flexible and responsive to the emerging needs of the economy.

B. LEBANON: COMPUTER LITERACY PROGRAMMES

Lebanon is considered a pioneer in the field of skill development in the ESCWA region. However, the education system in Lebanon has been slow to adapt to the needs of modern labour markets and suffers from significant problems that have affected the full utilization of human resources. A clear manifestation of this situation is the inability of graduates to find suitable local employment opportunities. This has resulted in a high rate of emigration.

Schools and universities in Lebanon are both private and public. A total of 53 per cent of the total number of schools are public. However, they accommodate only 35 per cent of the student body. Thirty-five per cent of schools are private; they absorb 50 per cent of all students. The remaining 15 per cent of schools are semi-private schools that are privately funded and partially subsidized by the Government. Some private institutions are "islands of excellence",[71] which prepare students effectively for competition on a global scale.

In the early 1990s, computerization or computer education was introduced in private schools and to a much more limited extent in public schools. Ninety-six per cent of computers in schools were in private schools and only 4 per cent were in public schools.[72] By 1995, more than three-quarters of Lebanese students did not have access to a computer. In 1996/97, an attempt was made to update the curriculum and to solve the problem of upgrading skills. To this end, a computer literacy programme was devised. The new curriculum defined subjects to be taught from grade seven to grade twelve, and recommended that students be trained in word processing, computer graphics, spreadsheet, database and computerized presentation. In addition to basic computer literacy, the new curriculum included programming skills.

However, only one period per week was allotted to this subject in public schools. This was insufficient. Moreover, given that many public schools were not adequately equipped for computer training, the programme was not implemented in all establishments. Therefore, the subject was dropped from official end of year examinations. As a result, the subject was not taken seriously. The only schools that incorporated the new subject into the curriculum were those private schools that were already fully computerized.

Therefore, computer literacy and the development of computer skills in Lebanon, with the exception of a few private schools, continues to suffer from a lack of qualified teachers, the limitation of time allocated to computer studies, shortages of equipment and lack of effective Government support.[73]

There is a similar situation in universities in terms of availability of computers. In 1999, only two universities had a student/computer ratio of 20:1. In other universities and colleges, the ratio exceeded

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[71] "Education, globalization and development", *National Human Development Report: Lebanon 2001-2002; Globalization: Towards a Lebanese Agenda* (Beirut, UNDP, 2002), p. 104.

[72] A. El-Amine, "Education and unemployment: Social integration in the Arab States", a paper presented at the Fourth Mediterranean Development Forum, Amman, 6-9 October 2002.

[73] "Integrating ICTs in education: A long-term strategy for poverty alleviation", a paper presented at the Forum on Technology, Employment and Poverty Alleviation in the Arab Countries and the Consultative Committee on Scientific and Technological Development, Beirut, 16-18 July 2002 (E/ESCWA/TECH/2002/WG.1/9), p. 11.

100:1.[74] The implication is that university students are unable to follow rapid developments in subjects that include sciences, humanities and medicine. This is also a particular problem for business and accountancy graduates.

In this context, those who graduate from certain private universities are more likely to find employment. In many cases, however, the education system produces a highly skilled and well-educated workforce that lacks the skills needed in the new economy.

It is also important to note that the educational system is inflexible and unable to meet the challenges of the modern era: this is particularly relevant in the field of ICT. Secondary education in Lebanon is based on a one-track system. It is difficult for students to transfer from one field of specialization to another. The system must be more fluid. This can be achieved by diversifying courses and giving students the option to choose programmes of study. Furthermore, higher education is still based on an old-fashioned structure of specialization that is incompatible with the requirements of employment in the twenty-first century.[75] The curricula of higher education must be re-evaluated, with an emphasis on the development of skills and capabilities. This would enable students to switch professions and be mobile.

C. EGYPT: QUALITY OF EDUCATION

The educational system and methods of training in Egypt continue to produce graduates whose aptitudes have little relevance to the actual skills required by the labour market. Several studies have assessed achievements pertaining to education in Egypt.[76] They conclude that Egypt has made substantial progress with regard to access to education, but has failed to improve the quality of education. Indeed the education system in Egypt fails to equip students with the necessary skills.

Annex table 7 illustrates unemployment and unemployment rates, according to education level and gender in Egypt. Annex table 8 examines the distribution of the labour force, unemployment and labour market demand. Annex table 9 highlights per capita Government spending on education and annex table 10 illustrates the index of real wages for 1980/81 and 1994/95.

The problems related to unemployment, education, and labour skills in Egypt are reflected in the results of the 1998 Labour Force Sample Survey (see below). These problems are expected to intensify in the near future, as demand shifts from traditional sectors to sectors such as tourism and industry, which rely more heavily on ICT (see annex table 11).

The majority of those unemployed, 55 per cent, are graduates of an intermediate education (see annex table 8). However, estimates for the 2001-2005 period illustrate that 66 per cent of available employment is for unskilled labour, or those who have been educated to a lower than intermediate level. Only 17 per cent of job opportunities require higher education. Moreover, employment in the new economy sector, in the category technicians in mathematics, statistics and computers constitutes only 0.4 per cent of the total labour demand, while specialists in these fields account for a mere 1.2 per cent of demand.

Employment in the public sector for the 1988-1998 period accounted for 34.7 per cent of the total growth in employment during that period. For the same period, the contribution of agriculture to employment growth declined by 0.4 per cent, while that of the private non-agriculture sector increased by 38.3 per cent.

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[74] UNDP and AFESD, *Arab Human Development Report 2002: Creating Opportunities for Future Generations* (New York, UNDP, RBAS, 2002), p. 108.

[75] For example, at the Lebanese University, the only public university in the country, two-thirds of students were enrolled in law and humanities and only 4 per cent were enrolled in technical fields according to information published in 2000. R. Tabbarah, *Employment and Unemployment in Lebanon 2000* (Beirut, Centre for Development Studies and Projects and Middle East Research and Studies, 2000).

[76] See studies by N. Birdsall and L. O'Connell; M. El Baradei; and N. Fergany, which are cited in A. Galal, "The paradox of education and unemployment in Egypt", paper presented at the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002.

Most of the increase in private sector employment has been in the informal sector. According to some estimates, the informal sector accounted for 51 per cent of total employment in 1990 and by 1998, this figure had increased to 54 per cent.[77] The share of women in informal employment increased from 33 per cent to 39 per cent and that of men declined from 67 per cent to 61 per cent during the same period. This indicates a trend of increased feminization in the informal sector.

The profile of an unemployed person in Egypt is typical for non-oil producing countries in the region: 84 per cent are first time job seekers, 55 per cent are graduates of intermediate education, 52 per cent are from rural areas and women are three times more likely than men to be unemployed. The index of real wages is on the decline: it peaked at 120 in 1982/83. However, it fell by nearly 50 per cent to 67.8 in 1995/6 (see annex table 10).

Despite the establishment of the National Employment Programme, which aims to absorb 896,000 new entrants to the labour force through the creation of Government jobs, training programmes and Social Fund Programmes, unemployment remains a critical issue. Furthermore, despite high unemployment rates, businesses find it hard to recruit qualified workers. This is because the training systems fail to produce skills that are in demand. According to an ILO report,[78] training centres are underequipped, outdated and are managed without the involvement of the private sector. They are staffed by underqualified, poorly remunerated and unmotivated teachers, who often lack practical experience and do not have the means to keep abreast of technological developments.

This data indicates that despite an unskilled workforce, the economy is growing in the areas of industries and services. However, the competitiveness of the economy must be improved. This can be done by upgrading the quality of the labour force, thereby creating an appropriate environment for attracting investments that can advance economic growth and increase the demand for skilled labour. To this end, a mechanism that can coordinate the educational system and the labour market must be established. This would ensure that unskilled workers have access to possibilities for retraining and rehabilitation. Efforts to upgrade the quality of the labour force must focus on the acquisition of skills as opposed to old-fashioned education. Establishment of a National Training Fund to replace the National Employment Programme and a total reform of the education system are means of correcting the imbalance in Egyptian labour markets.[79] This fund would have to be a semi-autonomous vehicle, thereby ensuring a bigger role for the private sector.

D. GCC COUNTRIES: EMPLOYABILITY OF THE NATIONAL LABOUR FORCE[80]

GCC countries are an exceptional case with regard to the supply and demand of labour. Estimates suggest that the foreign workforce in GCC countries comprised 7.5 million workers in the 1990s. Despite this fact, unemployment of national labour forces in these countries is challenging socio-economic stability.

With regard to the supply side of the labour force, more than 50 per cent of the total population of these countries is under 15 years old according to ESCWA. This can be attributed to a rapid growth in population over the past two decades. The national workforce unemployment rate, which was estimated to be 15 per cent in 2002, is bound to increase in the near future unless new job opportunities are created. It has

[77] S. Radwan, "Employment and unemployment in Egypt: Conventional problems, unconventional remedies", working paper submitted to the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 7.

[78] W. Van Eekelen, L. de Luca and M. Ismail, *Youth Employment in Egypt*, InFocus Programme on Skills, Knowledge and Employability (Geneva, ILO, 2001).

[79] ILO/UNDP, "Investing in the Future: The National Training Fund of Egypt", Geneva, as cited in S. Radwan "Employment and unemployment in Egypt: Conventional problems, unconventional remedies", working paper submitted to the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 22.

[80] "Education, skills acquisition and labour markets in GCC countries: Case of the United Arab Emirates" (E/ESCWA/SDD/2003/6) (in Arabic) is published as a supplement to this study. It details all issues related to employability and the development of skills in the GCC region. Moreover, it highlights the challenges faced by nationals in acquiring the necessary skills with regard to joining the global workforce.

been estimated that there were 500,000 unemployed nationals in the GCC countries.[81] This figure is expected to increase by some 210,000 annually.[82] In addition, underemployment of the national labour force, particularly in the public sector, has been a problem for the past two decades.

There are also problems with regard to demand for labour. These can be attributed to the fact that the public sector, the traditional employer for nationals, has been unable to hire at its previous rate as a result of growing budget deficits. New jobs in the public sector are limited to replacing staff that have retired. Furthermore, the public sector appears to be declining in absolute terms.[83] Consequently, there is mounting pressure to hire nationals in the private sector. However, nationals wishing to gain employment in this area have to compete with a lower paid and more highly skilled foreign labour force. Moreover, the private sector does not offer the luxury of Government employment, which is well paid, has generous fringe benefits and is lacking in competition. Moreover, it is easy to secure, and very difficult to lose such jobs.

Furthermore, the private sector is finding it difficult to respond to the recommendations of Governments to hire nationals. This is based on the fact that the majority of nationals requiring employment are young secondary and intermediate school graduates with limited experience and skills; their qualifications do not match the needs of the private sector. This may seem contradictory, given that the private sector in GCC countries is labour intensive and offers low paid jobs that require few skills. However, it still requires workers with experience and ethics who are productive, committed to work and are self-motivated. Indeed, compared with expatriates, the national labour force demands higher wages but lacks such required work skills.[84] Existing local training institutions and programmes are failing to provide these skills.[85]

The root of all these problems is the quality of education in GCC countries. Despite the impressive quantitative growth in the level of education, as reflected by declining illiteracy rates (see annex table 13) and by the growth in numbers of educational institutions, the employability of individuals remains a major concern. A growing number of graduates find it difficult to gain employment in the private sector because of a lack of core work skills. This can be attributed to a long tradition of guaranteed employment in public institutions, irrespective of degree, major, grades or achievements. The Government salary scale evaluates workers on the basis of the level of education, irrespective of any other consideration, with the exception of engineers who are more highly paid than other professions. However, there is no differentiation between engineers within this field, despite the fact that, for example, there is an excess of civil and a lack of electrical, computer, communication and chemical engineers.[86]

Another important factor that contributes to the lack of incentives to improve the productivity of the national labour force is related to the indirect negative impact of the welfare system, extended family and social values. These cultural factors have contributed to lowering the employability levels of the national labour force, irrespective of level of education. This factor is reinforced by the unregulated and open labour markets that characterize the GCC region. These provide no incentives for employers to invest in the

[81] M. Girgis, "The GCC factor in future Arab labour migration", a paper submitted to the Fourth Mediterranean Development Forum, Amman, October 2002, p. 35.

[82] In 1999, approximately 5,000 nationals entered the labour market in Bahrain, 15,000 in Kuwait, 18,000 in Oman and 165,000 in Saudi Arabia. Ibid., p. 35.

[83] Ibid., p. 28.

[84] The private sector employs approximately half of the labour force, mostly from the lower-paid segment of the expatriate workforce. It has generally adopted labour-intensive production processes that generate low-wage level jobs. High-level technical jobs in this sector require qualifications that the national labour force tends to lack. This has resulted in extremely low participation rates of nationals. These range from 2 per cent in the United Arab Emirates, to 5 per cent in Qatar, and 13 per cent in Saudi Arabia according to ESCWA, "Education skills and acquisition and labour markets in GCC countries: Case of the United Arab Emirates" (E/ESCWA/SDD/2003/6) (in Arabic).

[85] M. Girgis, "The GCC factor in future Arab labour migration", paper submitted to the Fourth Mediterranean Development Forum, Amman, October 2002, p. 5.

[86] Ibid., p. 25.

development of skills or in the use of new technologies to raise the value-added of human resources.[87] Therefore, unless there is a shift in the conception of work and technical productivity of the national labour force, traditional methods of fighting unemployment will remain ineffective.

In conclusion, projections concerning future labour force demand imply that economic growth in GCC countries could fail to generate enough jobs to accommodate new national entrants to the labour markets in the next five to ten years.[88] Therefore, nationals may have to secure jobs, usually those requiring a medium level of skills, which have been traditionally carried out by expatriates. Such occupations include accountancy, teaching, sales, pharmacy, engineering and law. Nationals are therefore required to effect a major change in attitude towards technical jobs and must endeavour to develop new core work skills. Such a transformation requires a major reform of the education system. However, the ideal solution would incorporate the goals of steering the economy towards capital-intensive investments that eventually eliminate many of the jobs that require few skills, improving economic growth levels and generating levels of productivity that warrant the payment of wages that meet the aspirations of the national labour force.

E. Syrian Arab Republic: problems related to the development of skills

Since the 1960s, economic development in the Syrian Arab Republic has been characterized by monopolistic public sector institutions in both the manufacturing and services sectors. A restrictive trade regime comprising a combination of high tariffs, quantitative prohibitions and cumbersome and lengthy bureaucratic administrative procedures has limited competitiveness, generated inefficiency and raised costs. Since the late 1980s, the Syrian Arab Republic has introduced several free market-oriented reforms. However, up to 2002, the reform process has been slow and superficial. Rigid institutional structures, complex regulatory systems and outdated production techniques prevail. Accordingly, the labour market continues to suffer from inflexibility and an imbalance between the supply and demand for various skills. The present labour market is characterized by the following:

(a) Low educational standards and labour skills that do not meet the requirement of free economies, let alone the requirements of modern markets;

(b) A shortage in a number of specialized fields, namely, computer technicians and graduates of applied sciences in addition to an almost complete lack of computer communication engineers;

(c) Rigid and restrictive rules and regulations pertaining to hiring and firing;

(d) Low wages, leading to large-scale emigration.

At the same time, the educational system has many shortcomings. According to the 1998 Labour Market Census these include the following:

(a) Only 65 per cent of the labour force are employed in jobs directly related to their field of study or training;

(b) Underemployment, namely, a shortage of job opportunities in the corresponding field of specialization account for 44.1 per cent of those who are underemployed; low wages account for 21.9 per

[87] In other countries, the role of labour market regulations is to create incentives for entrepreneurs to invest in capital-intensive modes of production to generate high value-added to pay the wage levels set by the regulated labour markets.

[88] For example, according to the Seventh Five-Year Plan (2000-2004) in Saudi Arabia, job creation between 2000 and 2020 is projected to amount to 3.474 million jobs and the Saudi Arabian labour force is expected to increase by 5.091 million. The anticipated deficit is to be filled by jobs currently held by expatriates. This amounts to some 1.617 million jobs according to M. Girgis, "The GCC factor in future Arab labour migration", a paper submitted to the Fourth Mediterranean Development Forum, Amman, October 2002, p. 40.

cent of this group; self-employment for 10.5 per cent; and other reasons, such as post-retirement work, account for the remaining 23.5 per cent;

(c) Scarcity of workers that have been locally trained in ICT. The first group of computer sciences majors graduated from Damascus University in 2002 and the first group of computer engineers are expected to graduate in 2004;

(d) Graduates of high schools and universities do not have foreign languages skills;

(e) Universities do not offer training or applied courses; curricula are not tailored to meet the needs of a technology-driven global economy.

In fact, there is a total imbalance between the educational syllabus and the economic needs of the country. The 1998 Labour Market Census reflects this clearly. It highlights that during the period covered, only 35 per cent of graduates from technical schools were able to fulfil the requirements of their job description in the industrial manufacturing sector, compared to 42 per cent of graduates from engineering schools and 39 per cent of graduates from industrial technical institutions. Furthermore, the data indicates that 71.1 per cent of graduates required eight weeks of training to accommodate the technical aspects of their job, while 23.1 per cent needed six to seven weeks and 5.8 per cent needed less than four weeks.

It is quite evident that the educational sector is failing to respond adequately to the changes related to the restructuring of the Syrian economy. At the same time, it is meeting the demands of the industrial and services sectors in a very limited fashion. This can be largely attributed to the absence of coordination mechanisms between educational institutions and businesses in the private sector. As a result, the industrial and services sectors are facing major problems with regard to the quality of skills in the labour market.

Moreover, the deficiency of the educational system is reflected in the limited number of training and development institutions. This in turn has resulted in a failure to upgrade and improve human resources. The 1998 Labour Market Census reveals that approximately two-thirds of the work force in the Syrian Arab Republic, in both private and public sectors, did not attend any kind of training upon starting their jobs during the period covered by the Census. Given that skills are largely gained through experience, workers face difficulties when they begin a job or transfer from one occupation to another. The Census states that training courses vary between three to seven months, or more. Of these, 56.5 per cent take place inside the establishment, 26 per cent locally, but outside the establishment, and 17.5 per cent take place outside the country. High-level management, marketing and computer skills courses are occasionally offered in foreign cultural centres. However, the cost of these tends to be high, and in most cases is unaffordable for the majority of graduates.[89]

The Census sampled 3,000 working establishments in various sectors, public, private and joint. It conducted interviews with employees in various specialties. Details related to skills, training, foreign language and years of experience were taken into consideration. The results confirmed the hypothesis that the accumulation of skills and upgrading was largely gained through experience rather than through training courses. This indicates that the introduction of new production and administrative techniques has been limited in Syrian firms. Indeed, efforts to cope with the challenges of globalization must include more training, the upgrading of skills and the acquisition of foreign languages. The results of the Survey further indicated that 50 to 75 per cent of the labour force in the manufacturing sector would require training in the event that modern production techniques were introduced. Failure to achieve this could result in a rigid labour market and workers who cannot operate between old and new production lines, thereby contributing to under- and unemployment.

[89] The Ministry of Education licensed 140 private training centres to provide foreign language, computer literacy and certain mechanical and electrical courses in the late 1990s. Remedial labour training in the private sector is limited. It is confined to job performance and unrelated to the building of future skills. Human resources departments in the private sector are rare. They process paperwork rather than develop skills, and do not prioritize the training of employees.

Investing in the development of human resources is one means of ensuring that those in the labour force receive some form of training. The Census revealed that only 6.8 per cent of establishments in the public and private sectors during the period covered were willing to invest part of their capital in training, and 93.2 per cent were not willing to do so at all. The sample also indicated that 51.5 per cent of those who were not willing to invest in training did not have any plans to modernize, 25.1 per cent were not willing to invest for financial reasons and 16.9 per cent did not have the will to change.

The data indicates that restructuring of the Syrian economy requires a corresponding restructuring process in the labour market. In particular, the education system and curricula must be improved and intensive training courses established.[90]

Furthermore, the ability of the Syrian economy to cope with globalization depends upon its ability to respond, in a flexible manner, to changing external conditions. In addition it must be flexible enough to maintain a state of competitiveness in the international market.

With regard to improving the employability of workers, the educational system must be restructured to ensure mobility and adaptability of the workforce. Students must be taught learning-to-learn skills. This can be effected by developing new curricula, which must include improved teacher training programmes and ensure that pedagogic methods encourage higher orders of cognitive skills. Technical literacy skills can be upgraded via intensive training programmes.

At the most basic level, the reform process must aim to comprise the following elements:

(a) A complete structural reform of the school system including rehabilitation of public schools, the upgrading of teaching skills and a review of teaching methods;

(b) Improvements in the training and development of human resources to meet the industrial and technological development needs of the country. Local training and development of managerial skills and knowledge can be achieved by in-house training, the participation of civil society through NGOs programmes and traditional education institutions;

(c) Evolution of higher institutions of learning and universities to meet the immediate and future needs of the country. This can be done by expanding management and engineering programmes and introducing continuous education programmes for managers and professionals. Cooperation among training and development institutions, the scientific research community, business and industry must be intensified. Curricula in vocational higher learning institutions and universities must be in line with the requirements of the market.

[90] Examples of new skills: technology management, environmental management, information management, basic managerial, communication, computer and safety and health skills.

V. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The globalization process has the potential to transform the institutional infrastructure of education systems. Education must ensure that individuals are able to do the following:

(a) Manage an ever-increasing avalanche of information;
(b) Meet the uncertainties of a global economy;
(c) Innovate in order to keep up with a high-speed knowledge-driven economy in the workplace.

Decent knowledge of computers, the Internet, modern means of communication and the English language are vital in the modern era. Modern teaching methods must focus on the development of critical thinking. In addition to strengthening basic education and building skills, societies must provide individuals with adequate opportunities for acquiring advanced knowledge with the aim of ensuring that they benefit from emerging technologies. The ability to assess, select, adapt, use and develop new technologies is fundamental to technological competence, which is becoming a critical determinant of the competitiveness of a country in the era of globalization. Countries that continue to neglect the relevance of quality education are likely to become increasingly marginalized in the global economy, suffer from delayed social progress, and find it increasingly difficult to compete with the rest of the developing world, and indeed the developed countries. Progress is most likely in countries that develop a clear vision of education and training and understand their relevance to employability and growth.

Furthermore, traditional forms of employment are becoming obsolete, while new occupations are emerging. This process is forcing governments to view education and training as a productive asset, not merely as a consumer good. Governments in developed areas are shifting emphasis from education to training. In this regard, technical colleges and training institutes, not universities, are increasingly becoming the main targets for reform. In addition, international competition and technological innovations are encouraging countries to improve the qualifications of their workforce.

B. NEW VISION

A new vision for education and training systems is therefore required. This would encompass a radical structural reform of all aspects of education and training systems in the ESCWA region, thereby upgrading skills of the labour force and enabling them to meet the needs of an increasingly knowledge-based economy. Education must be made more relevant and quality must be improved. To this end, the main goals of the new vision must aim to do the following:

(a) Improve the quality of graduates and the relevance of their knowledge, skills, attitudes and competencies in line with the requirements of twenty-first century labour markets;

(b) Improve the efficiency and effectiveness of education and training systems by ensuring that the role of the private sector is enhanced with regard to system development, quality of curricula, qualifications of teachers and establishment of training facilities.

This process of ensuring that qualitative improvements to education are implemented is more difficult to achieve than the quantitative expansion of education that took place over the past three decades. The process of change must take into consideration the social, political and cultural needs of the society it serves. Education must be viewed as the sturdy foundation upon which the entire structure of an Arab knowledge-based society can be built. This calls for a complete paradigm shift towards a culture of learning that seeks

academic and social success for children and adults; education that fosters good morals and citizenship and peaceful and tolerant attitudes toward other people, religions and cultures; and education that enables individuals to live economically and socially productive lives. Within this frame of reference, countries must do the following:

(a) Undertake the comprehensive expansion of free basic education, including extending the period of compulsory schooling to at least 10 years and making similar efforts with regard to expanding post-basic education;

(b) Create an institutional system pertaining to lifelong adult education with the aim of combatting adult illiteracy and providing retraining opportunities;

(c) Institute reforms to enhance the quality of education in all phases.

Moreover, efforts must be made to enhance the regional environment with regard to productivity. To this end, policies concerned with the effective acquisition of knowledge must focus on changing attitudes, ensuring that all segments of society are committed to change, generating respect for science and knowledge, encouraging creativity and innovation, utilizing new discoveries to improve productivity and enhancing the welfare of society as a whole. This is particularly relevant on the basis that the acquisition of knowledge entails the reinforcement of the knowledge base of a country and enables the generation of fresh knowledge through R&D activities. It also allows knowledge to be harnessed and adapted by promoting the free flow of information and attracting investments.

C. EDUCATION IN THE NEW ERA

With regard to education in schools, the general education curriculum must be revised to include an emphasis on broader basic education skills, learning skills and core competencies. The goal in this regard is to lay a solid foundation for diversified generic vocational skills rather than specialized skills, and to strengthen links between schools and employers. Efforts must be exerted to promote critical thinking and enhance creativity and innovation, thereby producing a multiskilled and flexible workforce that is capable of effectively dealing with the challenges of globalization.

Similarly, secondary education must become more diversified. Students must be trained to locate, evaluate and use information effectively. Education materials must encourage students to take an active role in the learning process. Moreover, rote learning and memorization of facts are outdated teaching strategies in the new era. These must be replaced by efforts to promote cooperative learning and the teaching of higher order thinking skills. Such an approach requires more highly qualified teachers and an unlimited access to a variety of information resources. This would enable students to satisfy the requirements of further education while acquiring employment-related knowledge skills.

Training establishments must ensure that graduates are employable by equipping them with practical skills, knowledge and the readiness to embark on a process of lifelong learning. The main emphasis must be on learning how to be flexible; how to adjust to changing requirements; how to adapt to a changing environment and work conditions; and how to acquire new skills.

Such establishments must establish strong relationships with industry and service sectors and businesses, to ensure the relevance of the curricula.

With regard to higher education, its focus and quality must be dramatically transformed and more market-oriented university programmes must be established. It is possible that failure to ensure that these measures are carried out could exacerbate the imbalance between university graduates and labour market demands. This is turn, could lead to an increased waste of resources and the underemployment of graduates. It is therefore imperative to activate the relationship between enterprises and education institutions. This can be effected by encouraging the active participation of enterprises in education, curricula and training plans.

In addition, there must be more emphasis on the following:

(a) Science, mathematics, business and computing courses;

(b) Development of problem-solving capabilities;

(c) Design of versatile and flexible curricula and course structures that respond to the demands of the labour market.

ESCWA member countries must strike a balance between the labour market requirements for professionals, namely, engineers, doctors and lawyers, and the demand for middle-level workers, namely, technicians or a semi-skilled workforce. Indeed, the acute shortage of well-trained technicians and the lack of a skilled workforce are factors that could spur Governments in ESCWA member countries, in particular GCC countries, to shift their emphasis from universities to lower-cost training colleges and polytechnics. Such centres must work in close cooperation with the private sector, which can provide assistance in updating curricula, providing on-the-job training and advice regarding the academic achievements of students in addition to developing indicators pertaining to the quality control of technical education.

D. Research and development

Arab countries must strive to work together with regard to R&D activities. All countries can benefit from collaboration at the regional level and from economies of integration and scale. In addition, countries must develop long-term policies on scientific research; they must reorganize budgets to increase funding for R&D; and they must foster close cooperation among R&D institutes, universities and industry. The realization that the various components of R&D activities must be developed simultaneously is central to such policies. These components include education systems and standards, basic and applied research institutions, ICT infrastructure, services and information systems, funding institutions, professional societies, consulting services, technical support systems and science education for students and the public.

At the regional level, renewed Arab cooperation holds considerable promise. For example, ICT is capable of reinvigorating Arab education networks and of supporting virtual R&D centres. Efforts to build regional partnerships related to the field of education are positive steps on the road to managing the acquisition of knowledge from a position of collective advantage.

E. Globalization and the private sector

Globalization and the larger role of the private sector in education have resulted in lower returns to rote education in recent times. During past decades, returns to secondary and tertiary education were high as graduates secured decent wages in the public sector. However, as private employers increasingly determine demand for labour, the mismatch between the skills imparted by education systems and those required by the private sector, is bound to become more pronounced. Moreover, basic education statistics are often unreliable. Information on key areas such as expenditure, quality of education, education and employability, learning and labour markets outcomes is lacking and leads to confusion with regard to planning. This situation must be rectified, particularly during periods of reform. Indeed, disseminating information about education is critical with regard to building consensus on educational reform and for continued support of national policy frameworks. Parents must be informed of plans for students, progress made with regard to key subjects, the real costs of education and those fields of study that can ensure higher employment opportunities. Closer collaboration among schools, universities, families and communities is a significant strategy that would benefit all concerned.

F. Indicators

Indicators related to enrolment and graduates, teachers and student ratio, wastage and dropout rates, are insufficient to assess performance and ensure that reforms are suitable. Information that reveals characteristics of the education process would be of more value. Therefore, such indicators must include the following:

(a) Information related to research undertaken and published;

(b) Information related to innovations in curricula;

(c) Information related to application of studies to actual life;

(d) Information related to upgrading the skills of teachers;

(e) Information related to the ability of teachers to serve school communities;

(f) Information related to the relationships between research and private firms;

(g) Information related to the employability of graduates (with regard to assessing quality of education).

G. ROLE OF THE STATE

Furthermore, the role of the State with regard to education must be re-evaluated. Clearly, Governments cannot finance all aspects related to education for all citizens. Therefore, the main role of the State is to ensure that a basic quality education is available to all people on the grounds that quality basic education creates higher levels of literacy and numeracy and a wider dissemination of individual life skills.

Moreover, higher levels of education cannot be adequately funded by public means. To prevent further deterioration in quality, therefore, partnerships with the private sector and students must be encouraged. At present, students in higher education cost Governments more than 10 times as much as students in primary education.

However, while academic achievements are important, they are not necessarily the only means of securing a suitable job. Such achievements must be complemented by non-academic market skills and qualities. These include creative thinking, innovation, ability to take the initiative, ability to bear responsibilities, team work, ability to meet deadlines, communicate and present ideas, self confidence, ability to communicate with other cultures and integrity and honesty. Students can be taught such qualities through modern forms of teaching, as opposed to traditional methods. Moreover, modern methods must encourage students to learn from one another and to assume responsibilities for their own learning.

Annex I

SUCCESS STORIES IN THE REGION

A. Economic Opportunities for Jordanian Youth

Economic Opportunities for Jordanian Youth (INJAZ) operates in Jordan. It enables young people to recognize the needs of the job market and prepares them for the challenges of global competition. This Save the Children initiative, which is funded by USAID, was established in 1999 in an attempt to bridge the gap between the output of the local educational system and the human resource needs of the private sector. Under the framework of the programme, volunteers from the private sector provide instruction to students on the issues of responsibility in a non-traditional context and personal choice with regard to choosing subjects at school. The aim of this endeavour is to produce an innovative generation. In other words, INJAZ helps students develop cultural attitudes that correspond to the characteristics of the global market.

The architects of INJAZ signed an agreement with the Ministry of Education, in which the latter committed its support to introducing the initiative into the curricula of public schools. Furthermore, INJAZ coordinates with the Ministry of Youth and Sport. The programme, which is delivered in schools every Saturday by private sector volunteers, namely, bankers and businessmen, focuses on personal and business economics, entrepreneurship, leadership and community service issues related to the environment of the students. Volunteers deliver weekly courses to students based on a curriculum created by individuals from the private and education sectors. They do not lecture students; rather, they encourage brainstorming, problem-solving and communication skills.

INJAZ targets the 14-25 year old group, which accounted for 25 per cent of the population in Jordan in 2000. It aims to foster creative thinking, critical problem-solving techniques and interpersonal communication skills among this group and provides them with the tools to reach their goals. In addition, the close relationship between INJAZ and the private sector plays a role in improving human resources in Jordan and developing the skills of youth to better prepare them to enter the labour market. Volunteers from different sectors help students to make decisions regarding their future and choose jobs that fulfil their ambitions. This enables the private sector to attract more highly qualified workers.

The impact of globalization is increasingly being felt in Jordan, where the gap between the education system and the human resources needs of the private sector has been growing farther apart. INJAZ is attempting to remedy this situation. Teachers have stated that INJAZ courses have had a positive impact on the behaviour of students and their grades. Before the programme, the majority of students indicated a preference for the occupations of doctor or engineer. Students opting for any other profession would be considered as having somehow failed. However, after participating in INJAZ, students consider a wider variety of options that are in line with local labour market requirements in the context of globalization. By 2004, it is estimated that 10,000 students will have graduated from the programme.

B. Mubarak-Kohl Initiative

The Cooperative (Dual) System in Technical Education and Vocational Training, better known as the Mubarak-Kohl Initiative aims to reform the secondary technical education system in Egypt. The ambitious long-term initiative was the outcome of a meeting between President Hosni Mubarak of Egypt and Chancellor Helmut Kohl of Germany in 1991. The philosophy behind this programme is that public and private entities bear the joint responsibility for training programmes, thereby ensuring that training and internships reflect the real needs of the labour market. The Initiative makes use of existing, albeit upgraded, training centres. However, it has developed a different curriculum and a new distribution of responsibilities. The private sector, in the form of business associations, is responsible for a range of crucial elements in the training programme. These associations and the companies they represent, *inter alia*, pay pocket money to students, arrange and monitor the quality and funding, and manage certain components of the programme.

The original goal was that all forms of training would be organized within the framework of the dual system. After completing preparatory school, children who passed an aptitude test would have the

opportunity to enrol in some form of technical secondary education establishment for three years prior to graduation. The aim was that graduates would secure employment in companies they had done internships with as students. If this was not possible, the skills that had been acquired would enable them to find employment elsewhere.

The potential benefits of the Initiative include generation of youth employment, alleviation of shortages in certain skills, enhanced development and use of human resources and subsequent increases in competitiveness. By February 2002, 3,400 skilled workers had graduated from the project, which covered some 800 factories in 22 locations in Egypt.

The aim is to expand the programme to training centres that are geared towards modern, internationally competitive sectors of the economy, including various industrial sectors in addition to the modernized divisions of the agriculture and tourism sectors. The success of such an endeavour would ensure considerable progress in terms of human resources development mechanisms. However, it must be recognized that, for the time being, the absorption capacity of these sectors is limited. Moreover, in terms of employment creation, the impact of this system will most likely be rather limited for the foreseeable future.

C. Developing A Curriculum initiative

Developing A Curriculum (DACUM), which originated in the United States, is based on the philosophy that workers in a particular field are more qualified than anyone else to offer suitable descriptions of their job and related responsibilities, tasks and skills. This concept is in evidence at DACUM workshops, which break down occupations into duties, tasks and steps required to implement given duties and tasks. Once all tasks and steps are examined, skills, competencies, abilities and qualities required to perform a job are identified. This breakdown is then formulated and classified in the DACUM chart.

This system was implemented at the beginning of 1999 in Kuwait by establishing a Curriculum Development Centre, which identifies education and training requirements for selected jobs based on market needs. The system operates in coordination with colleges and universities. Once requirements pertaining to a specific job are identified, colleges and universities are contacted to ensure that the graduates in a selected field possess the required skills and competencies. Since 1999, the Centre has developed guidelines pertaining to 10 different jobs per year, related to Schools of Commerce and Health and Petroleum Technology Engineering. For example, in the field of Petroleum Exploration and Development Engineering, the DACUM Chart includes information pertaining to nine occupations, forty-two duties and two hundred and sixteen tasks. Each job requires some 30 months of training over 5 semesters, in addition to hands-on training during the summer.

DACUM is in its early stages in Kuwait. However, it is capable of analysing requirements pertaining to skills and forging close relationships between graduates and the labour market. Moreover, it is envisaged that DACUM will go some way towards overcoming the growing problem of youth unemployment.

Annex II

UNITED NATIONS CONFERENCES ON EDUCATION

The importance of education at every level, in particular, vocational training is reflected in the efforts of the international community. During the past decade, major United Nations conferences have called for national and international public investment to ensure a minimum level of quality and universal access to basic education, particularly in rural areas and for women and all disadvantaged groups. These conferences have indicated that countries must undertake the often politically difficult task of investing in basic education, in favour of other areas.

The World Conference on Education for All: Meeting Basic Education Needs (Jomtien, Thailand, 5-9 March 1990), developed a framework to increase learning and the quality of education in schools, and to attain universal primary education before 2000.

The World Education Forum (Dakar, Senegal, 26-28 April 2000), pushed back the date to 2015, with the commitment that all children must have access to free and compulsory good quality education. This includes girls, children in difficult circumstances and those children from ethnic minorities.

The High Level Panel on Youth Employment, July 2001, formulated a set of recommendations to be endorsed by the heads of the United Nations, the World Bank and ILO, inviting all heads of State and Government to mobilize national and local actors to make basic education and initial training more accessible to young men and women. These recommendations have been followed-up by concrete technical cooperation activities.

Recommendation 3 of the Secretary-General's High-Level Panel on Youth Employment: Investment in Education, Training and Lifelong Learning, is given below:

"A. Adopt national educational and training strategies, which set achievable targets for raising participation levels among young people and which make a strong commitment to adequate and sustained investment in human resource development.

B. Ensure that girls and boys are able to obtain quality education that lays the foundation for employability and that fosters the development of attitudes and values needed to succeed in life.

C. Improve the accessibility, relevance and effectiveness of secondary and higher education and technical and vocational training, so that both young women and men will be better equipped to take advantage of opportunities in the labour market and to cope with fast paced changes in the world of work by:

(a) Promoting closer links between technical skills curricula and labour market needs and combining them with soft and other support skills needed for labour market success, through increased cooperation among employers' organizations, trade unions, training and education institutions and industry;

(b) Developing or improving training systems that raise skill levels and facilitate a smooth transition from school to work, through a combination of off-the-job vocational education and programmes of learning and structured training in the workplace, either in apprenticeship based arrangements or vocational skill pathways;

(c) Promoting equal access to technical and vocational training and higher education by providing gender-sensitive vocational guidance and counselling and by encouraging girls and young women to enter into male-dominated fields of study that offer avenues to new and promising work opportunities."[91]

[91] ILO, "Education, initial training and skills for employability and work", *Learning and Training for Work in the Knowledge Society*. Available at: http://www.ilo.org/public/english/employment/skills/recomm/report/ch_3.htm.

Annex III

TABLES*

ANNEX TABLE 1. ILLITERACY RATIO OF POPULATION AGED 15+ AND 15-24 FOR ESCWA COUNTRIES, 1980 AND 2000
(*Percentage*)

	Population aged 15-24		Population aged 15+	
Country	1980	2000	1980	2000
Bahrain	9.7	1.6	28.6	12.4
Egypt	48.2	30.4	60.7	44.7
Iraq[a/]	24.1		42.3	
Jordan	8.9	0.5	31.6	10.2
Kuwait	19.4	7.1	32.4	17.7
Lebanon	12.4	4.7	27.6	13.9
Oman	39.7	2	63.2	28.1
Palestine[b/]	2.9		13.9	
Qatar	16.7	5.1	30.2	18.7
Saudi Arabia	25.9	6.9	47.7	23
Syrian Arab Republic	29.4	12.9	46.7	25.6
United Arab Emirates	24.5	9	34.4	23.5
Yemen	68.4	35.6	79.8	53.8

Source: ESCWA, *Compendium of Social Statistics and Indicators*, Fifth issue (E/ESCWA/STAT/2001/10), p. 35.

a/ UNESCO estimates 1995.
b/ Palestinian Central Bureau of Statistics, *Population Census 1997, 1999*.

ANNEX TABLE 2. AVERAGE YEARS OF SCHOOLING FOR POPULATION AGED 15 YEARS AND ABOVE, 1960-2000

Country/region	1960	1965	1970	1975	1980	1985	1990	1995	2000	Growth rate (percentage)
Bahrain	1.04	1.58	2.78	3.23	3.62	4.06	4.97	5.5	6.11	4.07
Egypt	-	-	-	1.55	2.34	3.56	4.26	4.98	5.51	4.1
Iraq	0.29	0.81	1.36	1.85	2.66	2.53	3.27	3.74	3.95	2.63
Jordan	2.33	2.74	3.25	3.77	4.28	5.23	5.95	6.47	6.91	2.82
Kuwait	2.89	2.88	3.13	3.37	4.53	5.43	5.75	5.96	6.22	2.31
Syrian Arab Republic	1.35	1.77	2.15	2.84	3.65	4.47	5.11	5.48	5.77	3.8
ESCWA countries	1.12	1.02	1.43	1.75	2.44	3.21	3.65	4.41	4.83	4.17
World	4.64	-	5.16	-	5.92	-	6.43	6.44	6.66	0.91
Developing countries	2.05	-	2.67	-	3.57	-	4.42	4.79	5.13	2.54

Source: A.A.G. Ali, *On the Challenges of Building Human Capital for Economic Development in the Arab Countries* (Kuwait, Arab Planning Institute (API), 2002), p. 9.

* Tables have either been modified from their original source for the purpose of selecting relevant information or style or reproduced using the same figures as the original tables.

ANNEX TABLE 3. PRIMARY AND SECONDARY STUDENT-TO-TEACHER RATIOS

	1980	1985	1990	1991	1992	1993	1994	1995/1998[a/]
Primary								
Egypt	-	31.9	24.9	24	23.5	26.8	26.8	24.2
Jordan	31.8	31.3	25.1	24.1	22.1	21.5	21.5	20.8
Lebanon	17.9	-	-	10.8		9.9	9.3	9.2
Syrian Arab Republic	28.1	25.9	25.1	24.7	24.2	23.7	23.4	23.5
Yemen	-	-	-	-	-	-	-	30.9
Secondary								
Egypt	26.9	22.3	21.8	20.6	19.9	21.2	-	16.6
Jordan	21	17.9	15.6	21.1	-	-	-	16.1
Lebanon	11.9	-	-	-	-	-	-	-
Syrian Arab Republic	19.5	17.7	18.9	18.4	17.7	16.9	16.6	14.8
Yemen	-	-	-	-	-	-	-	12.6

Source: World Bank, *Education in the Middle East and North Africa: A Strategy Towards Learning for Development*, Human Development Network, 1998, p. 48.

a/ Egypt and Yemen data are for 1998; Jordan and Syrian Arab Republic data are for 1995; and Lebanon primary education data are for primary and general secondary education in 1995.

ANNEX TABLE 4. REAL PER STUDENT EXPENDITURE IN SELECTED ESCWA MEMBER COUNTRIES, BY LEVEL OF EDUCATION

Country	Real expenditure per student in primary education (US$ PPP[a/])	Real expenditure per student in secondary education (US$ PPP)	Real expenditure per student in tertiary education (US$ PPP)	GNP per capita in 1996 (US$ PPP)	Primary to GNP per capita (percentage)	Secondary to GNP per capita (percentage)	Tertiary to GNP per capita (percentage)
Egypt	338	528	2 801	2 860	11.82	18.46	97.94
Jordan	517	527	6 063	3 570	14.48	14.76	169.83
Lebanon	1 122	938	5 449	6 060	18.51	15.48	89.92
Syrian Arab Republic	263	528	3 337	3 020	8.71	17.48	110.5
Yemen	210	372	1 433	790	26.58	47.09	181.39
Average	361	529	3 169	2 690	13.4	19.6	117.8

Source: A.A.G. Ali, *On the Challenges of Building Human Capital for Economic Development in the Arab Countries* (Kuwait, API, March 2002), p. 13.

a/ Purchasing power parity.

ANNEX TABLE 5. EXPENDITURE ON EDUCATION IN SELECTED ESCWA MEMBER COUNTRIES, 1996-2000

Country	Total expenditure on education as a percentage of government expenditure or general budget		
	1996	1998	2000
Bahrain	16.5	16.5	14.6
Egypt	11.5	13.3	12.8[c/]
Jordan[a/]	12.3	10.6	-
Kuwait	15.2[b/]	16.4	17.9
Lebanon[a/]	7.3	-	-
Oman	9.5	12.7	14.6
Qatar	10.2	8.9	9.3
Saudi Arabia	13.9	23.1	20.2
Syrian Arab Republic[a/]	7.8	7.1	6.8
United Arab Emirates[a/]	18.6	17.2	-
Yemen[a/]	16	18.8	17.9

Source: ESCWA, compiled from various sources.

a/ As a percentage of the general budget.
b/ 1997.
c/ 1999.

ANNEX TABLE 6. SCIENTIFIC AND TECHNOLOGICAL CAPACITIES IN REGIONS OF THE WORLD AS PERCENTAGES OF WORLD TOTAL, 1995

Region	Expenditure on R&D[a/]	Scientific publications	European patents	US patents
Arab countries	0.4	0.7	—	—
North America	37.9	38.4	33.4	51.1
Western Europe	28	35.8	47.4	19.9
Latin America	1.9	0.7	0.2	0.2
Sub-Saharan Africa	0.5	0.8	0.2	0.1
Japan and NICs	18.6	10.1	16.6	27.3
China	4.9	1.6	0.1	0.2
India and Central Asia	2.2	2.1	0.0	0.0
Others	2.2	2.9	1.3	0.6
World	100	100	100	100

Source: A.A.G. Ali, *On the Challenges of Building Human Capital for Economic Development in the Arab Countries*, (Kuwait, API, March 2002), p. 15.

a/ Figures are for 1994.
b/ Newly industrialized countries.

ANNEX TABLE 7. UNEMPLOYMENT AND UNEMPLOYMENT RATES ACCORDING TO EDUCATION LEVEL AND GENDER IN EGYPT, 1988 AND 1998

		1988			1998		
		Unemployed (thousands)	Labour force (thousands)	Unemployment rate	Unemployed (thousands)	Labour force (thousands)	Unemployment rate
Illiterate	M	137	4 113	3	188	3 195	6
	F	110	3 876	3	51	3 998	1
	T	247	7 989	3	238	7 192	3
Read and write	M	69	2 000	3	79	1 608	5
	F	35	241	15	23	468	5
	T	104	2 241	5	102	2 076	5
Less than intermediate	M	84	1 517	6	142	2 629	5
	F	61	338	18	29	893	3
	T	145	1 855	8	171	3 522	5
Intermediate	M	204	1 673	12	545	3 433	16
	F	321	956	34	580	1 871	31
	T	525	2 729	20	1 125	5 305	21
Above intermediate	M	23	326	7	92	770	12
	F	42	205	20	122	495	25
	T	65	532	12	214	1 267	17
University and above	M	77	1 170	7	144	1 847	8
	F	73	464	16	143	854	17
	T	150	1 632	9	287	2 702	11
Total	M	594	10 799	6	1 191	13 482	9
	F	642	6 080	11	947	8 579	11
	T	1 236	16 879	7	2 137	22 061	10

Source: B. Laabas, "Education, unemployment duration and insertion in labour markets", paper submitted to the Conference on Enhancing Links between Education and Labour Markets in Arab Countries, organized by API and the Ministry of Finance of Lebanon, Beirut, 4-6 March 2002, p. 30.

ANNEX TABLE 8. LABOUR FORCE DISTRIBUTION AND UNEMPLOYMENT IN 1998 AND LABOUR MARKET DEMAND IN EGYPT, 2001-2005, BY STATUS OF EDUCATION

Sector	Labour force[a/]		Unemployment[b/]		Labour market demand	
	Thousands	Percentage	Thousands	Percentage	Thousands	Percentage
Illiterate	7 192	33	135	8		
Read and write	2 076	9	73	4		
Below intermediate	3 522	16	143	8	531	66
Intermediate	5 305	24	947	55	28	4
Above intermediate	1 267	6	181	11	108	13
University and higher	2 705	12	242	14	138	17
Total	22 061	100	1 721	100	805	100

Source: S. Radwan, "Employment and unemployment in Egypt: Conventional problems, unconventional remedies", working paper submitted to the Conference on Employment and Unemployment in Egypt, Egyptian Centre for Economic Studies (ECES), Cairo, 13-14 January 2002, p. 5.

a/ Includes those aged 6 years old and above.

b/ Includes those aged 15 years old and above.

ANNEX TABLE 9. PER CAPITA GOVERNMENT SPENDING ON EDUCATION IN EGYPT, 1995/96

	Per capita spending	
	Egyptian pounds	Percentage of per capita GNP
Unit cost of current expenditure		
Primary	356	9.1
Preparatory	521	13.4
Secondary	746	19.2
Higher education	2 811	72.4
Unit cost of investment		
Primary	100	2.5
Preparatory	121	3.1
Secondary	165	4.2
Higher education	656	16.8
Unit cost of total expenditure		
Primary	456	11.7
Preparatory	642	16.5
Secondary	911	23.4
Higher education	3 467	89.2

Source: A. Galal, "The paradox of education and unemployment in Egypt", paper presented at the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 9.

ANNEX TABLE 10. INDEX OF REAL WAGES IN EGYPT, 1980/81 TO 1994/95

Sector	1980-1981	1982-1983	1985-1986	1990-1991	1994-1995
Agriculture	60.2	130.8	100	72	68.6
Industry	99.8	131.4	100	52.2	68.4
Petroleum	78.8	114.8	100	69.1	57.8
Electricity and gas	69.2	97.6	100	68.8	67.6
Housing and construction	64.4	135.3	100	77.1	63.3
Transportation and communications	60.2	122.7	100	85.8	55.2
Finance and trade	98.7	124.8	100	79.4	70.3
Other services	82.3	110.8	100	66.3	62
Total	80.4	120	100	70.9	67.8

Source: S. Radwan, "Employment and unemployment in Egypt: conventional problems, unconventional remedies", working paper submitted to the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 12.

ANNEX TABLE 11. DISTRIBUTION OF EMPLOYMENT, 1998, AND LABOUR MARKET DEMAND IN EGYPT, 2001-2005, BY ECONOMIC ACTIVITY

Sector	Employed		Labour market demand	
	Thousands	Percentage	Thousands	Percentage
Agriculture	8 993	42	65	4.6
Mining	41	0.2	7	0.5
Industry and petroleum	2 494	11.6	661	46.5
Electricity	149	0.7	3	0.2
Building and construction	1 098	5.1	87	6.1
Transportation	938	4.4	50	3.5
Trade	2 479	11.6	104	7.3
Financial services	327	1.5	12	0.8
Tourism and hotels			275	19.4
Business services			11	0.7
Personal services	4 900	22.9	81	5.7
Education			33	2.3
Health			32	2.3
Total	21 416	100	1 419	100

Source: S. Radwan, "Employment and unemployment in Egypt: Conventional problems, unconventional remedies", working paper submitted to the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 4.

ANNEX TABLE 12. EFFICIENCY IN PRIMARY AND PREPARATORY EDUCATION IN EGYPT, 1989/90-1994/95

	Dropping percentage	Actual years of studying[a/]	Ratio of graduates to the number of students in the first year
Primary			
1989/90	12.9	6.29	81.71
1990/91	27.94	6.12	84.2
1991/92	22.45	6.83	89.46
1992/93	15.74	5.63	92.89
Preparatory			
1991/92	21.91	3.91	78.03
1992/93	12.49	3.69	87.57
1993/94	13.18	3.7	86.82
1994/95	12.9	3.6	87.1

Source: A. Galal, "The paradox of education and unemployment in Egypt", paper presented at the Conference on Employment and Unemployment in Egypt, ECES, Cairo, 13-14 January 2002, p. 5.

a/ Average studying school years are 5 for primary and 3 for preparatory. Actual years of studying exceeding these averages are due to repeating minus drop out.

ANNEX TABLE 13. LEVEL OF EDUCATION IN RELATION TO NATIONAL MANPOWER AND AVERAGE YEARS OF EDUCATION IN KUWAIT AND SAUDI ARABIA, 1965-1999

	Kuwait				Saudi Arabia		
	1965	1975	1983	1996	1981	1992	1999
				Males			
Illiterate	49.3	38.3	15.6	3.2	35	10.9	5.1
Read and write	43	25.3	16.2	4.5	33.6	25.5	18.7
Primary	3.5	14.8	15.7	12.1	13.7	28.3	28.6
Preparatory	3.0	11.1	26.4	33.1	6.3	17.6	21.8
Secondary	1.5	7.4	17.5	20.5	7.7	10.6	14.5
University and higher	0.8	3.1	8.6	24.8	3.7	67.1	11.3
Average years of education	2.1	4.4	8.2	11.7	4.3	6.5	7.9
				Females			
Illiterate	48	10.1	2.2	1.8	45.5	36.1	24
Read and write	17.8	3.2	2.5	1.2	34.9	22.8	19.3
Primary	7.7	7.9	2.5	3.7	1.3	19.2	21.3
Preparatory	9.9	20.2	20.5	20.7	3.5	10.5	15.5
Secondary	14.9	44.7	48.1	16.5	13.3	7.9	12.1
University and higher	1.7	13.9	34.2	55.1	3.6	3.5	7.7
Average years of education	4.5	11.8	13.8	14.7	3.8	4.3	6

Source: M. Girgis, "The GCC factor in future Arab labour migration", a paper submitted to the Fourth Mediterranean Development Forum, Amman, October 2002.

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