EDUCATION AND SCIENTIFIC DEVELOPMENT

IN THE OIC MEMBER COUNTRIES

2014

Editor
Savaş Alpay

ORGANISATION OF ISLAMIC COOPERATION

STATISTICAL ECONOMIC AND SOCIAL RESEARCH
AND TRAINING CENTRE FOR ISLAMIC COUNTRIES

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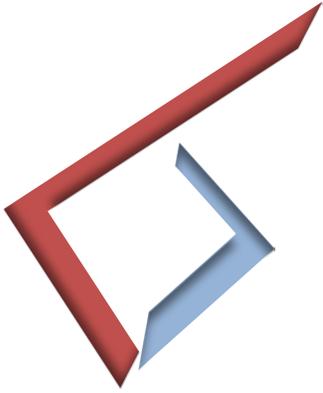
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Executive Summary

In order to highlight some basic indicators related to education, school age population at different levels of education, average years of schooling and literacy rates are discussed. School age population at pre-primary level is comparably lower than the population at other levels of education in OIC countries. In 2013, there were 99 million at pre-primary school age in OIC countries. While 201 million children were at the age of primary schooling, 211 million children were at the age of secondary schooling and additional 152 million were at the level of tertiary schooling. The total school age population reached 662 million in OIC countries.

Average years of schooling have substantially increased over the last 40 years. In 1970, the number of countries with average years of schooling more than 6 years was only 4. This number increased to 26 in 2010. Thanks to a combination of effective policies and sustained national investments in education, the share of population with no school attendance has steadily decreased in many member countries.

On the other hand, the literacy rates in the OIC countries remain relatively low. With an average adult literacy rate of 72.3% in 2012, OIC countries as a group lagged well behind the world average of 82% and also the non-OIC developing countries' average of 84.5%. Still in 10 member countries, literacy rates are below 50%. Literacy rates among youth are comparably better than adult literacy rates in OIC countries. On average, 82% of youth are literate, which is, however, once again below the world average (88.6%) and average of non-OIC developing countries (90.9%) and developed countries (99.7%).

Participation in Education

The total number of enrolments in *pre-primary* schools in OIC countries increased from 16.3 million to 25.9 million between 2000 and 2013, based on the most available data in both years. The number of pre-primary school teachers, on the other hand, not only improved in absolute terms but also as percentage of both developing countries and the world as a whole. Despite notable improvements, average pre-primary school gross and net enrolment rates (GER and NER) in OIC countries compare unfavourably to non-OIC developing and developed countries, as well as the world.

OIC countries increased their share in the total numbers of both *primary* school enrolments and teaching staff. The number of primary school pupils in OIC member countries reached 196 million, with shares of 28.0% and 30.9% in total world and developing country primary school enrolments, respectively. With 7.2 million primary school teachers in 2013, OIC countries also improved their share in total primary school teachers in both the world and developing countries. On the other hand, average gross rates for primary school enrolment (i.e., GERs) have increased all over the world, except for developed countries, during the period 2000-2013. More importantly, this upward trend was particularly strong in OIC countries. The average GER in the member countries increased from 90.4% in 2000 to 101.3% in 2013, according to most recent data available in both years. The average NER in OIC countries was rather stable and recorded most recently at 78.4%. This translates into the fact that some one-fifth of the primary school age children in OIC countries are out of schools.

In 2013, 123.9 million children in OIC countries were enrolled in *secondary* schools, compared to 88.4 million in 2000. The total number of teachers qualified for secondary schools also increased from 4.4 million to 6.2 million between 2000 and 2013. In 2013, OIC countries accounted for 22.6% of the total secondary school pupils in the world and 26.3% in developing countries. As far as the total number of secondary school teachers is concerned, the shares were at 19.8% and 24.5%, respectively. Notably, average OIC secondary school GER increased from 49.3% in 2000 to %60.7 in 2013,

although improvement was relatively stronger in other country groups. On the other hand, average NER in OIC countries, which was recorded at 51.2% in 2013, compared favourably to that in non-OIC developing countries (47.4%). Yet, more needs to be done to improve secondary education enrolment rates to levels at which the education system can be deemed to be fairly inclusive. Particularly large gap between OIC secondary school GER and NER figures in most education levels highlight the problems of outreach and quality of education in OIC countries, which manifest themselves through prevalence of over-aged enrolments and high repetition rates.

As a particularly promising development for the OIC community, total number of *tertiary* school students in the member countries increased more than two-fold from 14.7 million to 33.0 million between 2000 and 2013, again based on most recent data available in each year. More tertiary school graduates apparently mean more qualified, highly skilled workforce. The number of teaching staff employed in tertiary schools of OIC countries also increased steadily over the last decade and reached 1.4 million in 2013. During the period, OIC member countries increased their shares in the total number of tertiary school students and teaching staff in the world. However, OIC countries, with an average NER of 22.6% as of 2013, still lag far behind the developed country NER levels (78.0%).

Progression and Completion in Education

The completion rate indicates the total number of students completing (or graduating from) the final year of primary or secondary education. OIC member countries, on average, achieved to increase the completion rate from 77.7% in 2006 to 81.3% in 2012, which was still lower than the world average of 88% in the same year. The increased investment on education, programs to raise parents awareness and higher use of information and computer technologies are among the reasons behind this change.

The repetition rate is a key indicator for analysing and projecting student flows from one grade to a higher grade within an educational cycle. The repetition rates in OIC member countries, on average, decreased both at primary and secondary school levels thanks to education reforms. In primary schools, the average of OIC decelerated from 7.8% in 2006 to 5.9% in 2012, which was still above the world average of 6% in 2012. In secondary schools, among all country groups analysed,

only the OIC group succeeded to reduce the repetition rates in the period under consideration from 9.5% to 8.7%.

The share of children enrolled in the first grade of primary school who eventually reach the last grade of primary is known as the survival rate. Despite the existence of large variation among OIC member countries, on average, a small increase from 82.4% in 2006 to 82.7% in 2011 in the survival rate of the OIC group was observed.

The transition rate measures the rate of students' transition from primary school to secondary school. A lower transition rate might indicate the existence of severe problems in secondary schools and in education system in general. In this regard, OIC member countries, on average, successfully increased their average transition rate from 78.1% in 2006 to 81.6% in 2011.

Educational Resources and Teaching Conditions

A lower student-teacher ratio is one of the main indicators on the good quality of education in any country. In a classroom with a low student number, more interaction between teacher and students occur. The attentiveness of students on the lecture is also more likely to sustain longer, if there are limited number of students in the same classroom. In primary schools, OIC member countries achieved to reduce the student-teacher ratio from 32.4 in 2002 to 27.9 in 2012. Unlike in primary schools, in the OIC group, the student-teacher ratio in secondary schools went up from 19.1 in 2002 to 19.6 in 2012. In tertiary schools, the student-teacher ratio went also up in the OIC group climbing from 18.4 in 2002 to 21.2 in 2012.

The use of information and communication technologies (ICT) in education helps to improve the quality of education and to increase access to education. Despite the existence of large differences among OIC member countries, the enrolment into programmes offering computer and internet assisted education was found to be limited in selected OIC member countries mainly stemming from the lack of physical infrastructure and trained human resources. The analysis has also shown that teachers in OIC member countries are mostly not trained to use ICT in their education programmes. Overall, it has become evident that many OIC member countries experience challenges on offering basic infrastructure (computer laboratories and access to

internet) for an ICT involved education system in their respective educational institutions.

The number of students pursuing studies abroad continues to surge not only because of rising demand for quality education but also due to rising competition among higher education institutions around the world for the best and brightest minds. In 2012, more than 4 million students went abroad to study, up from 2 million in 2000. The number of students going abroad for tertiary education continuously increased from OIC countries almost doubled since 2000 and reached over 820,000 in 2012. The main reasons for substantial increases are, among others, growing number of youth in higher education and economic growth of the countries that created opportunities for students to get an education at international education institutions. According to the latest data available, Malaysia is the most attractive destination within OIC for foreign students by hosting more than 63,000 students from all around the world.

Whatever gains made in access to education, it should be supported with an equivalent improvement in quality. According to the available data and information, it is fair to argue that the successful improvements in accession to education in many member countries obviously could not be accompanied with similar improvements in the quality of education, which plays significantly greater role in increasing the capacity of people to utilize knowledge.

Government Expenditures on Education

Governments around the world spent, on average, 4.9% of GDP on education in 2002 while this figure slightly increased by 0.1 percentage point in a decade to reach 5.0% in 2011. Public spending on education in developed countries accounted for 4.9% of the GDP in 2002 and this ratio increased further to 5.1% by 2011. However, governments in non-OIC developing countries could spend only 4.3% of their GDP on the education sector in 2002 and this ratio increased by 0.5 percentage points in a decade to reach 4.8% in 2011. The situation in OIC countries was not optimistic though government spending on education accounted for 4.7% of their GDP in 2002 which decreased by 0.9 percentage points to 3.8% in 2011.

The share of a government's spending on education in its total expenditures measures the relative importance of the education sector on part of the government. In OIC member countries, governments' spending on the education sector accounted for 15.8% of their total expenditures in 2002. This ratio was 13.5% in developed countries and 14.1% in non-OIC developing countries, with the world average being 13.6%. By 2011, the ratio decreased to 15.0% in OIC member countries and 12.0% in developed countries while it increased to 15.0% in non-OIC developing countries, leading to a decrease in the world average to 12.5%.

At the micro-level, government expenditures on education per pupil increased all over the world between 2002 and 2011. In this period, the world average increased from $3,927 to $4,884, corresponding to an annual average growth rate of 2.5%. The average for developed countries, with an annual average increase of 6.9%, increased from $10,229 to $18,724. The average for non-OIC developing countries increased from $790 to $1,860, corresponding to an annual average growth rate of 10.0%. As for OIC countries, the average spending per pupil increased from $394 to $928, registering an annual average growth rate of 10.0%.

Scientific Development

Research in science and technology is of great importance and key to progress towards a knowledge-based and innovation-driven economy. It promotes better understanding on different aspects of life and helps to improve the standard of living by generating new knowledge and technological innovation. Today, there is severe competition among countries to become the most competitive and knowledge-based economy in the world. Gaining a comparative advantage against other countries, which is of particular importance to the OIC member countries in catching-up within this competitive world of knowledge economy, depends on how well they perform in research activities.

The availability of abundant and highly qualified researchers is an essential condition to foster innovation and promote the scientific and technological development of a country. Inhabiting 615 researchers per million people on average, OIC member countries fall well behind the world average of 1604. The gap gets even larger when compared to the EU average of 5024. In terms of female researchers, women represent around 35% of the total researchers in the OIC, higher than the world average of 30.2% and EU average of 33.2%. In the recent decades, women, with better access to training and education facilities, have become more

qualified and motivated to participate in the labour force. However, the progress achieved so far in the field of R&D seems unsatisfactory neither globally nor at the OIC level as the percentage of women researchers is higher than the men in only 12 of countries in the world.

With regard to Gross Domestic Expenditures on R&D (GERD), OIC countries account for only 2.3% of the world total or 8.1% of the developing countries whereas the GERD of China is more than 7 times the OIC total of $33.9 billion. GERD as a percentage of GDP, known as R&D Intensity, is another measure reflecting the innovative capacity of a country. The average R&D intensity of the OIC countries, 0.46%, is significantly lower than the world average of 1.86% as well as the targeted rate of 1% of the OIC Ten Year Programme of Action (TYPOA).

High-technology exports (HTE), defined as products with high R&D intensity, mostly depend on an advanced technological infrastructure and inward FDI in high-tech industries. Confirming the lack of adequate infrastructure and FDI in most of OIC countries, it is observed that all the member countries for which data are available accounted for only 3.8% of the world total HTE of $1.98 trillion or 9.9% of the total HTE of developing countries in 2012.

Intellectual property rights, especially patents, are the key factors contributing to advances in innovation and scientific development. As a product of R&D activities, patents strengthen the link between science and technology, as the outcomes of research translate into new products or services. In this regard, the quantity of patent applications is considered as a proxy for the degree of innovative capability in a country. With 34,933 patents, OIC member countries accounted for nearly 1.5% of total patent applications around the world.

Academic research is one of the most important components of research activities conducted in a country. To a certain extent, the performance in academic research can be well reflected by the quantity and growth of the scientific articles published in indexed journals. In 2013, OIC member countries as a whole published 108,821 articles which represents more than four-fold increase compared to 20,242 articles published in 2000. Nevertheless, the total amount reached is still below those of some individual countries in the world. In terms of articles per million people, a similar trend can be observed. On average, OIC member countries produced only 16 articles per million people (pmp) in 2000 while this number increased to 66 in 2013, which still could be considered low given that this number reached over one thousand in many developed countries.

Capacity for Innovation, published by World Economic Forum (WEF), aims to compare the overall capacity of countries for innovating new products and processes through measuring the way the technology obtained by companies. The average value of Capacity for Innovation in OIC countries was 3.26, which is below the average of the world (3.62) and also developed countries (4.63).

Global Innovation Index (GII), prepared by INSEAD Business School and the World Intellectual Property Organization (WIPO), gauges elements of the national economy which embodies innovative activities to compare countries in terms of their enabling environment to innovation. According to 2014 version of GII, the average value of index in OIC countries is 29.7, which is lower than the world average (36.9) and the average of non-OIC developing countries (33.1).

Policy Recommendations

Education

Evidence shows that learning levels rather than years spent in school are what drive social and economic returns on investment in education, including employability, productivity and growth (Brookings Institution, 2011). However, in many parts of the world, children leave school without acquiring the basic knowledge and skills they need to lead productive, healthy lives and to attain sustainable livelihoods. Poor

quality education is jeopardizing the future of millions of children and youth across the OIC region. But evidence-based decision making is also highly challenging due to lack of sufficient data and capacity to systematically measure and track learning outcomes over time in many countries. Therefore, capacities for collecting quality data should be improved to analyse the extent of the learning crisis.

Human capital is one of the main determinants of long-term growth. Skilled and well-educated workforce facilitates the absorption of foreign knowledge and technology from other countries through channels including international trade and foreign direct investments. But, it is the absorptive capacity that determines the level of diffusion. Investment in human capital accumulation or education has, therefore, the potential to increase the capacity to obtain and utilize the knowledge developed elsewhere. Since the majority of the OIC member countries need such capacities to promote development, the issue of human capital development remains critical in widening the potentials to achieve long-term sustainable growth.

Development policy today recognizes the role of education but focuses most attention on ensuring that everybody is in school and ignoring the quality and efficiency of the learning that takes place in educational institutions. Promoting the quality of education at international and regional level is highly critical for creating better opportunities of growth and development. It is observed that despite some improvement in school attendance, there are OIC countries with considerably low level of schooling. The quality of education also remains a critical concern in many OIC countries. For effective human capital development that can lead to higher productivity and better competitiveness levels, attendance as well as quality of education at all levels (pre-primary, primary, secondary, and tertiary) and all types (vocational, formal, and evening) should be supported through effective programmes and policies. Low literacy rates and low levels of scientific outcomes reflect the dimensions of learning crisis in OIC countries. New and effective strategies should be devised to improve the learning outcomes in addition to improving participation to education. Educational resources and teaching conditions should also be upgraded to translate the higher participation to better learning outcomes.

Given the shortage of skilled workers, effective policies and programmes need to be devised and implemented for better education and training as they are critical factors for technological readiness to raise productivity and diversify into more sophisticated products. Enhancing firm productivity, upgrading technologies, developing high-value added services and achieving more competitive status in the world economy necessitate the assurance of better educated and trained human resources that match the needs of the labour market.

Scientific Development

The current stance of science and technology (S&T) in OIC member countries is twofold. First, major indicators on research and scientific development display a large disparity within the OIC member countries. Second, the OIC members, individually or as a group, lag far behind the rest of the world, particularly the developed countries, with a few exceptions.

While the availability of researchers varies considerably across the OIC member countries, most of these countries lag behind the world, with inadequate quantity of researchers employed in R&D activities. However, the OIC average for women researchers as a percentage of total researchers is slightly higher than the average of EU, and many individual OIC countries have higher shares than even the average for the EU member countries. On the other hand, spending on the research and development is significantly low in the OIC Countries. The low R&D intensity introduces major challenges for OIC member countries, as only two member countries are spending more than 1% of GDP on R&D in comparison to the world average of 1.9%. While some countries have recorded significant increases in their R&D intensity in the last ten years, most of them reported stable expenditures on R&D. Although the OIC Ten-Year Programme of Action called upon the member countries to encourage R&D programmes and ensure their individual R&D intensity is not inferior to half of the world average, the OIC countries are still far away from this target and, with the current trends, it seems difficult to meet the Programme target on time. Therefore, there is a dire need for more efforts to be exerted in this area in order to close the gap with the rest of the world. To achieve this, R&D should be stimulated through government and private sector initiatives and coordination among the OIC member countries.

As another important indicator on research and scientific development, production of scientific articles is concentrated in a few of the OIC members. In 2013, 77% of the articles originated in only six countries, namely Turkey, Iran, Malaysia, Saudi Arabia, Egypt and Pakistan. Moreover, the number of articles was less than 100 in 17 OIC member countries. To close the gap with the rest of the world and among the members, higher education and academic research should be supported rigorously by the governments. The establishment of universities and research centres through funds and financial incentives should be encouraged. OIC member countries should improve living standards for scientists

to reduce brain drain from member countries to other countries and to lead brilliant minds to academic work. The participation of women in university education should be improved through the elimination of the obstacles that prevent them from attending higher education. Academic research should be promoted through research grants and lesser teaching loads.

In this connection, intra-OIC networking opportunities could be facilitated through projects, similar to the Framework Programmes of the European Union, to support research and technological development in the Islamic world and to promote joint research initiatives among the member countries. Additionally, joint ventures among companies in OIC member countries in research intensive sectors should be encouraged towards more effective and cost efficient R&D investments. OIC countries may also take advantage of R&D spillovers by rapidly learning about new technologies developed in other countries and improving them, and by importing technological goods and services from their high-tech trade partners.

Moreover, patent applications are below the world average and mostly filed by non-residents, implying that indigenous innovation capability in most of the OIC countries is at low levels. The OIC member countries have no choice but to adopt measures to encourage patenting and technology licensing. In particular, it is critical to educate small and medium-sized enterprises about the benefits and regulations of the patent system. Additionally, an OIC level patent system, similar to African Regional Intellectual Property Organization or European Patent Organisation, can be developed to increase incentives for patent application in the Islamic world. Such a system not only brings higher benefits for patent holders through the right of being granted patents in a larger geography, but also will foster the establishment of relationships between the members in matters relating to R&D and patents, and promote exchange of ideas, research, and studies on industrial property matters.

As a result of the low R&D intensity coupled with inadequate technological infrastructure, high technology exports of the OIC member countries are quite limited, accounting for only 3.8% of the world high technology exports in 2012. Malaysia, with HTE of $61.2 billion in 2012, is the largest exporter of high-technology products among the OIC member countries. Indonesia,

Kazakhstan and Turkey, each with HTE figures above $1 billion, exhibit good prospects for further increase in their HTEs. In this context there is a dire need to increase the share of high technology products in the exports of manufactured goods of the OIC member countries.

An important component of scientific development is the infrastructure of internet and other information and communication technologies. This is particularly important in the OIC member countries, which have a high density of youth population. First of all, telecommunication sectors should be liberalized for better products and services in the OIC member countries. Some member countries, including Saudi Arabia and Turkey, successfully liberalized their telecommunication sectors in the last two decades. However, there is a strong need to speed up the privatization and liberalization of telecommunication sectors in many other OIC member countries. Governments should also promote internet usage through tax reductions on internet services and transferring internet subscription charges from consumers to telecom sector and internet service providers. To meet human resource needs in information and technology related sectors, it is important to encourage technology related majors in higher education.

Finally, OIC Member Countries need to adapt to the very dynamic global market place in a timely manner, and take their part in the new phase of scientific development. As nanotechnology is envisioned by many scientists and researchers as the next major advancement in science and technology, it is very critical that special attention is given to this important area by the governments, science community and the private sector through public-private partnerships and OIC-wide networking. SESRIC has been raising awareness on this important topic in the Islamic world. The global market for nanotechnology products is estimated to reach $1 trillion by 2015. OIC member countries are at a cross road to be major players of this advancement. It is imperative that joint research and investment on nanotechnology is initiated among the OIC countries as the pioneers of this new technology will benefit enormously from their early investment in this area.
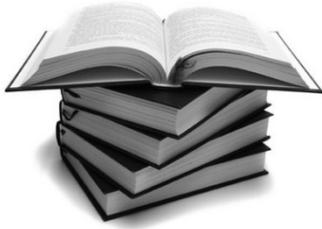
PART I

EDUCATION

Education is definitely more than just reading, writing, and arithmetic. It is one of the most important investments a country can make in its people and its future. It is the core of human capital formation and central to development of a society. It is widely accepted that investment in education and quality research at various national institutions are vital in achieving higher economic growth and reducing poverty and inequality. Quality education generates benefits to the society that go beyond the gains secured by the individuals involved. There is overwhelming evidence that education improves personal health, encourages stronger national identity and promotes peace and stability. The development literature has also drawn attention to the role of education in reducing inequalities that exist in many countries, particularly in developing societies with lower levels of income. The high correlation between the level of education and income or wealth is considered from the equity perspective as a justification for public intervention when the conventional market mechanisms do not function efficiently to ensure equality. Therefore, public intervention in the education sector, particularly in primary education, is universally acknowledged today.

The benefits from investing in human capital are not necessarily linked with attaining higher enrolment ratios, since poor quality may decrease returns of education and lead to high dropout rates. With a comprehensive approach to education, it is important that the education policy should provide people with learning opportunities that will assist them in developing skills to engage in new undertakings.

Education gives people the knowledge and skills they need to live better lives. It can boost productivity and open doors to jobs and better earnings. According to UNESCO (2010), each additional year of schooling raises average annual gross domestic product (GDP) growth by 0.37%. Similarly, education is associated with lower levels of child mortality and better nutrition and health. Children of mothers with secondary education or higher are twice as likely to survive beyond age 5 as those whose mothers have no education. Each extra year of a mother's schooling reduces the probability of infant mortality by 5% to 10%

(UNESCO, 2010). Education is also the key to addressing gender-based inequalities and exclusion.

Another critical aspect of education is that it helps people make decisions that meet the needs of the present without compromising those of future generations. Education for sustainable development is fundamental to changing values, attitudes and behaviours.

This report consists of two main parts; one is on education and the other is on scientific developments. This part is devoted to analyses on the current state of education in the OIC member countries and it discusses the progress made to ensure participation, progression and completion in education. It also examines the developments in educational resources, quality of education and international student mobility. Finally the part contains a section analysing the public expenditures on education in comparison with its counterparts.
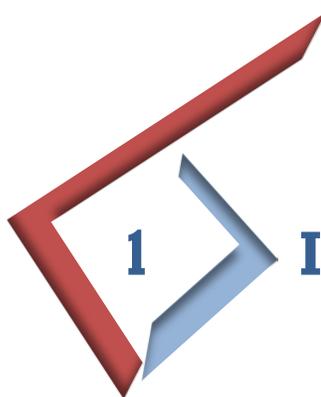
1   Introduction

The ability to produce and use knowledge is a major factor in sustaining development and achieving comparative advantage. Demand for education in many parts of the world continues to increase, which in turn offers developing countries an invaluable opportunity to prepare a well-trained workforce for growth and development. Educated, or skilled, workers are able to perform complex tasks and thereby contribute to producing more technologically sophisticated products. Especially in developing countries, skilled workers increase the absorptive capacity of the country by acquiring and implementing the foreign knowledge and technology, which is of crucial importance in successful economic diversification and development.

In this regard, the quality of education carries significant importance in building productive capacities. Education policies typically favoured providing quantifiable inputs (resources, infrastructure, textbooks, etc.) to schools and institutions. However, improving educational inputs does not guarantee that learning will take place. There are many challenges one needs to address to ensure quality of education. The literature identifies a number of policies that seem to be important to consider in terms of student learning performance. These include, among others, qualified teachers, class size, curriculum, learning materials, standards and performance evaluation, pedagogy, system and school level management, financing and external conditions such as family and nutrition.

This section provides some preliminary information on the status of education under three main subsections. The first one deals with school age population at different levels of education. Then a brief analysis is made on average years of schooling to show the progress on the overall schooling in OIC countries. Finally, to draw a loose picture on the achievement of education, literacy rates for both adult and young population are depicted.

1.1   School Age Population

According to the definition of UNESCO, school age population is the population of the age group theoretically corresponding to a given level of education as indicated by theoretical entrance age and duration.

Figure 1.1 compares the total number of population at different levels of education for different country groups. The total number of population at different levels of education is closely related to the duration of the education at that level. Clearly, school age population at pre-primary level is comparably lower than the population at other levels of education. In 2013, there were 99 million at pre-primary school age in OIC countries. While 201 million children were at the age of primary schooling, 211 million children were at the age of secondary schooling and additional 152 million were at the level of tertiary

schooling. The total school age population reached 662 million in OIC countries.

These figures on school age population become more insightful when the share of OIC countries in world is calculated for each level of schooling (Figure 1.2). The share of OIC in total world population in 2013 was around 23%. Figure 1.2 clearly depicts that in all levels of education OIC countries account for higher share of schooling age population than their share in total world population. At primary school level, this share exceeds 31%. Even at tertiary level, OIC countries account 26% of total world population. This indicates that OIC countries have younger population compared to other regions and, as also identified in the *SWOT Outlook on the OIC Countries 2012* of SESRIC, this constitutes an important field of strength for the OIC countries.

A further interesting outcome of the analysis on school age population is observed in its evolution during the last decade. The overall trend since 2003 shows that the highest increase in school age population took place for pre-primary level with 13.6% increase over the last ten years and reached 99 million in 2013 from its level of 87 million in 2003 (Figure 1.3). The lowest increase has been observed for the population at secondary school level with 8.1%, increasing from 195 million in 2003 to 211 million in 2013. While increases at other levels are higher than that in secondary level, they are still lower than the increase in tertiary level. This result indicates that young population continues to be an asset in OIC countries, but population dynamics may point at slowly aging population in the member countries. Importance of education for

"Education is a precondition for economic development and the fight against poverty, and the Koran sets the education of girls and boys as a high priority. Yet despite progress, primary school participation remains below 60 per cent in 20 OIC countries. Gender disparity persists."

UNICEF (2005)

Figure 1.1: School Age Population (2013)

Source: UNESCO, UIS Data Centre.
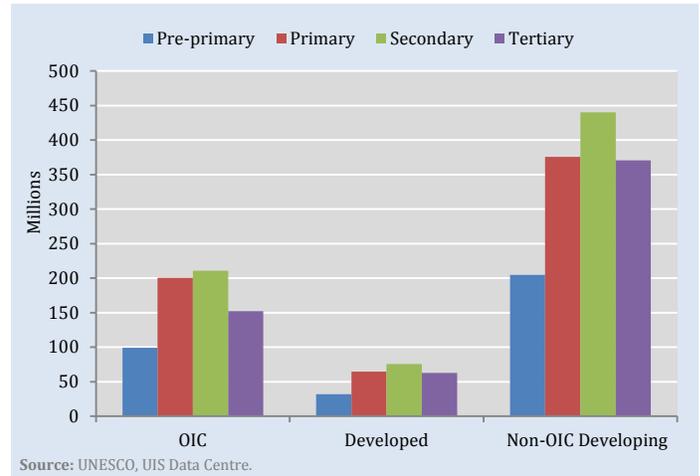
Figure 1.2: Share of OIC Countries in Total Worldwide School Age Population (2013)

Source: UNESCO, UIS Data Centre.
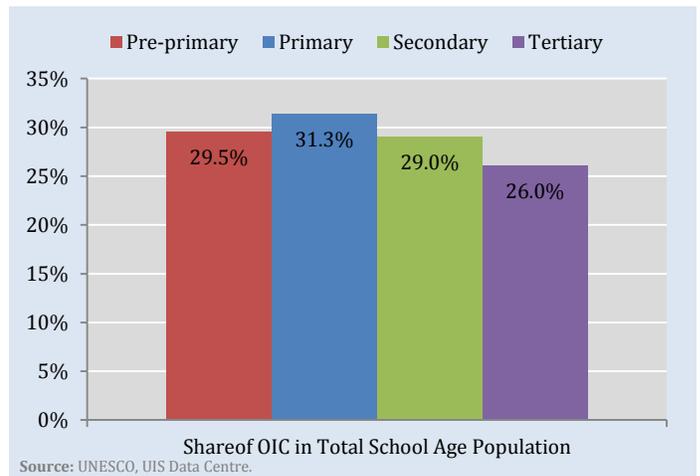
Figure 1.3: Percentage Change in School Age Population in OIC Countries btw. 2003 and 2013

Source: UNESCO, UIS Data Centre.
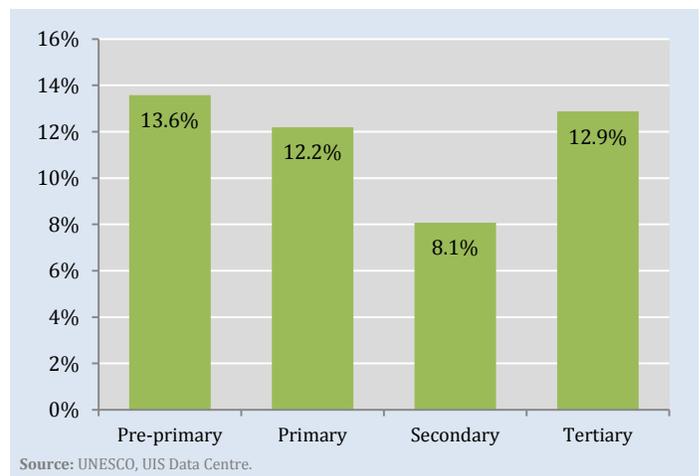
Box 1.2: Definitions of Key Concepts

This report utilizes a range of education and learning concepts. The definitions of these terms are provided below, as defined by the European Qualifications Framework for Lifelong Learning of the EU.

- *Skills:* The ability to apply knowledge and use know-how to complete tasks and solve problems. Skills may be cognitive (involving the use of logical, intuitive, and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools, and instruments).

- *Competence* (or *competency*): The proven ability to use knowledge; skills; and personal, social, and methodological abilities in work or study situations and in professional and personal development. Competence may be described in terms of responsibility and autonomy.

- *Learning outcomes:* Statements of what a learner knows, understands, and is able to do on completion of a learning process, defined in terms of knowledge, skills, and competencies.

- *Qualifications:* A formal assessment and validation by a competency body that determines an individual has achieved learning outcomes in conformance with given standards.

- *Knowledge:* The outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories, and practices related to a field of work or study. It can be theoretical or factual or both.

Source: EU (2008).

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an aging population is even more crucial for long-term prospects for socio-economic development.

1.2   Average Years of Schooling

In OIC member countries, average years of schooling have substantially increased over the last 40 years (Figure 1.4). In 1970, the number of countries with average years of schooling more than 6 years was only 4. This number increased to 26 in 2010. There are already quite a few countries with average years of schooling exceeding 10 years. In 1970, Albania and Turkmenistan were the only countries with average years of schooling exceeding 7 years. In 2010, 5 countries (Kazakhstan, Albania, Turkmenistan, Malaysia and Bahrain) provided education to their citizens on average more than 10 years. According to UN estimations, it is projected

Figure 1.4: Average Years of Schooling (1970 vs. 2010)

Source: Barro and Lee (2010).
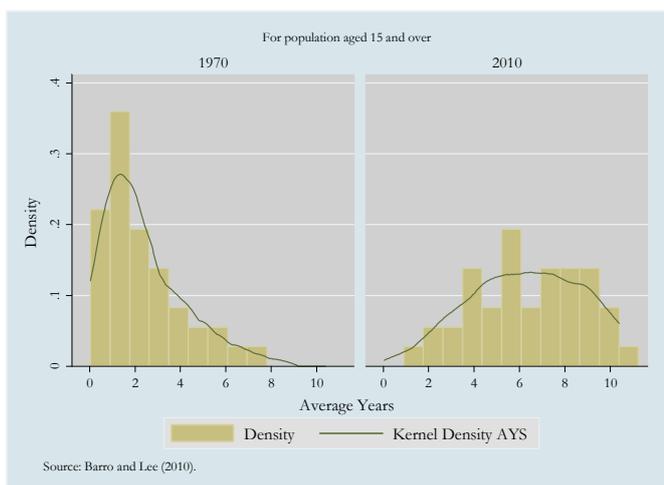
Figure 1.5: Average Years of Schooling (1960-2050)

Source: UN Data
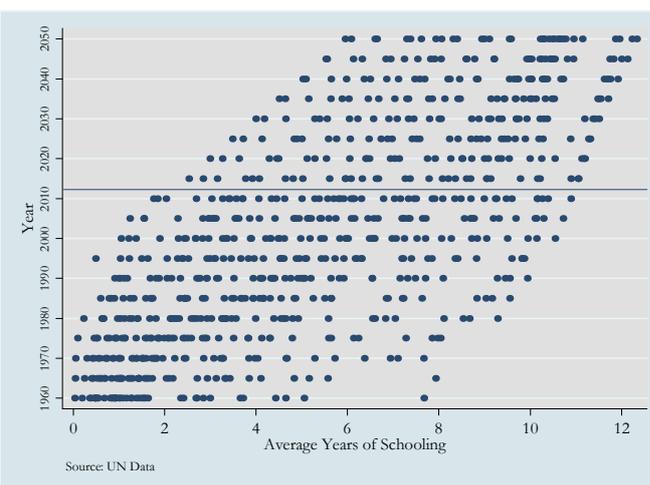
Figure 1.6: Changes in School Non-Attendance (1960-2010)

Source: Cohen & Soto (2010)
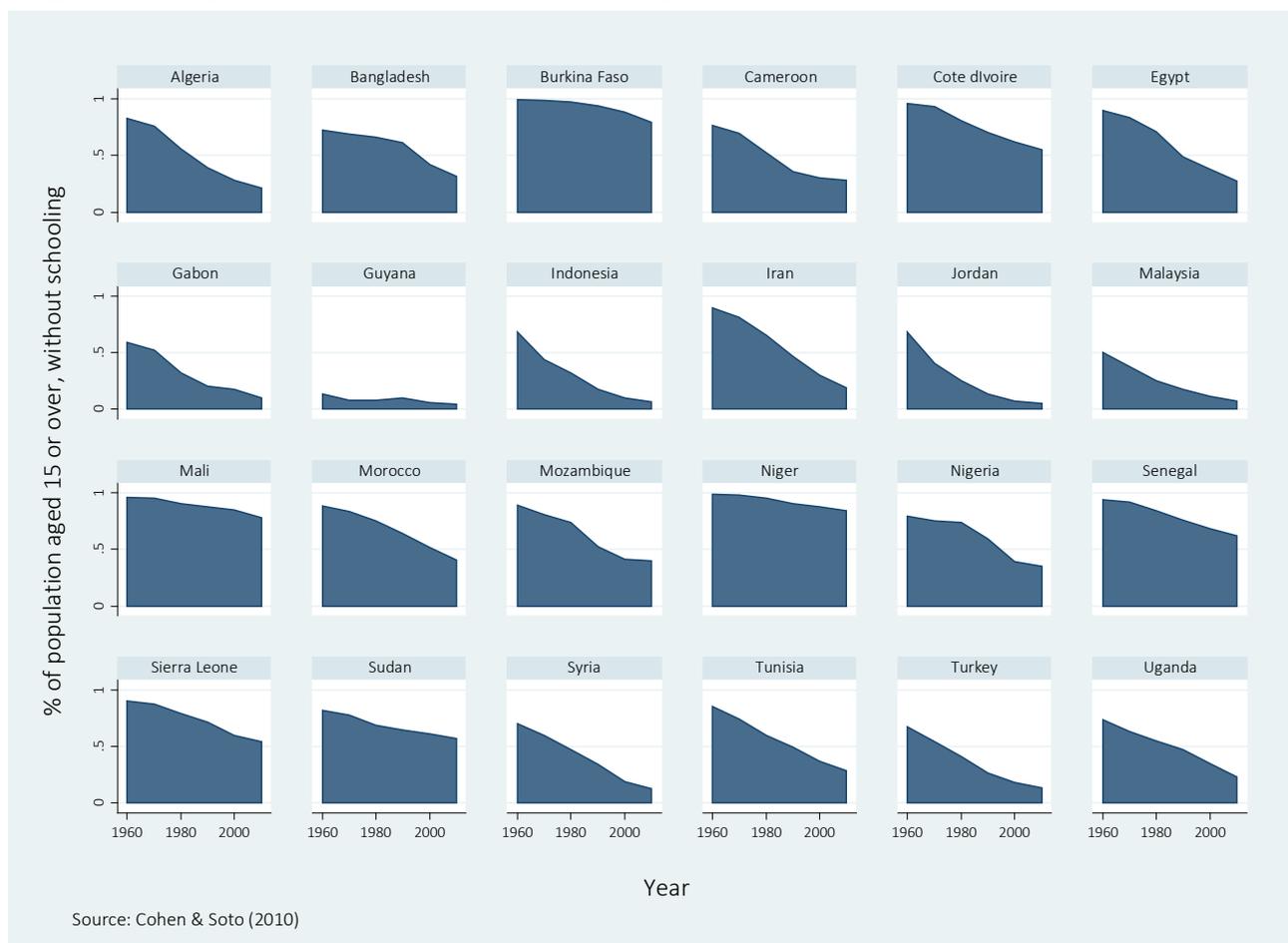
that the minimum average years of schooling will be 4 years in 2030 and it will reach to 6 years in 2050 in the OIC countries (Figure 1.5). Majority of the countries are expected to have average schooling rates over 8 years as of 2050.

Correspondingly, thanks to a combination of effective policies and sustained national investments in education, the share of population with no school attendance has steadily decreased in many member countries (Figure 1.6). There are, however, some countries with stubbornly high shares of non-schooling (Cohen and Soto, 2010). Burkina Faso, Mali and Niger could make only small progress in promoting the education. In Niger, the share of population with no-schooling remained as high as 84% in 2010. Though some progress has been made, the majority of the populations in Cote d'Ivoire, Senegal, Sierra Leone and Sudan have still no access to education as of 2010. Indonesia and Jordan are

the countries with best performance in improving the accession to education. They reduced the share of people with no school attendance by more than 90%. Guyana, on the other hand, persistently kept the share of non-schooling at very low levels.

1.3 Literacy Rates

1.3.1 Adult Literacy Rate

Adult literacy rate is one of the developmental indicators included in the measurement of Human Assets Index (HAI) as well as Human Development Index (HDI). It is regarded, therefore, as an important indicator of social development. The literacy rates in the OIC countries are not impressive. With an average adult literacy rate of 72.3% in 2012, OIC countries as a group lagged well behind the world average of 82% and also the non-OIC developing countries' average of 84.5% (Figure

1.7). Still in 10 member countries, literacy rates are below 50% (Figure 1.8). There is a larger disparity across genders in the group of OIC countries compared to other country groups. On average, out of 100 women, only 65.6 can read and write while 78.8 of male population are literate, indicating almost 13% disparity. While the average adult literacy rate among males in OIC countries is comparably better, it is still below the average of non-OIC developing countries (89.2%) and the world (87%). The gap in literacy rates of female population between the OIC and the world averages exceeds 12 percentage points. These comparisons indicate the low levels of investments in education, which will have adverse consequences on economic and social development in the OIC member countries.

With respect to the best performing countries in adult literacy rates, central Asian countries occupy the top five positions. According to the latest data available, Azerbaijan, Tajikistan, Kazakhstan, Turkmenistan and Uzbekistan achieved adult literacy rate over 99%. On the other end, Niger (15%), Guinea (25%), Benin (29%), Burkina Faso (29%) and Afghanistan (32%) had the lowest rates of adult literacy in OIC group (Figure 1.9).

1.3.2   Youth Literacy Rate

Despite being an important strength of the OIC countries, young population faces considerable

Figure 1.8: Distribution of OIC Countries according to their Adult Literacy Rates (2010)

Source: UNESCO, UIS Data Centre.
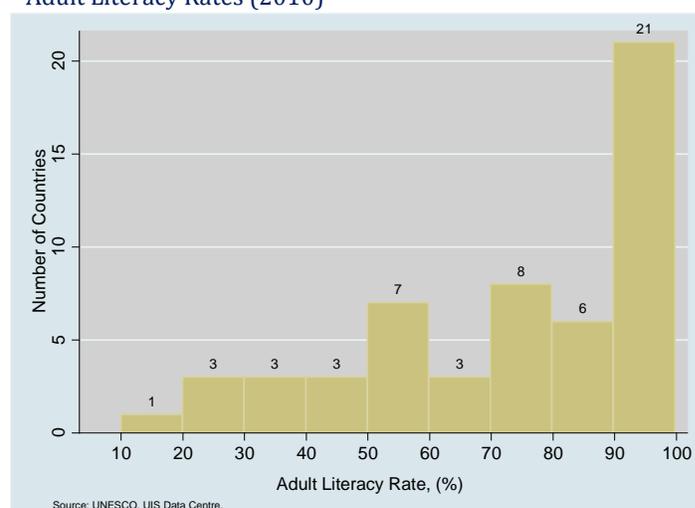
Figure 1.9: Lowest and Highest Performing OIC Countries in Adult Literacy Rates

Source: UNESCO, UIS Data Centre.

Figure 1.7: Adult Literacy Rates in Comparison*

Source: World Bank WDI and UNESCO, UIS Data Centre.
* The weighted averages calculated by using the latest available data for each group.
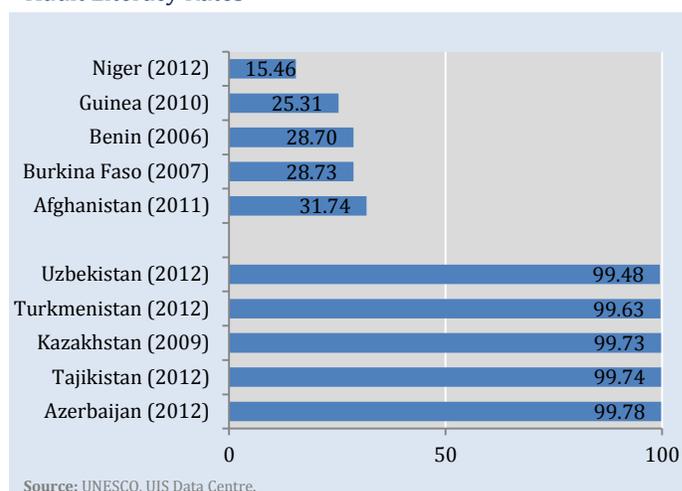
Figure 1.10: Youth Literacy Rates in Comparison*

Source: World Bank WDI and UNESCO UIS Data Centre.
* The weighted averages calculated by using the latest available data for each group.
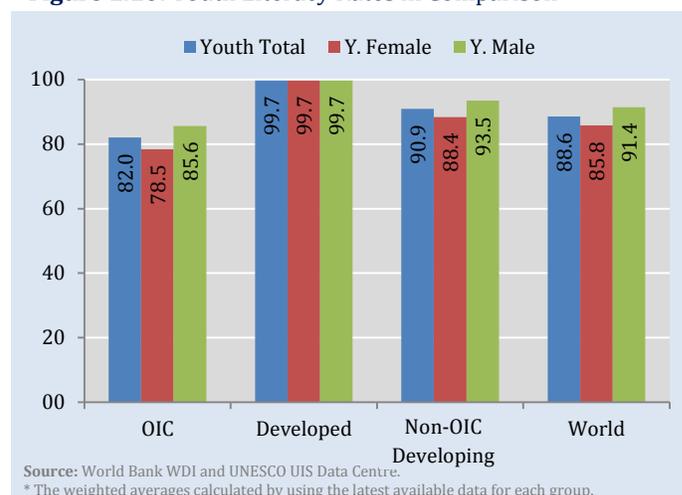
Figure 1.11: Distribution of OIC Countries according to their Youth Literacy Rates (2010)

Source: UNESCO, UIS Data Centre.

Figure 1.12: Lowest and Highest Performing OIC Countries in Youth Literacy Rates

Source: UNESCO, UIS Data Centre.
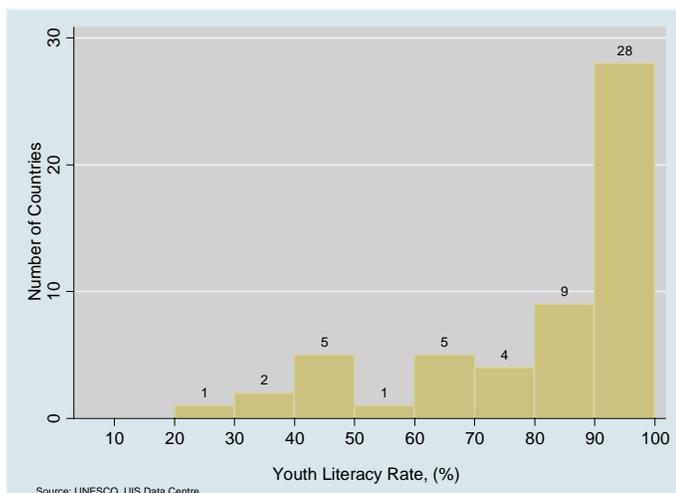
challenges in the social and economic life in a significant number of member countries. Inadequate education and lack of required skills make it especially difficult for youth in finding jobs in the labour market. In addition to its impact on economic development and productive capacity, long-term unemployment among the young people may trigger some major social problems within the affected communities.

According to the latest data available, literacy rates among youth are comparably better than adult literacy rates in OIC countries (Figure 1.10). On average, 82% of youth are literate, which is, however, once again below the world average (88.6%) and average of non-OIC developing countries (90.9%). The discrepancy between male (85.6%) and female literacy rates (78.5%) among young population narrows down to 7.1%, compared to 13.2% difference in adult population.

The distribution of OIC countries with respect to their rates of literacy is more favourable for youth as compared to that of adult population in the member countries (Figure 1.11). In majority of the member countries, youth literacy rates are above 90%. On the other hand, eight member countries have youth literacy rates that are lower than 50%. 24 countries achieved youth literacy rates of 97% or above. Uzbekistan and Azerbaijan, with youth literacy rate of 99.94%, are the best performing OIC member countries (Figure 1.12), followed by Libya (99.92%),

Tajikistan (99.87%) and Kazakhstan (99.83%). Niger, with a rate of 23.5%, is the country with lowest youth literacy within the OIC community. It is followed by Guinea (31.4%), Burkina Faso (39.3%), Benin (42.4%) and Afghanistan (47%).
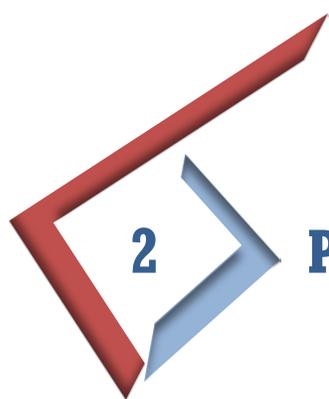
2 Participation in Education

This section profiles the trends in enrolment at all levels of education, including technical and vocational programmes, as a key indicator of the scope of and access to educational services. As the size of the population and rates of enrolment in a population group change, so does enrolment. These changes in enrolment have implications for the demand for educational resources such as qualified teachers, physical facilities, and funding levels required to provide a high-quality education for the nation's students. Poverty also poses a serious challenge to children's access to high-quality learning opportunities and their potential to succeed in school. All in all, the differences in enrolment among OIC countries, as well as geographical and income clusters within the OIC group, can offer insights into the potential for intra-OIC cooperation in eliminating discrepancies in access and participation in education, issues that are of central concern.

Early childhood education programs, such as pre-primary schools, are intended to prepare children socially and academically for formal schooling. Primary (or elementary) and secondary education provide knowledge, skills, and habits of minds that prepare students for further learning and productive membership in society. Because enrolment at the primary and secondary levels is mandatory in most of the countries, changes in enrolment are driven by shifts in the size of the school-age population. This population fluctuates due to changes in birth rates,

immigration, and other factors. Post-secondary or tertiary education, on the other hand, provides students with opportunities to gain advanced knowledge and skills either immediately after secondary school or later in life. Because tertiary education is voluntary, changes in total tertiary school enrolments reflect fluctuations in the perceived availability and value of tertiary education as well as the size of the traditional tertiary-school-age population.

The rest of this section highlights some and more of these points and identify the current trends in participation in education, with particular emphasis on the relative performance of the OIC member countries in comparison to non-OIC developing as well as developed countries. A brief explanation of the standard indicators used throughout the text is given in Box 2.1.

2.1 Pre-primary Schools

Participation in pre-primary education programs not only improve the subsequent primary school performance of children, but also serve as child care for working parents. Between 2000 and 2013, the number of children who attend pre-primary schools all over the world has risen from 116.7 million to 181.8 million (Figure 2.1, top).[1] For OIC countries,

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[1] The analysis spans the time period 2000-2013 where the selected years for analysis (i.e., 2000, 2005 and 2013) reflect the

Box 2.1: Gross and Net Enrolment Rates (GER and NER)

Gross Enrolment Rate (GER) indicates the capacity of education system to enrol students of particular age groups and are used to provide a more standardized and comparable indicator of participation at various levels of the education system. More specifically, GER reflects the total number of students, regardless of their age, enrolled in a specific level of education expressed as a percentage of the total number of official school-age population which are eligible to attend that specific level of education in a given school year – except for the tertiary level where the population used is that of the five-year age group following on from the secondary school leaving. Calculated regardless of age, GER can exceed 100%, indicating the extent of over-aged and under-aged enrolments. Therefore, in countries where many children enter school early or late, or repeat a grade, the GER can be well above %100 and exceed the NER by a large margin.

A high GER generally indicates a high degree of participation in a specific level of education, whether the pupils belong to the official age group of that specific education level or not. A GER value approaching or exceeding 100% indicates that a country is, in principle, able to accommodate all of its school-age population, but it does not indicate the proportion already enrolled. The achievement of a GER of 100% is therefore a necessary but not sufficient condition for enrolling all eligible children in school. When the GER exceeds 90% for a particular level of education, this means that the aggregate number of places for pupils is approaching the number required for universal access of the official age group. However, this interpretation becomes particularly meaningful under the expectation that the under-aged and over-aged enrolments in a specific level will decline in the future to open up more place for pupils of the official age group of that specific level.

On the other hand, **Net Enrolment Rate (NER)** indicates the total enrolment of the official age group for a given level of education expressed as a percentage of the corresponding population. NER is used to show the extent of coverage in a given level of education of children and youths belonging to the official age group corresponding to that specific level.

A high NER means a high degree of coverage for the official school-age population. Its theoretical upper limit is 100%. Increasing NER trends can be considered as reflecting improving coverage at a certain level of education. When the NER is compared with the GER, the difference between the two highlights the incidences of under-aged and over-aged enrolment. If the NER is below 100%, the complement, i.e. the difference between the observed NER and 100%, provides a measure of the proportion of children that belong to specific education level but are not enrolled at that specific level. However, since some of these children/youth could be enrolled at other levels of education, this difference should not be treated as the percentage of students not enrolled in the overall education system.

the pace of growth in pre-primary school enrolment has been relatively slower than that of the world. Although the number of pre-primary education enrolments has increased from 16.3 million to 25.9 million, the share of OIC countries in the world was stable around 14% over the examined period. In non-OIC developing countries, the number of pre-primary school attendants has increased from 76.5 million in 2000 to 127.4 million in 2013 – which corresponded to a surge by two-thirds. The relatively faster increase in the participants of pre-primary schools in non-OIC developing countries has, in turn, brought about a decrease in the share of OIC countries in developing countries from 17.6% to 16.9% over the period under study.

As far as the number of teaching staff at pre-primary schools is concerned, it is apparent from Figure 2.1 (bottom) that the OIC countries have experienced a more rapid expansion in the volume of their pre-

situation in that specific year or the most recent year for which the data is available. For example, '2013 or latest year' means that the data belongs to any year between 2005 and 2013 (both inclusive).

Figure 2.1: Total Enrolment and Teaching Staff in Pre-primary Schools

Figure 2.2: Pre-primary School Enrolment Rates

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

2013 period, reaching 28.3% and 25.1%, respectively.[2] Yet, the current enrolment levels in OIC countries compare poorly to non-OIC developing as well as developed countries. The world average GER and NER stood at 47.9% and 42.2%% in 2013, respectively. Figure 2.3, on the other hand, lists top 10 OIC countries according their GERs and NERs. Apparently, the OIC member countries in Middle East and Asia dominate both lists, with the exceptions of Suriname, Algeria and Albania. Brunei, Lebanon, Suriname, Maldives, Kuwait, Algeria, Qatar, UAE and Malaysia have higher levels of pre-primary school enrolment in both gross and net terms.

2.2 Primary Schools

Primary or elementary education involves programmes normally designed on a unit or project basis to give pupils a sound basic education in reading, writing and mathematics along with an elementary understanding of other subjects such as history, geography, natural science, social science, art and music. In this connection, Figure 2.4 reflects the trends in primary school participation and number of primary school teaching staff in OIC

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

primary school teaching staff – as compared to non-OIC developing countries and the world. The number of teaching staff at the pre-primary schools of OIC countries has increased from 0.6 million to 1.0 million between 2000 and 2013. This relatively better performance has helped the member countries increase their share in both developing countries and the world as a whole.

Figure 2.2 displays the average gross and net pre-primary school enrolment ratios in OIC countries. Despite slight decreases during the 2000-2005 period, both the average GER and NER in OIC countries improved significantly during the 2005-

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[2] The average figures in the remainder of this section are calculated by weighting the GERs (or NERs) for a specific level of education by the size of population falling into the official age interval recognized for that education level.

Figure 2.3: Highest Performing OIC Countries by Pre-primary School Enrolment Rate (2013*)

GER (%)

Country	Value
Brunei	91.7
Lebanon	91.1
Suriname	88.5
Maldives	82.2
Pakistan	82.1
Kuwait	80.7
Algeria	78.8
Qatar	73.4
UAE	71.1
Malaysia	70.4

NER (%)

Country	Value
Lebanon	87.8
Suriname	86.5
Algeria	72.2
Maldives	65.0
Kuwait	64.7
Albania	64.0
Brunei	63.7
Malaysia	62.1
Qatar	60.0
UAE	59.5

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

Figure 2.4: Total Enrolment and Teachers in Primary Schools
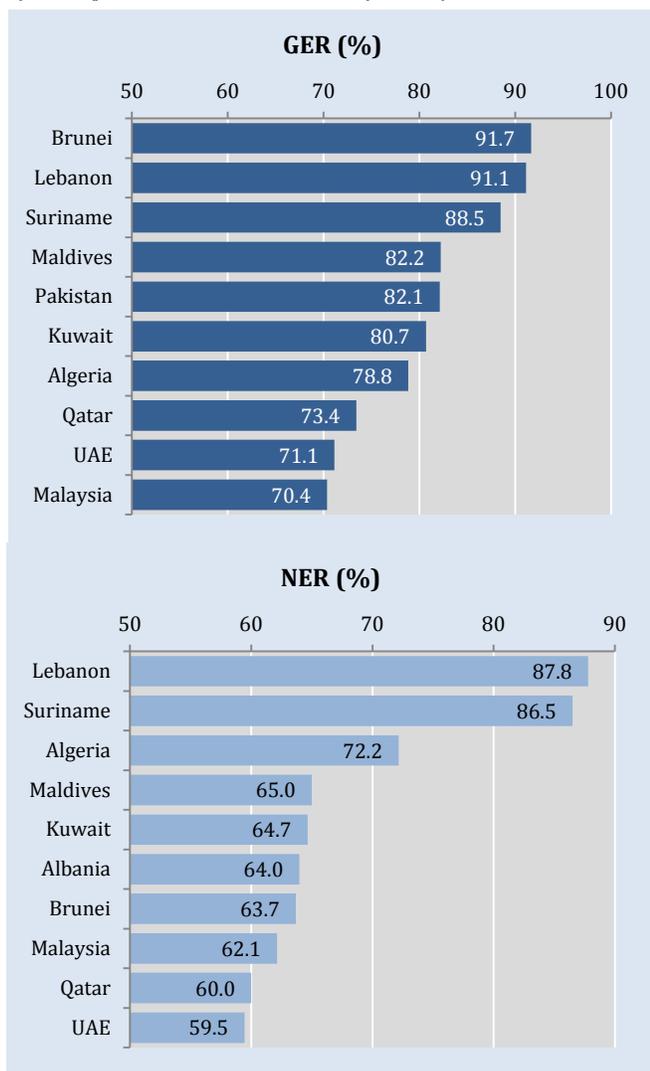
Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

member countries as compared to other country groups and the world.

As apparent from the figure, the shares of the OIC countries as a group in the total numbers of both primary school enrolments and teaching staff have been on the rise. Based on most recent data available as of 2013, the number of primary school pupils in OIC member countries reached 196.0 million, representing 28.0% and 30.9% in total world and developing country primary school enrolments, respectively. In year 2000, these two shares were at 23.8% and 26.6%, respectively. On the other hand, the shares of OIC countries in total primary school

teachers in the world and in developing countries have also improved over the period under study and, with 7.2 million primary school teachers in 2013, OIC countries accounted for 25.4% and 30.1% in the total primary school teachers in the world and developing countries, respectively.

At the individual country level, based on 2013 (or most recent) data, Indonesia, Nigeria, Bangladesh, Pakistan, and Egypt collectively accounted for almost half of the total number of primary school students in the OIC countries, with total number of students of 30.8, 21.6, 18.4, 18.1 and 10.8 million, respectively. As for primary school teachers,

Figure 2.5: Primary School Enrolment Rates
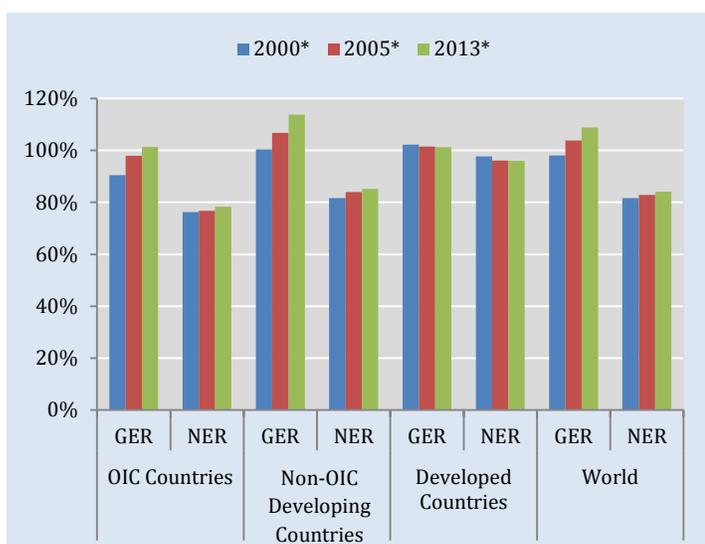
Indonesia alone hosted 23.1% of the total OIC primary school teacher population by employing 1.7 million teachers as of 2013. Indonesia was followed by Nigeria, Bangladesh, Pakistan and Egypt with individual shares of 8.0%, 6.4%, 6.1% and 5.3 %, respectively.

Average gross rates for primary school enrolment (GERs), as depicted in Figure 2.5, have increased all over the world but developed countries during the period 2000-2013. This upward trend was particularly strong for the OIC countries as the average GER in the member countries has improved from 90.4% in 2000 to as high as 101.3% in 2013. The average GER in non-OIC developing countries, on the other hand, reached 113.7% in the same year.

Notwithstanding the positive developments in GERs, NERs have displayed a rather stable trend all over the world during the period under consideration. The average NER in the world has increased slightly by 2.4% since 2000 and reached 84.1% in 2013. The average NER in OIC countries, on the other hand, has registered a similar increase and was recorded at 78.4% based on most recent data as of 2013. This indicates that more than one-fifth of the children in OIC countries who are at their primary school age have not registered in primary schools – as compared to only 4.1% in developed countries. Non-OIC developing countries have seen their NERs

improving more significantly as the average NER in these countries has increased by 3.6% from 81.7% to 85.2% in the same period.

In terms of the difference between primary school GER and NER, the developed countries have apparently had the narrowest gap, i.e., 5.3%, indicating a low incidence of under- or over-aged enrolments as well as grade repetitions. On the other hand, this gap, and therefore the number of incidences of such enrolments, is largest in developing countries, with OIC member countries being no exception. Calculations on the most recent

Figure 2.6: Highest Performing OIC Countries in terms of Primary School Enrolment Rate (2013*)
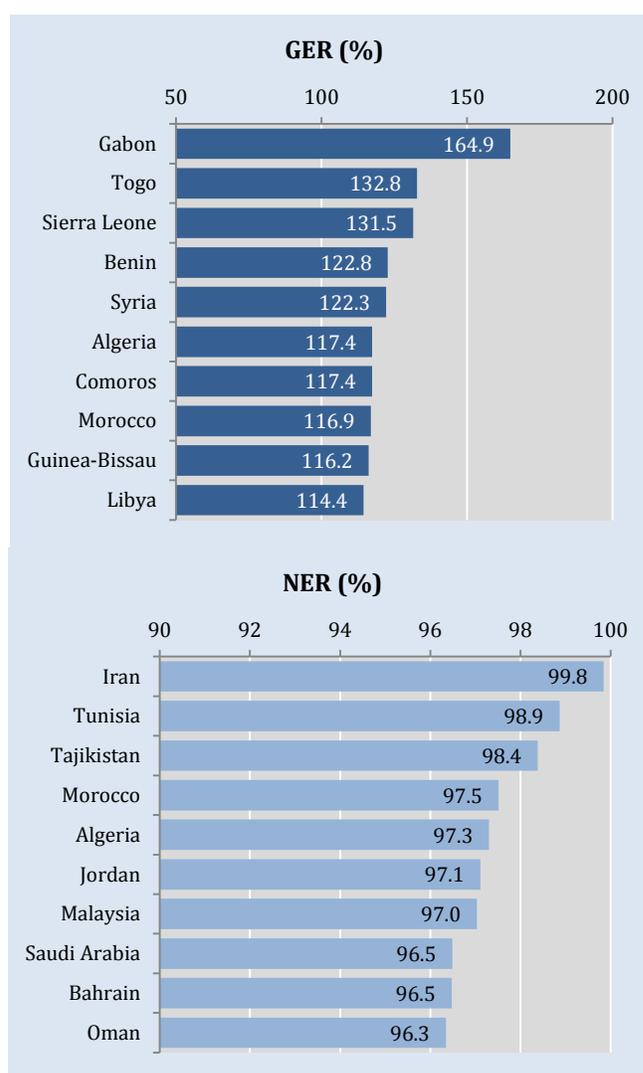
Figure 2.7: Total Enrolment and Teachers in Secondary Schools
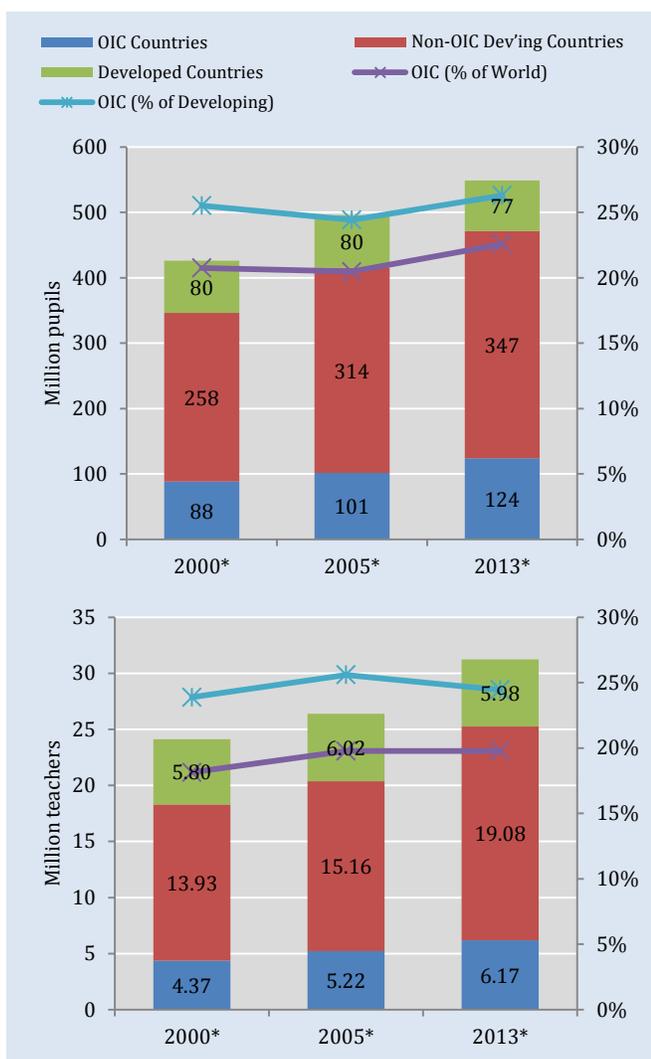
Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

data as of 2013 show that, in OIC countries, the number children who are associated with under- or over-aged enrolments as well as grade repetitions accounts for 22.9% of the total number of children at primary school age, whereas this figure is as high as 28.5% in non-OIC developing countries.

At the individual country level and based on most recent data available as of 2013, Gabon, Togo, Sierra Leone, Benin and Syria registered the highest primary school GERs (Figure 2.6, top). Notably, in Gabon, the number of pupils enrolled in primary schools corresponds to 164.9% of the children who

are at their primary school age.[3] As far as the NER is concerned, Iran, Tunisia, Tajikistan, Morocco and Algeria are among the highest scorers of primary school NER with average primary school NERs above that of developed countries as of 2013 (i.e., 95.9%) (Figure 2.6, bottom). At the other extreme, in Afghanistan, Djibouti, Cote d'Ivoire, Niger, Chad and Nigeria, more than one-third of the primary school age children are reportedly not enrolled in the primary schools.

2.3 Secondary Schools

Formally, secondary education refers to the programmes at International Standard Classification of Education (ISCED) Levels 2 and 3. Lower secondary education (ISCED Level 2) is generally designed to continue the basic programmes of the primary level but the teaching is typically more subject-centric – which, in turn, requires more specialized teachers for each subject area. The end of this level often coincides with the end of compulsory education. In upper secondary education (ISCED Level 3), the final stage of secondary education in most countries, courses are often classified into various subject areas and offered by typically more qualified teachers – as compared to ISCED Level 2 –

Figure 2.8: Secondary School Enrolment Rates
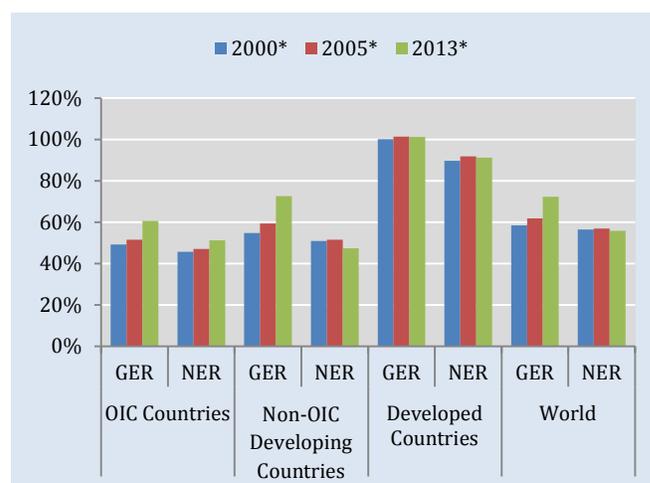
Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

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[3] The NER in Gabon was recorded at 92.1% in 1997 – which reflects the latest available figure.

Figure 2.9: Highest Performing OIC Countries in terms of Secondary School Enrolment Rate (2013*)

GER (%)

Country	Value
Saudi Arabia	116.2
Qatar	111.6
Brunei	107.8
Uzbekistan	105.2
Libya	104.3
Guyana	101.0
Kuwait	100.3
Azerbaijan	100.3
Kazakhstan	97.7
Algeria	97.6

NER (%)

Country	Value
Qatar	94.9
Brunei	94.7
Guyana	92.6
Saudi Arabia	91.6
Jordan	87.9
Azerbaijan	86.8
Kuwait	86.7
Kazakhstan	86.3
Bahrain	85.8
Oman	83.6
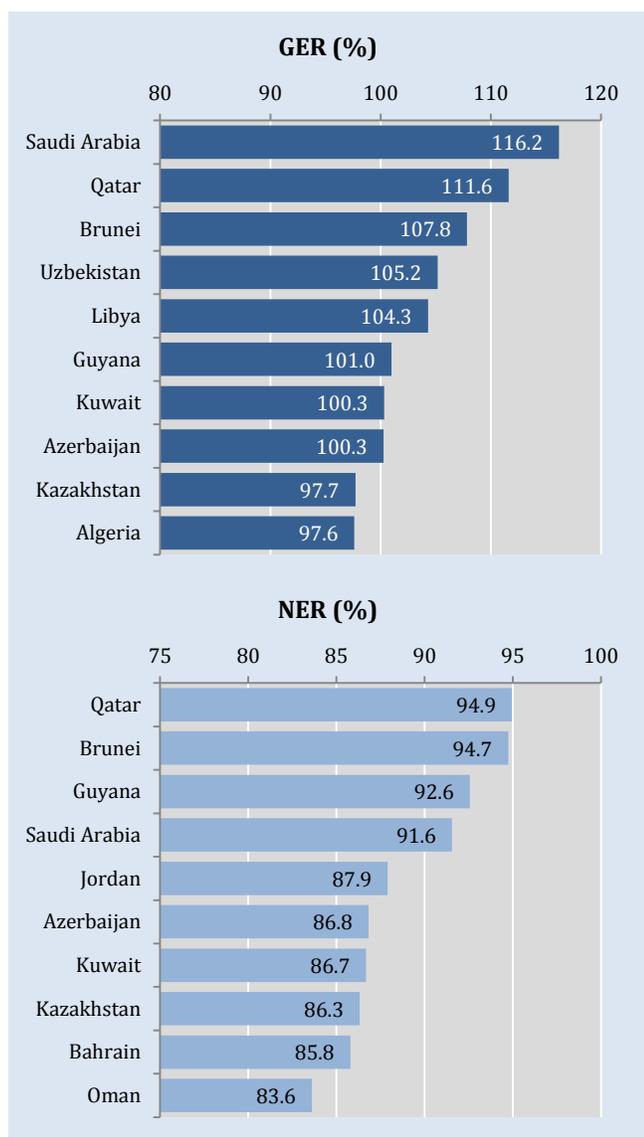
Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

in terms of their level of subject specification.

According to Figure 2.7 (top), the total number of students enrolled in the secondary schools in OIC countries increased from 88.4 million in year 2000 to 123.9 million according to most recent data available as of year 2013. The total number of teachers qualified for secondary schools (Figure 2.7, top) has also followed a similar trend and increased from 4.4 million to 6.2 million over the same period. The figures on secondary school enrolments also reveal that the total number of secondary school

pupils and teaching staff in OIC countries increased at a slightly higher pace when compared to non-OIC developing countries and the world as a whole. As of year 2013, the OIC member countries accounted for 22.6% and 26.3% of the total secondary school students in the world and developing countries, respectively. As far as the total number of secondary school teachers is concerned, the shares of the OIC member countries in the developing country and world total number of secondary school teaching staff was recorded at 24.5% and 19.8%, respectively.

Like GERs for primary schools, GERs for secondary schools have also exhibited an upward trend all over the world – again excluding developed countries where the average secondary school GER has relatively been stable (Figure 2.8). In OIC countries, the average secondary school GER has increased from 49.3% in 2000 to %60.7 in 2013. In other group of countries, however, this improvement was relatively more significant. According to most recent data available in 2013, non-OIC developing countries registered an average secondary school GER of 72.7%, as compared to only 54.8% in 2000. Parallel to the developments in developing countries, which now account for 86% of the world population,[4] the world average secondary school GER also followed a similar trend and increased from 58.5% to 72.4% during the same period.

Despite having generally a lower average secondary school GER as compared to non-OIC developing countries, average NER in OIC countries, which was recorded at 51.2% in 2013, compares favourably to average NER in non-OIC developing countries (47.4%). Yet, more needs to be done by the member countries to increase their secondary education enrolment levels at which the education system can be deemed to be fairly inclusive. The developed countries where 91.2% of the secondary school age population is registered with secondary schools, in that sense, offer a good example. Finally, the differential between secondary school GER and NER were again highest in developing countries, including the OIC member countries, bringing to the forefront the problems with the outreach and quality

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[4] Figure based on World Bank data.

Box 2.2: Technical and Vocational Education and Training (TVET)

Defining **Technical and Vocational Education and Training (TVET)** is often problematic because programmes are extremely heterogeneous in terms of content, frequency and duration. The main objective of TVET is to develop or maintain job-relevant skills for employment or for entry into the labour market. Job-relevant skills can be defined as a set of competencies valued by employers and useful for self-employment, including skills relevant to a specific job and other skills that enhance a worker's productivity (World Bank, 2010). According to the International Labour Organisation (ILO), skills development connects education to technical training, technical training to labour market entry, and labour market entry to the workplace and lifelong learning, which help countries sustain productivity and translate growth into more and better jobs (ILO, 2008). In the following, we look at trends in TVET within the context of upper secondary education.

Currently, there are around 55 million students worldwide that are enrolled in upper secondary TVET programmes, of which around 44 million (80%) come from the developing countries. According to most recently available data as of 2013, OIC countries collectively accounted for more than one-fourth of the total upper secondary TVET enrolments in the developing countries and more than one-fifth of those in the world. In OIC countries, around 40% of upper secondary TVET enrolments were *female* students, compared to around 45% worldwide and non-OIC developing countries. Again, based on the latest data available in 2013, around four-fifths of the total upper school TVET enrolments in the world – as well as in the OIC, non-OIC developing and developed countries were received by *public* schools.

Figure 2.A: Upper secondary TVET enrolment as a percentage of total upper secondary enrolment
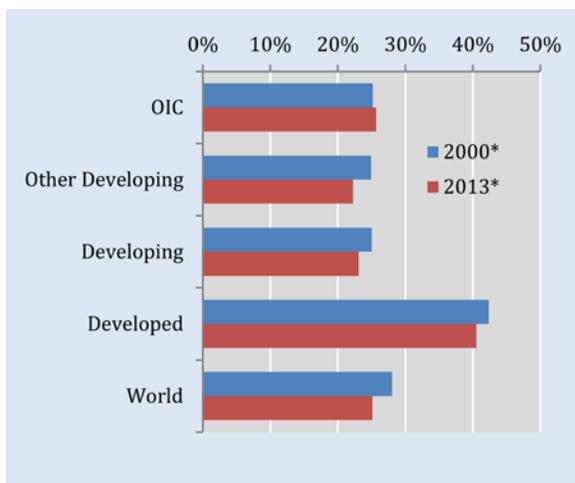
Figure 2.B: OIC Regional Dynamics in Upper Secondary TVET Enrolment Rates*

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics.
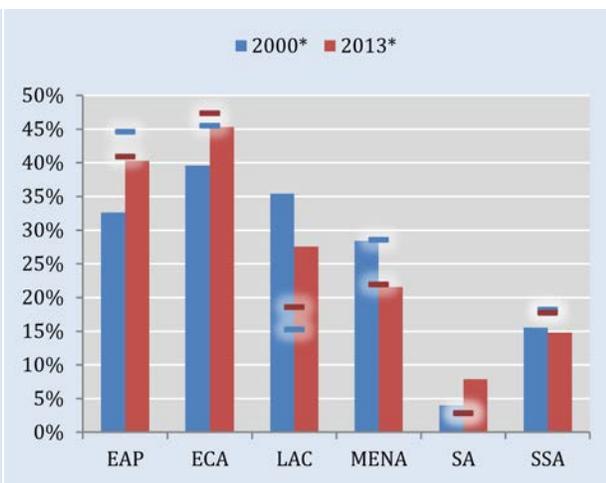
Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics.
* Short, horizontal line-marks indicate regional averages including all countries with available data.

of the secondary school education which again manifest themselves through prevalence of over-aged enrolments and high repetition rates.

At the individual country level, based on 2013 or most recent data, OIC member countries, namely,

Saudi Arabia, Qatar, Brunei, Uzbekistan, and Libya registered some of the highest secondary school GERs; whereas Qatar, Brunei, Guyana, Saudi Arabia and Jordan were among the highest scorers of secondary school NER (Figure 2.9). In Qatar, Brunei,

Despite the rise in the global GER for secondary education since 2000 (see Figure 2.8), enrolment in TVET programmes as a percentage of total enrolment at upper secondary schools has generally decreased in all country groups, except for the OIC (Figure 2.A). The most recent available data show that the average share of upper secondary school TVET enrolments within total upper school enrolments was around one-fourth worldwide in 2013. In OIC countries, this ratio has improved slightly and upper secondary TVET enrolments have most recently reached 26% of the total enrolments in that level of education.

As far as the regional dynamics within the group of OIC countries are is concerned, it is observed that the member countries in the East Asia and Pacific (EAP), Europe and Central Asia (ECA) and Latin America and Caribbean (LAC) regions have considerably higher levels of upper secondary school TVET enrolments (again as % of total upper secondary school enrolments) vis-à-vis those in Middle East and North Africa (MENA), South Asia (SA) and Sub-Saharan Africa (SSA) (Figure 2.B). On the other hand, the member countries in EAP recorded the largest average increase in upper secondary school TVET enrolments as compared to those of other regions. The average share of upper secondary school TVET enrolments in total upper secondary school enrolments of the OIC countries in EAP region has increased from 33% to 40% over the examined period. In other regions such as SA, however, the average figure for the OIC member countries, though improved significantly, is still below 10%.

Guyana and Saudi Arabia, for instance, over 90% of the secondary school age children are registered within the secondary education pool and the NERs of these countries are even higher than the average of developed countries. On the flip side, however, in Niger, Mozambique and Burkina Faso more than 80% of the secondary school age children are not registered with such schools.

2.4 Tertiary Schools

Tertiary or post-secondary education includes programmes with an educational content which is more advanced than those offered at ISCED Levels 3 and 4. The first stage of the tertiary education, ISCED Level 5, covers Sub-levels 5A and 5B. The former is comprised of theoretical programmes that are intended to provide sufficient qualifications for entering more advanced research programmes and professions with higher skill requirements. In the latter, offered programmes are generally more practical, technical and, sometimes, more

Figure 2.10: Total Enrolment and Teaching Staff in Tertiary Schools

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

Figure 2.11: Tertiary School Enrolment Rates (GER only)

Legend: ■ 2000* ■ 2005* ■ 2013*

Categories: OIC Countries, Non-OIC Developing Countries, Developed Countries, World

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

Figure 2.12: Highest Performing OIC Countries in terms of Tertiary School Enrolment Rate (%, GER only, 2013*)

Country	Value
Turkey	69.4
Libya	60.9
Albania	55.5
Iran	55.2
Saudi Arabia	50.9
Palestine	49.1
Jordan	46.6
Lebanon	46.3
Kazakhstan	44.5
Kyrgyzstan	41.3

Source: SESRIC; UNESCO; World Bank WDI and World Bank Education Statistics. * Or latest year

occupation-centric. The second stage of the tertiary education, ISCED Level 6, comprises programmes that are geared towards obtaining advanced research qualifications.

Figure 2.10 shows the total numbers of enrolled students and teaching staff in tertiary schools. The total number of tertiary school students in the OIC countries increased more than two-fold from 14.7 million to 33.0 million between 2000 and 2013, based on the most recent data available in each year. As more tertiary school graduates means more qualified, highly skilled workforce, this is a particularly promising development for the OIC community. As far as the number of teaching staff employed in tertiary schools of OIC countries is concerned, similarly, the figure has increased steadily over the past decade – reaching 1.4 million in 2013. When benchmarked against non-OIC developing countries and world as a whole, it is observed that the shares of OIC member countries in total world tertiary school students and teaching staff have both been on the rise. The tertiary school students in the member countries represented 17.0%

of those in the world in 2013, vis-à-vis 15.1% in 2000. Similarly, the share of the member countries in total tertiary school teaching staff in the world also increased from 11.9% to 13.4% over the same period. A cursory look at the evolvement of their shares in total developing country tertiary students and teaching staff, on the other hand, offers rather a mixed picture. As of 2013, OIC countries accounted for 22.8% (down from 24.0% in 2000) and 21.2% (up from 20.6% in 2000) of total developing country tertiary students and teaching staff, respectively.

For tertiary education, NER is not pertinent because of the difficulties in determining an appropriate age group due to the wide variations in the duration of programmes at this level of education (UNESCO, 2009). In terms of tertiary school GER, OIC countries, with an average enrolment rate of 22.6% as of 2013, lagged behind non-OIC developing countries (24.9%) and far behind the developed countries (78.0%) (Figure 2.11). In the same year, the world average GER was 29.4%.

According to the most recently available data as of 2013, OIC member countries, namely, Turkey, Albania, Jordan and Kyrgyzstan all recorded GERs above 40.0% (Figure 2.12). Yet, in some member countries, namely, Niger, Sierra Leone, Chad, Guinea-Bissau, Gambia, Afghanistan, Cote d'Ivoire, Burkina Faso, Mozambique and Djibouti, the tertiary school GERs are even lower than 5.0%.

Box 2.3: OIC-VET Programme of SESRIC

The idea of ***Vocational Education and Training Programme for the Member Countries of the Organization of Islamic Cooperation (OIC-VET)*** was put forth by SESRIC to improve the quality of vocational education and training in the public and private sectors of the member countries. It was approved by the 24th Session of the COMCEC, the permanent OIC committee established for strengthening intra-OIC economic and commercial cooperation, which was held in Istanbul on 20-24 October 2008. OIC-VET was officially inaugurated by H.E. Abdullah Gul, President of the Republic of Turkey and Chairman of the COMCEC, during the COMCEC Economic Summit in Istanbul, Turkey, on 9 November 2009 with the participation of the heads of states and governments of the OIC member countries.

The Programme is geared towards increasing accessibility and raising the quality of vocational education and training (VET) programmes in the member countries, and provides an opportunity for participating organizations to build intra-OIC partnerships, exchange best practices, and increase the expertise of their staff by developing their skills and competencies.

Currently, within the framework of OIC-VET Programme, SESRIC has various on-going programmes and a dozen of Capacity Building Programmes which were designed as part of the attempt to enhance the capacity of the relevant national institutions in OIC member countries in various areas and fields through matching the needs and capacities of these institutions by mobilizing skilled experts to conduct short-term training programmes. This include Statistical Capacity Building, Agriculture Capacity Building, Environment Capacity Building, Multilateral Trading Systems Capacity Building, ISMEK Master Trainer Programme, International Student Internship Programme, IbnSina Health Capacity Building, ICT Capacity Building, Railway Capacity Building, Occupational Safety and Health Capacity Building, Poverty Alleviation Programme, OIC Tourism Capacity Building Programme and many others

For more information on OIC-VET Programme, see **http://www.oicvet.org/**.
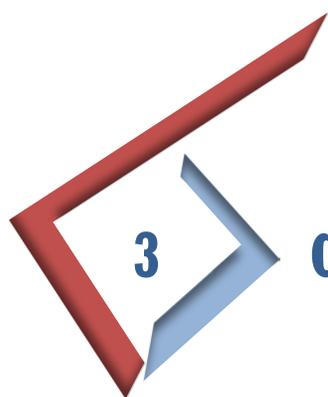
3 Completion and Progression in Education

Staying in schools, going on education until the last grade and most importantly graduating successfully from the educational institutions are other important steps of the education life. In this connection, the previous section looked at the participation rates in education by using enrolment ratios. Yet, enrolling into a school is only the first step of the education life. Therefore, this section analyses progression and completion in education by using specific indicators on completion ratios in primary schools, repetition rates in primary and secondary schools, survival rate in primary schools, and transition rate from primary to secondary schools for the OIC group, non-OIC developing countries, developed countries and the world.

3.1 Completion Ratios

Completion rate indicates the total number of students completing (or graduating from) the final year of primary or secondary education, regardless of age, expressed as a percentage of the population of the official graduation age.

Figure 3.1 displays the completion rates for different country groups from 2006 to 2012. The world average of completion rate did not change significantly during the period under consideration, although some country groups have achieved to improve their completion rates. Global completion rate measured as around 88% in 2012 which was not much different than its average in 2006 and

2009. On average, during the period under consideration, developed countries witnessed an increase of 2 percentage points. Innovative technology, no doubt, played an important role which not only led to higher graduation rates but also resulted in a decrease in retention. The non-OIC developing countries group did not see a remarkable change in the completion rates over the 2006-2012 period. However, OIC member countries, on average, achieved to increase their completion rates from 77.7% in 2006 to 81.3% in 2012 (Figure 3.1). Despite this improvement in the OIC group, its average still lags behind the averages of non-OIC developing countries, developed countries and the world as of 2012.

The completion rate is also known as gross intake rate to the last grade of primary school. The ratio can

Figure 3.1: Completion Ratios in Primary School

Source: World Bank.
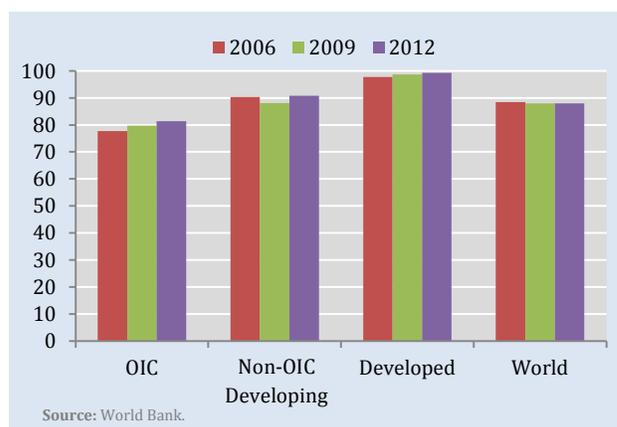
Figure 3.2: Highest Performing OIC Member Countries in terms of Completion Rates, 2012

Source: World Bank.

Figure 3.3: Repetition Rates in Primary School (% of Total Enrolment)

Source: World Bank.
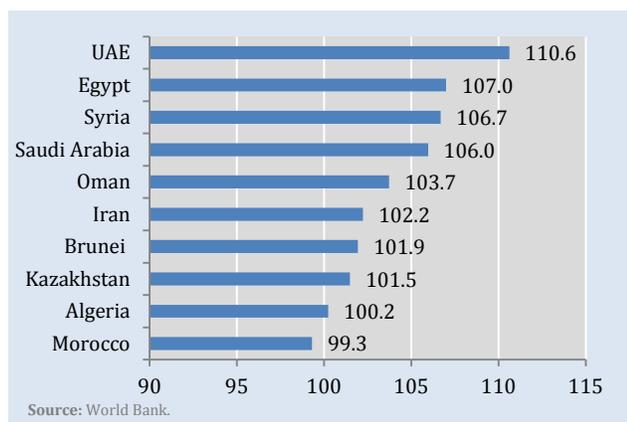
exceed 100% due to over-aged and under-aged children who enter primary school late/early and/or repeat grades. In 2012, only 14 OIC countries, among those for which the data are available, achieved higher completion rate than the world average of 87%. At the individual country level, in 2012 United Arab Emirates and Egypt took the lead with completion rates of 110.6% and 107% (Figure 3.2).

3.2 Repetition Rates

Repetition rate is the proportion of students from a cohort enrolled in a given grade at a given school-year who studies in the same grade in the following school-year. It simply measures the phenomenon of students repeating a grade, and its effect on the internal efficiency of educational systems. In addition, it is one of the key indicators for analysing and projecting student flows from one grade to a higher grade within an educational cycle.

3.2.1 Repetition Rates in Primary Schools

Figure 3.3 shows the repetition rates in primary school for different country groups between 2006 and 2012. The global repetition rate in primary school slightly increased from 5.9% 2006 to 6.0% in 2012. In the developed countries group a similar trend was observed. The primary school repetition rate went up from 0.9% in 2006 to 1.4% in 2012. Both the non-OIC developing countries group and the OIC group reduced their repetition rates in the

period under consideration. The OIC group successfully decelerated the rate from 7.8% in 2006 to 5.9% in 2012, which was above the world average of 6.0% in 2012 (Figure 3.3). This decreasing trend in developing countries, including the OIC members, throughout the last decade is mainly stemming from because of the improving education system as a result of higher quality of teaching staff and increasing number of distance learning alternatives. However, the figures show that the OIC group has to show further progress in order to reduce the repetition rates to the level of developed countries.

At the individual country level, 19 OIC member countries achieved lower repetition rates in primary schools than the world average of 6.0% in 2012. Among them Kazakhstan stood first by possessing

Figure 3.4: OIC Countries with Lowest Repetition Rates in Primary School (% of Total Enrolment)

Source: World Bank.
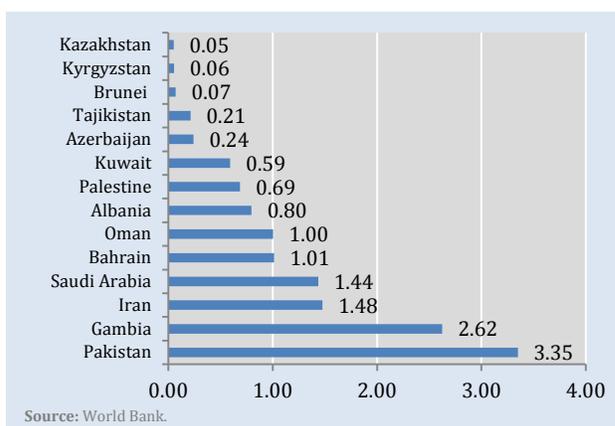
0.05% repetition rate in primary schools, followed by Kyrgyzstan (0.06%), Brunei (0.07%) and Tajikistan (0.21%) (Figure 3.4).

3.2.2 Repetition Rates in Secondary School

Figure 3.5 shows the repetition rates in secondary school for different country groups between 2006 and 2012. In the developed countries group a similar increasing trend was observed in the secondary school repetition rates as in primary school rates from 2.3% in 2006 to 3.1% in 2012. The global repetition rate in secondary school slightly went up from 5.8% 2006 to 6.8% in 2012. In the non-OIC developing countries group the rate also increased from 5.2% in 2006 to 6.0% in 2012. Only the OIC group succeeded to reduce the repetition rates in the period under consideration

Figure 3.5: Repetition Rates in Secondary School (% of Total Enrolment)

Source: World Bank.
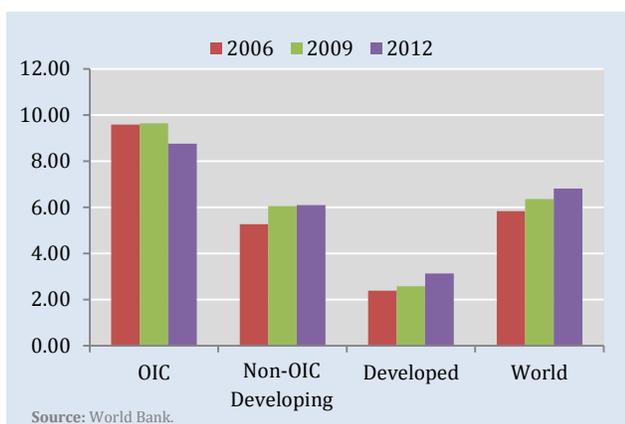
Figure 3.6: OIC Countries with Lowest Repetition Rates in Secondary School (% of Total Enrolment)

Source: World Bank.

from 9.5% to 8.7%. However, the rate for the OIC member countries stayed well above the world average of 6.8% in 2012 (Figure 3.5).

At the individual country level, 17 OIC member countries achieved lower repetition rates in secondary schools than the world average of 6.8% in
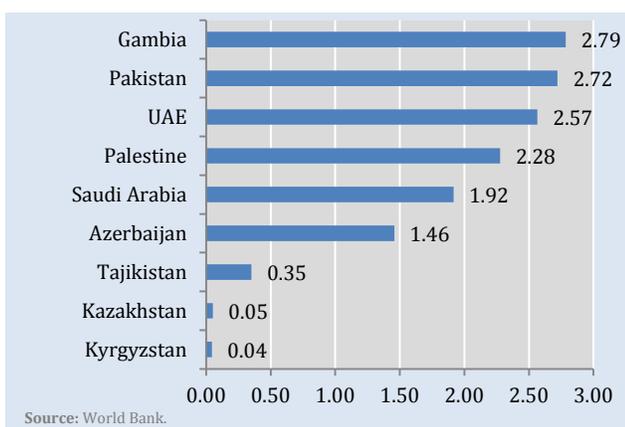
Box 3.1: Education reduces poverty and boosts jobs and growth

Education is a key way of helping individuals escape poverty and of preventing poverty from being passed down through the generations. According to the EFA Global Monitoring Report, if all students in low income countries left school with basic reading skills, 171 million people could be lifted out of poverty, which would be equivalent to a 12% cut in world poverty. An important way education reduces poverty is by increasing people's income. Globally, one year of school increases earnings by 10%, on average.

Many of the poorest are involved in informal sector work, running small businesses. Educated people are more likely to start a business, and their businesses are likely to be more profitable. In **Uganda**, owners of household enterprises with a primary education earned 36% more than those with no education; those with a lower secondary education earned 56% more. In **Pakistan**, working women with good literacy skills earned 95% more than women with weak literacy skills.

In rural areas, farmers with good literacy and numeracy skills can interpret and respond to new information, making better use of modern inputs and technologies to increase the productivity of traditional crops and diversify into higher value crops. In **Mozambique**, literate farmers were 26 percentage points more likely than non-literate ones to cultivate cash crops.

Education also helps people in rural areas diversify their income by involvement in off-farm work. In rural **Indonesia**, 15% of men and 17% of women with no education were employed in nonfarm work, compared with 61% of men and 72% of women with secondary education.

Source: UNESCO (2014).

Figure 3.7: Survival Rate to Last Grade of Primary School

Source: World Bank.
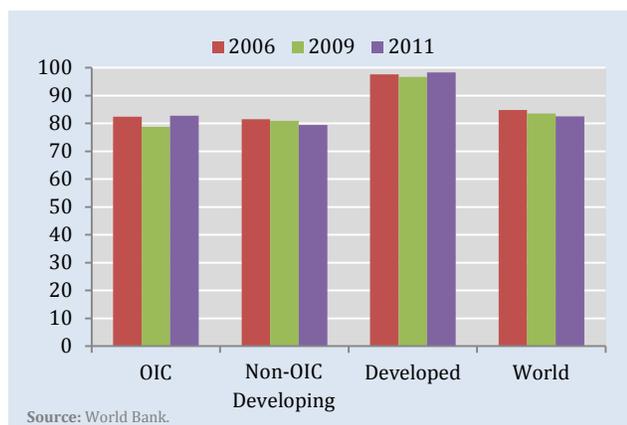
2012. Among them Kyrgyzstan stood first by possessing 0.04% repetition rate in secondary schools, followed by Kazakhstan (0.06%), Tajikistan (0.35%) and Azerbaijan (1.45%) (Figure 3.5).

3.3 Survival Rate

Survival rate is an indicator which shows the share of children enrolled in the first grade of primary school who eventually reach the last grade of primary school. Figure 3.7 shows the survival rates for different country groups between 2006 and 2011. The global survival rate reduced from 84.7% in 2006 to 82.5% in 2011 whereas in the developed countries group the rate increased from 97.6% in 2006 to 98.3% in 2011. OIC member countries, on average, also experienced an increase from 82.4% to 82.7% in the period under consideration, which is being very close to the world average of 82.5% as of 2011. However, in non-OIC developing countries, on average, survival rate decreased from 81.4% to 79.5% in the same period that reflects problems associated students' and their families' commitment on continued education (Figure 3.7).

At the individual country level, OIC member countries exhibited large variations over a wide scale. On the one hand, countries like Kazakhstan, Palestine, United Arab Emirates possess survival rates that are greater than 98%. On the other hand, there are member countries like Mozambique and Chad where about only around one-third of the

Figure 3.8: Survival Rate to Last Grade of Primary School (Highest Performing OIC Countries)

Source: World Bank.
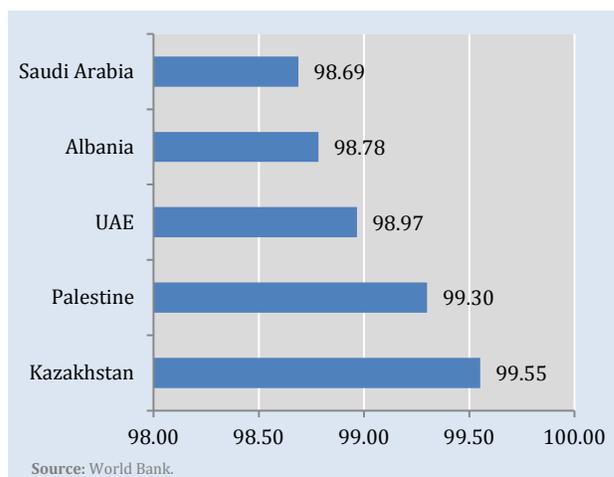
students could reach the last grade of the primary school (Figures 3.8 and 3.9).

Figure 3.9: Survival Rate to Last Grade of Primary School (Lowest Performing OIC Countries)

Source: World Bank.
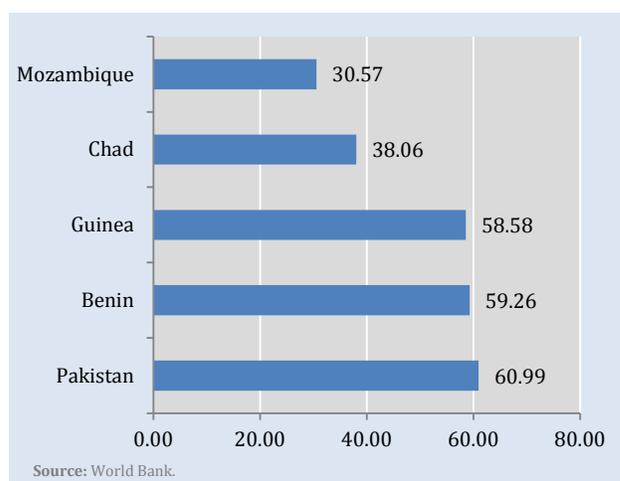
3.4 Transition Rate

Transition rate is the number of new entrants to the first grade of secondary education in a given year, expressed as a percentage of the number of students enrolled in the final grade of primary education in the previous year.

Figure 3.10 shows the transition rates for different country groups between 2006 and 2011. The global transition rate went down from 87.8% in 2006 to 85.9% in 2011 whereas in the developed countries group the rate increased from 98.4% in 2006 to

Figure 3.10: Transition Rate from Primary to Secondary School

Source: World Bank.

Figure 3.11: Transition Rate from Primary to Secondary School (Highest Performing OIC Countries)

Source: World Bank.
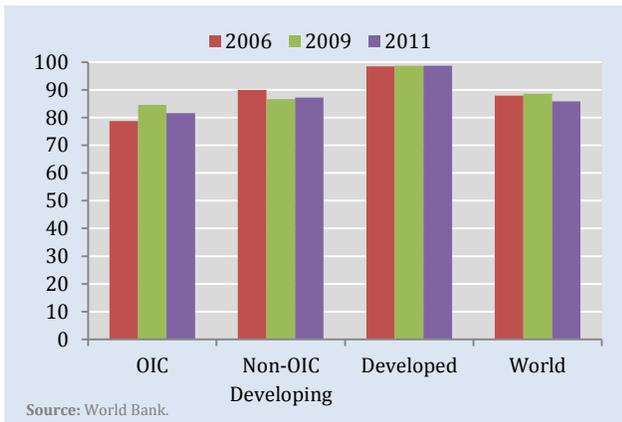
98.7% in 2011. OIC member countries, on average, successfully increased their average transition rate from 78.1% in 2006 to 81.6% in 2011. The average of OIC group still lags behind the world average of 85.9%. Over the period under consideration in non-OIC developing countries, on average, survival rate decreased from 89.9% to 87.2% (Figure 3.10).

Figure 3.10 displays the transition rates for the best and worst performing OIC countries in 2011. As shown, Kazakhstan recorded the highest transition rate (99.9%) in 2011, followed by Brunei (99.6%) and United Arab Emirates (99.4%). It is clear from the figure that, the OIC member countries exhibited significant variations over a wide scale. In this context, some OIC member countries exhibited very low transition rates as in the case of Guinea (37.0%), Mozambique (48.7%) and Cote d'Ivoire (49.7%) (Figures 3.11 and 3.12).

Figure 3.12: Transition Rate from Primary to Secondary School (Lowest Performing OIC Countries)

Source: World Bank.
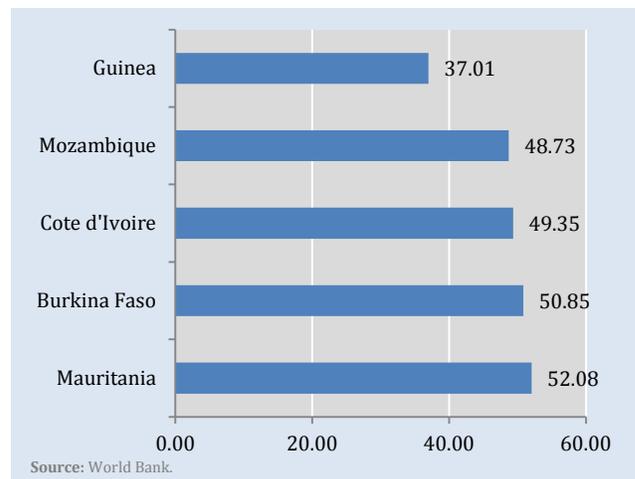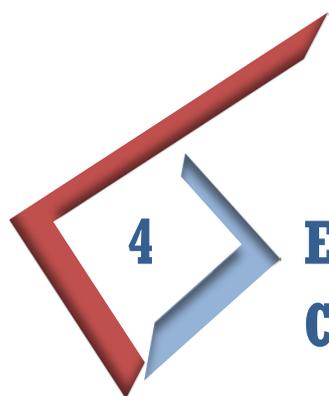
4 Educational Resources and Teaching Conditions

While basic indicators on education in terms of participation, progression and completion are crucial for understanding the overall situation of the education system, they do not adequately capture the quality aspect. In this regard, this section focuses on the indicators that are related with the educational resources and quality. These include government expenditures on education, student-teacher ratios (in primary, secondary and tertiary schools) and indicators on the use of information and communication technologies (ICT) in education (enrolment in education programmes with ICT, physical and human capital of education institutions on ICT). It also assesses the international student mobility in OIC countries. The section ends with an assessment of the quality of education in OIC countries.

4.1 Government Expenditures on Education

The recent studies on the importance of education for inclusive economic development and the need for public intervention in education have important implications for the provision and financing of education by governments. In this respect, this section analyses the levels of government expenditures on education in the group of OIC countries in comparison with their counterparts in other groups in the period 2002-2011.

4.1.1 Share of Government Expenditures on Education in GDP

One way to analyse the size of public expenditures on education is to compare these expenditures with the gross domestic product (GDP) of an economy, which, in one way, represents the total expenditures in that economy. Thus, it can be calculated how much of the GDP is dedicated to education sector by the government. The measure used to calculate this ratio is "government expenditures on education as percentage of GDP". This indicator also reflects the

Figure 4.1: Government Expenditures on Education as Percentage of GDP*
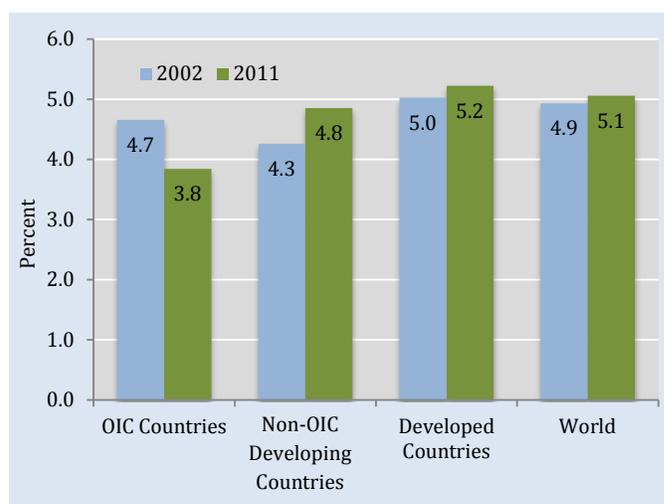
Source: SESRIC staff calculation, World Bank, WDI Database.

* Data for 2002 is the latest year available between 2000 and 2002 and data for 2011is the latest year available between 2009 and 2011.

importance given by the government to investment in human resources.

As shown in Figure 4.1, governments around the world spent, on average, 4.9% of GDP on education in 2002 while this figure slightly increased by 0.1 percentage point in a decade to reach 5.0% in 2011. Developed countries had been spending more than developing countries. Public spending on education in developed countries accounted for 4.9% of the GDP in 2002 and this ratio increased further to 5.1% by 2011. However, governments in non-OIC developing countries could spend only 4.3% of their GDP on the education sector in 2002 and this ratio increased by 0.6 percentage points in a decade to reach 4.8% in 2011.

The situation in OIC countries was not optimistic though government spending on education accounted for 4.7% of their GDP in 2002, which was higher than the average of the non-OIC developing countries at that time, decreased by 0.8 percentage points to 3.8% in 2011. It is obvious that the public spending on education sector with respect to the size of the economy was, on average, lower in OIC countries than in both developed and non-OIC

developing countries (Figure 4.1).

At the individual country level, government spending on education accounted for 6.8% of the GDP in Maldives, which was the highest rate among the OIC countries with data available for the latest year between 2009 and 2011. Together with Maldives, Kyrgyzstan (6.8%), Tunisia (6.2%), Malaysia (5.9%), Senegal (5.6%), Morocco (5.4%), Benin (5.3%), Yemen (5.2%), Saudi Arabia (5.1%) and Mali (4.8%) comprised the top 10 OIC countries by government expenditures on education as percentage of GDP (Figure 4.2). It is noteworthy that all these countries except Malaysia and Saudi Arabia are low-income or lower-middle-income countries according to their GNI per capita.

4.1.2 Share of Government Expenditures on Education in Total Government Expenditures

The share of a government's spending on education in its total expenditures is another major indicator that measures the relative importance of the education sector on part of the government. The higher the share of education expenditures in total government expenditures, the higher is the

Figure 4.2: Highest Performing OIC Countries by Government Expenditures on Education as Percentage of GDP*

Source: World Bank, WDI Database.

* Data for the latest year available between 2009 and 2011.

Figure 4.3: Government Expenditures on Education as Percentage of Total Government Expenditures*
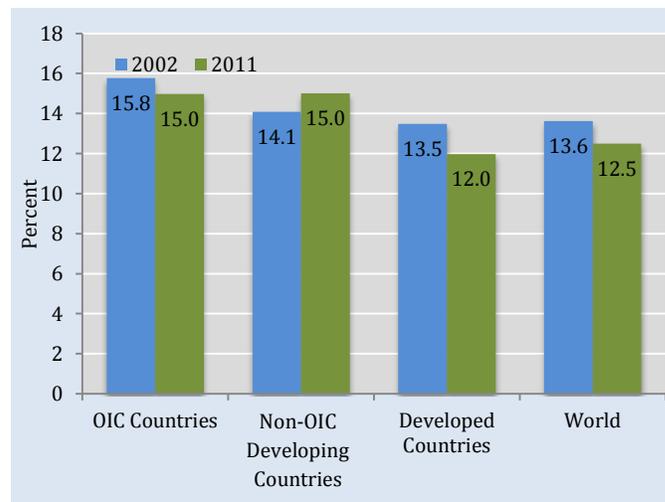
Source: SESRIC staff calculation, World Bank, WDI Database.

* Data for 2002 is the latest year available between 2000 and 2002 and data for 2011is the latest year available between 2009 and 2011.

government's support for the education sector.

The share of government expenditures on education in total government expenditures was higher in OIC member countries than in both developed and developing countries in the period under consideration (Figure 4.3). This implies that the governments in OIC member countries, on average, have spent on the education sector proportionally more than the developed and world averages. In OIC member countries, governments' spending on the education sector accounted for 15.8% of their total expenditures in 2002. This ratio was 13.5% in developed countries and 14.1% in non-OIC developing countries, with the world average being 13.6%. By 2011, the ratio decreased to 15.0% in OIC member countries and 12.0% in developed countries while it increased to 15.0% in non-OIC developing countries, registering an overall decrease of a percentage point in the world average to 12.5%.

Among the OIC member countries with available data, Benin has the highest ratio of government expenditures on education as percentage of total government expenditures (26.1%). It was followed by Niger (21.7%), Malaysia (20.9%), Senegal (20.7%), and Tunisia (20.1%), all dedicating over

one fifth of the total government expenditures to the education sector. Together with these countries, Mali (19.5%) Syria (19.2%), Kyrgyzstan (18.7%), Togo (18.6%), and Maldives (15.8%) were also among the top 10 countries (Figure 4.4).

4.1.3 Government Expenditures on Education per Pupil

In addition to the abovementioned macro-level indicators that compares government expenditures on education with GDP or total government expenditures, governments' financial contribution to education sector can also be explained at micro-level by measuring how much is spent by the government per student. Unlike the former ones, this approach focuses directly on the level of government spending on education regardless of the size of the economy or the total expenditures of the government.

Government expenditures on education per pupil increased all over the world between 2002 and 2011(Figure 4.5). In this period, the world average increased from $3,927 to $4,884, corresponding to an annual average growth rate of 2.5%. The average for developed countries, with an annual average increase of 6.9%, increased from $10,229 to $18,724. The average for non-OIC developing

Figure 4.4: Highest Performing OIC Countries by Government Expenditures on Education as Percentage of Total Government Expenditures*

Benin 26.1
Niger 21.7
Malaysia 20.9
Senegal 20.7
Tunisia 20.1
Mali 19.5
Syria 19.2
Kyrgyzstan 18.7
Togo 18.6
Maldives 15.8

Percent

Source: World Bank, WDI Database.

* Data for the latest year available between 2009 and 2011.

Figure 4.5: Government Expenditures on Education per Pupil*
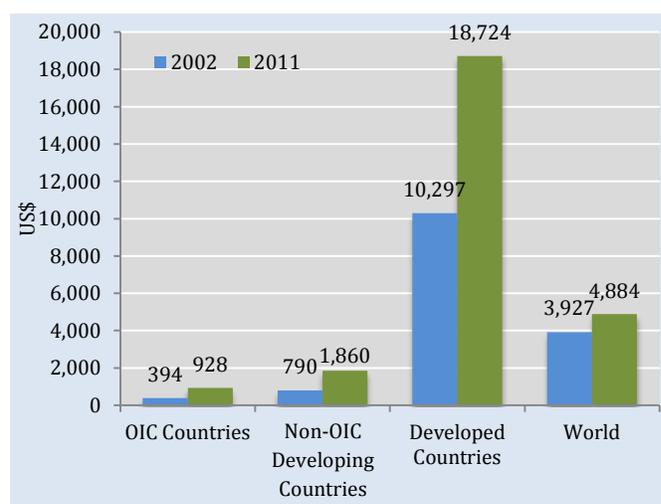
■ 2002 ■ 2011

US$

OIC Countries: 394, 928
Non-OIC Developing Countries: 790, 1,860
Developed Countries: 10,297, 18,724
World: 3,927, 4,884

Source: SESRIC staff calculation, World Bank, WDI Database.

* Data for 2002 is the latest year available between 2000 and 2002 and data for 2011is the latest year available between 2009 and 2011.

countries increased from $790 to $1,860, corresponding to an annual average growth rate of 10.0%. As for OIC countries, the average spending per pupil increased from $394 to $928, registering an annual average growth rate of 10.0%.

Among the OIC countries with available data, Qatar has the highest government expenditure on education per pupil ($27,547), followed by Brunei ($7,067), Saudi Arabia ($6,174) and Oman ($5,539). Together with these countries, Bahrain ($4,571), Maldives ($4,026), Malaysia ($3,130), Tunisia ($2,950), Algeria ($2,908), and Kazakhstan ($2,471) are also among the top 10 countries (Figure 4.6).

Analysing the government expenditures on education per pupil in absolute terms may be misleading when comparing countries with widely different levels of nominal and real income. To eliminate this problem to some extent and ensure more comparability among countries, the absolute value of government expenditures on education per pupil is expressed as a percentage of GDP per capita, whereby it becomes more reasonable to make comparison between countries as governments' spending are measured with respect to the income level of countries.

World average government expenditures on education per pupil as percentage of GDP per capita decreased from 20.3% in 2002 to 20.0% in 2011 (Figure 4.7). The ratio for developed countries increased from 23.5% to 25.2% in this period while the ratio for non-OIC developing countries remained stable at around 18.7%. The ratio for OIC countries was not better than that for non-OIC developing countries. It decreased from 19.9% in 2002 to only 16.3% in 2011, remaining below the averages for non-OIC developing and developed countries.

4.2 Student – Teacher Ratios

Student–teacher ratios give the number of students enrolled in a school per the number of teachers working at that institution. While low student – teacher ratio is indicative of quality education, high student-teacher ratio often gives evidence about proportionately underfunded schools or school systems, or need for legislative change or more funding for education. Additionally, too many students in a class results in a diverse group of students with varying degrees of learning ability and

Figure 4.6: Highest Performing OIC Countries by Government Expenditures on Education per Pupil (US $)*

Figure 4.7: Government Expenditures on Education per Pupil as Percentage of GDP per Capita*
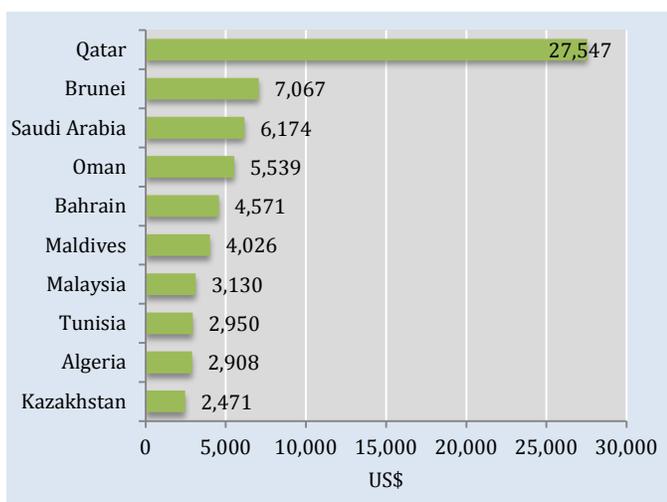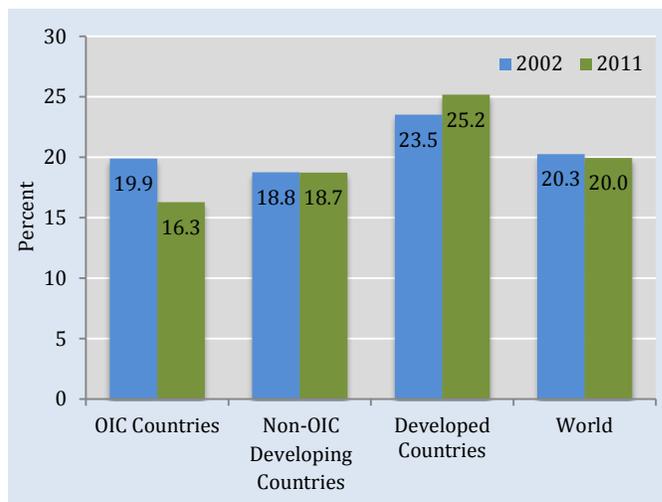
Source: World Bank, WDI Database and OECD.

* Data for the latest year available between 2009 and 2011.

Source: SESRIC staff calculation, World Bank, WDI Database.

* Data for 2002 is the latest year available between 2000 and 2002 and data for 2011 is the latest year available between 2009 and 2011.

information uptake. Consequently, the class will spend more time for less skilled students to assimilate the information, when that time could be better spent progressing through the curriculum. It is also argued that the lower student-teacher ratios are better at teaching students complex subjects such as mathematics, chemistry and physics than those with a higher ratio of students to teachers.

Though it is showed that students attending schools with a lower student-teacher ratio and a better educated teaching staff find jobs more easily and earn higher wages after graduation, some governments could claim that high student-teacher ratios have no significant negative outcomes. On the other hand, there are countries enacting legislations mandating a maximum student-teacher ratio for

specific grade levels to improve quality of education.

4.2.1 Primary Schools

Given the high population growth rates in many OIC countries, the growth in student enrolment surpasses the growth in the number of teachers. As a result, OIC countries, on average, see high student-teacher ratios. In 2012 the OIC average was measured as 27.9 whereas the non-OIC developing countries group has an average ratio of 26.2. In the same year, the world average scored as 24 students per teacher, which went down from 26.6 in 2002. Compared with the other country groups examined in the given period (2002-2012), it becomes evident that the most significant improvement took place in the OIC group. These figures also imply that even though OIC member countries achieved to reduce the

Figure 4.8: Student – Teacher Ratios at Primary Schools

Source: UIS database UNESCO.
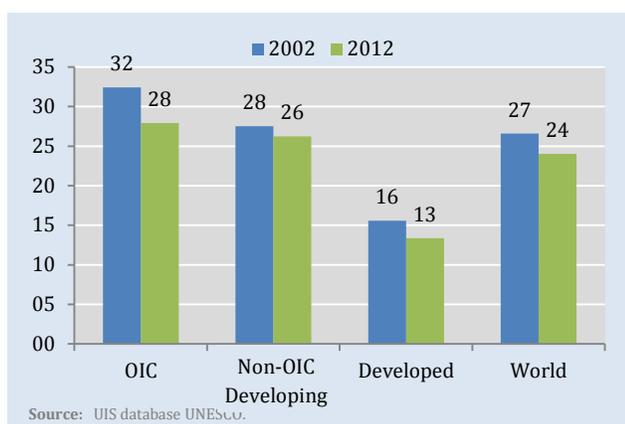
Figure 4.9: OIC Member Countries with Lowest Student – Teacher Ratios in Primary Schools

Source: UIS database UNESCO.
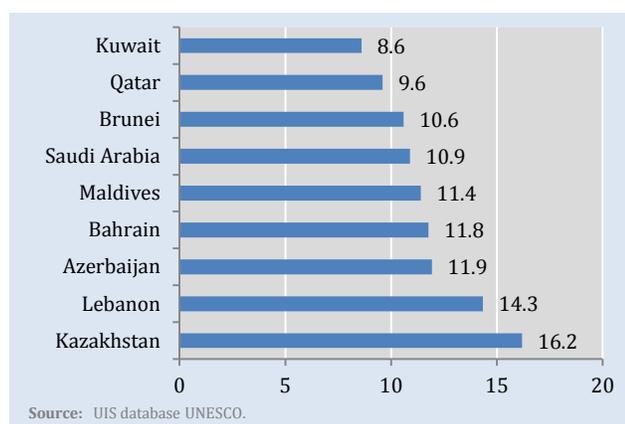
Figure 4.10: Student – Teacher Ratios at Secondary Schools

Source: UIS database UNESCO.
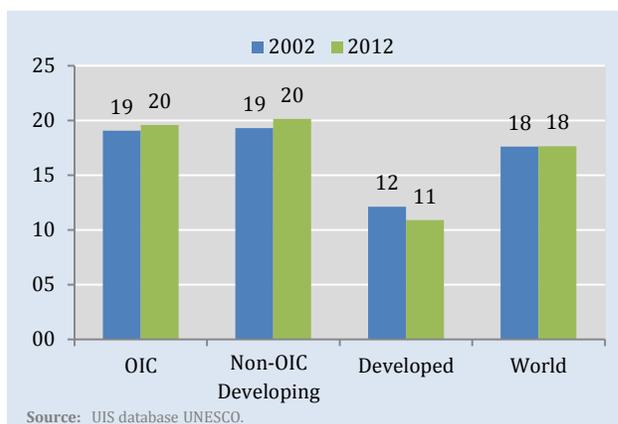
Figure 4.11: OIC Member Countries with Lowest Student – Teacher Ratios in Secondary Schools

Source: UIS database UNESCO.
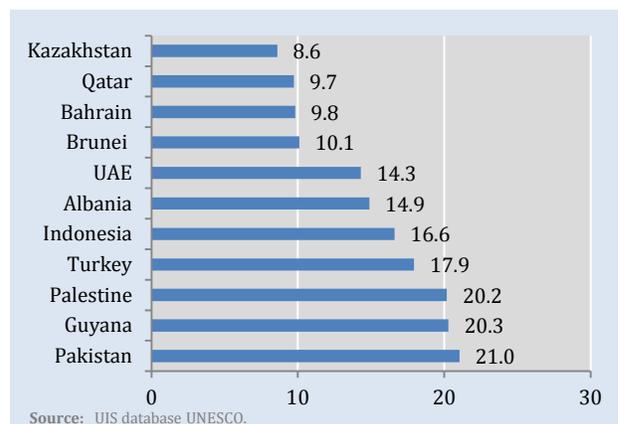
student-teacher ratio in primary schools from 32.4 in 2002 to 27.9 in 2012, more needs to be done in order to reach the average of developed countries in student-teacher ratios. (Figure 4.8)

At the individual country level, Kuwait (8.6), Qatar (9.6), Brunei (10.6), Saudi Arabia (10.9), Maldives (11.4), Bahrain (11.8), and Azerbaijan (11.9) provide a good number of teachers to their students in primary schools that their student-teacher ratios are lower than the average of developed countries (13.4) (Figure 4.9).

4.2.2 Secondary Schools

The average number of secondary school students per teacher in the world remained almost the same as 17.6 between 2002 and 2012 (Figure 4.10). In the same period, both non-OIC developing countries and the OIC group have witnessed a small increase. The average of non-OIC developing countries reached 20.2 in 2012 from 19.3 in 2002. In the OIC group, the ratio went up from 19.1 in 2002 to 19.6 in 2012. Only the developed countries group successfully reduced the student-teacher ratio during the period under consideration from 12.1 in 2002 to 10.9 in 2012. In other words, as of 2012, 19.6 students were taught by a single teacher in OIC member countries whereas a teacher in developed countries has to deal with only 10.9 students.

As shown in Figure 4.11, there are 7 OIC member countries which have a lower student-teacher ratio

than the world average of 17.6. Among these OIC countries, namely, in Kazakhstan (8.6), Qatar (9.7), Bahrain (9.8), and Brunei (10.1), this ratio was even below the average of developed countries. At the other end of the spectrum, Mozambique and Bangladesh were the countries having more than 30 secondary school students per teacher.

4.2.3 Tertiary Schools

As lower student-teacher ratios are generally considered to indicate the quality of education system, it is striking to observe an increasing trend for student-teacher ratios at tertiary level schools globally, though the average number of students per teacher had remained same or displayed a decreasing trend for primary and secondary schools, as depicted in Figures 4.12 and 4.13. The rise in these ratios means that the number of teachers entering the education sector is not sufficient to match the growth rate of tertiary level students so as to enhance the quality of education by decreasing the average number of students per teacher.

Among the country groups, the most significant increase in the student-teacher ratio was observed in the OIC group in which the average climbed from 18.4 in 2002 to 21.2 in 2012. The world average increased only 0.2 percentage points in the same period from 16.4 to 16.6. However, non-OIC developing countries reduced the ratio from 16.1 to 16 in the given period. The biggest jump came from the developed countries group that their average

Figure 4.12: Student – Teacher Ratios at Tertiary Schools

Source: UIS database UNESCO.
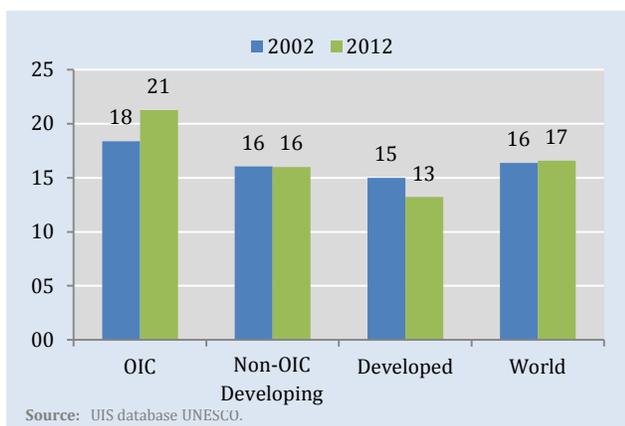
Figure 4.13: OIC Member Countries with Lowest Student – Teacher Ratios in Tertiary Schools

Source: UIS database UNESCO.
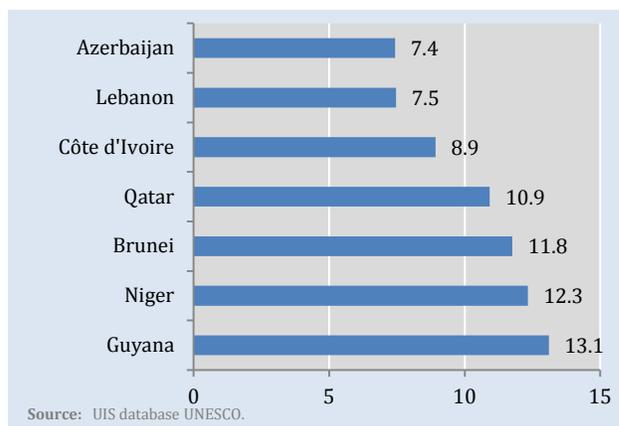
Figure 4.14: Enrolment in Programmes Offering Internet-Assisted Instruction (IAI) in OIC Countries and World (%), 2012

Source: UIS database UNESCO.

Figure 4.15: Enrolment in Programmes Offering Computer-Assisted Instruction (CAI) in OIC Countries and World (%), 2012

Source: UIS database UNESCO.
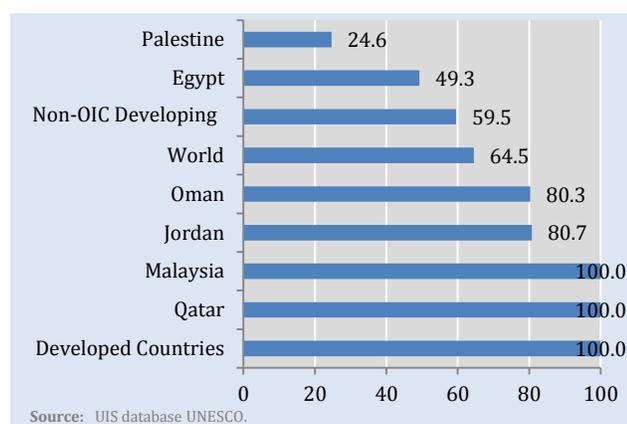
declined from 15 in 2002 to 13.2 in 2012. Consequently, the highest reduction in student-instructor ratio was observed for developed countries.

Overall, the average performance of the OIC member countries was not satisfactory during the period under consideration. However, in terms of student-teacher ratios, OIC member countries exhibited great variations over a wide scale individually. On the one side of spectrum, 7 member countries shown in Figure 4.13 had student-teacher ratios less than that of the developed countries average of 13.2 students per teacher (Figure 4.13). OIC member countries, Azerbaijan, Lebanon, Côte d'Ivoire, and Qatar had the most sparse tertiary school classes with 7.4, 7.5, 8.9 and 10.9 students, respectively. On the other side of the spectrum, an instructor taught as high as 52.4 tertiary level students in Mali and 44.8 tertiary level students in Mauritania.

4.3 Information and Communication Technologies (ICT) in Education

New economic growth theories suggest that in order to sustain positive economic growth rates in the long-run countries need to continue innovating new goods, technologies and mechanisms that are superior to the existing ones. There are two main ways for innovation: education and research and

development (R&D) activities. The use of ICT in education not only improves quality of education but also helps to increase access to education. In addition, students who are benefited from ICT throughout their education life are more likely to become innovators and to contribute R&D activities to a higher extent. To this end, the use of ICT in education possesses a critical importance for sustainable growth and development of countries. This sub-section analyses the ICT in education in OIC member countries and the world by using three sets of indicators related to education and ICT: enrolment, physical infrastructure and human capital.[5]

Figure 4.14 displays the enrolment in programmes offering internet-assisted instruction (IAI) in OIC countries and the world in 2012. In developed countries, the educational programmes are 100% IAI-assisted. Two OIC member countries, namely, Qatar and Malaysia, have also high enrolment rates in this context, as in developed countries. The average of non-OIC developing countries in IAI enrolment rate is 59.5%, which is lower than the world average of 64.4%. Together with Oman and Jordan, four OIC member countries have a higher enrolment rate in programmes with IAI than the world average. However, in OIC member countries

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[5] Due to lack of data for the majority of OIC member countries, a representative OIC average cannot be reported.

like Egypt and Palestine only 49.2% and 24.6% of all students enrol into programmes with internet-assisted instruction (IAI). In a similar fashion, Figure 4.15 exhibits the enrolment in programmes offering computer-assisted instruction (CAI) in OIC countries and the world in 2012. Four OIC member countries (Oman, Malaysia, Jordan and Egypt) exceed the world average of 73%, where enrolment rate into CAI offered programmes is 100% in Malaysia and Oman. The average of non-OIC developing countries lags behind 2 percentage points of the world average of 73% in enrolment into CAI offered programmes. According to the available data, in Iran and Palestine only 21.8% of 53.9% students enrol into CAI offered programmes, respectively.

The existence of physical ICT infrastructure is an important necessity to offer educational programmes involving ICT use. More specifically, one of the basic physical requirements to benefit from ICT in education is the availability of computer laboratories and internet access in educational institutions. To this end, Figure 4.16 shows the percentage of educational institutions with computer laboratories in OIC member countries and the world in 2012. In five OIC member countries, namely, Oman, Jordan, Malaysia, Qatar and Palestine, the percentage of educational institutions with computer laboratories is higher than the world average of 52.9%. On the other end of the spectrum, four OIC member countries (Suriname, Egypt, Indonesia and Yemen) lag behind the world average of 52.9%. In a similar vein, as shown in Figure 4.17, six OIC member countries have a higher access rate to the internet in educational institutions than the world average of 61.3%. In particular, all educational institutions in Brunei have access to the internet. However, in Kyrgyzstan only 6% of educational institutions can access to the internet. The non-OIC developing countries group has an average access rate of 57.8%, which is lower than the world average of 61.3%.

To benefit from ICT in education, trained human capital (teachers) is a must in addition to physical infrastructure. Only teachers with ICT training can include ICT related activities and education materials into their programmes. In this respect, Figure 4.18

Figure 4.16: Educational Institutions with Computer Laboratories in OIC Countries and World (%), 2012

Source: UIS database UNESCO.
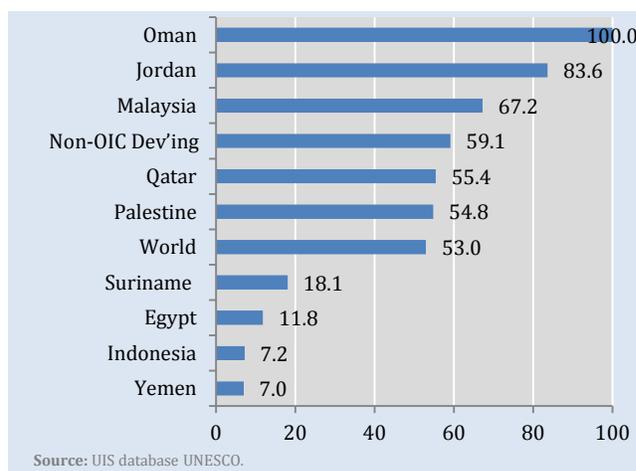
Figure 4.17: Educational Institutions with Access to the Internet in OIC Countries and World (%)

Source: UIS database UNESCO.
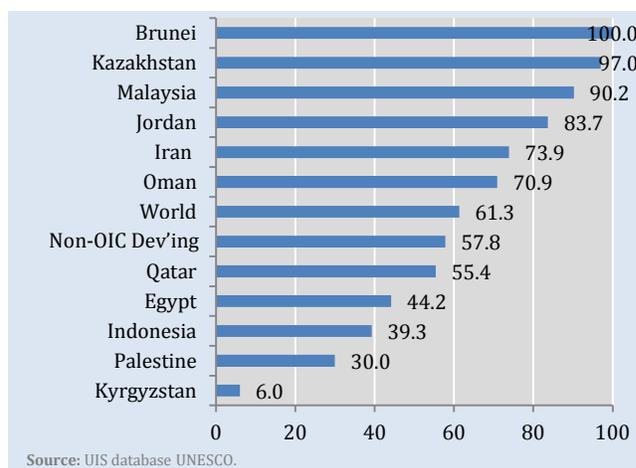
Figure 4.18: ICT-trained and ICT-using Teachers in OIC Countries and World (%), 2012

Source: UIS database UNESCO.
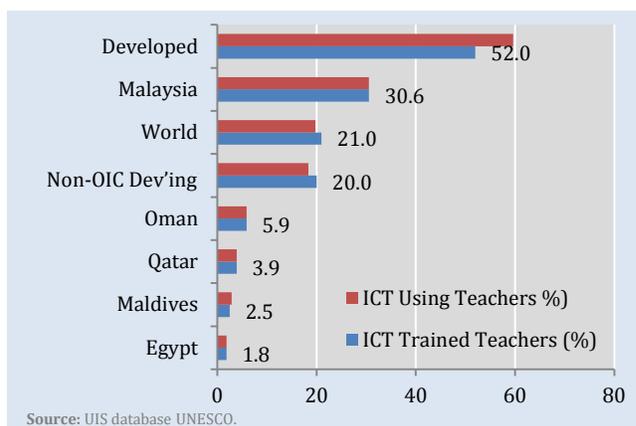
presents the shares of ICT trained and ICT using teachers (% of all teachers) for OIC countries and the world in 2012. In developed countries more than half of teachers specifically trained to use ICT in education, whereas in the world only one in five teachers has a specific training certificate on ICT. Among OIC member countries, only Malaysia has a higher rate of ICT trained teachers (30.5%) than the world average (21%). Less than 6% of teachers have been trained in ICT in four OIC member countries namely Oman, Qatar, Maldives and Egypt.

The analysis in this sub-section has shown that, enrolment into programmes offering computer and internet assisted education is relatively limited in OIC member countries. Two main reasons emerge behind this fact: the lack of physical infrastructure and the lack of trained human resources. Majority of teachers in several OIC countries are not trained specifically to use ICT in their education programmes. In addition, many OIC member countries are not in a position to satisfy the basic needs (computer laboratories and access to internet) for an ICT involved education system in their respective educational institutions. In order to overcome these challenges, OIC countries need to invest more on ICT infrastructure in educational institutions and promote human capital development, such as by training teachers. This would enhance the capacity to use ICT in education in OIC member countries.

4.4 International Student Mobility

The number of students pursuing studies abroad continues to surge not only because of rising demand for quality education but also due to increasing competition among higher education institutions around the world for the best and brightest minds. International recognition of qualifications and the availability of scholarships, reflecting the demand from both sides, are mainly the leading motivation for increasing mobility. In 2012, more than 4 million students went abroad to study, up from 2 million in 2000 (UNESCO UIS).

China, India, and South Korea are the countries where international student mobility is the highest. One out of six internationally mobile students is from China, whereas the top three countries (including also India and S. Korea) together account for more than a quarter of all students studying outside their home countries. On the other hand, three OIC countries, Saudi Arabia, Malaysia and Iran, are among the top 10 countries in terms of outbound student mobility.

The inbound mobility largely reflects the level of development of the education industry in that country. In 2012, five destination countries hosted nearly 50% of total mobile students: the United States (18%), United Kingdom (11%), France (7%), Australia (6%), and Germany (5%). But the top five also saw their share of international enrolment decline from 55% in 2000 to 47% in 2012. In developed countries, tertiary education transformed from government-subsidized institution into one of the most profitable private sectors of the economy and people already understood that spending on education is a long term investment into future prosperity.

OIC member countries are also becoming popular destinations for tertiary education due to significant investments and reforms of education sector, which lead to increase in quality of education and created opportunities for both local and international students. This subsection will analyse the trends in

Figure 4.19: Outbound Students Mobility in OIC, Total

Source: UIS Database UNESCO
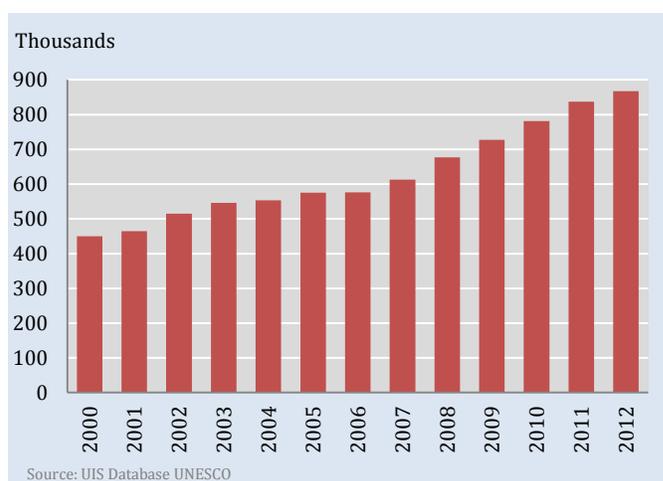
students' outbound and inbound mobility in OIC countries.

4.4.1 Outbound student mobility

Outbound mobility rate is the share of students studying outside to total number of enrolments in the country. As depicted in Figure 4.19, the number of the students going abroad for tertiary education continuously increased from OIC over the period 2000-2012. During this period, the number of students studying abroad almost doubled and reached over 820,000 in 2012. The main reasons for substantial increases are, among others, growing number of youth and higher economic growth in the member countries that created opportunities for students to pursue their education at international education institutions.

Despite the considerable increase in the total number, the share of OIC countries in total outbound students mobility did not increase during the same period. In 2000, OIC countries were

accounting 25.2% of all international outbound students, but this rate decreased to 24.7% in 2012 (Figure 4.20). On the other hand, non-OIC developing countries, driven largely by China, increased their share from 33.0% in 2000 to 45.5% in 2012. The share of outbound mobile students

Figure 4.20: Share of OIC in Outbound Students Mobility

Source: UIS Database UNESCO
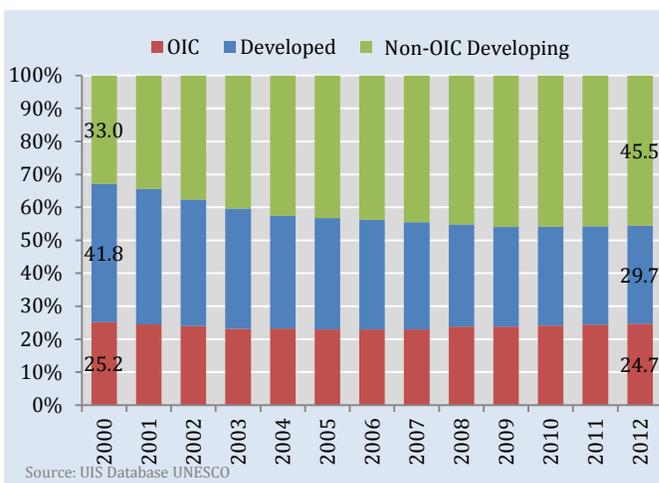
Box 4.1: The OIC Educational Exchange Programme

Excellence in knowledge, research and innovation is imperative for the Muslim world to reclaim its rightful place in the international arena. The OIC Vision 1441H for Science and Technology and the Ten Year Programme of Action acknowledge the political, developmental, social, cultural and educational challenges facing the Muslim world and outline ways and means to address them in an objective and pragmatic manner.

OIC General Secretariat recently started to pursue the 'Educational Exchange Programme: Solidarity through Academia in the Muslim World'. The purpose of this programme is to enrich education experience of students as well as faculty. Accordingly, the Secretariat has particularly focused on the promotion of cooperation between the OIC countries in these fields. This initiative has been enthusiastically supported by the member states and leading academic institutions of Turkey, Malaysia, Pakistan, Azerbaijan and many others started to cooperate.

The OIC Educational Exchange Programme deals with the post-graduate, masters, research levels and include exchange of students, faculty members and researchers for short durations (6-10 weeks) between interested institutions of higher education in the member states. It includes the following components: scholarships, faculty exchange, distance learning, research project and specialized courses. A considerable number of students have already benefited from education scholarships offered under the programme and many more opportunities are going to be realized soon.

There is an increasing interest of the member states in the programme, but in order to attain more success, greater support and active participation is required from member states in the Educational Exchange Programme. Therefore, member states should further advocate, promote and publicize through the means of media opportunities available for students and faculty under the programme.

See the official website for more information: http://www.oic-oci.org/oicv2/subweb/eep/index.html

from developed countries has sizably decreased from 41.8% to 29.7% during this period.

At individual country level, Saudi Arabia (62,5K), Malaysia (55,6K), Iran (51,5K), Turkey (51,5K) and Nigeria (49,5K) are top five countries within OIC and account for 1/3 of all outgoing students in the OIC region (Figure 4.21). The main destinations for students from these and from the majority of other OIC member states are the countries with developed education industries, including the US, the UK and some other European Countries, which are also top destinations in the world for international outbound mobile students.

Central Asia, home to the most mobile student population, has experienced a steady rise in the number of students studying abroad. This group (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) grew from 42,000 in 2000 to 110,600 in 2012, with a significant acceleration in their outbound mobility ratio.

Figure 4.21: Highest Performing OIC Countries by Outbound Student Mobility, 2012
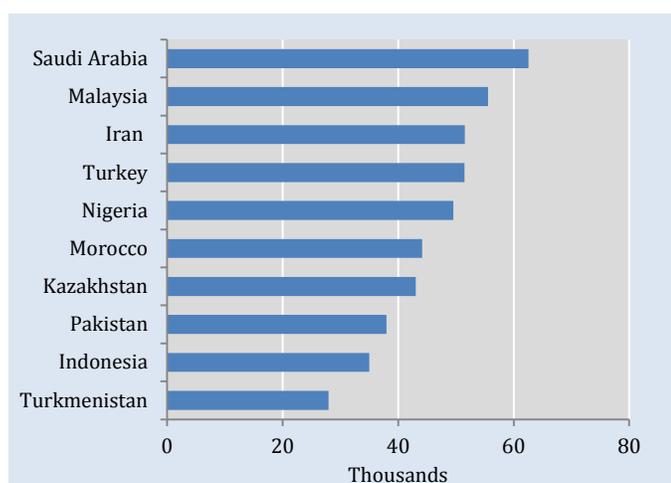
4.4.2   Inbound student mobility

Inbound student mobility shows the number of students coming from other countries to study within the country. Data on inbound student mobility is not as extensively available as the data on outbound student mobility. Therefore, it is not

possible to make a trend analysis with respect to inbound student mobility.

Table 4.1: International Inbound Students Mobility in OIC Countries

Country	Inbound Students	Inbound Mobility Ratio
Malaysia (2011)	63,625	6.14%
UAE (2012)	54,162	44.53%
Egypt (2010)	49,011	1.90%
Saudi Arabia (2012)	46,566	3.86%
Turkey (2012)	38,590	0.89%
Jordan (2012)	27,931	9.10%
Lebanon (2012)	27,230	12.80%
Kyrgyzstan (2010)	16,425	6.30%
Uganda (2011)	15,035	5.20%
Yemen (2011)	11,393	4.26%
Kazakhstan (2013)	8,710	1.38%
Morocco (2010)	8,604	1.93%
Indonesia (2012)	7,235	0.12%
Qatar (2012)	7,154	41.43%
Côte d'Ivoire (2012)	6,569	8.13%
Algeria (2011)	6,529	0.55%
Azerbaijan (2012)	4,628	2.50%
Iran (2012)	4,512	0.10%
Cameroon (2011)	3,385	1.39%
Tajikistan (2012)	3,107	1.60%
Bahrain (2012)	2,648	8.48%
Oman (2011)	2,108	2.36%
Albania (2012)	2,091	1.30%
Burkina Faso (2012)	2,040	2.96%
Tunisia (2012)	1,901	0.53%
Niger (2012)	1,181	5.43%
Chad (2011)	978	4.02%
Guinea (2012)	930	0.92%
Mali (2011)	462	0.53%
Mozambique (2011)	396	0.35%
Uzbekistan (2011)	378	0.14%
Brunei (2012)	354	4.25%
Guyana (2012)	34	0.38%
Source: UNESCO UIS Data Centre.		

According to the latest data available, Malaysia is the most attractive destination within OIC for foreign students by hosting more than 63,000 students from all around the world (Table 4.1). It is followed by the United Arab Emirates (54,2K), Egypt (49K), Saudi Arabia (46,6K) and Turkey (38,6K). Among the important factors in gaining popularity as a destination for education include various reforms in the education system, significant investments, bilateral and multilateral cooperation and some other measurements implemented by the governments.

In the Arab states, the United Arab Emirates (UAE), Egypt and Saudi Arabia are making efforts to recruit students from abroad. The share of mobile students studying within the Arab region increased from 12% to 26% between 1999 and 2012. These three countries hosted 4% of the global share of mobile students. The United Arab Emirates now outpaces the United Kingdom in attracting students from the Arab States and has become the third most popular destination (followed by France, the United States) for students from the region, suggesting that it created a very competitive environment to traditional destinations. Regional hubs like Malaysia and UAE are not only attracting a larger share of the global population of mobile students but are becoming favoured destinations for students within regions, and factors such as lower travel costs and cultural familiarity support such endeavours.

Inbound mobility rate (IMR) is the number of students from abroad studying in a given country, as a percentage of the total tertiary enrolment in that country. According to Table 4.1, UAE and Qatar have a rate over 40% and in 11 out of 33 OIC countries for which data are available; this rate is over 5%.

Overall, both numbers of inbound and outbound mobile students is growing dramatically all around the world. Despite the increases in absolute numbers, the share of OIC countries in total outbound internationally mobile students has not changed significantly. On the other hand, some OIC countries are making significant progress in attracting foreign students, reflecting the importance given to the development of the education sector in these countries.

Table 4.2: Comparing Performances in Education for Selected Countries

	Mathematics		Reading		Science	
	Mean score	Annualised change	Mean score	Annualised change	Mean score	Annualised change
OECD average	494	-0.3	496	0.3	501	0.5
Singapore	573	3.8	542	5.4	551	3.3
Korea	554	1.1	536	0.9	538	2.6
Japan	536	0.4	538	1.5	547	2.6
Switzerland	531	0.6	509	1	515	0.6
Germany	514	1.4	508	1.8	524	1.4
UK	494	-0.3	499	0.7	514	-0.1
USA	481	0.3	498	-0.3	497	1.4
Sweden	478	-3.3	483	-2.8	485	-3.1
Greece	453	1.1	477	0.5	467	-1.1
Turkey	448	3.2	475	4.1	463	6.4
Romania	445	4.9	438	1.1	439	3.4
Bulgaria	439	4.2	436	0.4	446	2
UAE	434	NA	442	NA	448	NA
Kazakhstan	432	9	393	0.8	425	8.1
Thailand	427	1	441	1.1	444	3.9
Chile	423	1.9	441	3.1	445	1.1
Malaysia	421	8.1	398	-7.8	420	-1.4
Mexico	413	3.1	424	1.1	415	0.9
Albania	394	5.6	394	4.1	397	2.2
Brazil	391	4.1	410	1.2	405	2.3
Argentina	388	1.2	396	-1.6	406	2.4
Tunisia	388	3.1	404	3.8	398	2.2
Jordan	386	0.2	399	-0.3	409	-2.1
Qatar	376	9.2	388	12	384	5.4
Indonesia	375	0.7	396	2.3	382	-1.9
Peru	368	1	384	5.2	373	1.3

Source: OECD. Countries and economies are ranked in descending order of the mean mathematics score in PISA 2012. Annualised changes are compared to the test scores in 2009.

Box 4.2: The global learning crisis: action is urgent

Of the world's 650 million primary school age children, at least 250 million are not learning the basics in reading and mathematics. Of these, almost 120 million have little or no experience of primary school, having not even reached grade 4. The remaining 130 million are in primary school but have not achieved the minimum benchmarks for learning. Often unable to understand a simple sentence, these children are ill equipped to make the transition to secondary education.

There is a vast divide between regions in learning achievement. In North America and Western Europe, 96% of children stay in school until grade 4 and achieve the minimum reading standards, compared with only one-third of children in South and West Asia and two-fifths in sub-Saharan Africa. These two regions account for more than three-quarters of those not crossing the minimum learning threshold.

The learning crisis is extensive. New analysis shows that less than half of children are learning the basics in 21 out of the 85 countries with full data available. Of these, 17 are in sub-Saharan Africa; the others are India, Mauritania, Morocco and Pakistan.

This learning crisis has costs not only for the future ambitions of children, but also for the current finances of governments. The cost of 250 million children not learning the basics is equivalent to US$129 billion, or 10% of global spending on primary education.

Source: UNESCO (2014).

4.5   Quality of Education

The analyses in the previous sections indicate that although many countries have made impressive progress over the past four decades, considerable disparities remain between countries. Moreover, whatever gains made in access to education, it should be supported with an equivalent improvement in quality. Only with good quality education, productive capacities of the people can be increased. Measuring and comparing the quality of education across the world is, however, not an easy task. A programme pursued by OECD, known as the Programme for International Student Assessment (PISA), is one of the major studies conducted to measure the quality of education.[6] Though the number of OIC countries included in the

programme is limited, it provides an opportunity to compare the quality of education in human capital development in OIC countries with other countries.

Figure 4.22: PISA Scores for OIC Countries

Source: OECD PISA 2012.

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[6] PISA is an internationally standardised assessment that was jointly developed by participating economies and administered to 15-year-olds in schools to test reading, mathematical and scientific literacy in terms of general competencies. See http://www.oecd.org/pisa/home/ for more information about the programme.
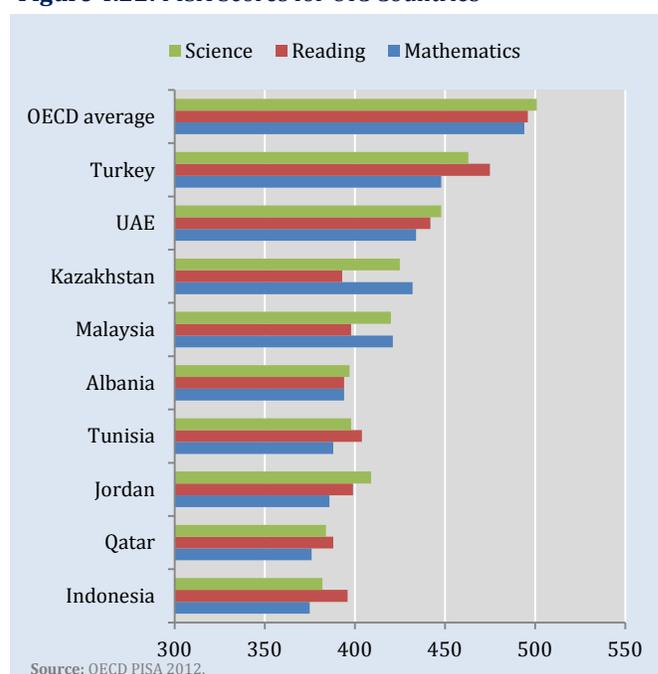
Table 2 shows the mean performance of students on mathematics, reading and science for all 9 OIC countries taking part in the PISA 2012 study of OECD, along with some other comparison countries. The average score among OECD countries is approximately 500 points and the standard deviation is 100 points. About two-thirds of students across OECD countries score between 400 and 600 points. Among the OIC member countries, Turkey, United Arab Emirates, Kazakhstan and Malaysia have average performance over 400. Albania, Tunisia, Jordan, Qatar and Indonesia have average scores below 400 points (see also Figure 4.22). Turkey provides the highest quality education within the OIC countries but it is still below the OECD average. However, the annualized changes in the mean scores are among the highest in the OIC countries. Particularly, Kazakhstan, Malaysia and Qatar improved the quality of education at levels reaching up to 12% per year since last survey in 2009.

simple sentence. In Pakistan, tests of grade 3 children found that only half could answer very basic multiplication questions (World Bank, 2011). According to the Africa Learning Barometer of the Brookings Institute, which is the first region-wide survey of learning and education covering 28 sub-Saharan African countries, 61 million children of primary school age – 1 out of every 2 kids – will reach their adolescent years unable to read, write, or perform basic numeracy tasks.

As noted earlier, it is recognized that there is a positive relationship between the quality of education and productivity. Figure 4.23 compares performance in mathematics in 2012 with average labour productivity in 2012 for participating OIC member countries and Figure 4.24 compares the annualized change in average score in mathematics and change in productivity growth between 2009 and 2012. Obviously, there is a positive relationship between the quality of education and labour

Figure 4.23: Quality of Education and Labour Productivity

Source: OECD Pisa 2012 and World Bank WDI

Figure 4.24: Change in Quality of Education and Productivity Growth

Source: OECD Pisa 2012 and World Bank WDI
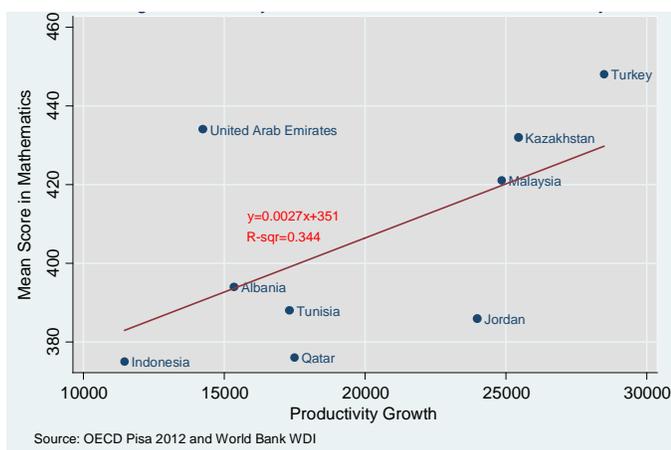
It is, however, worrying that among the 65 countries or economies surveyed in the study, 5 of the 10 worst performers on the overall reading scale are the OIC member countries. Turkey as the best performing OIC member country occupies only the 44th position. Several studies illustrate the seriousness of the learning challenge. More than 30% of Malian youths aged 15–19 years who completed six years of schooling could not read a

productivity in OIC countries. For higher productivity and better economic performance, it is critical to improve the quality of education.

According to the available data and information, it is therefore fair to argue that the successful improvements in accession to education in many member countries obviously could not be accompanied with similar improvements in the

quality of education, which plays significantly greater role in increasing the absorptive capacity, which reflects a country's ability to recognize the value of, adopt and use new information and technologies. When measuring the quality of education in terms of its outcomes, the quantity of patent applications may be considered as a proxy for

the degree of innovative capability in a country. As a product of research and development activities, patents strengthen the link between education and science and technology.

According to statistics from the World Intellectual Property Organization (WIPO), the total number of patent applications around the world in 2012 is

Box 4.3: Barriers to Quality Learning

Millions of children go through school and come out without basic literacy and numeracy skills. While significant efforts are made to boost school attendance, major barriers remain in quality education and learning. Some of the major barriers are as follows:

Shortage of qualified teachers: The shortage of teachers, combined with absenteeism and the lack of qualifications, is a major barrier to learning. Teachers should be well paid and respected in their communities. Teachers should also have opportunities for continued professional development and growth.

Lack of learning materials: Outdated and worn-out textbooks are often shared by six or more students in many parts of the developing world. Workbooks, exercise sheets, readers and other core materials to help students learn their lessons are in short supply. The uneven access to information and communication technologies (ICTs) has severe implications for education.

Weak foundation for early learning: A significant proportion of young children never benefit from early childhood education programs, compromising their cognitive development and their preparedness for school. Those who do not learn to read or write in their first few grades carry a handicap as they try to progress to higher levels. They struggle in school for many years and some simply quit.

Challenging family environments: Challenging living circumstances affect a child's learning in many ways. Basic infrastructure available at home, availability of books and other reading materials or literacy and numeracy skills of parents are all factors affecting and reinforcing learning in school.

Mismatch of skills and today's livelihoods: There is a mismatch between the competencies needed in today's world and those acquired through the current education system. Too often technical and vocational education is specific and narrow thus limiting job opportunities as skills become quickly obsolete in a rapidly changing world.

Language barriers: The language of instruction strongly influences the ability of children to comprehend and learn. Yet an estimated 221 million children are being taught in a language other than their mother tongue. Studies suggest that children fare better if they can acquire basic skills in their home language before trying to master a second one.

Hunger and poor nutrition: The impact of hunger on education systems is gravely underreported. Evidence from Latin America finds that being stunted at age 6 was equivalent to losing four grades of schooling. Far too many children are reaching school damaged by malnutrition. Around 171 million children in developing countries are stunted by hunger by the time they reach age 5.

Ineffective systems to evaluate the performance of students: Education systems need to closely monitor how well students are learning in order to offer the correct support before it is too late.

Source: Global Education First Initiative (http://www.globaleducationfirst.org/219.htm)

estimated to have been 2.34 million. With 34,933 patents overall, OIC member countries accounted for only 1.5% of total patent applications. Meanwhile, 76.1% of global patents are filed by 5 countries, namely China, USA, Japan, Republic of Korea and Germany (see section 6.3 for more discussion on patent applications).

In this perspective, it is evident that investments in human capital are not sufficient to translate the capacities into more innovative structure leading to better outcomes such as higher patent applications,

casting doubt on the quality of education in OIC countries. Gains in access should turn attentions to the challenge of improving the quality of education and accelerating learning. OIC member countries should focus on improving the infrastructure, and thus, the potential outcomes related to the provision of education services in order to engender a faster catch-up process.
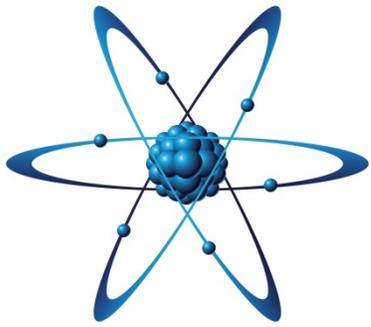
PART II

SCIENTIFIC DEVELOPMENT

Research in science and technology is of great importance, and key to progress towards a knowledge-based and innovation-driven economy. It promotes better understanding on different aspects of life, and helps to improve the standard of living by generating new knowledge and technological innovation. Today, there is severe competition among countries to become the most competitive economy in the world. Gaining a comparative advantage against other countries, which is of particular importance to the OIC member countries in catching-up within this competitive world of knowledge economy, depends on how well they perform in research activities.

In the golden age of Islam, Muslim world was at the forefront of science, philosophy, culture and economic development. However, today many OIC member countries allocate limited amount of sources for research and development activities that restrict their contributions to the development of science and technology. Yet, the accomplishments of some member countries provide some hope for optimism with their rapid economic growth and achievements in higher education.

This part presents an overview of the current developments in the OIC member countries in the field of research and development (R&D) and science & technology (S&T). In particular, the

current stance of the OIC member countries compared to the rest of the world, in terms of fundamental indicators of research and scientific development, such as human resources in R&D, R&D expenditures, high technology exports, scientific publications and patent applications, is analysed in a detailed manner.

The analysis in this part indicates that R&D should be stimulated through government and private sector initiatives and coordination among OIC countries. Networking opportunities among the OIC member countries need to be facilitated through programmes similar to the Framework Programmes of the European Union, to support research and technological development in the Islamic world and to promote joint research initiatives among the member countries.

Additionally, joint research and investment in the emerging scientific fields and technologies, such as nanotechnology, should be initiated in a timely manner to make use of the immense benefits associated with early investment in the critical sectors. Higher education and academic research need to be supported through more government funds. There is also a dire need for promoting and enhancing patent development, particularly in small and medium-sized enterprises. Last but not least, infrastructure for information and communication technologies should be improved for a wider and effective participation of the society in general, and the youth in particular, in all components of research and development in OIC member countries.
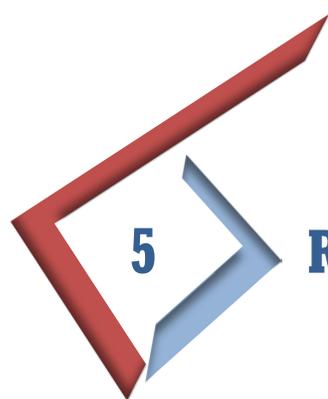
5 Research and Development

The diversity of OIC member countries is apparent considering not only the geographical area they are dispersed across but also their level of development in a broad spectrum of socio-economic areas, with research and development (R&D) being no exception. Acknowledging the fact that the Muslim world has long faced a knowledge gap due to its deficiency in science, technology and innovation, in its Vision 1441H document, OIC adopted some key objectives in steering the science and technology (S&T) development in OIC member countries. These included the achievement of the following targets related to R&D by 2020: 14% share in world's scientific output by 2020 and 1.4% of GDP invested in R&D by 2020. The Ten-Year Programme of Action (TYPOA), on the other hand, complements the Vision 1441H by prioritising S&T and calling upon OIC member states to spend at least 1% of GDP on R&D by 2015.

As innovation is universally accepted as one of the engines of economic growth, policy-makers need reliable and timely indicators to establish effective national innovation systems (NIS), to make healthy cross-national comparisons, and monitor the evolution of relevant policies. R&D, in this regard, is an important component of a country's NIS. Furthermore, there is also an increasing demand for R&D indicators from policy-makers of OIC member countries. Yet, the lack of capacity to generate these indicators in an effective manner remains a major challenge. This, in turn, makes it difficult to benchmark OIC member countries against other international country groups and to monitor the

Figure 5.1: Researchers per Million People*
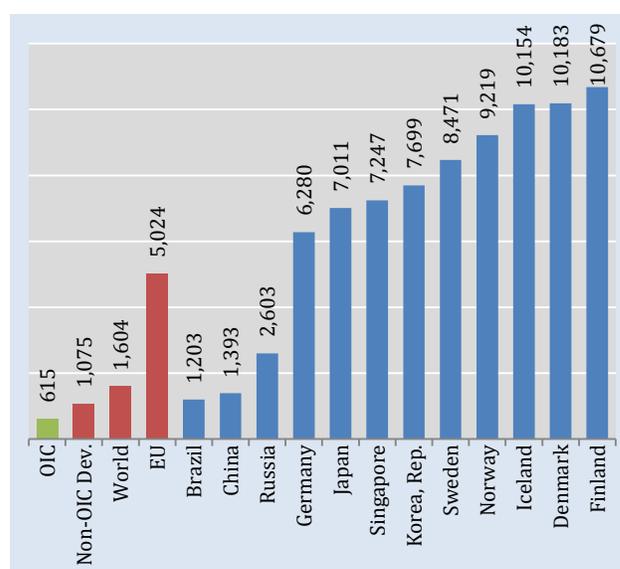
Source: UNESCO, UIS Data Centre, August 2014
* Headcount data for the most recent year available.

progress in achieving the targets outlined in the Vision 1441H document.

Against this backdrop, this section concentrates on the recent trends in inputs (human and financial resources) to and outputs (patents and publications) of R&D activities in OIC member countries and gives an overview of the current stance of R&D sector in the member states.

5.1 Human Resources in Research and Development

The availability of abundant and highly qualified researchers is an essential condition to foster

Map 5.1: Researchers* per Million People in OIC Member Countries

Source: UNESCO, UIS Data Centre, August 2014.
* Headcount data for the most recent year available.
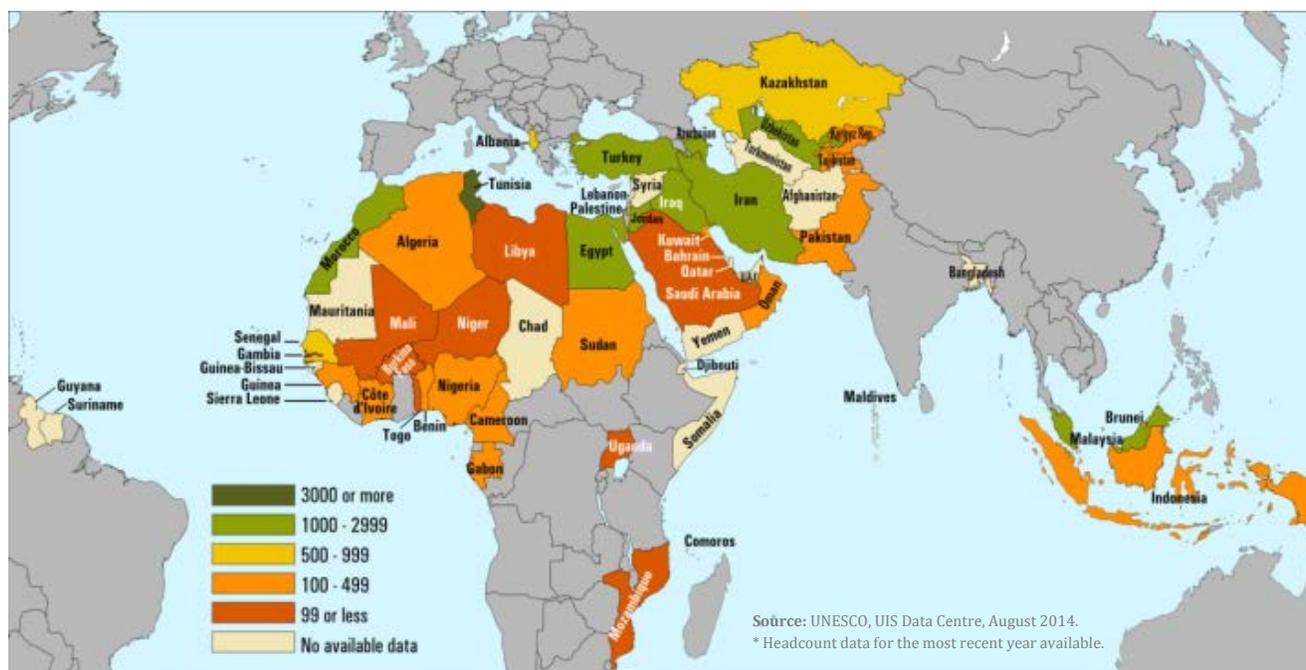
innovation and promote the scientific and technological development of a country. However, figures indicate that OIC member countries, on average, fall well behind the world average in terms of researchers per million people: 615 vs. 1,604, respectively.[7] The gap gets smaller when compared to non-OIC developing countries with an average of 1,075 researchers per million. However, the gap gets even larger when compared to the EU average of 5,024, which is more than 8 times of the OIC average. More strikingly, per million inhabitants, Finland, Denmark, Iceland and Norway have at least 15 times more researchers than the OIC average (see Figure 5.1).

Map 5.1 illustrates the OIC map of distribution of researchers employed in R&D and reveals the following observations:

- Only ten of the 38 member countries with available data have more than 1,000 researchers per million people: Tunisia (3,195), Malaysia (2,564), Jordan (1,913), Turkey (1,881), Iran (1,484), Azerbaijan (1,292), Iraq (1,273), Egypt

(1,146), Morocco (1,146) and Uzbekistan (1,097).

- Among these, the values of Tunisia, Malaysia, Jordan and Turkey are also above the world average.

- Nine member countries have less than 100 researchers per million people, most of which are in Sub-Saharan Africa.

- Large disparity exists among the member countries; Tunisia has 3,195 researchers per million inhabitants while Niger has merely 10 at the other extreme.

5.1.1 Women in Research Activities

In the last decades, women, with better access to training and education facilities, thanks to the rising awareness on gender in/equality, have become more qualified and motivated to participate in the labour force. Nevertheless, the progress achieved so far in the field of R&D seems unsatisfactory neither globally nor at the OIC level. In only 12 of the countries in the world, the percentage of women researchers is higher than the men. In Myanmar and Bolivia, the percentage of female researchers is as high as 85.5% and 62.7% of total researchers,

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[7] Figures are the weighted averages for the countries with available data.

Figure 5.2: Women as a Share of Total Researchers (%)*
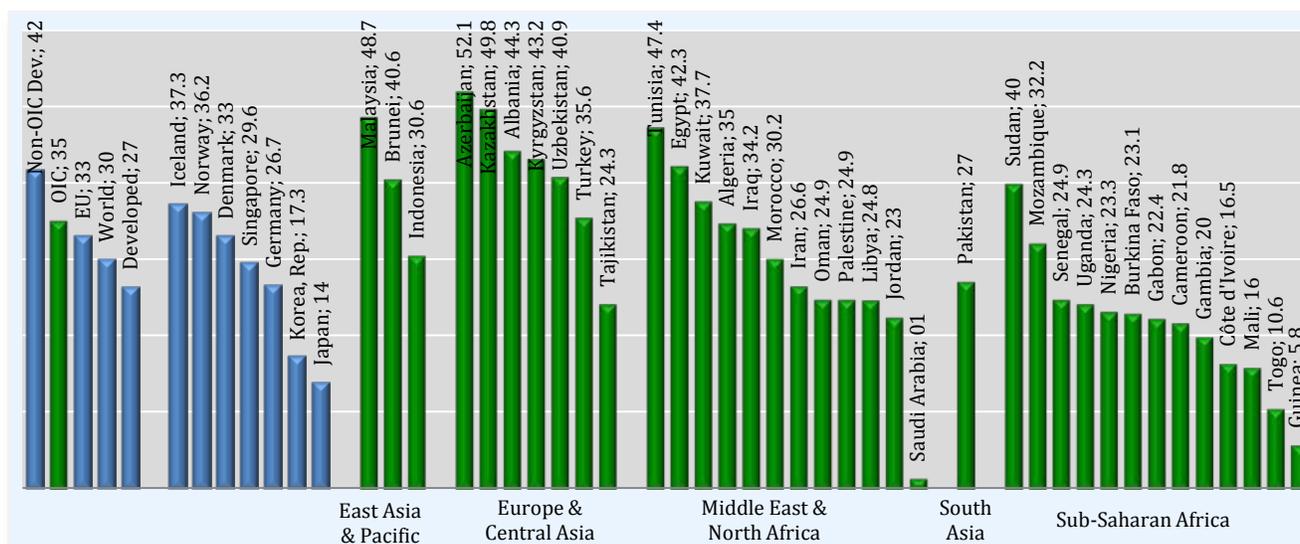
Source: UNESCO, UIS Data Centre. * Headcount data for the most recent year available.

respectively. Women, in the OIC, represent around 35% of the total researchers, higher than the world average of 30.2%.[8] The gap is larger when compared to the average of non-OIC developing countries (41.9%) and some developed countries, including Iceland and Norway, but still the OIC average is higher than that of the EU average and some other developed countries, e.g., Denmark, Singapore, Germany, Republic of Korea and Japan (Figure 5.2).

With respect to the data demonstrated in Figure 5.2, the following observations can also be drawn:

- The share of women in total researchers is above the world average in 17 of the 36 OIC member countries with available data. 14 of them outperform the EU average as well.

- According to regional averages, OIC countries in Europe & Central Asia, East Asia & the Pacific and Middle East & North Africa report higher rates of women researchers, often above the world average.

- Intra-regional difference is wider in the Middle East and North Africa: On one hand, there are countries like Tunisia, Egypt, Kuwait, and Algeria where women represent more than 35%

of researchers while, on the other hand, there also are countries where women's share is less than 5% as in the case of Saudi Arabia.

- Azerbaijan is the only member country that has more women researchers than men. With a female researchers' share of 52.1%, it is also the seventh country in the world. Kazakhstan, Malaysia, Tunisia, Albania, Kyrgyzstan, Egypt, Uzbekistan, Brunei and Sudan–all with over 40% women researchers– are also close to achieving gender parity.

Figure 5.3: GERD, % of World Total
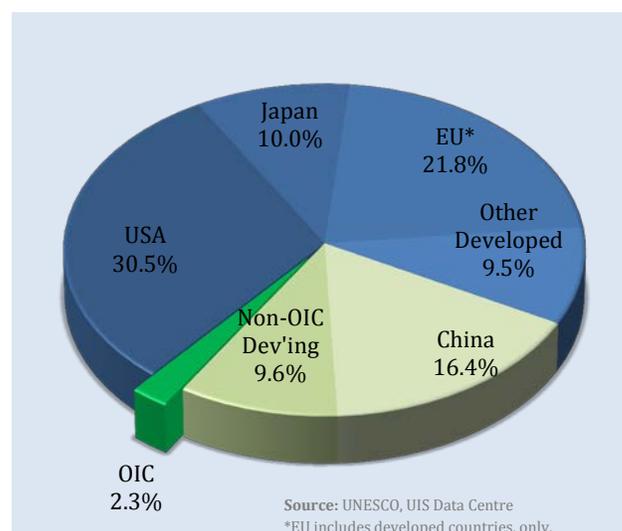
Source: UNESCO, UIS Data Centre
*EU includes developed countries, only.

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[8] Aggregate calculations are based on countries with available headcount data – for the most recent year available between 2000 and 2012.

5.2   Expenditures on Research and Development

5.2.1   R&D Intensity

Today, nearly 72% of the global R&D expenditures is spent by developed countries, of which 30.5% by the USA, 21.8% by the developed member countries of EU, and 10% by Japan (Figure 5.3). The OIC countries account for only 2.3% of the world total Gross Domestic Expenditures on R&D (GERD), or 8.1% of the total GERD of developing countries whereas the GERD of China is more than 7 times the OIC total. With GERD worth of $37.9 billion in 2012, Russia, alone, spends more than the OIC total of $33.9 billion.

Among the member countries, Turkey is the leading country by expending $11.3 billion on R&D. (Figure 5.4) Adding the GERD of Iran and Malaysia in the amount of $5.9 billion and $4.9 billion, respectively, the GERD of these three countries make up 65.4% of OIC total. Egypt, UAE, Pakistan, Morocco and Tunisia are the other member countries with GERD over $1 billion.

Nevertheless, what is more important than the volume of GERD is its weight in the total expenditures or, in other words, in GDP. Accordingly, R&D intensity (GERD as a percentage of GDP) is a widely used indicator of S&T activities.

Figure 5.4: Highest performing OIC member countries by GERD (current million $PPP)

Source: UNESCO, UIS Data Centre
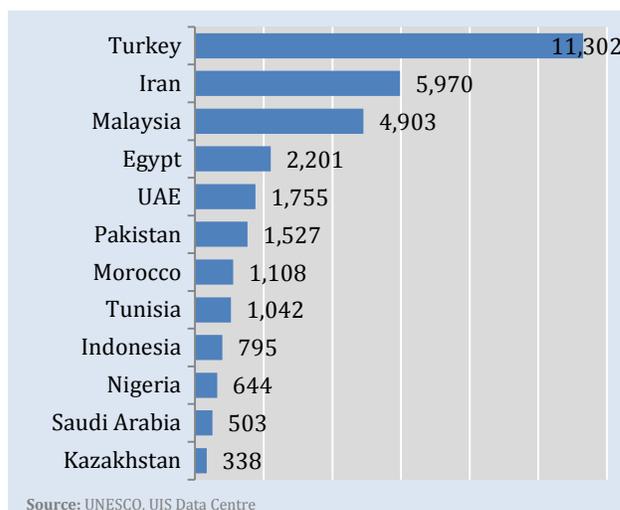
It reflects the innovative capacity of a country in that a higher R&D intensity indicates that relatively more resources are devoted to the development of new products or production processes.

In this connection, the OIC Ten-Year Programme of Action to Meet the Challenges Facing the Muslim Ummah in the 21st Century, which was adopted at the Third Extraordinary Session of the Islamic Summit Conference held in Mecca in December 2005, calls upon Islamic countries "to encourage research and development programmes, taking into account that the global percentage of this

Figure 5.5: R&D Intensity (%)*

Source: UNESCO, UIS Data Centre * Data for the most recent year available between 2000 and 2012.
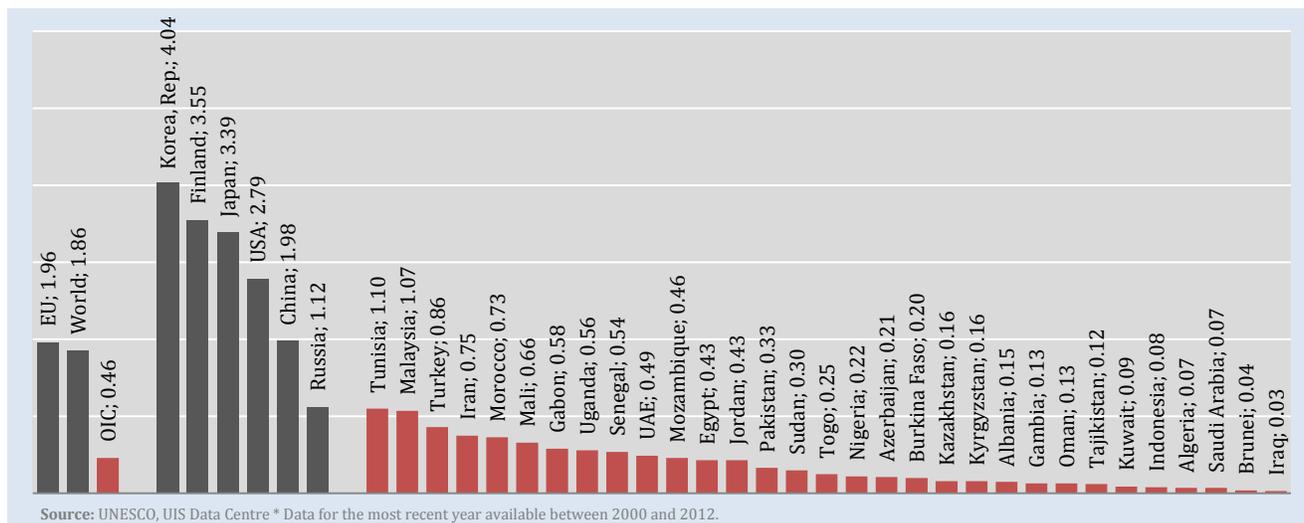
activity is 2% of the Gross Domestic Product (GDP), and request Member States to ensure that their individual contribution is not inferior to half of this percentage" (OIC-TYPOA, 1995, Part 2, Section V, Article 4).

Nevertheless, available data show that OIC member countries' spending on R&D activities is significantly lower than the world average and still far away from the implied target of 1% of GDP by 2015. R&D intensity for the OIC member countries averages 0.46%, which is quite lower than the EU average of 1.96% and the world average of 1.86% as well as the targeted rate of 1% (Figure 5.5).

Regarding the R&D intensity in the OIC member countries, the situation can be summarized as below:

- Among the member countries with available data, only Tunisia and Malaysia have met the target so far with R&D intensity above 1%. Turkey, Iran and Morocco are close to achieving the target with shares above 0.7%.

- Among the few Sub-Saharan members that can provide data, Mali, Gabon, Uganda and Senegal allocate higher shares of their GDP to R&D than the OIC average.

- 20 member countries spend less than the OIC

average of 0.46%. The lowest spending level is recorded by Iraq (0.03%).

- Considering the figures in some other developed countries like Republic of Korea (4.04%), Finland (3.55%), Japan (3.39%) and USA (2.79%), all of which owe their economic development largely to investments in advanced technology, OIC member countries need to allocate much more resources to R&D activities to bridge the gap with developed countries.

Figure 5.6 illustrates the change in R&D intensity between 2000 and 2012 for the OIC member countries for which data are available. Accordingly;

- In most of the member countries, a decrease in R&D intensity is evident.

- Gambia, Tunisia, Mali, Pakistan, Malaysia, Egypt, Brunei and Turkey managed to significantly increase their R&D intensity. The increase in Tunisia was almost over 1.5 folds. Accordingly, although Morocco, Iran and Mozambique had the highest R&D intensity rates in 2000; Tunisia, Malaysia and Turkey outperformed them by 2012.

- Sudan, Algeria, Azerbaijan, Mozambique, and Kuwait reported a significant decrease in their

Figure 5.6: Trends in R&D Intensity

Source: UNESCO, UIS Data Centre
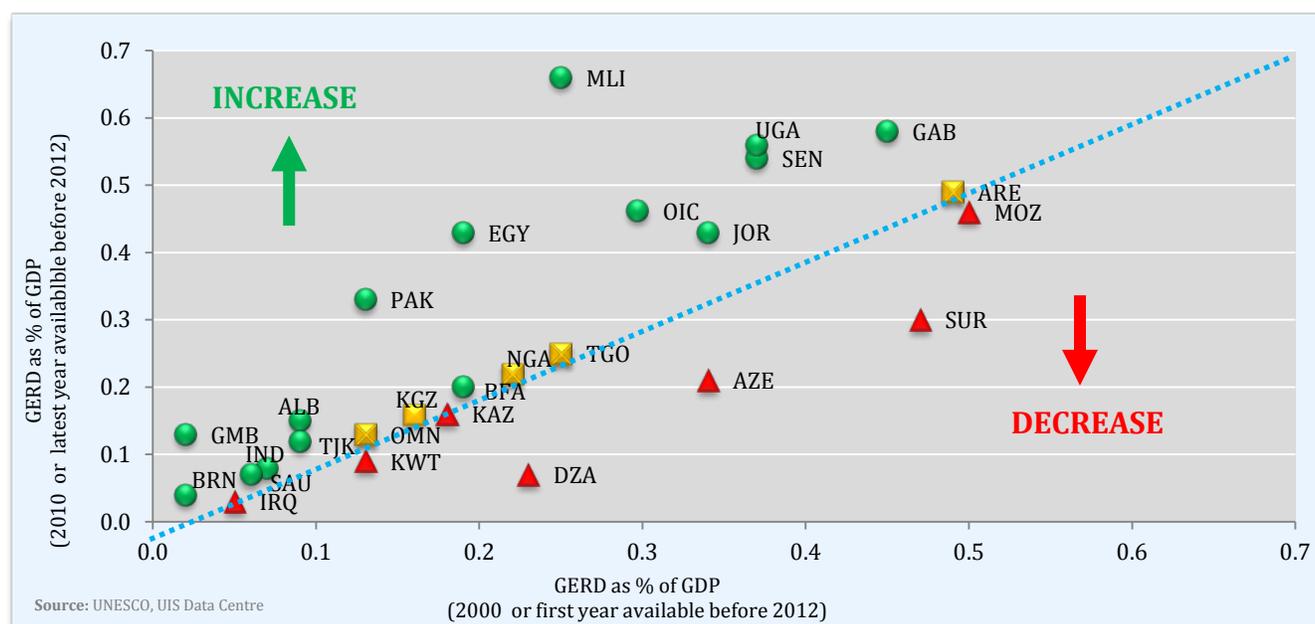
Figure 5.7: R&D Expenditures per Capita (PPP $)

Source: SESRIC staff calculations; UNESCO, UIS Data Centre
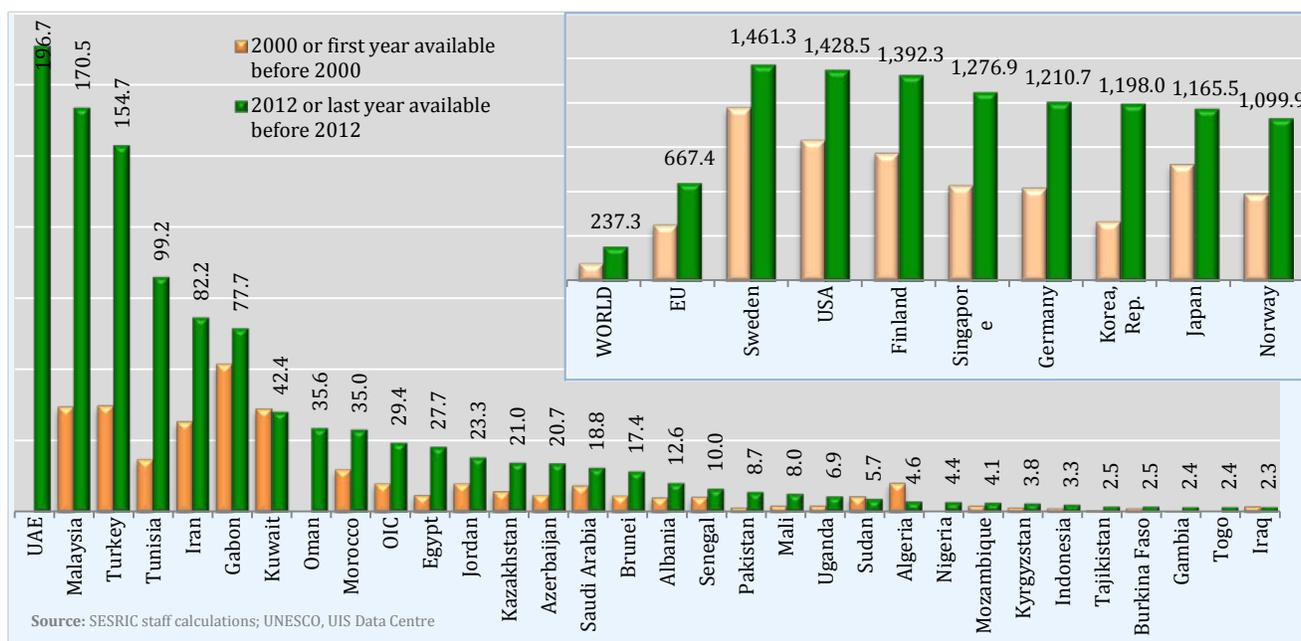
R&D intensity.

- The average for the OIC countries increased by 0.16 percentage point during the period examined.

5.2.2 R&D Expenditures per Capita

R&D expenditures per capita is a frequently used indicator to make comparisons among countries in terms of the level of spending on R&D. Figure 5.7 presents data for *R&D expenditures per capita* in the last decade. According to Figure 5.7:

- Of the 31 OIC countries with available data, only UAE ($196.7), Malaysia ($170.5) and Turkey ($154.7) have per capita levels above one hundred dollars as of 2012. They are followed by Tunisia ($99.1), Iran ($82.2) and Gabon ($77.7).

- The lowest rates are recorded for Tajikistan, Burkina Faso, Gambia, Togo and Iraq, all allocating less than $3 expenditure on R&D per capita.

- The average R&D expenditures per capita is calculated as $29.4 which is well below the world average of $237 and the EU average of $667. In Sweden and USA this figure is even

above $1,400 which is more than 49 times of the OIC average.

- From 2000 to 2012, R&D expenditures per capita increased by an average of only $17 for OIC countries, compared to $113 for the world and $285 for the EU, which could be considered as another source and indicator of divergence between OIC countries and the rest

Figure 5.8: Sectoral Distribution of GERD (%)*

Source: UNESCO, UIS Data Centre. * Data for the most recent year available.
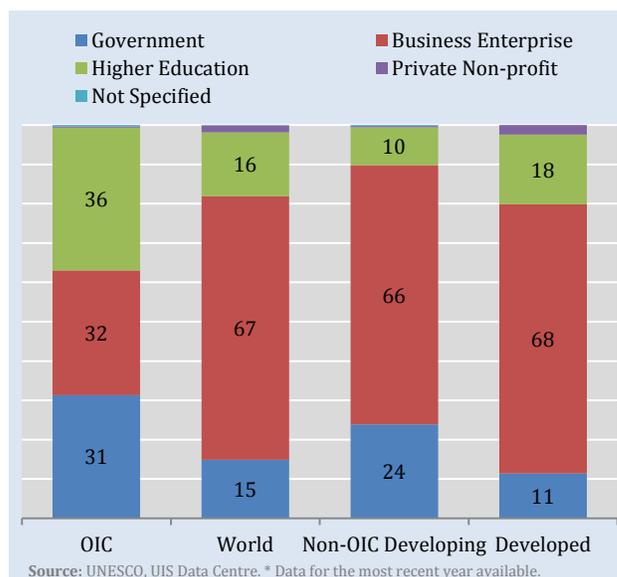
Figure 5.9: Sectoral Distribution of GERD (%)* in OIC Member Countries

Source: UNESCO, UIS Data Centre.
* Data for the most recent year available.
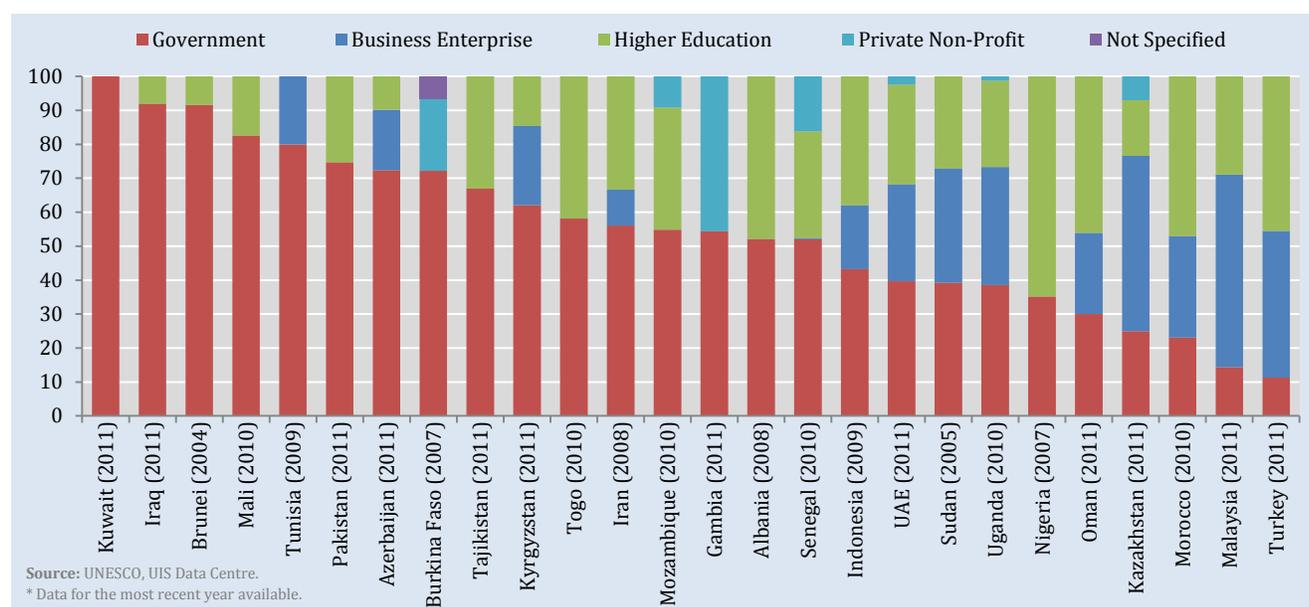
of the world with respect to scientific development.

- Compared to 2000, Malaysia, Turkey, Tunisia, and Iran were the top four countries in terms of change in their GERD per capita, $126.2, $110, $76.8 and $44, respectively.

- In addition to these, 19 OIC countries with available data reported also increases in their GERD per capita ranging between $20.4 (Egypt) and $0.9 (Burkina Faso).

- On the other hand, four of the 31 OIC countries with available data reported decline in their GERD per capita. Algeria experienced the sharpest decline in this period so that its GERD per capita fell down from $12.4 in 2001 to $4.6 in 2005.

5.2.3 Sectoral Distribution of R&D Expenditures

GERD is the sum of R&D in all sectors that reflects the overall performance of countries in this context. However, it is often useful to disaggregate data at the sectoral level. This enables to see performance of individual sectors in R&D expenditures. From policy-making perspective, disaggregation of R&D data at the sectoral level allows decision-makers to undertake a more in-depth analysis and develop

relevant policy tools. This sectoral disaggregation is based on the United Nations classification that defines four major sectors of performance: Government, Business Enterprise, Higher Education, and Private Non-Profit.

In this respect, an examination[9] of GERD by sector of performance reveals that the sectors of government, business enterprise and higher education account for one third of the total expenditure, each. However, the average share of government (31.3%) in OIC countries is more than double of the government sector share in the world (14.9%) and in the developed countries (11.9%) and also visibly higher than the non-OIC developing countries (Figure 5.8).

As illustrated in Figures 5.8 and 5.9, sectoral distribution of GERD in OIC Member Countries can be summarized as follows:

- In most of the OIC member countries (16 out of 26 with available data), more than 50% of GERD is spent by government sector. This share reaches up to 100% in Kuwait and over 90% in Iraq and Brunei.

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[9] The figures are based on total available resources, regardless of their source of funds.

Figure 5.10: Higher Education Expenditure on R&D in OIC Countries (% of GDP)

Source: UNESCO, UIS Data Centre.
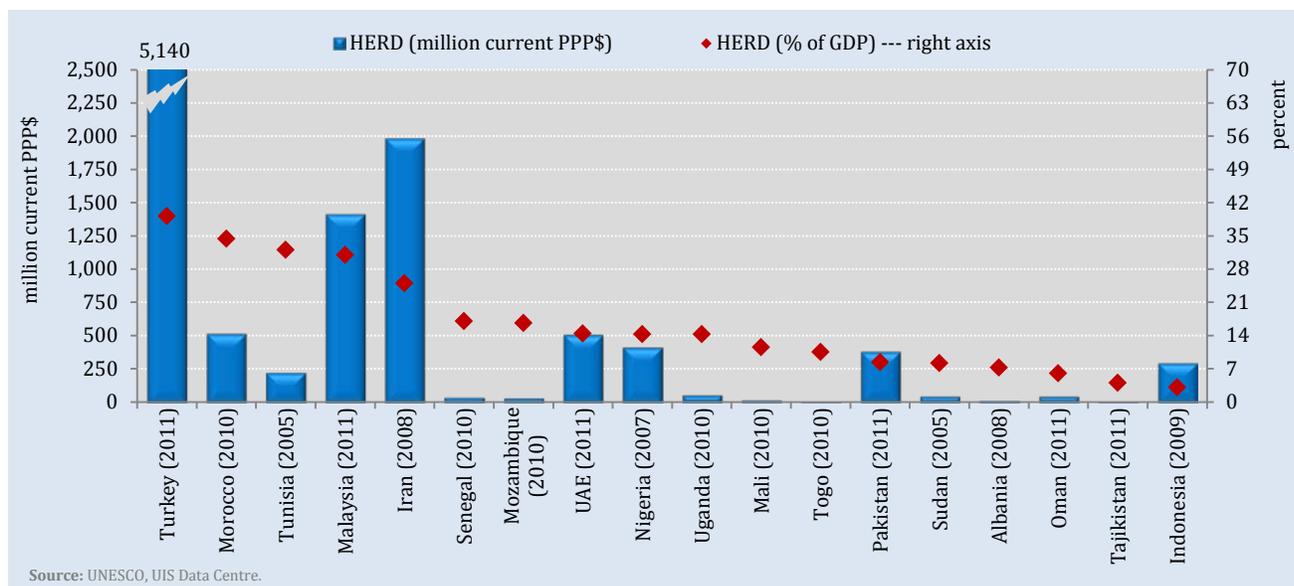
- Despite having a share of less than 50%, government sector in Indonesia (43.2%), UAE (39.6%), Sudan (39.2%) and Uganda (38.6%) is the dominant sector, spending more on R&D than the other sectors do.

- The share of Business Enterprise in GERD is highest in Malaysia with 56.7%. It was followed by Kazakhstan where 51.6% of the total GERD is spent by Business Enterprises. Moreover, in Turkey (43.2%) and Uganda (34.8%), Business Enterprise accounts for more than 30% of the GERD.

- GERD of Business Enterprise is not available or at negligible levels in Kuwait, Iraq, Brunei, Mali, Pakistan, Burkina Faso, Tajikistan, Togo, Mozambique, Gambia, Albania and Nigeria.

- In Nigeria, Higher Education accounts for 64.8% of the total GERD. It was followed by Albania with a share of 47.9%. Higher Education is the leading sector in Morocco, Oman and Turkey, accounting respectively for 47.0%, 46.1% and 45.5%, of the total GERD. Furthermore, more than one third of the GERD in Togo, Indonesia, Mozambique, Iran and Tajikistan is also performed by this sector.

- The share of R&D expenditures by the Private Non-Profit sector is at a negligible level in all of

the member countries except in Gambıa (45.6%), Burkina Faso (21.1%), Senegal (16.2%), Mozambique (9.1%), Kazakhstan (7.0%), UAE (2.4%), and Uganda (1.2%).

Accounting for 35.6% of total R&D spending, higher education expenditure on R&D (HERD) is proportionally greater in the OIC than the averages of developed countries (17.8%), world (16.2%) and non-OIC developing countries (9.7%). Figure 5.10

Figure 5.11: Distribution of GERD by Source of Funds (%)

Source: UNESCO, UIS Data Centre. * Data for the most recent year available.
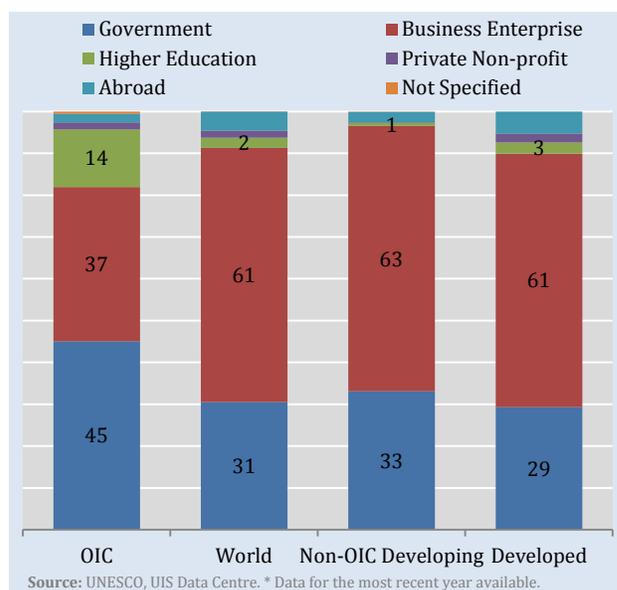
Figure 5.12: Distribution of GERD by Source of Funds (%) in OIC Member Countries

Source: UNESCO, UIS Data Centre.
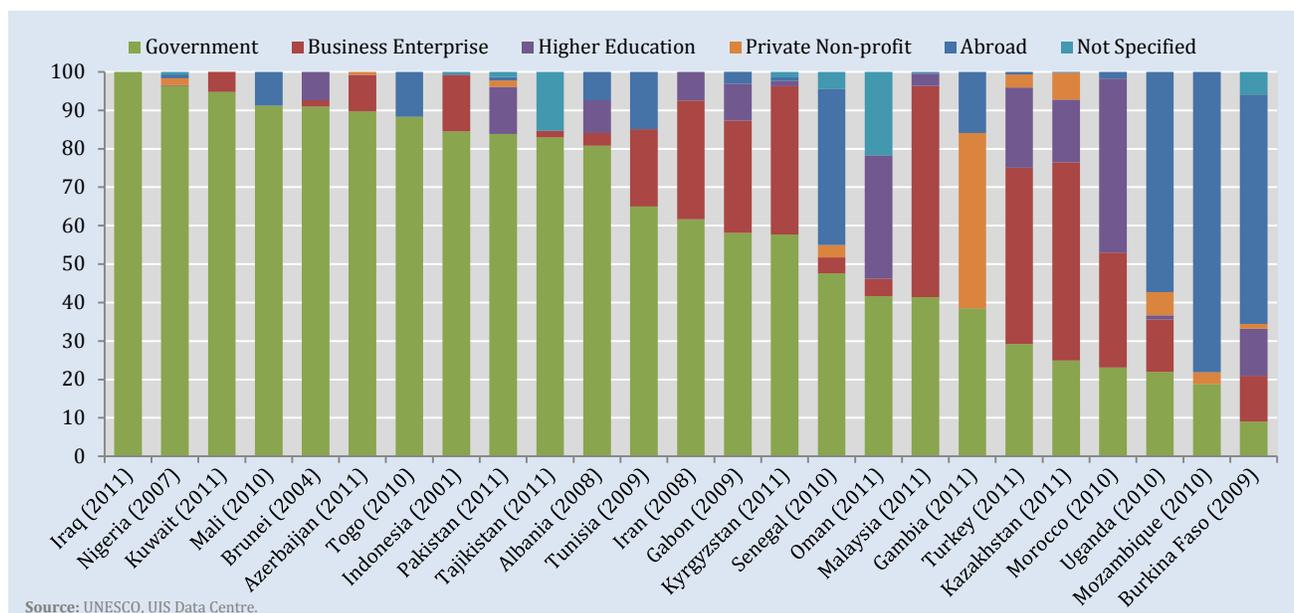
show the OIC countries with respect to HERD as a percentage of GDP and absolute HERD in current million PPP$, The investment of Turkey in higher education sector is most notable here both in terms of total GERD expenditure on higher education and the HERD as a percentage of GDP (39.1%). It was followed by Iran spending nearly two million dollars. Malaysia is the other member country with HERD over one million dollar.

5.3 R&D Funds by Source

Figure 5.11 presents information on the funding sources of R&D by country groups. Source distribution of the GERD has been made again on a sectoral basis as specified in the analysis of GERD by sector of performance, yet including additionally the funds from abroad. The R&D funding of OIC member countries is again more proportionally dependent on government sector which constitutes 45.1% while the share of higher education is around 14%. Indeed, it is usually the case that higher education expenditure on R&D is also government-funded R&D.

In the world, business sector is the major R&D funder with a share of 61% while 37% of the GERD is financed by business enterprises in OIC countries.

This suggests a relatively underperforming business sector in many OIC countries, which is also unsurprising as in many of the poorest OIC countries, the amount of firms that support R&D are few.

Given the data illustrated in Figure 5.12, the situation in OIC member countries can be summarized by the following observations:

- In most of the OIC member countries, R&D is mainly financed by the government sector. Out of the 25 member countries for which data are available, 15 countries receive more than %50 of R&D funds from the government.

- In Iraq, all of the GERD is financed by the government. The share of government funding is also over 90% in Nigeria, Kuwait, Mali, Brunei and Azerbaijan.

- Despite having a share of less than 50%, government sector in Senegal (47.6%) and Oman (41.6%) is the dominant sector, providing more R&D funds than the other sectors.

- The lowest rate in terms of government's share in R&D funding is observed in Burkina Faso (9.1%)

- Business Enterprise in Malaysia accounts for 55% of the total R&D funds. In Kazakhstan and Turkey, the business sector is also dominant, providing respectively 51.6% and 45.8% of the total R&D funds, respectively.

- On the other hand, the R&D funding by business enterprises is less than 2% in Tajikistan, Brunei and Nigeria.

- Higher Education sector in Morocco provides 45.3% of the total R&D funds, which is the highest rate among all OIC countries with available data. It was followed by Oman and Turkey where the shares of higher education sector in GERD funding were 32.1% and 20.8%, respectively. Additionally, sector's share exceeds 10% in Kazakhstan, Pakistan and Burkina Faso.

- In Mozambique, 78.1% of the R&D was financed by funds from abroad. Burkina Faso, and Mali also deserve special attention as their R&D funds mostly come from abroad, 59.6%, and 57.3% respectively.

5.4 Patent Applications

Intellectual property rights, especially patents, are among the key factors contributing to advances in innovation and scientific development. As a product of R&D activities, patents strengthen the link between science and technology, as the outcomes of research translate into new products or services. In this regard, although not all inventions are patented, the number of patent applications may be considered as a proxy for the degree of innovative capability in a country.

According to statistics from the World Intellectual Property Organization (WIPO), the total number of patent applications around the world in 2012 is estimated to have been 2.34 million including 156,667 applications filed by Regional Patent Offices (RPOs)[10]. With 34,933 patents overall, OIC member

Figure 5.13: Distribution of World Total Patent Applications by Filing Office* (%)
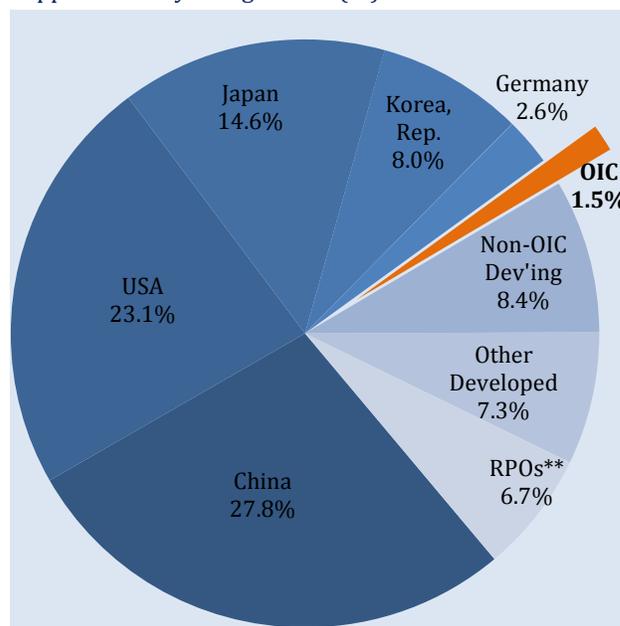
Source: World Intellectual Property Organization, Statistics on Patents, June 2014.
* Data for the most recent year available. ** Regional Patent Offices

countries accounted for nearly 1.5% of total patent applications (Figure 5.13). Meanwhile, 76.1% of global patents are filed by 5 countries, only: China (27.8% with 652,777 patents), USA (23.1% with 542,815 patents), Japan (14.6 % with 342,796 patents), Republic of Korea (8% with 188,915 patents) and Germany (2.6% with 61,340 patents).

As shown in Figure 5.14, the following observations can be made to shed light on the current situation in 30 member countries for which data are available:

- Underlining its relatively strong business sector within the OIC, Malaysia demonstrated the highest patent activity with 6940 applications in 2012. It was followed by Iran with applications reaching 6527 in 2006.

- Adding the patent applications of Indonesia (5,830) and Turkey (4666), these four OIC countries alone constitute nearly 69% of the OIC total.

- Egypt (2211), Kazakhstan (1732) and Morocco (1040) are the other member countries that filed over 1000 applications each.

[10] The Regional Patent Offices are African Intellectual Property Organization, African Regional Intellectual Property Organization, Eurasian Patent Organization, European Patent

Office and Patent Office of the Cooperation Council for the Arab States of the Gulf.

Figure 5.14: Patent Applications by Residents and Non-residents in OIC Member Countries
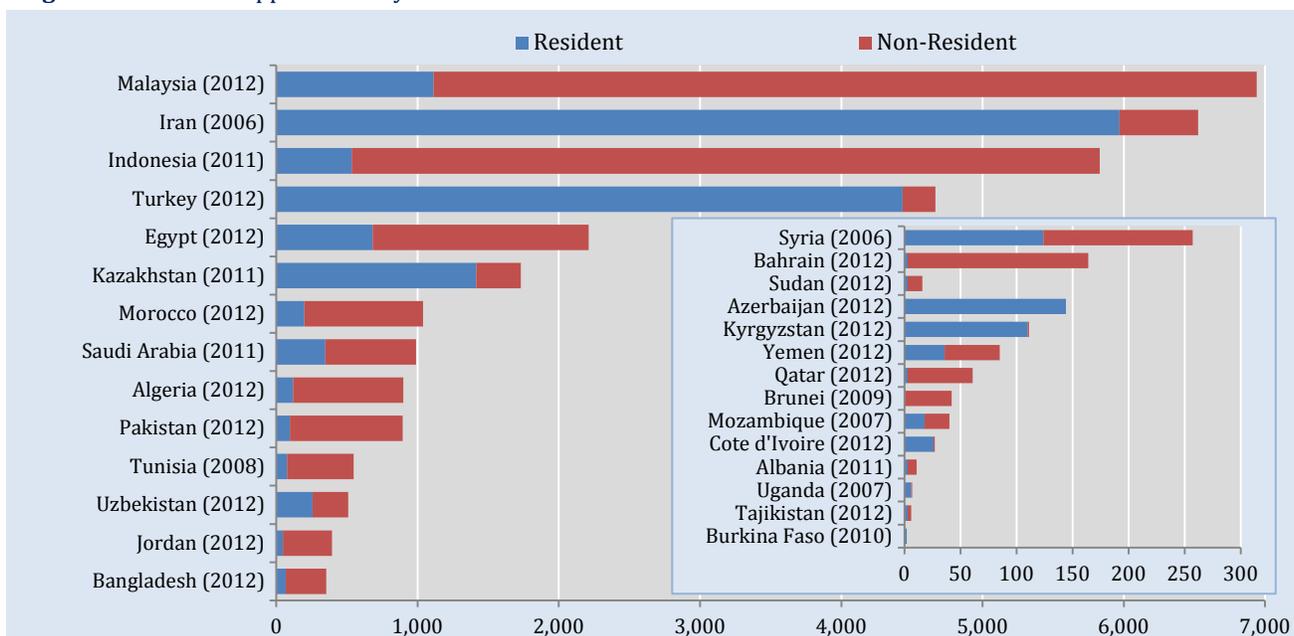
Source: World Intellectual Property Organization, Statistics on Patents, June 2014
* Patent application numbers for the most recent year with available data are considered. Numbers of patent applications for most African OIC countries are not provided individually as these countries are members of the African Regional Intellectual Property Organization (ARIPO). Total number of patents filed to ARIPO in 2012 is 603. Resident/non-resident breakdown is not provided for Lebanon and Mali for which total number of patent applications are 282 and 1, respectively.

- In most of the OIC countries, applications by non-residents are higher than those filed by residents. Actually, in 11 of the 30 countries with available data, non-resident applications account for more than 75% of the total applications. In quantity, they are the highest in

Malaysia (5826) and Indonesia (5297), accounting for 84% and 91% of the total applications, respectively.

- Applications by residents dominate only in 9 out of 30 member countries, and, in quantity, they are highest in Iran (5970) and Turkey (4434).

Notwithstanding relative bright spots such as Malaysia, these low numbers clearly demonstrate that more could be done to link the OIC's research output to wealth creation and industry. The creation of robust intellectual property rights (IPR) regimes should be a priority across the OIC. Consideration should also be given to measuring other key indicators such as the "impact factor" of patents (the percentage of patents that are commercialized), the number of new products developed, revenues from new products, and the number of start-up companies.

Figure 5.15: Total Number of Articles Published in 2013

Source: ISI Web of Knowledge, August 2014.

5.5 Scientific Publications

Academic research is one of the most important components of research activities conducted in a country. To a certain extent, the performance in

Figure 5.16: Distribution of Global Articles Published (2000 vs. 2013)

2000 (World: 900 Thousand)

- OIC 2.2%
- China 3.2%
- Non-OIC Developing 11.5%
- USA 27.6%
- UK 8.4%
- Germany 7.2%
- Japan 7.9%
- Other Developed 32.0%

2013 (World: 1800 Thousand)

- OIC 6.1%
- China 12.0%
- Non-OIC Developing 13.5%
- USA 20.0%
- UK 6.4%
- Germany 5.4%
- Japan 4.3%
- Other Developed 32.4%
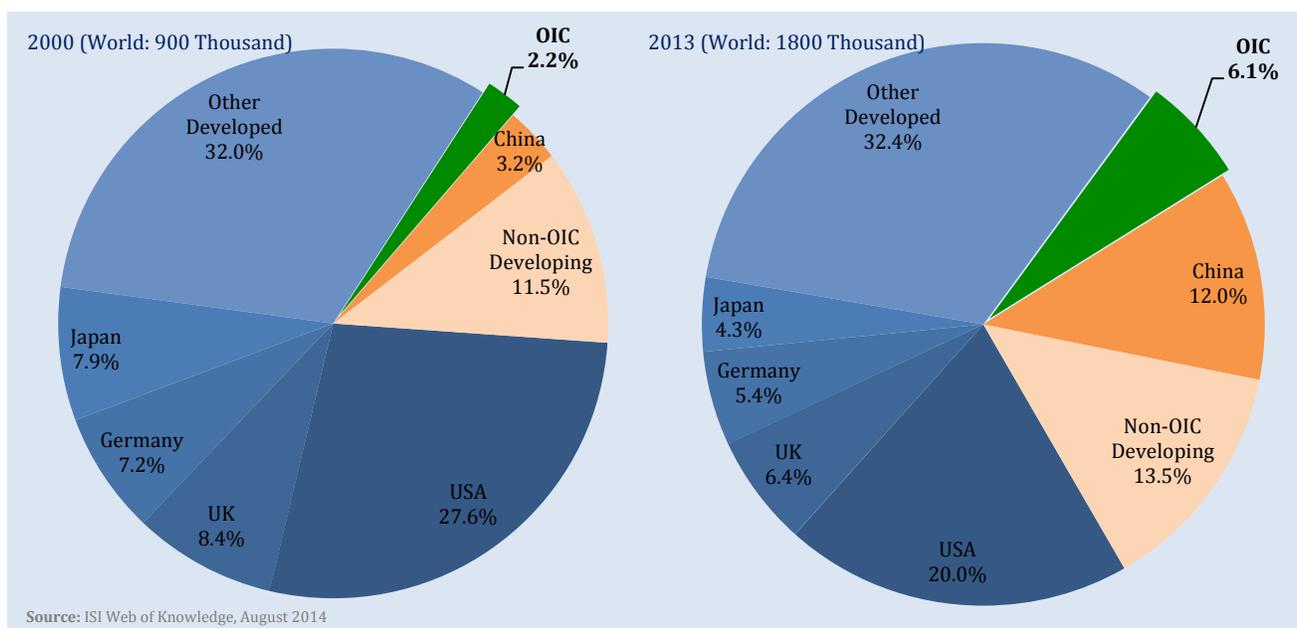
academic research can be well reflected by the number of scientific articles published in indexed journals. In this regard, the quantity and the growth of the research output, *i.e.*, articles, are indicators commonly used to measure the research performance of a given institution or country. Indeed, such bibliometric indicators have been widely used in national science and technology statistics publications to measure scientific capacity and linkages to world science[11] and particularly in national and international rankings of universities.[12]

In 2013, OIC member countries as a whole published 108,821 articles[13] in journals that are covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI). Although this represents more than four-fold

increase compared to 20,242 articles published in 2000[14], the total amount reached is still below those of some individual countries in the world, including the USA, China and UK[15]. The published articles of Germany alone are close to the total output of 57 OIC Member Countries (Figure 5.15).

Articles published in the world doubled from 900 thousand to 1800 thousand in 2013 while the OIC countries, as a group, experienced more than 400% increase in the same period. Consequently, the OIC's share of global publications steadily grew, from just 2.2% in 2000 to 6.1% in 2013 (Figure 5.16).

Figure 5.17 presents information on the contribution of each OIC member country to this output. In this respect, the following observations outline the performance of the OIC member countries in scientific publications:

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[11] UNESCO Institute for Statistics, "What do bibliometric indicators tell us about world scientific output?", *UIS Bulletin on Science and Technology Statistics*, Issue 2, September 2005.

[12] For example, Academic Ranking of World Universities by Shanghai Jiao Tong University (SJTU), World University Rankings by the Times Higher Education Supplement (THES), and also the OIC University Ranking make use of the research output as an important indicator in their ranking methodologies.

[13] The total reflects the sum of individual OIC countries and it is not refined for internationally co-authored papers.

[14] Data are collected from the ISI Web of Knowledge maintained by Thomson Reuters. For further information, see http://isiwebofknowledge.com/

[15] ISI Web of Knowledge provides the data of UK separately for England, Northern Ireland, Scotland and Wales. Hence, the number of articles published is aggregated to obtain the data for UK.

Figure 5.17: Total Number of Articles Published in OIC Member Countries*, 2013
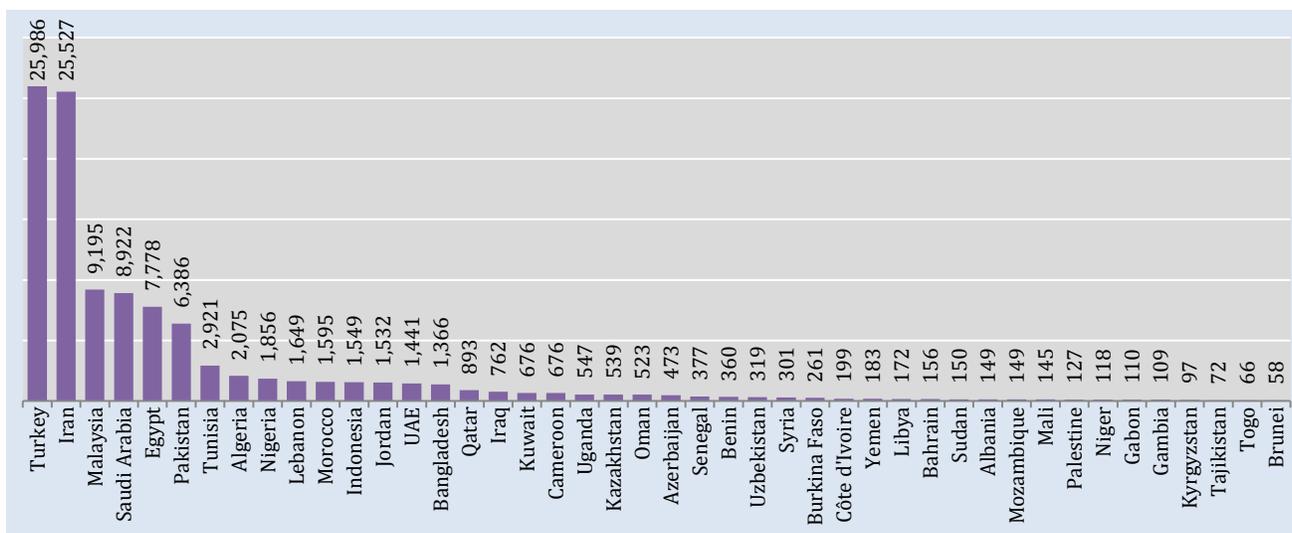
Source: ISI Web of Knowledge, August 2014. * Total number of articles published in journals covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI).

- Publication of articles in scientific journals is heavily concentrated in few of the OIC member countries.

- Nearly half of the total articles (47.4%) originate from only two member countries, Turkey (23.9%) and Iran (23.5%).

- Together with Malaysia (8.4%), Saudi Arabia (8.2%), Egypt (7.1%) and Pakistan (5.9%), these six countries alone account for 77% of all published articles in OIC.

- 9 member countries published within the range

of 1000 - 3000 articles namely Tunisia, Algeria, Nigeria, Lebanon, Morocco, Indonesia, Jordan, United Arab Emirates and Bangladesh.

- Nigeria stands out as the only Sub-Saharan African member to have produced over 1000 articles (1856), the closest ones in the region being Cameroon and Uganda with 676 and 547 articles, respectively

- Some other member countries in the Middle East & North Africa, South Asia, and East Asia & Pacific also perform well while those in Latin

Figure 5.18: Articles per Million People in OIC Member Countries, 2013
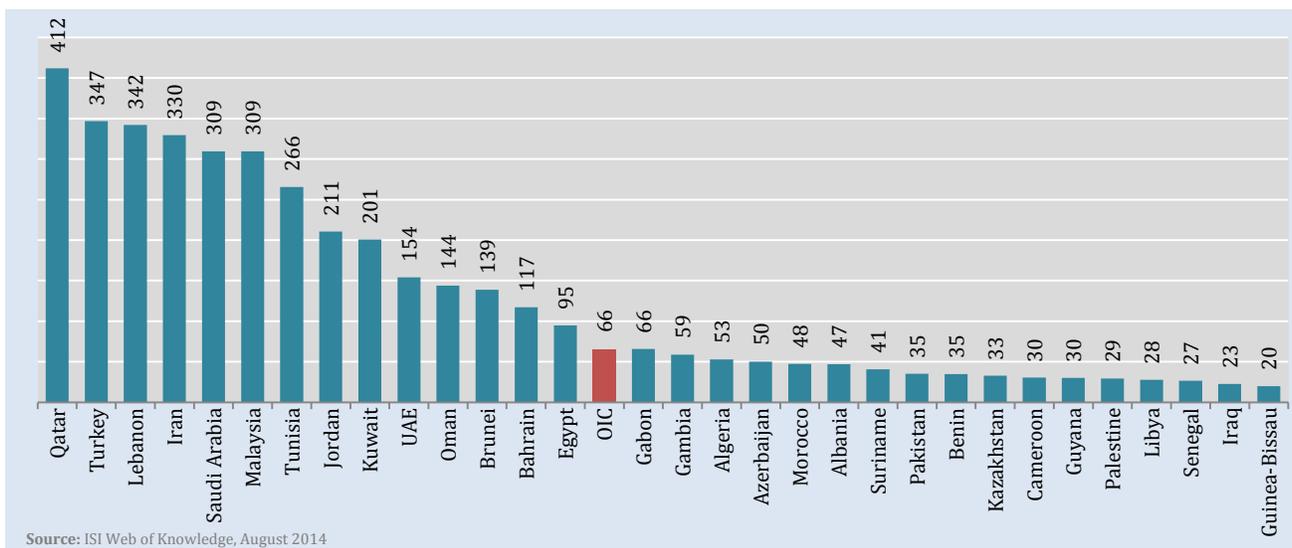
Source: ISI Web of Knowledge, August 2014

America, Sub-Saharan Africa, and Central Asia are generally lagging behind.

- The number of countries having published less than 100 articles is 17, seven of which published less than 20 articles in 2013. These countries are not concentrated in one region but dispersed across regions: for example; from Somalia in Sub-Saharan Africa and Maldives in South Asia to Turkmenistan in Central Asia.

5.5.1   The Evolution of Publication Outcome

The growth in the number of articles on a per-capita basis reflects a better indicator of productivity in scientific publications as it takes into account the relative size of the population in the countries compared. On average, OIC member countries produced only 16 articles per million people (pmp) in 2000 while this number increased to 66 in 2013, which still could be considered low given that this number reached up to 3176 in Switzerland, 2451 in Sweden, 1844 in Singapore, 1694 in Canada, 1178 in Germany, 1122 in USA, 1028 in Republic of Korea, 602 in Japan, 201 in Russia and 156 in China.

Overall, according to 2013 data, there are only 14 members performing above the OIC average in terms of articles pmp. Qatar, with 412 articles took the lead, and followed by Turkey, Lebanon, Iran, Saudi Arabia, and Malaysia. Tunisia, Jordan, Kuwait also produced over 200 articles per million people while UAE, Oman, Brunei, Bahrain Egypt, and Gabon succeeded in entering the top 15. On the other hand, 27 member countries have less than 20 articles per million people in 2013 (Figure 5.18).

Figure 5.19 presents data on articles per million people (pmp) in OIC member countries in a manner to reflect the evolution in the period of 2000-2013. Accordingly:

- 51 out of the 57 member countries recorded an increase in that period, but the increase in 22 of them was no more than 10 articles (pmp). This implies that the expansion recorded in countries with low number of articles (pmp) remained

Figure 5.19: Total Number of Articles Published in 2013
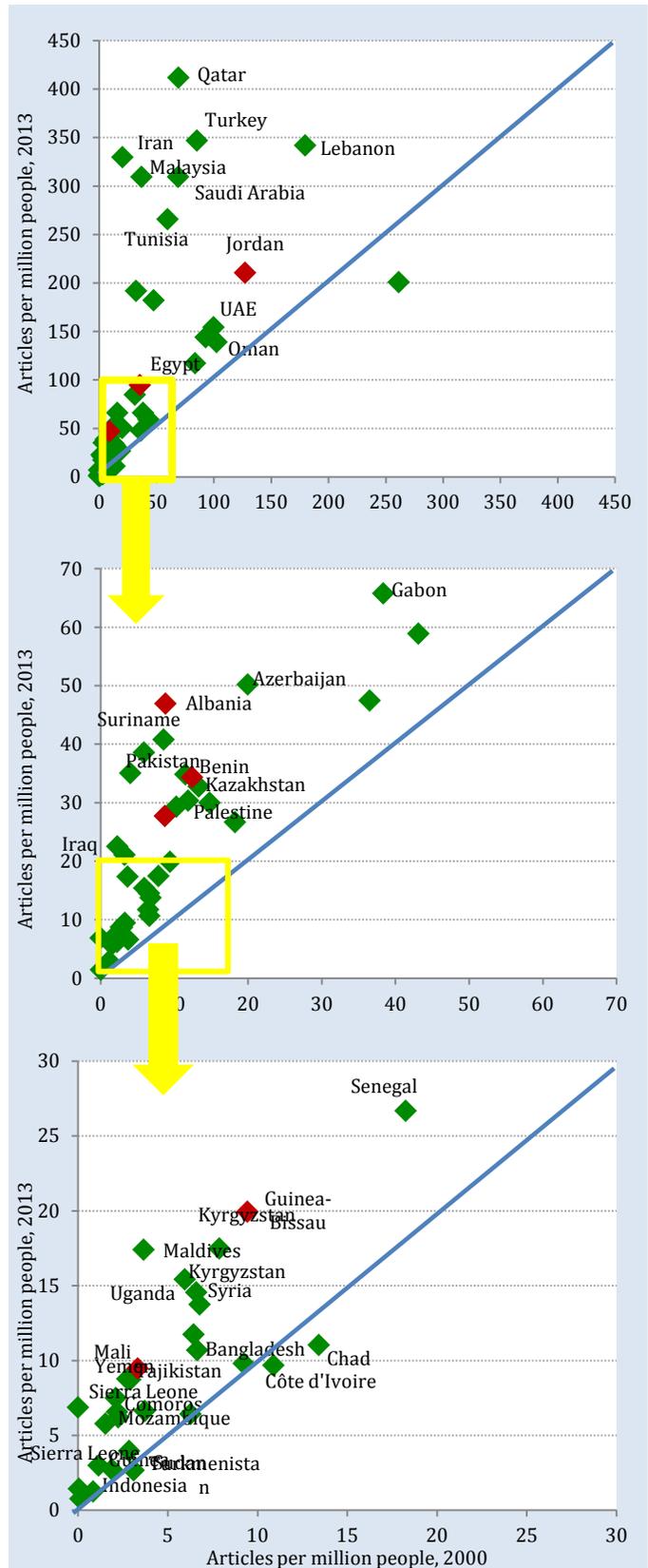
Source: ISI Web of Knowledge, August 2014.

quite limited compared to those with high numbers.

- Qatar, in absolute terms, took the lead in boosting scientific productivity with an increase of 343 articles (pmp), followed by Iran (309), Malaysia (272), Turkey (262), Saudi Arabia (241), Tunisia (206), and Lebanon (162).

- Five other countries, namely Jordan, Egypt, United Arab Emirates, Oman and Algeria recorded an increase of over 40 articles (pmp).

- Three out of the 57 members, namely Kuwait, Uzbekistan and Togo recorded a decrease in their articles (pmp). The highest decrease was reported for Kuwait (61 articles), while the decrease for the others was less than two articles. However, Kuwait still continues to rank in the ninth place with respect to articles per million people in 2013.

- At the other side of the spectrum, there are member countries with even less than two articles (pmp), like Afghanistan, Chad, and Somalia.

- Most of the high ranking member countries are located in the Middle East (ME). Articles per million people averaged at 192 in this region in 2013, compared to 32 in 2000.

- The average for the members in Europe & Central Asia (ECA) increased from 48 to 182 in that period. However, excluding Turkey, these averages fall down to 12 and 22, respectively.

- The averages for the other regions also increased in the period under consideration: North Africa (NA) from 31 to 85; East Asia & Pacific: (EAP) from 6 to 39; Latin America (LAC) from 12 to 34, South Asia (SA) from 3 to 21; and Sub-Saharan Africa (SSA) from 6 to 12.
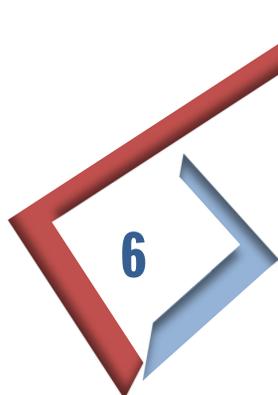
6   Science and Technology

6.1   Knowledge and Innovation

Higher education institutions and research and development (R&D) programs are the main forces in helping to boost economic growth and competitiveness for the knowledge-based societies. However, for most of the developing countries, the transition to the Knowledge Economy (KE) is not an easy goal to achieve. Knowledge Assessment Methodology (KAM) developed by the World Bank is a useful tool to track overall preparedness of the countries towards knowledge based economy and to identify the challenges and opportunities they face in making this transition. For 2012, the KAM consists of 146 countries, 148 structural and qualitative variables measured on a normalized scale of 0 to 10.

Two of the widely used measures of KAM[16] tracking the performance of the countries are the Knowledge Economy Index (KEI) and Knowledge Index (KI). The KEI measures to what extent the environment is conducive for knowledge to be used effectively for economic development while KI measures a country's ability to generate, adopt, and diffuse knowledge. In terms of calculations, KEI involves four KE pillars: Economic and Institutional Regimes (EIRs), Innovation and Technological Adoption, Education and Training, Information and Communication Technologies (ICTs). On the other hand, KI is an aggregate index compiling the simple average of variables under the last three pillars.

Hence, the former does not take into account economic incentives and institutional regime.

Figure 6.1 depicts the positions of the top fifteen OIC member countries vis-à-vis the rest of the world in terms of their performance related to the KEI and KI.

According to the values of KEI in Figure 6.1 (left), the following observations can be made:

- The KEI is above the world average of 4.44 in only 15 out of 41 OIC member countries for which the KEI is calculated. 10 of them also recorded above the average of upper middle income countries (4.76).

- UAE, Bahrain and Oman are the top three OIC member countries standing at 42nd, 43rd and 47th in the world, respectively.

- Including Malaysia (48th) and Saudi Arabia (50th) there are only five member countries in the top 50. However, 23 of the bottom 50 countries for which the KEI was calculated are OIC members.

- The average of OIC countries (2.97) is nearly one point lower than the average of non-OIC developing countries (3.95) and is even below the average of lower middle income countries (3.03).

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[16] http://siteresources.worldbank.org/INTUNIKAM/Resources/2012.pdf

Figure 6.1: Knowledge Economy Index (KEI) and Knowledge Index (KI), 2012*

KEI		KI	
World	4.44	World	4.53
High Income	8.40	High Income	8.47
Upper Middle Income	4.76	Upper Middle Income	5.05
Lower Middle Income	3.03	Lower Middle Income	2.97
Low Income	1.67	Low Income	1.54
OIC	2.97	OIC	3.03
Non-OIC Developing	3.95	Non-OIC Developing	4.04
Sweden (1)	9.43	Sweden (1)	9.58
Finland (2)	9.33	Finland (2)	9.65
Denmark (3)	9.16	Netherlands (3)	8.79
Netherlands (4)	9.11	Taiwan (4)	7.77
Norway (5)	9.11	Denmark (5)	9.63
UAE (42)	6.94	UAE (41)	7.09
Bahrain (43)	6.90	Bahrain (42)	6.98
Oman (47)	6.14	Malaysia (52)	6.25
Malaysia (48)	6.10	Saudi Arabia (55)	6.05
Saudi Arabia (50)	5.96	Oman (57)	5.87
Qatar (54)	5.84	Qatar (61)	5.5
Kuwait (64)	5.33	Kazakhstan (63)	5.4
Turkey (69)	5.16	Guyana (64)	5.35
Kazakhstan (73)	5.04	Kuwait (68)	5.15
Jordan (75)	4.95	Iran (73)	4.97
Guyana (78)	4.67	Azerbaijan (76)	4.96
Azerbaijan (79)	4.56	Turkey (79)	4.81
Tunisia (80)	4.56	Tunisia (80)	4.8
Lebanon (81)	4.56	Jordan (81)	4.71
Albania (82)	4.53	Lebanon (82)	4.65

Source: World Bank. * KEI and KI are calculated for 146 countries and 41 OIC members. The index values for the world, OIC and other country groups are calculated by taking averages of index values for the relevant countries weighted by 2011 country populations. Numbers in parenthesis indicate the rank of the countries out of 145 countries.

The other widely used knowledge index, KI, measures a country's ability to generate, adopt, and diffuse knowledge. Based on the statistics in Figure 6.1 (right), the following observations can be deduced:

- The KI is above the world average of 4.53 in only 16 out of 41 OIC member countries for which the KI was calculated. But none of them managed to exceed the average of high income countries (8.47).

- UAE, Bahrain and Malaysia are the top three OIC member countries standing only 41st, 42nd and 52nd, respectively.

- 22 of the bottom 50 countries for which the KI can be calculated are OIC members.

- The average of OIC countries (3.03) barely exceeds the average of lower middle income countries (2.97), but well below the average of upper middle income countries (5.05).

The OIC member countries perform slightly better when KI is used as opposed to KEI. This indicates that economic incentives and institutional regime (rules and regulations) are two main reasons for OIC members' poor performance in knowledge and technology.

Innovation Index and Information and Communication Technology (ICT) Index, two components of the KEI and KI, are also important indicators on science and technology. In the rest of this section, these two indices are analysed for the OIC member countries. Innovation Index is the simple average of the normalized scores on three key

variables: Total Royalty Payments and Receipts, Patent Applications Granted by the US Patent and Trademark Office, Scientific and Technical Journal Articles.

Figure 6.2 compares the OIC member countries with the rest of the world in terms of innovation and ICT. As seen in Figure 6.2 (left), the Innovation Index

member countries with the rest of the world with respect to the usage of telephone, computer, and the internet, ICT Index value is above the world average (4.16) in 16 out of 41 OIC member countries for which the index was calculated. With the ICTI score of 9.54, Bahrain holds the top position among 146 countries. UAE (13th) and Saudi Arabia (21st) are also

Figure 6.2: Innovation and ICT Indexes, 2012*
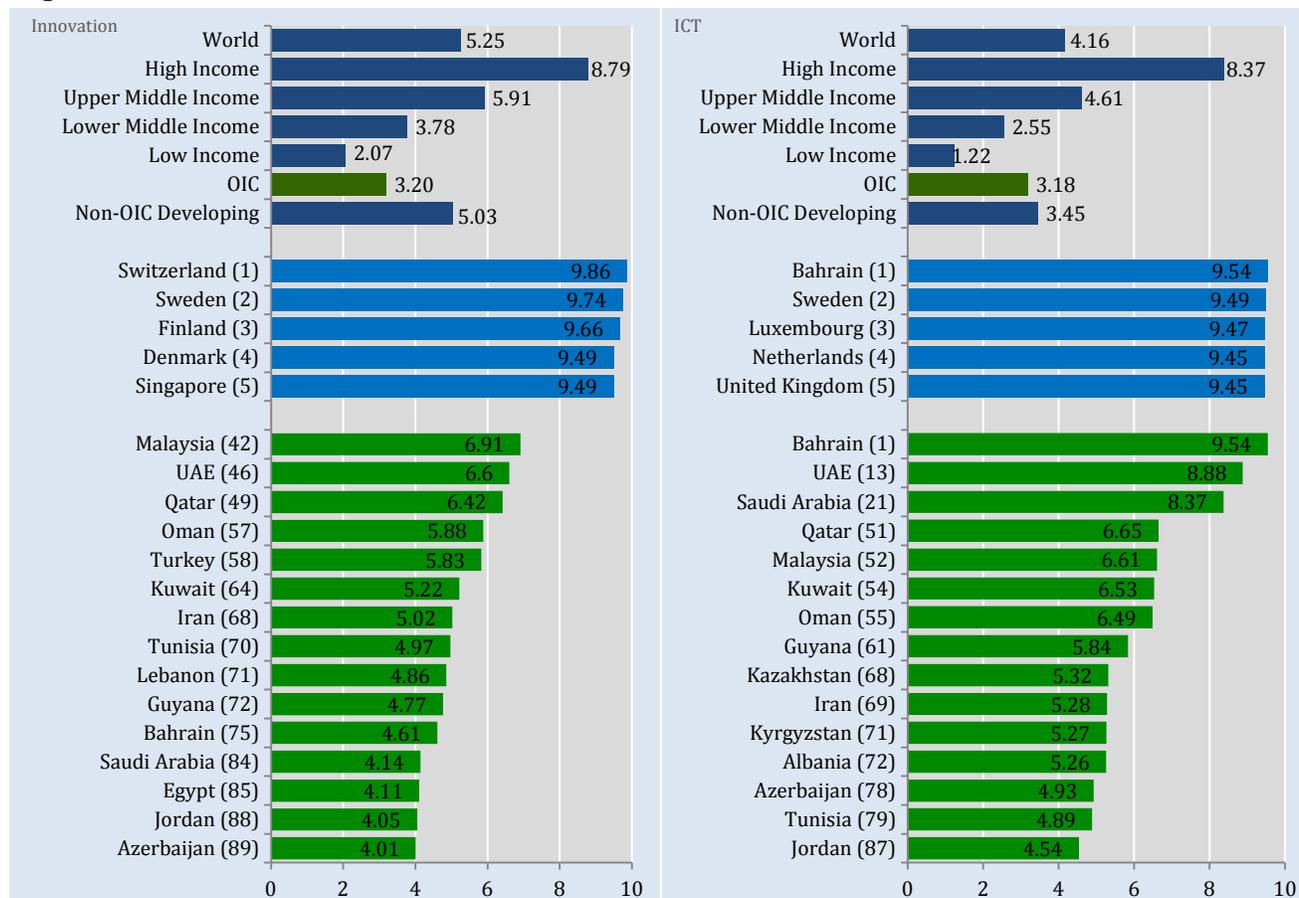
Source: World Bank. * * Innovation and ICT indexes are calculated for 146 countries and 41 OIC members. The index values for the world, OIC and other country groups are calculated by taking averages of index values for the relevant countries weighted by 2011 country populations. Numbers in parenthesis indicate the rank of the countries out of 146 countries.

value is above the world average (5.25) in only 5 out of 41 OIC member countries for which the index was calculated. Malaysia, United Arab Emirates and Qatar are the top three OIC member countries standing at 42nd, 46th and 49th in the world, respectively.

ICT Index is the simple average of the normalized scores on three key variables: Telephone, Computer, and Internet Penetrations (per 1,000 people). As seen in Figure 6.2 (right), which compares the OIC

the other two OIC member countries where ICTI value is above the EU average.

6.1.1 Capacity for Innovation and Global Innovation Index

There are two additional indices comparing the innovative capacities of countries. The first index, called "Capacity for Innovation", measures the way the technology obtained by companies and it is published by World Economic Forum (WEF). By

scaling the countries from 1 to 7, this index aims to gauge the overall capacity of countries for innovating new products and process. A country receives 1 if technology is obtained exclusively from licensing or imitating foreign companies and receives 7 if it is obtained by conducting formal research and pioneering their own new products and processes.

According to the latest data reported in World Competitiveness Report 2013-2014 of World Economic Forum (WEF), the average value of Capacity for Innovation in OIC countries was 3.26, which is below the world average (3.62) but close to the average of non-OIC developing countries (3.36). It is also well below the average of developed countries (4.63). As shown in Figure 6.3 (top), innovation capacity in only 9 OIC member countries is above the world average. Malaysia, Qatar, and Indonesia are the top three member countries (15th, 17th and 24th, respectively). Innovation capacity of Malaysia and Qatar exceeds the average of developed countries, as well. Azerbaijan, Guyana, UAE, Saudi Arabia, Turkey and Pakistan are the other OIC countries ranked within the top 50 countries in the world. On the other hand, 12 of 20 worst performing countries belong to the OIC region.

The second index is called Global Innovation Index (GII) and prepared by INSEAD Business School and the World Intellectual Property Organization (WIPO). It is a composite indicator that ranks countries/economies in terms of their enabling environment to innovation and their innovation outputs. The 2014 version includes 143 economies, which represent around 95% of the world's population and more than 99% of the world's GDP (in current US dollars). The GII is calculated as the average of two sub-indices: The Innovation Input Sub-Index gauges elements of the national economy which embodies innovative activities grouped in five pillars: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication. The Innovation Output Sub-Index captures actual evidence of innovation results, divided in two pillars: (6) Knowledge and technology outputs and (7) Creative outputs.

Figure 6.3: Capacity for Innovation (Top) and Global Innovation Index (Bottom), 2014*
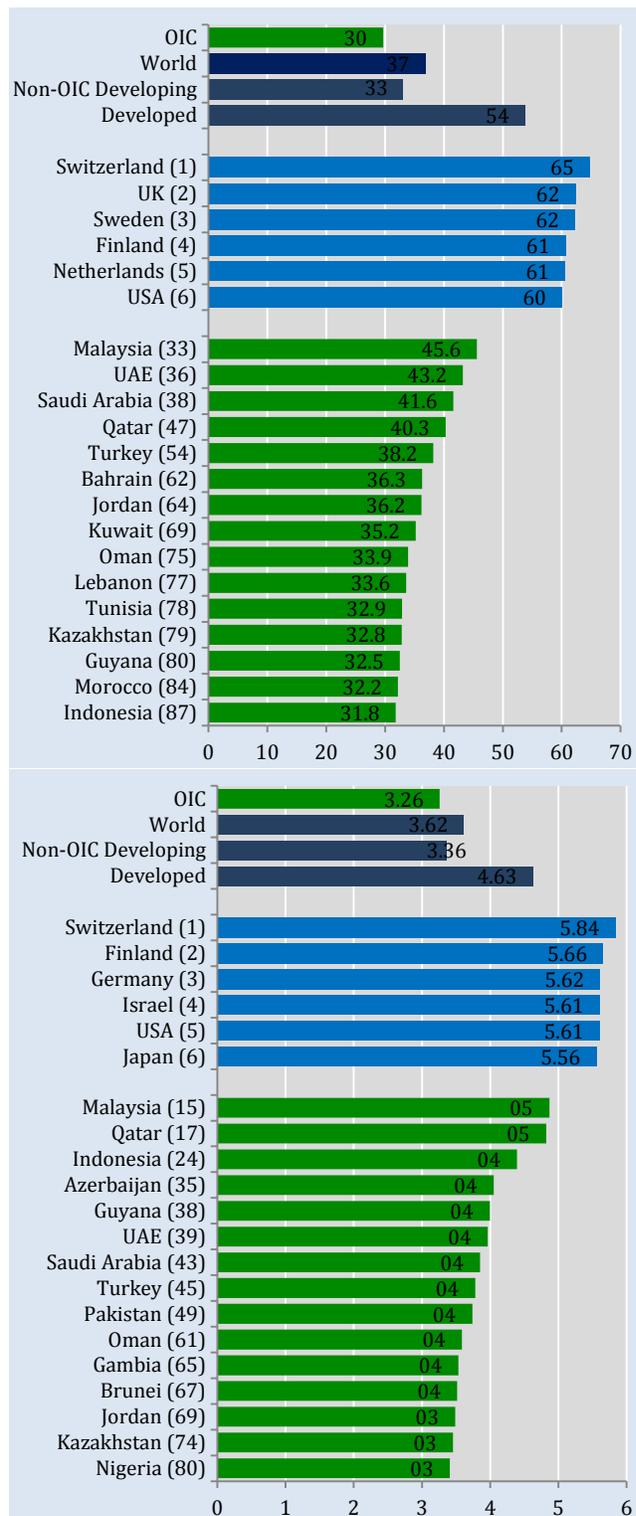
Source: World Economic Forum; INSEAD Business School and WIPO.
* Capacity for Innovation is calculated for 148 countries and 42 OIC members while Global Innovation Index is calculated for 143 countries and 41 OIC members. The index values for the world, OIC and other country groups are calculated by taking simple averages of index values for the relevant countries. Numbers in parenthesis indicate the rank of the countries among the all included countries.

According to 2014 version of GII, the average value of index in OIC countries is 29.7, which is lower than the world average (36.9) and the average of non-OIC developing countries (33.1). It is also well below the average of developed countries (53.8). The best performer is Switzerland with an index value of 64.8 and the worst performer is Sudan with an index value of 12.7. Malaysia, UAE and Saudi Arabia are the three best performing OIC member countries ranking 33rd, 36th and 38th, respectively. Including Qatar and Turkey, five OIC countries have GII above the world average. Additionally, the score of ten member countries are higher than the average of non-OIC developing countries whereas there is no OIC country above the average of developed countries. On the other hand, 11 of 20 worst performers are OIC countries (Figure 6.3, bottom).

These two indices indicate that OIC countries, on average, are lagging behind in terms of their innovativeness. Therefore, they need to enhance their innovative capacities and improve their enabling environment for innovating new products and processes. This will ensure long term sustainable growth and help them to increase their competitiveness *vis-à-vis* other countries.

Being the key to productivity, innovation can be defined as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.

To better understand innovation and its relation to economic growth in each country, indicators are needed for benchmarking national performance. Accordingly, UIS Data Centre disseminated the initial results of innovation data collection covering 64 countries in July 2014. This is the first time that a database with innovation indicators from countries at different stages of development has been produced and made publicly available.

Percentage of innovation-active firms is one of the indicators used to measure the degree of innovativeness in a country. Firms that have had innovation activities during the period of the innovation survey, including those with on-going and abandoned activities, are considered to be

Table 6.1: Percentage of Innovation-active Firms in Manufacturing (all firm sizes)

OIC (7)		Year	Developing (26)		Year	Developed (25)		Year
Uganda	77.0	2010	Cuba	94.0	2005	Canada	74.8	2012
Nigeria	65.0	2010	Costa Rica	80.6	2011	Germany	71.8	2010
Malaysia	57.0	2011	Panama	72.9	2008	Belgium	58.7	2010
Turkey	36.9	2010	Ghana	72.5	2010	Ireland	58.5	2010
Indonesia	32.0	2010	Kenya	69.4	2011	Finland	53.7	2010
Kazakhstan	12.5	2012	Ecuador	62.7	2011	Luxembourg	53.5	2010
Egypt	10.1	2010	Tanzania	61.3	2010	Netherlands	53.4	2010
			Philippines	54.4	2010	Estonia	53.1	2010
			Serbia	47.3	2010	Sweden	51.9	2010
			El Salvador	40.0	2012	Iceland	50.7	2010
			Argentina	39.0	2007	Austria	50.4	2010
			Brazil	38.2	2011	New Zealand	49.4	2012
			Colombia	37.1	2010	Denmark	47.8	2010
			Croatia	36.7	2010	Italy	46.2	2010
			India	35.6	2009	Portugal	43.9	2010
			China	30.0	2006	France	40.6	2010
			Uruguay	28.6	2009	Norway	39.4	2010
			Belarus	25.1	2012	Czech Rep.	39.2	2010
			Bulgaria	22.8	2010	Cyprus	38.5	2010
			Lithuania	22.2	2010	UK	38.4	2010
			Latvia	19.5	2010	Malta	38.3	2010
			Hungary	18.8	2010	Spain	33.7	2010
			Poland	18.1	2010	Japan	33.0	2011
			Romania	16.5	2010	Slovakia	31.3	2010
			Ukraine	15.8	2012	Hong Kong	5.9	2011
			Mexico	15.1	2011			

Source: UNESCO, UIS Data Centre, August 2014

innovation-active regardless of whether the activity resulted in the implementation of an innovation.

Table 6.1 presents the countries with available data with respect to percentage of innovation-active forms in manufacturing. Among the seven OIC countries included in the survey, Uganda is the top country with a share of 77%. It was followed by Nigeria and Uganda where more than half of the firms in manufacturing are also innovation-active.

6.2 High-Technology Exports

High-technology exports (HTE) are defined as products with high R&D intensity, such as computers, consumer electronics, semiconductors, scientific instruments, electrical machinery and pharmaceuticals, which mostly depend on an advanced technological infrastructure and inward FDI in high-tech industries.

World high-technology exports have risen to around $1.98 trillion in 2012 from its $1.5 trillion level observed in 2009. Around 61.4% of that amount originated from developed countries, of which 30.1% from the EU members, 7.5% from the USA, 6.4% from Singapore, 6.2% from Japan, 6.1% from Korea Republic and 5.1% from other developed countries (Figure 6.4). The HTE of Germany (183 billion $) and France (108.3 billion $) constitute nearly half of the total HTE of the EU, with 30.6% and 18.1% individual shares, respectively.

Through exporting 506 billion USD worth of high technology products, China is the largest exporter of HTE, accounting for more than one fourth of the world total HTE and 65.9% of the total HTE of developing countries. Confirming the lack of adequate infrastructure and FDI in most of OIC countries, it is observed that all the member countries for which data are available accounted for only 3.8% of the world total HTE of $1.98 trillion or 9.9% of the total HTE of developing countries.

Based on the data displayed on Map 6.1, the following observations can be made:

- With annual volume of more than $61.2 billion, Malaysia accounts for nearly 81% of the total

Figure 6.4: HTE, % of World Total, 2012
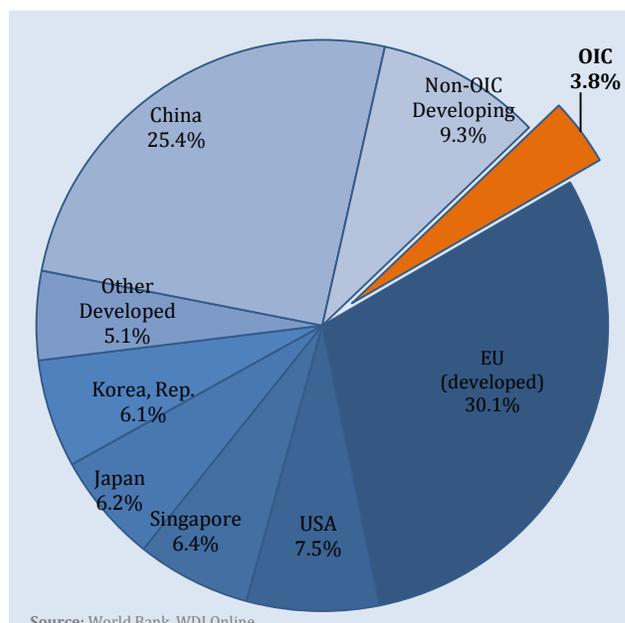
HTE of the OIC. It is also the 10th largest exporter of high-technology products in the world, accounting for 3.1% of the world HTE.

- Adding Indonesia ($4.96 billion), the combined contribution of these two South East Asian OIC countries is over 87% of the US $76 billion OIC HTE total.

- They were followed by Kazakhstan and Turkey with HTE volumes of $3.54 billion and $1.98 billion, respectively. Except these 4 countries, none of the OIC countries exceeded the threshold of $1 billion.

- Morocco ($889 million), Tunisia ($732 million) and Iran ($653 million) have HTE more than half a billion, whereas Pakistan, Saudi Arabia, Oman, Uganda, Côte d'Ivoire, Bangladesh, Jordan and Mozambique recorded HTE figures varying between $105 million (Mozambique) and $309 million (Pakistan).

- Among these countries, it should be highlighted that Uganda, with $166 million of HTE, gets far ahead of the other Sub-Saharan African members. It also ranked as the 11th largest exporter of high-technology products in the OIC.

Map 6.1: High Technology Exports (Million US$)*

Source: World Bank, WDI Online, August 2014.
* Data for 2012 or latest available year.
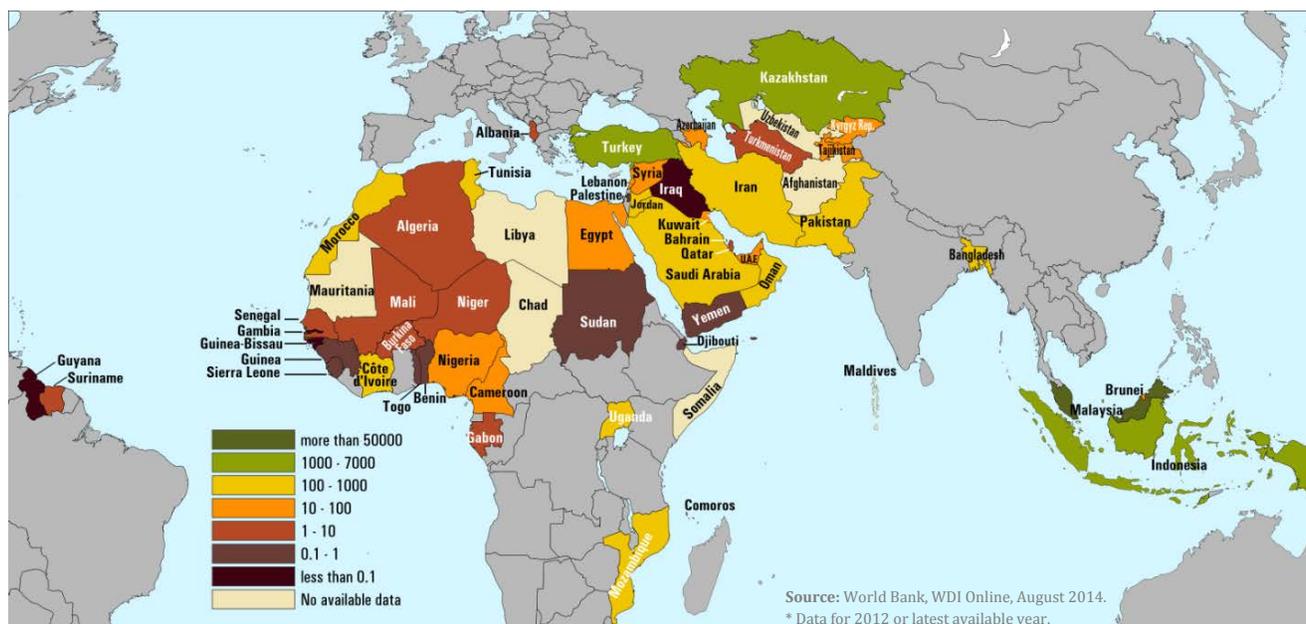
- On the other hand, HTE of the other leading member countries are below $100 million. At the bottom end, Guyana and Iraq recorded HTE figures around $50,000 while Guinea-Bissau exported even less than $5,000 worth of high technology products.

6.3 Nanotechnology

Nanotechnology is the study of manipulating matter on an atomic and molecular scale. It deals with developing materials, devices, or other structures possessing at least one dimension sized from 1 nanometre (one millionth of a millimetre) to 100 nanometres.

Nanotechnology entails the application of fields of science as diverse as surface science, organic chemistry, molecular biology, semiconductor physics, microfabrication, etc. Nanotechnology also offers fascinating possibilities and solutions including producing many new materials and devices with a vast range of applications in medicine, electronics, biomaterials and energy production.

Although the OIC Member Countries are taking individual steps in this field, there is still a synergic potential to manage, develop and re-allocate available resources to excel in nanotechnology by enhancing cooperation and collaboration among the member countries.

Towards enhancing the networking among nanotechnology centres in the OIC member countries, the following projects and programs may be implemented by member countries:

1. Establishing a world-class nanotechnology centre: In order to raise future nanoscientists for catering the human resources need of the OIC Member Countries in nanotechnology, a world-class nanotechnology centre should be established. Besides offering graduate nanotechnology programs, this Centre should also host an intellectual property and incubation office providing venture capital support to nanotechnology start-up companies.

2. Exchange of nanoscientists for long term between the existing nanocentres: For period ranging from 12 months to 24 months, an exchange of nanoscientists should take place between the existing nanocentres for targeted research areas. This exchange program should also facilitate financial support to nanoscientists

regarding salary, research grants, and equipment usage fees.

3. Support programs for individual nanoscientists to use existing nanocentres for short term: Similar to the long-term exchange program, under this scheme students working towards for a doctoral degree in nanotechnology or researchers should be given the opportunity to use existing nanocentres for a period of one or two weeks. This program should also financially support the nanoscientists regarding their travel, accommodation, and fees for nanocentre usage.

4. Collaborative nanotechnology research projects: With the support of high technology firms, at least three OIC Member Countries should collaborate for targeted research areas in nanotechnology. The European Union's Seventh Framework Programme offers a sample model for such collaborative research projects.

5. An annual nanotechnology conference and project fair: In order to increase networking and collaboration opportunities among the researchers and investors of the OIC Member Countries, an annual nanotechnology conference and project fair should be organised. On the sidelines of this conference, a project fair and a researcher-investor business forum would also enhance the interaction among the OIC Member Countries.

6. Experience sharing between the existing nanocentres for training nanocentre technicians: By organising 4 to 6-week study visits, the technicians working at nanocentres should be trained under workshops focusing on clean room management, and materials analysis techniques of Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), X-ray Photoelectron Spectroscopy (XPS, ESCA) and X-ray Diffraction (XRD), Focused Ion Beam (FIB), Atomic Force Microscopy (AFM), etc.

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AFGHANISTAN

GENERAL INFORMATION

Population (mln)	2013	30.55
Population Growth (%)	2013	2.41
Urban Population (% of total population)	2013	24.16
Labour Force Participation Rate (%)	2013	47.9
Unemployment Rate (% of labor force)	2013	8.0
GDP per capita (PPP, cur. $)	2013	1,150
Infant Mortality (per 1,000)	2013	70.20
Life Expectancy at birth (years)	2012	60.51

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2003	0.7	...	...	2003	0.79
Primary Schools	2012	103.9	1993	27.96	2012	0.72
Secondary Schools	2012	54.0	2007	27.02	2012	0.55
Tertiary Schools	2011	3.7			2011	0.33

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	3.2
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	61.9
Female	32.1
Total	47.0

Adult

Male	45.4
Female	17.6
Total	31.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	43.5
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	9,754
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	44
Articles (per million people)	2013	1.44

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.468	Low	169
Global Competitiveness Index (2014-2015)	...	...	...

ALBANIA

GENERAL INFORMATION

Population (mln)	2013	2.77
Population Growth (%)	2013	-1.01
Urban Population (% of total population)	2013	55.51
Labour Force Participation Rate (%)	2013	55.1
Unemployment Rate (% of labor force)	2013	16.0
GDP per capita (PPP, cur. $)	2013	9,506
Infant Mortality (per 1,000)	2013	13.30
Life Expectancy at birth (years)	2012	77.35

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	68.8	2012	64.0	2012	1.01
Primary Schools	2003	99.5	2003	91.2	2003	0.96
Secondary Schools	2008	82.4	2001	65.1	2008	0.95
Tertiary Schools	2012	55.5			2012	1.32

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	9.3
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	2012	0.8
Repetition Rates in Secondary (all grades)	2009	1.5
Survival Rate to Last Grade of Primary	2011	98.8
Transition Rate from Primary to Secondary	2011	98.5

LITERACY RATES (%)

Youth

Male	98.73
Female	98.86
Total	98.79

Adult

Male	98.0
Female	95.7
Total	96.8

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	19.5
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2008	545
Number of Students Studying Abroad for Tertiary Educ.	2012	24,847
GERD (% of GDP)	2008	0.15
GERD per capita (cur. PPP $)	2008	12.60
Patent Applications (total)	2011	11
Scientific Published Articles	2013	149
Articles (per million people)	2013	46.95

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.716	High	95
Global Competitiveness Index (2014-2015)	3.84	...	97

ALGERIA

GENERAL INFORMATION

Population (mln)	2013	39.21
Population Growth (%)	2013	1.87
Urban Population (% of total population)	2013	74.55
Labour Force Participation Rate (%)	2013	43.9
Unemployment Rate (% of labor force)	2013	9.8
GDP per capita (PPP, cur. $)	2013	7,534
Infant Mortality (per 1,000)	2013	21.60
Life Expectancy at birth (years)	2012	70.88

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	78.8	2011	72.2	2011	1.01
Primary Schools	2012	117.4	2012	97.30	2012	0.94
Secondary Schools	2011	97.6	1997	50.94	2011	1.04
Tertiary Schools	2012	31.5			2012	1.48

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	7.6
Primary Completion Rate (Total)	2012	100.2
Repetition Rates in Primary (all grades)	2012	6.8
Repetition Rates in Secondary (all grades)	2012	17.8
Survival Rate to Last Grade of Primary	2011	92.8
Transition Rate from Primary to Secondary	2011	93.5

LITERACY RATES (%)

Youth

Male	94.4
Female	89.1
Total	91.8

Adult

Male	81.3
Female	63.9
Total	72.6

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	23.2
Public Education Spending (% of GDP)	2011	2.44
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2008	26.97

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2005	406
Number of Students Studying Abroad for Tertiary Educ.	2012	24,751
GERD (% of GDP)	2005	0.07
GERD per capita (cur. PPP $)	2005	4.60
Patent Applications (total)	2012	900
Scientific Published Articles	2013	2,075
Articles (per million people)	2013	52.92

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.717	High	93
Global Competitiveness Index (2014-2015)	4.08	...	79

AZERBAIJAN

GENERAL INFORMATION

Population (mln)	2013	9.42
Population Growth (%)	2013	1.29
Urban Population (% of total population)	2013	54.13
Labour Force Participation Rate (%)	2013	66.1
Unemployment Rate (% of labor force)	2013	5.5
GDP per capita (PPP, cur. $)	2013	11,044
Infant Mortality (per 1,000)	2013	29.90
Life Expectancy at birth (years)	2012	70.62

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	24.8	2012	21.0	2012	0.99
Primary Schools	2012	97.9	2012	89.1	2012	0.98
Secondary Schools	2012	100.3	2012	86.8	2012	0.99
Tertiary Schools	2012	20.4			2012	1.05

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	11
Average Years of Schooling	2012	11.2
Primary Completion Rate (Total)	2012	92.0
Repetition Rates in Primary (all grades)	2012	0.2
Repetition Rates in Secondary (all grades)	2012	1.5
Survival Rate to Last Grade of Primary	2011	98.2
Transition Rate from Primary to Secondary	2011	98.8

LITERACY RATES (%)

Youth

Male	99.96
Female	99.92
Total	99.94

Adult

Male	99.9
Female	99.7
Total	99.8

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	11.9
Public Education Spending (% of GDP)	2012	2.6
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	14.6

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	1,292
Number of Students Studying Abroad for Tertiary Educ.	2012	20,127
GERD (% of GDP)	2011	0.21
GERD per capita (cur. PPP $)	2011	20.70
Patent Applications (total)	2012	144
Scientific Published Articles	2013	473
Articles (per million people)	2013	50.23

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.747	High	76
Global Competitiveness Index (2014-2015)	4.53	...	38

BAHRAIN

GENERAL INFORMATION

Population (mln)	2013	1.33
Population Growth (%)	2013	1.08
Urban Population (% of total population)	2013	88.83
Labour Force Participation Rate (%)	2013	70.2
Unemployment Rate (% of labor force)	2013	7.4
GDP per capita (PPP, cur. $)	2013	34,584
Infant Mortality (per 1,000)	2013	5.20
Life Expectancy at birth (years)	2012	76.54

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	49.8	2012	49.1	2012	1.01
Primary Schools	1999	103.8	1999	96.47	1999	0.97
Secondary Schools	2012	95.5	2012	85.78	2012	1.02
Tertiary Schools	2012	33.5			2012	1.98

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	9.4
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	2012	1.0
Repetition Rates in Secondary (all grades)	2012	2.9
Survival Rate to Last Grade of Primary	2011	97.8
Transition Rate from Primary to Secondary	2011	98.9

LITERACY RATES (%)

Youth

Male	98.6
Female	97.6
Total	98.2

Adult

Male	96.1
Female	91.6
Total	94.6

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	11.8
Public Education Spending (% of GDP)	2009	2.23
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	4,096
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2012	164
Scientific Published Articles	2013	156
Articles (per million people)	2013	117.10

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.815	Very high	44
Global Competitiveness Index (2014-2015)	4.48	...	44

BANGLADESH

GENERAL INFORMATION

Population (mln)	2013	156.59
Population Growth (%)	2013	1.22
Urban Population (% of total population)	2013	29.38
Labour Force Participation Rate (%)	2013	70.8
Unemployment Rate (% of labor force)	2013	4.3
GDP per capita (PPP, cur. $)	2013	2,080
Infant Mortality (per 1,000)	2013	33.20
Life Expectancy at birth (years)	2012	70.29

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	25.6	2011	23.5	2011	0.98
Primary Schools	2011	114.2	2010	91.5	2011	1.06
Secondary Schools	2012	53.6	2012	47.7	2012	1.14
Tertiary Schools	2011	13.2			2011	0.69

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	5
Average Years of Schooling	2012	5.1
Primary Completion Rate (Total)	2011	74.6
Repetition Rates in Primary (all grades)	2011	9.4
Repetition Rates in Secondary (all grades)	2012	2.4
Survival Rate to Last Grade of Primary	2009	66.2
Transition Rate from Primary to Secondary	2010	90.0

LITERACY RATES (%)

Youth

Male	78.01
Female	81.91
Total	79.94

Adult

Male	62.5
Female	55.1
Total	58.8

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	40.2
Public Education Spending (% of GDP)	2010	5.3
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2009	13.5

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	21,927
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2012	354
Scientific Published Articles	2013	1,366
Articles (per million people)	2013	8.72

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.558	Medium	142
Global Competitiveness Index (2014-2015)	3.72	...	109

BENIN

GENERAL INFORMATION

Population (mln)	2013	10.32
Population Growth (%)	2013	2.68
Urban Population (% of total population)	2013	46.21
Labour Force Participation Rate (%)	2013	72.9
Unemployment Rate (% of labor force)	2013	1.0
GDP per capita (PPP, cur. $)	2013	1,623
Infant Mortality (per 1,000)	2013	56.20
Life Expectancy at birth (years)	2012	59.12

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	18.6	2012	9.7	2012	1.04
Primary Schools	2012	122.8	2012	94.86	2012	0.89
Secondary Schools	2011	47.7	2001	18.65	2011	0.61
Tertiary Schools	2011	12.4			2011	0.27

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	6
Average Years of Schooling	2012	3.2
Primary Completion Rate (Total)	2012	70.5
Repetition Rates in Primary (all grades)	2012	11.6
Repetition Rates in Secondary (all grades)	2011	23.4
Survival Rate to Last Grade of Primary	2011	59.3
Transition Rate from Primary to Secondary	2010	67.0

LITERACY RATES (%)

Youth

Male	54.9
Female	30.8
Total	42.4

Adult

Male	40.6
Female	18.4
Total	28.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	44.1
Public Education Spending (% of GDP)	2013	3.45
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2010	15.60

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2007	115
Number of Students Studying Abroad for Tertiary Educ.	2012	3,871
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	360
Articles (per million people)	2013	34.87

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.476	Low	165
Global Competitiveness Index (2014-2015)	...	...	...

BRUNEI DARUSSALAM

GENERAL INFORMATION

Population (mln)	2013	0.42
Population Growth (%)	2013	1.34
Urban Population (% of total population)	2013	76.69
Labour Force Participation Rate (%)	2013	64.0
Unemployment Rate (% of labor force)	2013	3.8
GDP per capita (PPP, cur. $)	2013	53,431
Infant Mortality (per 1,000)	2013	8.40
Life Expectancy at birth (years)	2012	78.37

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	91.7	2012	63.7	2012	1.00
Primary Schools	2012	95.5	2012	91.7	2012	0.98
Secondary Schools	2012	107.8	2012	94.7	2012	1.01
Tertiary Schools	2012	24.3			2012	1.74

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	8.7
Primary Completion Rate (Total)	2012	101.9
Repetition Rates in Primary (all grades)	2012	0.1
Repetition Rates in Secondary (all grades)	2012	6.0
Survival Rate to Last Grade of Primary	2011	96.4
Transition Rate from Primary to Secondary	2011	99.6

LITERACY RATES (%)

Youth

Male	99.81
Female	99.75
Total	99.78

Adult

Male	97.1
Female	93.7
Total	95.4

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	10.6
Public Education Spending (% of GDP)	2011	3.4
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2013	34.2

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2004	676
Number of Students Studying Abroad for Tertiary Educ.	2012	3,423
GERD (% of GDP)	2004	0.04
GERD per capita (cur. PPP $)	2004	17.40
Patent Applications (total)	2009	42
Scientific Published Articles	2013	58
Articles (per million people)	2013	138.83

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.852	Very high	30
Global Competitiveness Index (2014-2015)	...	...	...

BURKINA FASO

GENERAL INFORMATION

Population (mln)	2013	16.93
Population Growth (%)	2013	2.84
Urban Population (% of total population)	2013	28.19
Labour Force Participation Rate (%)	2013	83.4
Unemployment Rate (% of labor force)	2013	3.1
GDP per capita (PPP, cur. $)	2013	1,585
Infant Mortality (per 1,000)	2013	64.10
Life Expectancy at birth (years)	2012	55.86

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	3.7	2011	2.9	2012	1.01
Primary Schools	2012	85.0	2012	66.36	2012	0.95
Secondary Schools	2012	25.9	2012	19.74	2012	0.81
Tertiary Schools	2012	4.6			2012	0.50

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	1.3
Primary Completion Rate (Total)	2012	57.6
Repetition Rates in Primary (all grades)	2012	8.2
Repetition Rates in Secondary (all grades)	2012	24.3
Survival Rate to Last Grade of Primary	2011	69.0
Transition Rate from Primary to Secondary	2011	50.8

LITERACY RATES (%)

Youth

Male	46.7
Female	33.1
Total	39.3

Adult

Male	36.7
Female	21.6
Total	28.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	48.2
Public Education Spending (% of GDP)	2012	3.10
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	20.18

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2010	74
Number of Students Studying Abroad for Tertiary Educ.	2012	3,313
GERD (% of GDP)	2009	0.20
GERD per capita (cur. PPP $)	2009	2.50
Patent Applications (total)	2010	2
Scientific Published Articles	2013	261
Articles (per million people)	2013	15.41

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.388	Low	181
Global Competitiveness Index (2014-2015)	3.21	...	135

CAMEROON

GENERAL INFORMATION

Population (mln)	2013	22.25
Population Growth (%)	2013	2.52
Urban Population (% of total population)	2013	53.23
Labour Force Participation Rate (%)	2013	70.3
Unemployment Rate (% of labor force)	2013	4.0
GDP per capita (PPP, cur. $)	2013	2,423
Infant Mortality (per 1,000)	2013	60.80
Life Expectancy at birth (years)	2012	54.59

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	29.8	2012	21.3	2012	1.03
Primary Schools	2012	110.6	2012	91.5	2012	0.88
Secondary Schools	2012	50.4	...	...	2012	0.86
Tertiary Schools	2011	11.9			2011	0.73

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	6
Average Years of Schooling	2012	5.9
Primary Completion Rate (Total)	2012	72.8
Repetition Rates in Primary (all grades)	2012	12.3
Repetition Rates in Secondary (all grades)	2012	15.8
Survival Rate to Last Grade of Primary	2011	69.8
Transition Rate from Primary to Secondary	2011	55.5

LITERACY RATES (%)

Youth

Male	85.40
Female	76.42
Total	80.57

Adult

Male	78.3
Female	64.8
Total	71.3

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	45.6
Public Education Spending (% of GDP)	2010	3.5
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	7.8

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2008	233
Number of Students Studying Abroad for Tertiary Educ.	2012	22,297
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	676
Articles (per million people)	2013	30.38

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.504	Low	152
Global Competitiveness Index (2014-2015)	3.66	...	116

CHAD		
GENERAL INFORMATION		
Population (mln)	2013	12.83
Population Growth (%)	2013	2.98
Urban Population (% of total population)	2013	22.01
Labour Force Participation Rate (%)	2013	71.6
Unemployment Rate (% of labor force)	2013	7.0
GDP per capita (PPP, cur. $)	2013	2,539
Infant Mortality (per 1,000)	2013	88.50
Life Expectancy at birth (years)	2012	50.70

PARTICIPATION in EDUCATION						
	GER		**NER**		**GPI**	
Pre-primary Schools	2012	1.5	2012	1.3	2012	0.94
Primary Schools	2012	95.4	2011	63.06	2012	0.76
Secondary Schools	2012	22.8	2003	10.54	2012	0.46
Tertiary Schools	2011	2.3			2011	0.24

PROGRESSION and COMPLETION		
Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	1.5
Primary Completion Rate (Total)	2012	35.3
Repetition Rates in Primary (all grades)	2012	23.0
Repetition Rates in Secondary (all grades)	2012	21.6
Survival Rate to Last Grade of Primary	2011	38.1
Transition Rate from Primary to Secondary	2011	65.2

LITERACY RATES (%)

Youth

Male	53.8
Female	44.0
Total	48.9

Adult

Male	46.9
Female	27.8
Total	37.3

RESOURCES for EDUCATION		
Pupil / Teacher Ratio (primary)	2012	61.3
Public Education Spending (% of GDP)	2010	2.78
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	16.28

RESEARCH and DEVELOPMENT		
Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	3,621
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	16
Articles (per million people)	2013	1.25

INDICES			
	Value	Level	Rank
Human Development Index (2013)	0.372	Low	184
Global Competitiveness Index (2014-2015)	2.85	...	143

COMOROS		
GENERAL INFORMATION		
Population (mln)	2013	0.73
Population Growth (%)	2013	2.40
Urban Population (% of total population)	2013	28.27
Labour Force Participation Rate (%)	2013	57.6
Unemployment Rate (% of labor force)	2013	6.5
GDP per capita (PPP, cur. $)	2013	1,287
Infant Mortality (per 1,000)	2013	57.90
Life Expectancy at birth (years)	2012	60.64

PARTICIPATION in EDUCATION						
	GER		**NER**		**GPI**	
Pre-primary Schools	2008	23.7	1999	2.5	2008	0.97
Primary Schools	2012	117.4	2007	83.3	2012	0.91
Secondary Schools	2012	73.5	...	...	2012	0.96
Tertiary Schools	2012	11.4			2012	0.84

PROGRESSION and COMPLETION		
Duration of compulsory education (year)	2012	6
Average Years of Schooling	2012	2.8
Primary Completion Rate (Total)	2008	79.8
Repetition Rates in Primary (all grades)	2011	24.4
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	86.31
Female	86.52
Total	86.41

Adult

Male	80.7
Female	71.2
Total	75.9

RESOURCES for EDUCATION		
Pupil / Teacher Ratio (primary)	2011	27.7
Public Education Spending (% of GDP)	2008	7.6
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2008	14.6

RESEARCH and DEVELOPMENT		
Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	3,912
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	2
Articles (per million people)	2013	2.72

INDICES			
	Value	Level	Rank
Human Development Index (2013)	0.488	Low	159
Global Competitiveness Index (2014-2015)	...	...	...

COTE D'IVOIRE

GENERAL INFORMATION

Population (mln)	2013	20.32
Population Growth (%)	2013	2.37
Urban Population (% of total population)	2013	52.73
Labour Force Participation Rate (%)	2013	67.3
Unemployment Rate (% of labor force)	2013	4.0
GDP per capita (PPP, cur. $)	2013	1,818
Infant Mortality (per 1,000)	2013	71.30
Life Expectancy at birth (years)	2012	50.40

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	5.4	2009	3.7	2012	1.00
Primary Schools	2012	94.2	2009	61.86	2012	0.85
Secondary Schools	1999	24.3	...	...	1999	0.54
Tertiary Schools	2012	4.5			2012	0.78

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	4.3
Primary Completion Rate (Total)	2012	61.2
Repetition Rates in Primary (all grades)	2012	19.6
Repetition Rates in Secondary (all grades)	2012	17.2
Survival Rate to Last Grade of Primary	2011	82.2
Transition Rate from Primary to Secondary	2011	49.3

LITERACY RATES (%)

Youth
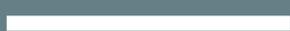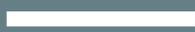
Male	58.3
Female	38.8
Total	48.3

Adult
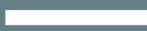
Male	51.6
Female	30.5
Total	41.0
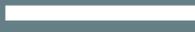
RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	41.7
Public Education Spending (% of GDP)	2008	4.60
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2007	21.00

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2005	138
Number of Students Studying Abroad for Tertiary Educ.	2012	7,350
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2012	27
Scientific Published Articles	2013	199
Articles (per million people)	2013	9.80

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.452	Low	171
Global Competitiveness Index (2014-2015)	3.67	...	115

DJIBOUTI

GENERAL INFORMATION

Population (mln)	2013	0.87
Population Growth (%)	2013	1.53
Urban Population (% of total population)	2013	77.24
Labour Force Participation Rate (%)	2013	52.0
Unemployment Rate (% of labor force)	...	...
GDP per capita (PPP, cur. $)	2013	2,746
Infant Mortality (per 1,000)	2013	57.40
Life Expectancy at birth (years)	2012	61.30

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	4.0	2012	3.2	2012	1.02
Primary Schools	2013	68.2	2013	57.8	2013	0.88
Secondary Schools	2013	46.2	2008	25.1	2013	0.77
Tertiary Schools	2011	4.9			2011	0.68

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	11
Average Years of Schooling	2012	3.8
Primary Completion Rate (Total)	2011	52.5
Repetition Rates in Primary (all grades)	2012	9.1
Repetition Rates in Secondary (all grades)	2012	7.4
Survival Rate to Last Grade of Primary	2012	75.9
Transition Rate from Primary to Secondary	2011	66.4

LITERACY RATES (%)

Youth

Male	na
Female	na
Total	na

Adult

Male	na
Female	na
Total	na

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	34.9
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2010	16.5

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	1,676
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	6
Articles (per million people)	2013	6.87

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.467	Low	170
Global Competitiveness Index (2014-2015)	...	...	...

EGYPT

GENERAL INFORMATION

Population (mln)	2013	82.06
Population Growth (%)	2013	1.64
Urban Population (% of total population)	2013	43.87
Labour Force Participation Rate (%)	2013	49.1
Unemployment Rate (% of labor force)	2013	12.7
GDP per capita (PPP, cur. $)	2013	6,579
Infant Mortality (per 1,000)	2013	18.60
Life Expectancy at birth (years)	2012	70.91

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	27.5	2012	22.6	2012	0.95
Primary Schools	2012	113.4	2011	95.10	2012	0.96
Secondary Schools	2012	86.3	2012	82.50	2012	0.98
Tertiary Schools	2012	30.1			2012	0.96

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	6.4
Primary Completion Rate (Total)	2012	107.0
Repetition Rates in Primary (all grades)	2012	3.4
Repetition Rates in Secondary (all grades)	2012	7.0
Survival Rate to Last Grade of Primary	2009	96.1
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	92.4
Female	86.1
Total	89.3

Adult

Male	81.7
Female	65.8
Total	73.9

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2010	27.7
Public Education Spending (% of GDP)	2008	3.76
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	1,146
Number of Students Studying Abroad for Tertiary Educ.	2012	16,217
GERD (% of GDP)	2011	0.43
GERD per capita (cur. PPP $)	2011	27.70
Patent Applications (total)	2012	2,211
Scientific Published Articles	2013	7,778
Articles (per million people)	2013	94.79

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.682	Medium	110
Global Competitiveness Index (2014-2015)	3.60	...	119

GABON

GENERAL INFORMATION

Population (mln)	2013	1.67
Population Growth (%)	2013	2.37
Urban Population (% of total population)	2013	86.77
Labour Force Participation Rate (%)	2013	60.8
Unemployment Rate (% of labor force)	2013	19.6
GDP per capita (PPP, cur. $)	2013	19,478
Infant Mortality (per 1,000)	2013	39.10
Life Expectancy at birth (years)	2012	63.07

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	35.3	2011	35.3	2011	1.04
Primary Schools	2011	164.9	1997	92.1	2011	0.97
Secondary Schools	2002	53.9	...	...	1999	0.88
Tertiary Schools	2003	8.5			2003	0.59

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	10
Average Years of Schooling	2012	7.4
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	87.39
Female	89.43
Total	88.50

Adult

Male	84.9
Female	79.9
Total	82.3

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	24.5
Public Education Spending (% of GDP)	2012	4.1
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2009	350
Number of Students Studying Abroad for Tertiary Educ.	2012	6,461
GERD (% of GDP)	2009	0.58
GERD per capita (cur. PPP $)	2009	77.70
Patent Applications (total)	...	...
Scientific Published Articles	2013	110
Articles (per million people)	2013	65.80

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.674	Medium	112
Global Competitiveness Index (2014-2015)	3.74	...	106

GAMBIA

GENERAL INFORMATION

Population (mln)	2013	1.85
Population Growth (%)	2013	3.19
Urban Population (% of total population)	2013	58.31
Labour Force Participation Rate (%)	2013	77.4
Unemployment Rate (% of labor force)	2013	7.0
GDP per capita (PPP, cur. $)	2013	1,962
Infant Mortality (per 1,000)	2013	49.40
Life Expectancy at birth (years)	2012	58.61

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2010	29.8	2010	26.8	2010	1.04
Primary Schools	2012	85.2	2012	70.91	2012	1.04
Secondary Schools	2010	57.5	...	...	2010	0.95
Tertiary Schools	2011	3.4			2011	0.60

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	6
Average Years of Schooling	2012	2.8
Primary Completion Rate (Total)	2012	70.3
Repetition Rates in Primary (all grades)	2012	2.6
Repetition Rates in Secondary (all grades)	2012	2.8
Survival Rate to Last Grade of Primary	2011	82.8
Transition Rate from Primary to Secondary	2011	90.3

LITERACY RATES (%)

Youth

Male	73.4
Female	65.5
Total	69.4

Adult

Male	61.4
Female	43.1
Total	52.0

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	33.9
Public Education Spending (% of GDP)	2012	2.47
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	7.36

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	35
Number of Students Studying Abroad for Tertiary Educ.	2012	1,236
GERD (% of GDP)	2011	0.13
GERD per capita (cur. PPP $)	2011	2.40
Patent Applications (total)	...	...
Scientific Published Articles	2013	109
Articles (per million people)	2013	58.94

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.441	Low	172
Global Competitiveness Index (2014-2015)	3.53	...	125

GUINEA

GENERAL INFORMATION

Population (mln)	2013	11.75
Population Growth (%)	2013	2.53
Urban Population (% of total population)	2013	36.43
Labour Force Participation Rate (%)	2013	72.0
Unemployment Rate (% of labor force)	2013	1.8
GDP per capita (PPP, cur. $)	2013	1,125
Infant Mortality (per 1,000)	2013	64.90
Life Expectancy at birth (years)	2012	55.84

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	15.6	2011	10.7	2011	0.96
Primary Schools	2012	90.8	2012	74.4	2012	0.84
Secondary Schools	2012	38.1	2011	30.4	2011	0.63
Tertiary Schools	2012	9.9			2012	0.37

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	1.6
Primary Completion Rate (Total)	2012	61.5
Repetition Rates in Primary (all grades)	2012	14.2
Repetition Rates in Secondary (all grades)	2012	22.7
Survival Rate to Last Grade of Primary	2011	58.6
Transition Rate from Primary to Secondary	2011	37.0

LITERACY RATES (%)

Youth

Male	37.57
Female	21.80
Total	31.41

Adult

Male	36.8
Female	12.2
Total	25.3

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	43.6
Public Education Spending (% of GDP)	2010	3.7
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	33.4

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2000	242
Number of Students Studying Abroad for Tertiary Educ.	2012	6,056
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	35
Articles (per million people)	2013	2.98

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.392	Low	179
Global Competitiveness Index (2014-2015)	2.79	...	144

GUINEA-BISSAU

GENERAL INFORMATION

Population (mln)	2013	1.70
Population Growth (%)	2013	2.42
Urban Population (% of total population)	2013	45.25
Labour Force Participation Rate (%)	2013	73.3
Unemployment Rate (% of labor force)	2013	7.1
GDP per capita (PPP, cur. $)	2013	1,206
Infant Mortality (per 1,000)	2013	77.90
Life Expectancy at birth (years)	2012	54.03

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2010	6.6	2010	4.4	2010	1.05
Primary Schools	2010	116.2	2010	69.77	2010	0.93
Secondary Schools	2006	34.5	2000	8.46	2000	0.55
Tertiary Schools	2006	2.6			...	...

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	6
Average Years of Schooling	2012	2.3
Primary Completion Rate (Total)	2010	64.0
Repetition Rates in Primary (all grades)	2010	14.1
Repetition Rates in Secondary (all grades)	2010	13.1
Survival Rate to Last Grade of Primary	0	..
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	79.7
Female	68.9
Total	74.3

Adult

Male	69.8
Female	43.9
Total	56.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2010	51.9
Public Education Spending (% of GDP)	2012	3.19
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	1,577
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	34
Articles (per million people)	2013	19.95

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.396	Low	177
Global Competitiveness Index (2014-2015)	...	...	...

GUYANA

GENERAL INFORMATION

Population (mln)	2013	0.80
Population Growth (%)	2013	0.53
Urban Population (% of total population)	2013	28.58
Labour Force Participation Rate (%)	2013	61.4
Unemployment Rate (% of labor force)	2013	11.1
GDP per capita (PPP, cur. $)	2013	8,250
Infant Mortality (per 1,000)	2013	29.90
Life Expectancy at birth (years)	2012	66.05

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	66.2	2012	56.8	2012	1.09
Primary Schools	2012	75.1	2012	71.5	2012	1.13
Secondary Schools	2012	101.0	2011	92.6	2012	1.15
Tertiary Schools	2012	12.9			2012	2.14

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	9
Average Years of Schooling	2012	8.5
Primary Completion Rate (Total)	2012	85.3
Repetition Rates in Primary (all grades)	2012	0.5
Repetition Rates in Secondary (all grades)	2012	10.4
Survival Rate to Last Grade of Primary	2011	92.2
Transition Rate from Primary to Secondary	2009	94.8

LITERACY RATES (%)

Youth

Male	92.42
Female	93.67
Total	93.10

Adult

Male	82.4
Female	87.3
Total	85.0

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	23.2
Public Education Spending (% of GDP)	2012	3.6
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	5.1

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	1,559
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	24
Articles (per million people)	2013	30.01

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.638	Medium	121
Global Competitiveness Index (2014-2015)	3.65	...	117

INDONESIA

GENERAL INFORMATION

Population (mln)	2013	249.87
Population Growth (%)	2013	1.21
Urban Population (% of total population)	2013	52.21
Labour Force Participation Rate (%)	2013	67.7
Unemployment Rate (% of labor force)	2013	6.3
GDP per capita (PPP, cur. $)	2013	5,214
Infant Mortality (per 1,000)	2013	24.50
Life Expectancy at birth (years)	2012	70.61

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	47.6	2012	32.6	2012	1.04
Primary Schools	2012	108.5	2012	92.22	2012	1.00
Secondary Schools	2012	82.5	2012	76.10	2012	1.03
Tertiary Schools	2012	31.5			2012	1.03

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	7.5
Primary Completion Rate (Total)	2012	104.5
Repetition Rates in Primary (all grades)	2012	2.9
Repetition Rates in Secondary (all grades)	2012	0.3
Survival Rate to Last Grade of Primary	2011	89.0
Transition Rate from Primary to Secondary	2011	96.3

LITERACY RATES (%)

Youth

Male	98.8
Female	98.8
Total	98.8

Adult

Male	95.6
Female	90.1
Total	92.8

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	18.6
Public Education Spending (% of GDP)	2012	3.61
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	17.18

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2009	173
Number of Students Studying Abroad for Tertiary Educ.	2012	34,999
GERD (% of GDP)	2009	0.08
GERD per capita (cur. PPP $)	2009	3.30
Patent Applications (total)	2011	5,830
Scientific Published Articles	2013	1,549
Articles (per million people)	2013	6.20

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.684	Medium	108
Global Competitiveness Index (2014-2015)	4.57	...	34

IRAN

GENERAL INFORMATION

Population (mln)	2013	77.45
Population Growth (%)	2013	1.33
Urban Population (% of total population)	2013	69.37
Labour Force Participation Rate (%)	2013	45.1
Unemployment Rate (% of labor force)	2013	13.2
GDP per capita (PPP, cur. $)	2013	7,391
Infant Mortality (per 1,000)	2013	14.40
Life Expectancy at birth (years)	2012	73.76

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	35.1	2003	29.1	2012	1.03
Primary Schools	2012	106.0	2012	99.8	2012	0.99
Secondary Schools	2012	86.3	2012	81.7	2012	0.94
Tertiary Schools	2012	55.2			2012	1.00

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	8
Average Years of Schooling	2012	7.8
Primary Completion Rate (Total)	2012	102.2
Repetition Rates in Primary (all grades)	2012	1.5
Repetition Rates in Secondary (all grades)	2012	4.4
Survival Rate to Last Grade of Primary	2011	96.2
Transition Rate from Primary to Secondary	2011	96.2

LITERACY RATES (%)

Youth

Male	98.34
Female	97.70
Total	98.03

Adult

Male	89.4
Female	79.2
Total	84.3

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2009	20.5
Public Education Spending (% of GDP)	2010	4.7
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	27.6

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2008	1,484
Number of Students Studying Abroad for Tertiary Educ.	2012	51,549
GERD (% of GDP)	2008	0.75
GERD per capita (cur. PPP $)	2008	82.20
Patent Applications (total)	2006	6,527
Scientific Published Articles	2013	25,527
Articles (per million people)	2013	329.61

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.749	High	75
Global Competitiveness Index (2014-2015)	4.03	...	83

IRAQ

GENERAL INFORMATION

Population (mln)	2013	33.42
Population Growth (%)	2013	2.54
Urban Population (% of total population)	2013	66.44
Labour Force Participation Rate (%)	2013	42.3
Unemployment Rate (% of labor force)	2013	16.0
GDP per capita (PPP, cur. $)	2013	12,264
Infant Mortality (per 1,000)	2013	28.00
Life Expectancy at birth (years)	2012	69.24

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2007	6.5	2007	6.5	2007	1.00
Primary Schools	2007	107.5	2007	91.75	2007	0.84
Secondary Schools	2007	53.1	2007	44.50	2007	0.75
Tertiary Schools	2005	16.0			2005	0.60

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	6
Average Years of Schooling	2012	5.6
Primary Completion Rate (Total)	2007	66.3
Repetition Rates in Primary (all grades)	2007	16.8
Repetition Rates in Secondary (all grades)	2007	21.3
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	83.7
Female	80.6
Total	82.2

Adult

Male	85.8
Female	72.2
Total	79.0

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2007	17.0
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	1,273
Number of Students Studying Abroad for Tertiary Educ.	2012	14,465
GERD (% of GDP)	2011	0.03
GERD per capita (cur. PPP $)	2011	2.30
Patent Applications (total)	...	...
Scientific Published Articles	2013	762
Articles (per million people)	2013	22.57

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.642	Medium	120
Global Competitiveness Index (2014-2015)	...	...	...

JORDAN

GENERAL INFORMATION

Population (mln)	2013	6.46
Population Growth (%)	2013	2.21
Urban Population (% of total population)	2013	83.19
Labour Force Participation Rate (%)	2013	41.6
Unemployment Rate (% of labor force)	2013	12.6
GDP per capita (PPP, cur. $)	2013	6,115
Infant Mortality (per 1,000)	2013	16.00
Life Expectancy at birth (years)	2012	73.75

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	34.2	2012	34.2	2012	0.96
Primary Schools	2012	98.4	2012	97.1	2012	0.98
Secondary Schools	2012	87.8	2011	87.9	2012	1.03
Tertiary Schools	2012	46.6			2012	1.15

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	9.9
Primary Completion Rate (Total)	2011	92.8
Repetition Rates in Primary (all grades)	2012	0.6
Repetition Rates in Secondary (all grades)	2011	1.3
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	2011	97.6

LITERACY RATES (%)

Youth

Male	99.00
Female	99.20
Total	99.11

Adult

Male	98.4
Female	97.4
Total	97.9

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	...	...
Public Education Spending (% of GDP)	2009	3.1
Expenditure on Tertiary as % of Gov't Exp. on Educ.	1999	18.7

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2008	1,913
Number of Students Studying Abroad for Tertiary Educ.	2012	16,825
GERD (% of GDP)	2008	0.43
GERD per capita (cur. PPP $)	2008	23.30
Patent Applications (total)	2012	394
Scientific Published Articles	2013	1,532
Articles (per million people)	2013	210.62

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.745	High	77
Global Competitiveness Index (2014-2015)	4.25	...	64

KAZAKHSTAN

GENERAL INFORMATION

Population (mln)	2013	17.04
Population Growth (%)	2013	1.45
Urban Population (% of total population)	2013	53.45
Labour Force Participation Rate (%)	2013	72.5
Unemployment Rate (% of labor force)	2013	5.2
GDP per capita (PPP, cur. $)	2013	14,391
Infant Mortality (per 1,000)	2013	14.60
Life Expectancy at birth (years)	2012	69.61

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2013	58.3	2013	57.9	2013	1.00
Primary Schools	2013	106.3	2013	85.64	2013	1.01
Secondary Schools	2012	97.7	2012	86.31	2012	0.97
Tertiary Schools	2012	44.5			2012	1.43

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	11
Average Years of Schooling	2012	10.4
Primary Completion Rate (Total)	2012	101.5
Repetition Rates in Primary (all grades)	2012	0.1
Repetition Rates in Secondary (all grades)	2012	0.1
Survival Rate to Last Grade of Primary	2012	99.3
Transition Rate from Primary to Secondary	2012	99.9

LITERACY RATES (%)

Youth

Male	99.8
Female	99.9
Total	99.8

Adult

Male	99.8
Female	99.7
Total	99.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	16.2
Public Education Spending (% of GDP)	2009	3.06
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2009	13.13

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	714
Number of Students Studying Abroad for Tertiary Educ.	2012	43,039
GERD (% of GDP)	2011	0.16
GERD per capita (cur. PPP $)	2011	21.00
Patent Applications (total)	2011	1,732
Scientific Published Articles	2013	539
Articles (per million people)	2013	32.78

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.757	High	70
Global Competitiveness Index (2014-2015)	4.42	...	50

KUWAIT

GENERAL INFORMATION

Population (mln)	2013	3.37
Population Growth (%)	2013	3.57
Urban Population (% of total population)	2013	98.28
Labour Force Participation Rate (%)	2013	68.4
Unemployment Rate (% of labor force)	2013	3.1
GDP per capita (PPP, cur. $)	2013	39,706
Infant Mortality (per 1,000)	2013	8.10
Life Expectancy at birth (years)	2012	74.36

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2007	80.7	2007	64.7	2007	0.99
Primary Schools	2007	106.2	2007	92.1	2007	0.99
Secondary Schools	2007	100.3	2007	86.7	2007	1.01
Tertiary Schools	2004	22.3			2004	2.10

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	7.2
Primary Completion Rate (Total)	2007	107.8
Repetition Rates in Primary (all grades)	2012	0.6
Repetition Rates in Secondary (all grades)	2012	4.1
Survival Rate to Last Grade of Primary	2011	94.1
Transition Rate from Primary to Secondary	2011	98.8

LITERACY RATES (%)

Youth

Male	98.74
Female	98.84
Total	98.78

Adult

Male	95.8
Female	95.0
Total	95.5

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	8.6
Public Education Spending (% of GDP)	2011	6.8
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2006	32.6

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	132
Number of Students Studying Abroad for Tertiary Educ.	2012	10,686
GERD (% of GDP)	2011	0.09
GERD per capita (cur. PPP $)	2011	42.40
Patent Applications (total)	...	...
Scientific Published Articles	2013	676
Articles (per million people)	2013	200.68

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.814	Very high	46
Global Competitiveness Index (2014-2015)	4.51	...	40

KYRGYZ REPUBLIC

GENERAL INFORMATION

Population (mln)	2013	5.72
Population Growth (%)	2013	1.98
Urban Population (% of total population)	2013	35.56
Labour Force Participation Rate (%)	2013	67.5
Unemployment Rate (% of labor force)	2013	8.0
GDP per capita (PPP, cur. $)	2013	2,611
Infant Mortality (per 1,000)	2013	21.60
Life Expectancy at birth (years)	2012	70.00

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	24.7	2012	20.8	2012	1.02
Primary Schools	2012	105.9	2012	90.51	2012	0.98
Secondary Schools	2011	88.2	2011	80.37	2011	1.00
Tertiary Schools	2011	41.3			2011	1.24

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	9.3
Primary Completion Rate (Total)	2012	97.7
Repetition Rates in Primary (all grades)	2012	0.1
Repetition Rates in Secondary (all grades)	2012	0.0
Survival Rate to Last Grade of Primary	2011	97.1
Transition Rate from Primary to Secondary	2011	98.9

LITERACY RATES (%)

Youth

Male	99.7
Female	99.8
Total	99.8

Adult

Male	99.5
Female	99.0
Total	99.2

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	23.9
Public Education Spending (% of GDP)	2010	5.80
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2010	15.52

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	412
Number of Students Studying Abroad for Tertiary Educ.	2012	5,736
GERD (% of GDP)	2011	0.16
GERD per capita (cur. PPP $)	2011	3.80
Patent Applications (total)	2012	111
Scientific Published Articles	2013	97
Articles (per million people)	2013	17.49

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.628	Medium	125
Global Competitiveness Index (2014-2015)	3.73	...	108

LEBANON

GENERAL INFORMATION

Population (mln)	2013	4.47
Population Growth (%)	2013	0.96
Urban Population (% of total population)	2013	87.47
Labour Force Participation Rate (%)	2013	47.6
Unemployment Rate (% of labor force)	2013	6.5
GDP per capita (PPP, cur. $)	2013	14,845
Infant Mortality (per 1,000)	2013	7.80
Life Expectancy at birth (years)	2012	79.85

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	91.1	2012	87.8	2012	0.96
Primary Schools	2012	106.6	2012	93.2	2012	0.91
Secondary Schools	2012	74.0	2012	67.5	2012	1.01
Tertiary Schools	2012	46.3			2012	1.07

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	7.9
Primary Completion Rate (Total)	2012	86.2
Repetition Rates in Primary (all grades)	2012	8.2
Repetition Rates in Secondary (all grades)	2012	8.9
Survival Rate to Last Grade of Primary	2012	93.3
Transition Rate from Primary to Secondary	2012	88.0

LITERACY RATES (%)

Youth

Male	98.40
Female	99.08
Total	98.71

Adult

Male	93.4
Female	86.0
Total	89.6

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	14.3
Public Education Spending (% of GDP)	2010	1.7
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	30.7

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	6,431
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2011	282
Scientific Published Articles	2013	1,649
Articles (per million people)	2013	341.98

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.765	High	65
Global Competitiveness Index (2014-2015)	3.68	...	113

LIBYA

GENERAL INFORMATION

Population (mln)	2013	6.20
Population Growth (%)	2013	0.76
Urban Population (% of total population)	2013	78.08
Labour Force Participation Rate (%)	2013	53.0
Unemployment Rate (% of labor force)	2013	19.6
GDP per capita (PPP, cur. $)	2013	11,498
Infant Mortality (per 1,000)	2013	12.40
Life Expectancy at birth (years)	2012	75.18

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2006	10.1	2006	8.6	2006	0.98
Primary Schools	2006	114.4	...	...	2006	0.96
Secondary Schools	2006	104.3	...	...	2006	1.18
Tertiary Schools	2003	60.9			2003	1.10

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	7.5
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	99.9
Female	99.9
Total	99.9

Adult

Male	96.1
Female	83.7
Total	89.9

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	...	...
Public Education Spending (% of GDP)	2011	5.94
Expenditure on Tertiary as % of Gov't Exp. on Educ.	1999	52.73

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2009	77
Number of Students Studying Abroad for Tertiary Educ.	2012	55,579
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	172
Articles (per million people)	2013	27.74

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.784	High	55
Global Competitiveness Index (2014-2015)	3.48	...	126

MALAYSIA

GENERAL INFORMATION

Population (mln)	2013	29.72
Population Growth (%)	2013	1.62
Urban Population (% of total population)	2013	74.04
Labour Force Participation Rate (%)	2013	59.4
Unemployment Rate (% of labor force)	2013	3.2
GDP per capita (PPP, cur. $)	2013	17,748
Infant Mortality (per 1,000)	2013	7.20
Life Expectancy at birth (years)	2012	74.84

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	70.4	2011	62.1	2011	0.92
Primary Schools	2005	101.4	2005	97.0	2005	0.94
Secondary Schools	2011	67.2	2011	66.3	2011	0.97
Tertiary Schools	2011	36.0			2011	1.20

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	6
Average Years of Schooling	2012	9.5
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	2009	99.2
Transition Rate from Primary to Secondary	2010	99.7

LITERACY RATES (%)

Youth

Male	98.38
Female	98.46
Total	98.42

Adult

Male	95.4
Female	90.7
Total	93.1

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	12.5
Public Education Spending (% of GDP)	2012	5.9
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	37.0

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	2,564
Number of Students Studying Abroad for Tertiary Educ.	2012	1,862
GERD (% of GDP)	2011	1.07
GERD per capita (cur. PPP $)	2011	170.50
Patent Applications (total)	2012	6,940
Scientific Published Articles	2013	9,195
Articles (per million people)	2013	309.42

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.773	High	62
Global Competitiveness Index (2014-2015)	5.16	...	20

MALDIVES

GENERAL INFORMATION

Population (mln)	2013	0.35
Population Growth (%)	2013	1.93
Urban Population (% of total population)	2013	43.35
Labour Force Participation Rate (%)	2013	66.8
Unemployment Rate (% of labor force)	2013	11.6
GDP per capita (PPP, cur. $)	2013	9,173
Infant Mortality (per 1,000)	2013	8.40
Life Expectancy at birth (years)	2012	77.57

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2007	82.2	2007	65.0	2007	1.04
Primary Schools	2009	98.3	2009	94.48	2009	0.97
Secondary Schools	2004	72.3	2002	49.70	2004	1.13
Tertiary Schools	2008	13.2			2008	1.13

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	5.8
Primary Completion Rate (Total)	2009	109.9
Repetition Rates in Primary (all grades)	2012	3.4
Repetition Rates in Secondary (all grades)	2012	4.6
Survival Rate to Last Grade of Primary	2011	82.8
Transition Rate from Primary to Secondary	2011	88.6

LITERACY RATES (%)

Youth

Male	99.2
Female	99.4
Total	99.3

Adult

Male	98.4
Female	98.4
Total	98.4

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	11.4
Public Education Spending (% of GDP)	2011	4.80
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	9.35

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	4,544
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	6
Articles (per million people)	2013	17.39

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.698	Medium	103
Global Competitiveness Index (2014-2015)	...	...	...

MALI

GENERAL INFORMATION

Population (mln)	2013	15.30
Population Growth (%)	2013	2.97
Urban Population (% of total population)	2013	36.22
Labour Force Participation Rate (%)	2013	66.0
Unemployment Rate (% of labor force)	2013	8.2
GDP per capita (PPP, cur. $)	2013	1,103
Infant Mortality (per 1,000)	2013	77.60
Life Expectancy at birth (years)	2012	54.60

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2011	3.8	2011	3.5	2011	1.04
Primary Schools	2012	88.5	2012	68.7	2012	0.88
Secondary Schools	2011	44.5	2011	34.5	2011	0.72
Tertiary Schools	2012	7.5			2012	0.43

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	2.0
Primary Completion Rate (Total)	2012	58.7
Repetition Rates in Primary (all grades)	2012	19.2
Repetition Rates in Secondary (all grades)	2011	19.9
Survival Rate to Last Grade of Primary	2011	61.6
Transition Rate from Primary to Secondary	2010	79.2

LITERACY RATES (%)

Youth

Male	56.32
Female	39.01
Total	47.14

Adult

Male	43.3
Female	24.6
Total	33.6

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	48.5
Public Education Spending (% of GDP)	2011	3.7
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	21.3

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2010	64
Number of Students Studying Abroad for Tertiary Educ.	2012	1,355
GERD (% of GDP)	2010	0.66
GERD per capita (cur. PPP $)	2010	8.00
Patent Applications (total)	2010	1
Scientific Published Articles	2013	145
Articles (per million people)	2013	9.48

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.407	Low	176
Global Competitiveness Index (2014-2015)	3.43	...	128

MAURITANIA

GENERAL INFORMATION

Population (mln)	2013	3.89
Population Growth (%)	2013	2.44
Urban Population (% of total population)	2013	42.07
Labour Force Participation Rate (%)	2013	53.9
Unemployment Rate (% of labor force)	2013	31.0
GDP per capita (PPP, cur. $)	2013	2,218
Infant Mortality (per 1,000)	2013	67.10
Life Expectancy at birth (years)	2012	61.35

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2004	1.8	...	...	...	...
Primary Schools	2012	96.7	2012	69.56	2012	1.05
Secondary Schools	2012	26.8	2006	14.43	2012	0.85
Tertiary Schools	2012	5.1			2012	0.43

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	3.7
Primary Completion Rate (Total)	2012	68.7
Repetition Rates in Primary (all grades)	2012	3.7
Repetition Rates in Secondary (all grades)	2012	8.7
Survival Rate to Last Grade of Primary	2008	81.2
Transition Rate from Primary to Secondary	2011	52.1

LITERACY RATES (%)

Youth

Male	66.4
Female	47.7
Total	56.1

Adult

Male	57.4
Female	35.3
Total	45.5

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	40.1
Public Education Spending (% of GDP)	2010	4.33
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	12.83

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	3,939
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	25
Articles (per million people)	2013	6.43

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.487	Low	161
Global Competitiveness Index (2014-2015)	3.00	...	141

MOROCCO

GENERAL INFORMATION

Population (mln)	2013	33.01
Population Growth (%)	2013	1.49
Urban Population (% of total population)	2013	57.77
Labour Force Participation Rate (%)	2013	50.5
Unemployment Rate (% of labor force)	2013	9.2
GDP per capita (PPP, cur. $)	2013	5,456
Infant Mortality (per 1,000)	2013	26.10
Life Expectancy at birth (years)	2012	70.64

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2013	58.7	2013	52.9	2013	0.79
Primary Schools	2013	116.9	2013	97.5	2013	0.95
Secondary Schools	2012	68.9	...	...	2012	0.86
Tertiary Schools	2011	16.2			2010	0.89

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	9
Average Years of Schooling	2012	4.4
Primary Completion Rate (Total)	2012	99.3
Repetition Rates in Primary (all grades)	2012	7.3
Repetition Rates in Secondary (all grades)	2012	15.1
Survival Rate to Last Grade of Primary	2012	91.6
Transition Rate from Primary to Secondary	2012	83.2

LITERACY RATES (%)

Youth

Male	88.83
Female	74.03
Total	81.51

Adult

Male	76.1
Female	57.6
Total	67.1

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	25.8
Public Education Spending (% of GDP)	2009	5.4
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2009	20.2

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	1,146
Number of Students Studying Abroad for Tertiary Educ.	2012	44,161
GERD (% of GDP)	2010	0.73
GERD per capita (cur. PPP $)	2010	35.00
Patent Applications (total)	2012	1,040
Scientific Published Articles	2013	1,595
Articles (per million people)	2013	47.50

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.617	Medium	129
Global Competitiveness Index (2014-2015)	4.21	...	72

MOZAMBIQUE

GENERAL INFORMATION

Population (mln)	2013	25.83
Population Growth (%)	2013	2.47
Urban Population (% of total population)	2013	31.73
Labour Force Participation Rate (%)	2013	84.2
Unemployment Rate (% of labor force)	2013	8.3
GDP per capita (PPP, cur. $)	2013	1,090
Infant Mortality (per 1,000)	2013	61.50
Life Expectancy at birth (years)	2012	49.84

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	...	...	...	...	...	...
Primary Schools	2012	105.1	2012	86.24	2012	0.91
Secondary Schools	2012	25.9	2012	17.73	2012	0.89
Tertiary Schools	2011	4.9			2011	0.62

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	7
Average Years of Schooling	2012	3.2
Primary Completion Rate (Total)	2012	52.2
Repetition Rates in Primary (all grades)	2012	7.5
Repetition Rates in Secondary (all grades)	2012	13.6
Survival Rate to Last Grade of Primary	2011	30.6
Transition Rate from Primary to Secondary	2011	48.7

LITERACY RATES (%)

Youth

Male	79.8
Female	56.5
Total	67.1

Adult

Male	67.4
Female	36.5
Total	50.6

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	54.8
Public Education Spending (% of GDP)	2012	4.44
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2006	12.14

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2010	66
Number of Students Studying Abroad for Tertiary Educ.	2012	1,887
GERD (% of GDP)	2010	0.46
GERD per capita (cur. PPP $)	2010	4.10
Patent Applications (total)	2007	40
Scientific Published Articles	2013	149
Articles (per million people)	2013	5.77

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.393	Low	178
Global Competitiveness Index (2014-2015)	3.24	...	133

NIGER

GENERAL INFORMATION

Population (mln)	2013	17.83
Population Growth (%)	2013	3.85
Urban Population (% of total population)	2013	18.37
Labour Force Participation Rate (%)	2013	64.7
Unemployment Rate (% of labor force)	2013	5.1
GDP per capita (PPP, cur. $)	2013	829
Infant Mortality (per 1,000)	2013	59.90
Life Expectancy at birth (years)	2012	57.97

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	6.3	2012	5.0	2012	1.05
Primary Schools	2012	71.1	2012	62.8	2012	0.84
Secondary Schools	2012	15.9	2011	12.2	2012	0.67
Tertiary Schools	2012	1.8			2012	0.34

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	1.4
Primary Completion Rate (Total)	2012	49.3
Repetition Rates in Primary (all grades)	2012	3.5
Repetition Rates in Secondary (all grades)	2012	19.4
Survival Rate to Last Grade of Primary	2010	69.3
Transition Rate from Primary to Secondary	2011	54.1

LITERACY RATES (%)

Youth

Male	34.53
Female	15.06
Total	23.52

Adult

Male	23.2
Female	8.9
Total	15.5

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	38.8
Public Education Spending (% of GDP)	2010	3.8
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	17.6

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2005	10
Number of Students Studying Abroad for Tertiary Educ.	2012	2,108
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	118
Articles (per million people)	2013	6.62

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.337	Low	187
Global Competitiveness Index (2014-2015)	...	...	...

NIGERIA

GENERAL INFORMATION

Population (mln)	2013	173.62
Population Growth (%)	2013	2.79
Urban Population (% of total population)	2013	50.84
Labour Force Participation Rate (%)	2013	56.1
Unemployment Rate (% of labor force)	2013	7.5
GDP per capita (PPP, cur. $)	2013	2,831
Infant Mortality (per 1,000)	2013	74.30
Life Expectancy at birth (years)	2012	52.11

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2010	13.4	0	0.0	2010	0.99
Primary Schools	2010	84.8	2010	63.90	2010	0.92
Secondary Schools	2010	43.8	...	...	2010	0.89
Tertiary Schools	2005	10.4			2005	0.72

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	9
Average Years of Schooling	2012	5.2
Primary Completion Rate (Total)	2009	73.3
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	2009	79.3
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	75.6
Female	58.0
Total	66.4

Adult

Male	61.3
Female	41.4
Total	51.1

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2010	37.6
Public Education Spending (% of GDP)	2009	4.32
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2007	120
Number of Students Studying Abroad for Tertiary Educ.	2012	49,531
GERD (% of GDP)	2007	0.22
GERD per capita (cur. PPP $)	2007	4.40
Patent Applications (total)	...	...
Scientific Published Articles	2013	1,856
Articles (per million people)	2013	10.69

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.504	Low	152
Global Competitiveness Index (2014-2015)	3.44	...	127

OMAN

GENERAL INFORMATION

Population (mln)	2013	3.63
Population Growth (%)	2013	9.17
Urban Population (% of total population)	2013	73.95
Labour Force Participation Rate (%)	2013	65.1
Unemployment Rate (% of labor force)	2013	7.9
GDP per capita (PPP, cur. $)	2013	29,813
Infant Mortality (per 1,000)	2013	9.80
Life Expectancy at birth (years)	2012	76.59

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	54.6	2012	42.2	2012	1.00
Primary Schools	2012	109.0	2012	96.3	2012	1.01
Secondary Schools	2012	93.5	2012	83.6	2011	0.95
Tertiary Schools	2011	28.1			2011	1.45

PROGRESSION and COMPLETION

Duration of compulsory education (year)	...	...
Average Years of Schooling	2012	6.8
Primary Completion Rate (Total)	2012	103.7
Repetition Rates in Primary (all grades)	2012	1.0
Repetition Rates in Secondary (all grades)	2012	2.9
Survival Rate to Last Grade of Primary	2011	93.6
Transition Rate from Primary to Secondary	2011	96.8

LITERACY RATES (%)

Youth

Male	97.41
Female	98.17
Total	97.74

Adult

Male	90.2
Female	81.8
Total	86.9

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	...	...
Public Education Spending (% of GDP)	2009	4.3
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2009	26.9

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	478
Number of Students Studying Abroad for Tertiary Educ.	2012	10,049
GERD (% of GDP)	2011	0.13
GERD per capita (cur. PPP $)	2011	35.60
Patent Applications (total)	...	...
Scientific Published Articles	2013	523
Articles (per million people)	2013	143.98

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.783	High	56
Global Competitiveness Index (2014-2015)	4.46	...	46

PAKISTAN		

GENERAL INFORMATION		
Population (mln)	2013	182.14
Population Growth (%)	2013	1.65
Urban Population (% of total population)	2013	36.88
Labour Force Participation Rate (%)	2013	54.4
Unemployment Rate (% of labor force)	2013	5.1
GDP per capita (PPP, cur. $)	2013	3,149
Infant Mortality (per 1,000)	2013	69.00
Life Expectancy at birth (years)	2012	66.44

PARTICIPATION in EDUCATION						
	GER		NER		GPI	
Pre-primary Schools	2012	82.1	2005	40.2	2012	0.89
Primary Schools	2012	92.9	2012	72.46	2012	0.87
Secondary Schools	2012	36.6	2012	36.15	2012	0.74
Tertiary Schools	2012	9.5			2012	0.95

PROGRESSION and COMPLETION		
Duration of compulsory education (year)	2012	5
Average Years of Schooling	2012	4.7
Primary Completion Rate (Total)	2012	71.9
Repetition Rates in Primary (all grades)	2012	3.3
Repetition Rates in Secondary (all grades)	2012	2.7
Survival Rate to Last Grade of Primary	2010	52.2
Transition Rate from Primary to Secondary	2012	77.3

LITERACY RATES (%)

Youth

Male	78.0
Female	63.1
Total	70.8

Adult

Male	67.0
Female	42.0
Total	54.7

RESOURCES for EDUCATION		
Pupil / Teacher Ratio (primary)	2012	41.4
Public Education Spending (% of GDP)	2010	2.37
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT		
Reserchers (per million people)	2011	295
Number of Students Studying Abroad for Tertiary Educ.	2012	37,962
GERD (% of GDP)	2011	0.33
GERD per capita (cur. PPP $)	2011	8.70
Patent Applications (total)	2012	894
Scientific Published Articles	2013	6,386
Articles (per million people)	2013	35.06

INDICES			
	Value	Level	Rank
Human Development Index (2013)	0.537	Low	146
Global Competitiveness Index (2014-2015)	3.42	...	129

PALESTINE		

GENERAL INFORMATION		
Population (mln)	2013	4.17
Population Growth (%)	2013	2.98
Urban Population (% of total population)	2013	74.79
Labour Force Participation Rate (%)	2013	41.2
Unemployment Rate (% of labor force)	2013	23.4
GDP per capita (PPP, cur. $)	...	0
Infant Mortality (per 1,000)	2013	18.60
Life Expectancy at birth (years)	2012	73.02

PARTICIPATION in EDUCATION						
	GER		NER		GPI	
Pre-primary Schools	2012	42.0	2012	37.1	2012	0.99
Primary Schools	2012	94.4	2012	90.4	2012	0.99
Secondary Schools	2012	82.8	2012	80.7	2012	1.10
Tertiary Schools	2012	49.1			2012	1.41

PROGRESSION and COMPLETION		
Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	8.9
Primary Completion Rate (Total)	2012	90.2
Repetition Rates in Primary (all grades)	2012	0.7
Repetition Rates in Secondary (all grades)	2012	2.3
Survival Rate to Last Grade of Primary	2011	99.3
Transition Rate from Primary to Secondary	2011	95.5

LITERACY RATES (%)

Youth

Male	99.35
Female	99.23
Total	99.29

Adult

Male	98.2
Female	93.6
Total	95.9

RESOURCES for EDUCATION		
Pupil / Teacher Ratio (primary)	2012	24.4
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT		
Reserchers (per million people)	2010	585
Number of Students Studying Abroad for Tertiary Educ.	2012	17,637
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	127
Articles (per million people)	2013	29.36

INDICES			
	Value	Level	Rank
Human Development Index (2013)	0.686	Medium	107
Global Competitiveness Index (2014-2015)	...	...	...

QATAR

GENERAL INFORMATION

Population (mln)	2013	2.17
Population Growth (%)	2013	5.60
Urban Population (% of total population)	2013	99.01
Labour Force Participation Rate (%)	2013	86.7
Unemployment Rate (% of labor force)	2013	0.5
GDP per capita (PPP, cur. $)	2013	98,814
Infant Mortality (per 1,000)	2013	7.00
Life Expectancy at birth (years)	2012	78.45

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2012	73.4	2012	60.0	2012	1.03
Primary Schools	2005	102.5	2005	92.39	2005	0.90
Secondary Schools	2011	111.6	2011	94.95	2011	1.10
Tertiary Schools	2012	12.1			2012	6.76

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	12
Average Years of Schooling	2012	9.1
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	2012	0.5
Repetition Rates in Secondary (all grades)	2012	2.9
Survival Rate to Last Grade of Primary	2012	93.6
Transition Rate from Primary to Secondary	2008	99.1

LITERACY RATES (%)

Youth

Male	98.7
Female	99.8
Total	99.1

Adult

Male	96.9
Female	95.8
Total	96.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	9.6
Public Education Spending (% of GDP)	2009	5.60
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	3,410
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2012	61
Scientific Published Articles	2013	893
Articles (per million people)	2013	411.77

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.851	Very high	31
Global Competitiveness Index (2014-2015)	5.24	...	16

SAUDI ARABIA

GENERAL INFORMATION

Population (mln)	2013	28.83
Population Growth (%)	2013	1.89
Urban Population (% of total population)	2013	82.70
Labour Force Participation Rate (%)	2013	54.9
Unemployment Rate (% of labor force)	2013	5.7
GDP per capita (PPP, cur. $)	2013	31,245
Infant Mortality (per 1,000)	2013	13.40
Life Expectancy at birth (years)	2012	75.50

PARTICIPATION in EDUCATION

		GER		NER		GPI
Pre-primary Schools	2013	13.5	2013	13.5	2013	1.61
Primary Schools	2013	106.4	2013	96.5	2013	1.03
Secondary Schools	2013	116.2	2013	91.6	2013	1.01
Tertiary Schools	2012	50.9			2012	1.06

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	9
Average Years of Schooling	2012	8.7
Primary Completion Rate (Total)	2012	106.0
Repetition Rates in Primary (all grades)	2009	1.4
Repetition Rates in Secondary (all grades)	2009	1.7
Survival Rate to Last Grade of Primary	2011	61.0
Transition Rate from Primary to Secondary	2011	99.0

LITERACY RATES (%)

Youth

Male	99.30
Female	99.14
Total	99.22

Adult

Male	96.5
Female	91.4
Total	94.4

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	10.9
Public Education Spending (% of GDP)	2012	2.9
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2009	47
Number of Students Studying Abroad for Tertiary Educ.	2012	62,535
GERD (% of GDP)	2009	0.07
GERD per capita (cur. PPP $)	2009	18.80
Patent Applications (total)	2011	990
Scientific Published Articles	2013	8,922
Articles (per million people)	2013	309.48

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.836	Very high	34
Global Competitiveness Index (2014-2015)	5.06	...	24

SENEGAL

GENERAL INFORMATION

Population (mln)	2013	14.13
Population Growth (%)	2013	2.92
Urban Population (% of total population)	2013	43.18
Labour Force Participation Rate (%)	2013	76.5
Unemployment Rate (% of labor force)	2013	10.3
GDP per capita (PPP, cur. $)	2013	1,958
Infant Mortality (per 1,000)	2013	43.90
Life Expectancy at birth (years)	2012	63.20

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	14.3	2012	8.5	2012	1.12
Primary Schools	2012	83.8	2012	73.35	2012	1.08
Secondary Schools	2011	41.0	2006	20.84	2011	0.91
Tertiary Schools	2010	7.6			2010	0.59

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	4.5
Primary Completion Rate (Total)	2012	60.5
Repetition Rates in Primary (all grades)	2012	3.4
Repetition Rates in Secondary (all grades)	2012	16.5
Survival Rate to Last Grade of Primary	2011	61.4
Transition Rate from Primary to Secondary	2011	88.4

LITERACY RATES (%)

Youth

Male	74.0
Female	59.0
Total	66.0

Adult

Male	66.3
Female	40.4
Total	52.1

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	31.7
Public Education Spending (% of GDP)	2010	5.63
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2010	24.57

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2010	631
Number of Students Studying Abroad for Tertiary Educ.	2012	11,893
GERD (% of GDP)	2010	0.54
GERD per capita (cur. PPP $)	2010	10.00
Patent Applications (total)	...	...
Scientific Published Articles	2013	377
Articles (per million people)	2013	26.67

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.485	Low	163
Global Competitiveness Index (2014-2015)	3.70	...	112

SIERRA LEONE

GENERAL INFORMATION

Population (mln)	2013	6.09
Population Growth (%)	2013	1.88
Urban Population (% of total population)	2013	40.02
Labour Force Participation Rate (%)	2013	67.3
Unemployment Rate (% of labor force)	2013	3.2
GDP per capita (PPP, cur. $)	2013	1,542
Infant Mortality (per 1,000)	2013	107.20
Life Expectancy at birth (years)	2012	45.33

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	9.2	2012	8.6	2012	1.07
Primary Schools	2012	131.5	...	...	2012	0.99
Secondary Schools	2001	26.4	...	...	2001	0.71
Tertiary Schools	2002	2.0			2002	0.40

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	6
Average Years of Schooling	2012	2.9
Primary Completion Rate (Total)	2012	72.4
Repetition Rates in Primary (all grades)	2012	14.1
Repetition Rates in Secondary (all grades)	2012	7.3
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	2011	77.1

LITERACY RATES (%)

Youth

Male	71.64
Female	53.82
Total	62.72

Adult

Male	55.5
Female	33.7
Total	44.5

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	33.0
Public Education Spending (% of GDP)	2010	2.6
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	23.2

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	810
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	40
Articles (per million people)	2013	6.57

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.374	Low	183
Global Competitiveness Index (2014-2015)	3.10	...	138

SOMALIA

GENERAL INFORMATION

Population (mln)	2013	10.50
Population Growth (%)	2013	2.90
Urban Population (% of total population)	2013	38.70
Labour Force Participation Rate (%)	2013	56.1
Unemployment Rate (% of labor force)	2013	6.9
GDP per capita (PPP, cur. $)	...	0
Infant Mortality (per 1,000)	2013	89.80
Life Expectancy at birth (years)	2012	54.69

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	...	...	...	...	...	...
Primary Schools	2007	29.2	...	...	2007	0.55
Secondary Schools	2007	7.4	...	...	2007	0.46
Tertiary Schools	...	...			...	...

PROGRESSION and COMPLETION

Duration of compulsory education (year)	...	...
Average Years of Schooling	...	...
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	na
Female	na
Total	na

Adult

Male	na
Female	na
Total	na

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2007	35.5
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	3,315
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	8
Articles (per million people)	2013	0.76

INDICES

	Value	Level	Rank
Human Development Index (2013)	...	0	...
Global Competitiveness Index (2014-2015)	...	...	...

SUDAN

GENERAL INFORMATION

Population (mln)	2013	37.96
Population Growth (%)	2013	2.05
Urban Population (% of total population)	2013	33.54
Labour Force Participation Rate (%)	2013	53.5
Unemployment Rate (% of labor force)	2013	15.2
GDP per capita (PPP, cur. $)	2013	2,631
Infant Mortality (per 1,000)	2013	51.20
Life Expectancy at birth (years)	2012	61.86

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	...	...	...	...	...	...
Primary Schools	...	...	...	...	...	...
Secondary Schools	...	...	...	...	...	...
Tertiary Schools	...	...			...	...

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	8
Average Years of Schooling	2012	3.1
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	2008	4.9
Repetition Rates in Secondary (all grades)	2008	2.6
Survival Rate to Last Grade of Primary	2012	90.9
Transition Rate from Primary to Secondary	2008	93.8

LITERACY RATES (%)

Youth
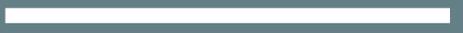
Male	90.31
Female	85.46
Total	87.91

Adult

Male	81.7
Female	65.3
Total	73.4

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	...	...
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2005	355
Number of Students Studying Abroad for Tertiary Educ.	...	..
GERD (% of GDP)	2005	0.30
GERD per capita (cur. PPP $)	2005	5.70
Patent Applications (total)	2012	157
Scientific Published Articles	2013	150
Articles (per million people)	2013	3.95

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.473	Low	166
Global Competitiveness Index (2014-2015)	...	...	...

SURINAME

GENERAL INFORMATION

Population (mln)	2013	0.54
Population Growth (%)	2013	0.88
Urban Population (% of total population)	2013	70.52
Labour Force Participation Rate (%)	2013	54.5
Unemployment Rate (% of labor force)	2013	7.8
GDP per capita (PPP, cur. $)	2013	13,116
Infant Mortality (per 1,000)	2013	20.30
Life Expectancy at birth (years)	2012	70.81

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	88.5	2011	86.5	2011	1.00
Primary Schools	2011	114.4	2011	92.24	2011	0.96
Secondary Schools	2011	85.4	2011	57.20	2011	1.31
Tertiary Schools	2002	12.1			2002	1.72

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	6
Average Years of Schooling	2012	7.7
Primary Completion Rate (Total)	2011	87.7
Repetition Rates in Primary (all grades)	2011	16.0
Repetition Rates in Secondary (all grades)	2011	14.1
Survival Rate to Last Grade of Primary	2008	90.3
Transition Rate from Primary to Secondary	2008	47.0

LITERACY RATES (%)

Youth

Male	98.0
Female	98.8
Total	98.4

Adult

Male	95.4
Female	94.0
Total	94.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	15.2
Public Education Spending (% of GDP)	2012	4.02
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	858
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	22
Articles (per million people)	2013	40.80

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.705	High	100
Global Competitiveness Index (2014-2015)	3.71	...	110

SYRIA

GENERAL INFORMATION

Population (mln)	2013	22.85
Population Growth (%)	2013	1.97
Urban Population (% of total population)	2013	56.86
Labour Force Participation Rate (%)	2010	48.4
Unemployment Rate (% of labor force)	2010	8.4
GDP per capita (PPP, cur. $)	2010	4,997
Infant Mortality (per 1,000)	2013	11.90
Life Expectancy at birth (years)	2012	74.71

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	10.6	2012	10.2	2012	0.95
Primary Schools	2012	122.3	2010	93.1	2012	0.97
Secondary Schools	2012	74.4	2012	69.1	2012	1.00
Tertiary Schools	2011	25.6			2011	1.01

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	6.6
Primary Completion Rate (Total)	2012	106.7
Repetition Rates in Primary (all grades)	2012	7.4
Repetition Rates in Secondary (all grades)	2012	5.6
Survival Rate to Last Grade of Primary	2011	93.2
Transition Rate from Primary to Secondary	2011	95.4

LITERACY RATES (%)

Youth

Male	96.58
Female	94.49
Total	95.57

Adult

Male	90.8
Female	79.2
Total	85.1

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	...	...
Public Education Spending (% of GDP)	2011	4.5
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2009	24.2

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	18,222
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2006	257
Scientific Published Articles	2013	301
Articles (per million people)	2013	13.75

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.658	Medium	118
Global Competitiveness Index (2014-2015)	...	...	...

TAJIKISTAN

GENERAL INFORMATION

Population (mln)	2013	8.21
Population Growth (%)	2013	2.45
Urban Population (% of total population)	2013	26.66
Labour Force Participation Rate (%)	2013	67.9
Unemployment Rate (% of labor force)	2013	10.7
GDP per capita (PPP, cur. $)	2013	2,354
Infant Mortality (per 1,000)	2013	40.90
Life Expectancy at birth (years)	2012	67.26

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	8.8	2011	6.9	2011	0.83
Primary Schools	2012	99.6	2012	98.38	2012	0.98
Secondary Schools	2012	87.0	2011	83.17	2012	0.90
Tertiary Schools	2012	22.5			2012	0.52

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	9.9
Primary Completion Rate (Total)	2012	97.6
Repetition Rates in Primary (all grades)	2012	0.2
Repetition Rates in Secondary (all grades)	2012	0.4
Survival Rate to Last Grade of Primary	2011	98.0
Transition Rate from Primary to Secondary	2011	98.6

LITERACY RATES (%)

Youth

Male	99.9
Female	99.9
Total	99.9

Adult

Male	99.8
Female	99.7
Total	99.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	23.0
Public Education Spending (% of GDP)	2010	4.01
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	11.18

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	200
Number of Students Studying Abroad for Tertiary Educ.	2012	9,128
GERD (% of GDP)	2011	0.12
GERD per capita (cur. PPP $)	2011	2.50
Patent Applications (total)	2012	6
Scientific Published Articles	2013	72
Articles (per million people)	2013	8.77

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.607	Medium	133
Global Competitiveness Index (2014-2015)	3.93	...	91

TOGO

GENERAL INFORMATION

Population (mln)	2013	6.82
Population Growth (%)	2013	2.59
Urban Population (% of total population)	2013	38.99
Labour Force Participation Rate (%)	2013	81.0
Unemployment Rate (% of labor force)	2013	6.9
GDP per capita (PPP, cur. $)	2013	1,084
Infant Mortality (per 1,000)	2013	55.80
Life Expectancy at birth (years)	2012	56.15

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	11.2	2012	11.2	2012	1.03
Primary Schools	2012	132.8	2008	90.4	2012	0.92
Secondary Schools	2011	54.9	2000	23.5	2007	0.53
Tertiary Schools	2012	10.3			2012	0.27

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	10
Average Years of Schooling	2012	5.3
Primary Completion Rate (Total)	2012	77.4
Repetition Rates in Primary (all grades)	2012	20.0
Repetition Rates in Secondary (all grades)	2012	24.2
Survival Rate to Last Grade of Primary	2011	67.1
Transition Rate from Primary to Secondary	2010	78.4

LITERACY RATES (%)

Youth

Male	86.92
Female	72.71
Total	79.89

Adult

Male	74.1
Female	48.0
Total	60.4

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	41.7
Public Education Spending (% of GDP)	2010	4.5
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2011	16.0

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2010	90
Number of Students Studying Abroad for Tertiary Educ.	2012	3,363
GERD (% of GDP)	2010	0.25
GERD per capita (cur. PPP $)	2010	2.40
Patent Applications (total)	...	...
Scientific Published Articles	2013	66
Articles (per million people)	2013	9.68

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.473	Low	166
Global Competitiveness Index (2014-2015)	...	...	...

TUNISIA

GENERAL INFORMATION

Population (mln)	2013	10.89
Population Growth (%)	2013	1.01
Urban Population (% of total population)	2013	66.75
Labour Force Participation Rate (%)	2013	47.6
Unemployment Rate (% of labor force)	2013	13.3
GDP per capita (PPP, cur. $)	2013	9,932
Infant Mortality (per 1,000)	2013	13.10
Life Expectancy at birth (years)	2012	75.10

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2002	19.9	2002	19.9	2002	0.97
Primary Schools	2012	109.7	2012	98.87	2012	0.98
Secondary Schools	2011	91.1	…	…	2011	1.05
Tertiary Schools	2012	35.2			2012	1.59

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	11
Average Years of Schooling	2012	6.5
Primary Completion Rate (Total)	2012	101.7
Repetition Rates in Primary (all grades)	2012	6.0
Repetition Rates in Secondary (all grades)	2012	14.5
Survival Rate to Last Grade of Primary	2009	94.8
Transition Rate from Primary to Secondary	2009	90.8

LITERACY RATES (%)

Youth

Male	98.2
Female	96.3
Total	97.3

Adult

Male	87.8
Female	71.7
Total	79.7

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	17.1
Public Education Spending (% of GDP)	2010	6.20
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	28.13

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2008	3,195
Number of Students Studying Abroad for Tertiary Educ.	2012	18,911
GERD (% of GDP)	2009	1.10
GERD per capita (cur. PPP $)	2009	99.20
Patent Applications (total)	2008	548
Scientific Published Articles	2013	2,921
Articles (per million people)	2013	265.63

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.721	High	90
Global Competitiveness Index (2014-2015)	3.96	…	87

TURKEY

GENERAL INFORMATION

Population (mln)	2013	74.93
Population Growth (%)	2013	1.26
Urban Population (% of total population)	2013	73.25
Labour Force Participation Rate (%)	2013	49.4
Unemployment Rate (% of labor force)	2013	10.0
GDP per capita (PPP, cur. $)	2013	15,353
Infant Mortality (per 1,000)	2013	16.50
Life Expectancy at birth (years)	2012	74.86

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	30.6	2012	30.6	2012	0.97
Primary Schools	2012	100.0	2012	94.0	2012	0.99
Secondary Schools	2012	86.1	2012	82.1	2012	0.95
Tertiary Schools	2012	69.4			2012	0.85

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2013	12
Average Years of Schooling	2012	7.6
Primary Completion Rate (Total)	2012	101.4
Repetition Rates in Primary (all grades)	2012	2.3
Repetition Rates in Secondary (all grades)	2012	2.9
Survival Rate to Last Grade of Primary	2011	90.0
Transition Rate from Primary to Secondary	2011	97.8

LITERACY RATES (%)

Youth

Male	99.59
Female	98.41
Total	99.02

Adult

Male	98.3
Female	91.6
Total	94.9

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	20.1
Public Education Spending (% of GDP)	2012	3.3
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2006	31.9

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	1,881
Number of Students Studying Abroad for Tertiary Educ.	2012	51,487
GERD (% of GDP)	2011	0.86
GERD per capita (cur. PPP $)	2011	154.70
Patent Applications (total)	2012	4,666
Scientific Published Articles	2013	25,986
Articles (per million people)	2013	346.79

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.759	High	69
Global Competitiveness Index (2014-2015)	4.46	…	45

TURKMENISTAN

GENERAL INFORMATION

Population (mln)	2013	5.24
Population Growth (%)	2013	1.29
Urban Population (% of total population)	2013	49.40
Labour Force Participation Rate (%)	2013	61.5
Unemployment Rate (% of labor force)	2013	10.6
GDP per capita (PPP, cur. $)	2013	9,510
Infant Mortality (per 1,000)	2013	46.60
Life Expectancy at birth (years)	2012	65.31

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	...	...	...	...	...	...
Primary Schools	...	...	...	...	...	...
Secondary Schools	...	...	...	...	...	...
Tertiary Schools	1991	21.7			...	...

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	10
Average Years of Schooling	2012	9.9
Primary Completion Rate (Total)	...	...
Repetition Rates in Primary (all grades)	...	...
Repetition Rates in Secondary (all grades)	...	...
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	99.8
Female	99.9
Total	99.8

Adult

Male	99.7
Female	99.5
Total	99.6

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	...	...
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	27,959
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	...	...
Scientific Published Articles	2013	14
Articles (per million people)	2013	2.67

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.698	Medium	103
Global Competitiveness Index (2014-2015)	...	...	...

UGANDA

GENERAL INFORMATION

Population (mln)	2013	37.58
Population Growth (%)	2013	3.34
Urban Population (% of total population)	2013	16.42
Labour Force Participation Rate (%)	2013	77.5
Unemployment Rate (% of labor force)	2013	3.8
GDP per capita (PPP, cur. $)	2013	1,484
Infant Mortality (per 1,000)	2013	43.80
Life Expectancy at birth (years)	2012	58.65

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2010	13.6	2010	13.6	2010	1.05
Primary Schools	2011	109.8	2011	90.9	2011	1.02
Secondary Schools	2009	27.6	2004	15.4	2009	0.83
Tertiary Schools	2011	9.1			2011	0.27

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	7
Average Years of Schooling	2012	5.4
Primary Completion Rate (Total)	2011	53.1
Repetition Rates in Primary (all grades)	2011	10.2
Repetition Rates in Secondary (all grades)	2011	2.0
Survival Rate to Last Grade of Primary	2010	24.8
Transition Rate from Primary to Secondary	2010	58.3

LITERACY RATES (%)

Youth

Male	89.64
Female	85.47
Total	87.41

Adult

Male	82.6
Female	64.6
Total	73.2

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	47.8
Public Education Spending (% of GDP)	2010	2.6
Expenditure on Tertiary as % of Gov't Exp. on Educ.	2012	11.5

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2010	83
Number of Students Studying Abroad for Tertiary Educ.	2012	4,853
GERD (% of GDP)	2010	0.56
GERD per capita (cur. PPP $)	2010	6.90
Patent Applications (total)	2007	7
Scientific Published Articles	2013	547
Articles (per million people)	2013	14.56

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.484	Low	164
Global Competitiveness Index (2014-2015)	3.56	...	122

UNITED ARAB EMIRATES

GENERAL INFORMATION

Population (mln)	2013	9.35
Population Growth (%)	2013	1.51
Urban Population (% of total population)	2013	84.91
Labour Force Participation Rate (%)	2013	79.9
Unemployment Rate (% of labor force)	2013	3.8
GDP per capita (PPP, cur. $)	2013	30,122
Infant Mortality (per 1,000)	2013	7.00
Life Expectancy at birth (years)	2012	76.96

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2012	71.1	2011	59.5	2012	1.02
Primary Schools	2012	108.3	2012	91.19	2012	0.97
Secondary Schools	1999	83.6	1999	75.67	1999	1.10
Tertiary Schools	1993	6.1			1993	4.16

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	9.1
Primary Completion Rate (Total)	2012	110.6
Repetition Rates in Primary (all grades)	2010	2.0
Repetition Rates in Secondary (all grades)	2012	2.6
Survival Rate to Last Grade of Primary	2010	84.4
Transition Rate from Primary to Secondary	2012	99.4

LITERACY RATES (%)

Youth

Male	93.6
Female	97.0
Total	95.0

Adult

Male	89.5
Female	91.5
Total	90.0

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2012	18.0
Public Education Spending (% of GDP)	2009	0.99
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	8,526
GERD (% of GDP)	2011	0.49
GERD per capita (cur. PPP $)	2011	196.70
Patent Applications (total)	...	...
Scientific Published Articles	2013	1,441
Articles (per million people)	2013	154.18

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.827	Very high	40
Global Competitiveness Index (2014-2015)	5.33	...	12

UZBEKISTAN

GENERAL INFORMATION

Population (mln)	2013	30.24
Population Growth (%)	2013	1.55
Urban Population (% of total population)	2013	36.34
Labour Force Participation Rate (%)	2013	61.6
Unemployment Rate (% of labor force)	2013	10.7
GDP per capita (PPP, cur. $)	2013	3,762
Infant Mortality (per 1,000)	2013	36.70
Life Expectancy at birth (years)	2012	68.10

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	24.8	2011	19.4	2011	1.00
Primary Schools	2011	93.3	2011	88.5	2011	0.97
Secondary Schools	2011	105.2	...	...	2011	0.98
Tertiary Schools	2011	8.9			2011	0.65

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2011	12
Average Years of Schooling	2012	10.0
Primary Completion Rate (Total)	2011	91.8
Repetition Rates in Primary (all grades)	2011	0.0
Repetition Rates in Secondary (all grades)	2006	0.0
Survival Rate to Last Grade of Primary	2010	98.1
Transition Rate from Primary to Secondary	2010	99.0

LITERACY RATES (%)

Youth

Male	99.89
Female	99.99
Total	99.94

Adult

Male	99.7
Female	99.3
Total	99.5

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	15.6
Public Education Spending (% of GDP)	...	...
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	2011	1,097
Number of Students Studying Abroad for Tertiary Educ.	2012	24,489
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2012	510
Scientific Published Articles	2013	319
Articles (per million people)	2013	11.03

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.661	Medium	116
Global Competitiveness Index (2014-2015)	...	...	...

YEMEN

GENERAL INFORMATION

Population (mln)	2013	24.41
Population Growth (%)	2013	2.30
Urban Population (% of total population)	2013	33.49
Labour Force Participation Rate (%)	2013	48.8
Unemployment Rate (% of labor force)	2013	17.4
GDP per capita (PPP, cur. $)	2013	2,316
Infant Mortality (per 1,000)	2013	40.40
Life Expectancy at birth (years)	2012	62.91

PARTICIPATION in EDUCATION

	GER		NER		GPI	
Pre-primary Schools	2011	1.5	2011	1.1	2011	0.88
Primary Schools	2012	96.9	2012	86.27	2012	0.83
Secondary Schools	2012	46.9	2012	42.29	2012	0.65
Tertiary Schools	2011	10.3			2011	0.44

PROGRESSION and COMPLETION

Duration of compulsory education (year)	2012	9
Average Years of Schooling	2012	2.5
Primary Completion Rate (Total)	2012	69.8
Repetition Rates in Primary (all grades)	2012	6.7
Repetition Rates in Secondary (all grades)	2012	5.5
Survival Rate to Last Grade of Primary	...	...
Transition Rate from Primary to Secondary	...	...

LITERACY RATES (%)

Youth

Male	96.7
Female	77.8
Total	87.4

Adult

Male	82.6
Female	50.2
Total	66.4

RESOURCES for EDUCATION

Pupil / Teacher Ratio (primary)	2011	30.3
Public Education Spending (% of GDP)	2008	5.15
Expenditure on Tertiary as % of Gov't Exp. on Educ.	...	...

RESEARCH and DEVELOPMENT

Reserchers (per million people)	...	...
Number of Students Studying Abroad for Tertiary Educ.	2012	14,943
GERD (% of GDP)	...	...
GERD per capita (cur. PPP $)	...	...
Patent Applications (total)	2012	85
Scientific Published Articles	2013	183
Articles (per million people)	2013	7.50

INDICES

	Value	Level	Rank
Human Development Index (2013)	0.500	Low	154
Global Competitiveness Index (2014-2015)	2.96	...	142