ABSTRACT

Without adequate higher education and research institutions providing a critical skilled and educated people, no country can ensure endogenous and sustainable development. Hence well organized and fully supported and good quality of higher education and scientific researchers are considered as the heart of any country to get an access to the progress in the daily live.

Iraq has faced in recent years a series of conflicts that led to a rapid deterioration of infrastructure and basic social services, the higher education is one of the sectors that sustained serious destruction in the infrastructure, its buildings were destroyed, burnt or looted. In addition to destruction of infrastructure and ongoing security dangers, problems plaguing Iraq’s higher learning system include under-qualified teaching staff (33% hold only bachelor’s degrees, despite rules requiring a masters degree; 39% hold masters degrees, 28% hold PhDs).

Iraq’s higher education system comprises 20 universities and 47 technical institutes, under the general management of the Ministry of Higher Education and Scientific Research (MHERS). There are also about 10 private colleges, offering studies in computer science, business administration, economics and management.

Higher Education in Iraq faces many challenges which represent with , infrastructure, Quality of Education System, academic staff & faculty qualification, textbooks, scientific research and publications, education institutions and labor markets, education Institutions governance, the teaching staff, and the graduates qualities.

We believe that Iraq’s higher education sector has the potential to play an important role in overcoming the country’s widening sectarian divides and fostering long-term peace and stability, in order to contribute to the desired development, Iraqi universities must provide society with qualified manpower in various scientific disciplines and professions.

This research aims to review the most important challenges and give some recommendations to help this sector to play its leader role in our socio-economic life.

Keywords: Higher Education, challenges, future Higher Education needs, Iraq.
1. Introduction

A country with 8,000 years of recorded history that was once a leader among Arab states in the quality of its social programs, Iraq has faced in recent years a series of conflicts that led to a rapid deterioration of infrastructure and basic social services. Iraqi civilians have been suffering since 1980 with the start of the Iran-Iraq war (1980-1988), resulting not only in an enormous loss of life but also in the amassing of billions of dollars in debt. The ensuing first Gulf War (1990-1991) led to the establishment of sanctions that had a devastating impact on the country. From 1991 until 2003, the consequences of government policy and the sanctions regime led to hyperinflation, widespread poverty and malnutrition. Since 2008, however, the situation has continued to improve incrementally, especially regarding security (UNESCO 2011 – 2014).

Iraq is proud of its traditional role as a regional centre of learning, as was demonstrated in 1963 when one of the most prestigious universities of the country was named after the traditional “Mustansiriya” school that had been founded in Baghdad. The development of higher education during the 1970s was characterized mainly by the creation of technical institutes. The oldest universities remain the largest and most renowned.

The establishment of new universities was based mainly on the need to meet the growing demand for higher education facilities and the principle of equitable geographical distribution. It corresponds with the international trend of expanding higher education. Nevertheless, quality assessments will be needed to assess the capacities and needs of these institutions.

A lot of development experiences from many countries shows that the achievement of economic development is no longer depending on the natural resources and elements of production only, but it also depends on the practical level of knowledge and skills of the labor force, available to those countries, to enable them absorb and follow the successive and rapid developments of modern techniques of production.

In order to contribute to the desired development, Iraqi universities must Provide society with qualified manpower in various scientific disciplines and professions, striving for the development of society and the treatment of problems through the production of scientific research, providing the community with highly qualified personnel to lead and take responsibility for the construction and development in the community, as cultural source through conferences, seminars and scientific meetings.

2. The Existing Situation

Iraq’s higher education system comprises 20 universities and 47 technical institutes, under the general management of the Ministry of Higher Education and Scientific Research (MHESR). There are also about 10 private colleges, offering studies in computer science, business administration, economics and management (UNESCO 2004).

Modern universities in Iraq were established in the second half of last century. Iraq’s first and largest university, Baghdad University, was founded in 1957, uniting several colleges that had been established earlier, five more universities were established, namely the University of Technology and the Al-Mustansirya University in Baghdad as well as the universities of Basra, Mosul and Sulaymaniya.
During the last 20 years, the official policy of establishing a university in each governorate has led to a considerable quantitative expansion, with 14 new universities. Two of them, those in Thi-Qar and Kirkuk were established as recently as 2002 and Wassit in February 2003. The oldest universities remain the largest and most renowned. The establishment of new universities was based mainly on the need to meet the growing demand for higher education facilities and the principle of equitable geographical distribution. It corresponds with the international trend of expanding higher education. Nevertheless, quality assessments will be needed to assess the capacities and needs of these institutions (UNESCO 2004).

Iraq’s higher education sector has the potential to play an important role in overcoming the country’s widening sectarian divides and fostering long-term peace and stability. As a leading actor within Iraq’s civil society, it could offer an institutional venue for resolving the country’s political, social, and economic problems while promoting respect for human rights and democratic principles both on campus and in the wider society (Imad Harb 2008).

Higher education plays an important role in society because it creates new knowledge, transfers it to students, and promotes creativity and innovation. Higher education institutions are key actors in the production and dissemination of knowledge through research and instruction, and therefore bear a unique social responsibility for fostering values, citizenship, and civic engagement. They are also producers of human capital, which is demanded by employers in the labor market and critical to social and economic advancement (Katherine Wilkens, 2011).

Students in the 20 universities were enrolled in various fields of studies such as education, sciences, engineering, agriculture, law, social sciences, medicine and humanities. Thirty-two percent of students studied education; 28 percent, sciences, engineering, and agriculture; 15 percent, law and social sciences; 13 percent, medicine; and 12 percent, humanities (UNESCO, 2004).

The academic teaching staff numbered about 19,000, of whom 36 percent had doctorates, 58 percent had master’s degrees, and 6 percent had bachelor’s degrees (and were licensed to teach in the technical institutes only). Approximately 250,000, students enrolled at universities:

- Males accounted for 58 percent of students and 65 percent of faculty, females for 42 and 35 percent, respectively.
- Nearly 50 percent of all students attended one of Baghdad’s five universities (Baghdad, al-Mustansiriyya, al-Nahrain, Technology, and Islamic Studies) (Imad Harb 2008).

3. Challenges

3.1 Infrastructure

The higher education is one of the sectors that sustained serious destruction in the infrastructure. The buildings that were destroyed burnt or looted in some governorates are about 84%, in general the colleges and institutes were of good infrastructure, in land, buildings, labs and space, except for few new universities particularly in the Northern provinces and some southern governorates. The basic problems can be summed in the following:
1. The shortage in the instruments, laboratory equipment, especially the engineering apparatus, laboratory equipment and materials related to medical, physics, chemical and biological studies and the lack of buildings and suitable classrooms for the increase of the number of students admitted.

2. The weakness and ambiguity of the relation between the higher education, the graduates and the jobs market, and the actual demand in different specialization and shortage in computers and internet networks, also the reconstruction of communication infrastructure to insure exchange of information between the colleges of a university, and between universities inside Iraq or abroad.

   In general there is a need for 376 chemistry lab, 383 physics lab, 252 Biology lab, 196 microbiology lab, 945 various engineering labs. (Strategies of the Iraqi Ministry of Higher Education and Scientific Research).

3.2 Academic Staff & Faculty Qualification

   Out of the 19,112 university teaching staff, 56.5% were males and 43.5% females. Faculty members were concentrated in Baghdad, which accounted for more than 37% of all higher education teaching force in the country. This is somewhat a little less than the concentration of students, of whom 43% were in Baghdad (UNESCO 2004).

   The minimum educational qualification for a teaching post in higher education is a master’s degree. Faculty members with Ph.D. studies are preferable because of their capacity to handle graduate students and to advise them in their master’s and Ph.D. theses, about one third of faculty members lack a master’s. 28% had Ph.D, 39% had master’s degrees, and 33% had only a bachelor’s degree. (Strategies of the Iraqi Ministry of Higher Education and Scientific Research).

3.3 Textbooks

   Textbooks were normally provided free at Iraqi universities. In addition, there was a long tradition of private and public library systems. The average number of volumes per student in most universities was 5 – 15 with the exception of Dahuk (32), Basrah (40) and Kufa (51). The internationally accepted standard is 100 volumes. Many colleges were left without any textbooks after the March-April 2003 conflict, primarily because of looting or complete destruction of their libraries. The survey of UNESCO 2004 indicated that 7 universities (Anbar, Basrah, Baghdad, University of Technology Baghdad, Al Nahrain, Mosul, Thi-Qar) had suffered looting of one or more of their libraries (central or college libraries). The library of the College of Law of Al Nahrain, University in Baghdad, for example, was gutted to the ground.

   The survey of UNESCO 2004 indicated that 80% of university libraries located in the Centre/South need rehabilitation, including the provision of library books, materials and furniture. The availability of books and journals in the 3 universities in Northern Iraq was better, since these universities were not affected by the conflict (UNESCO 2004).
3.4 Scientific Research and Publications

The MHESR determines the policy framework for research for the universities. Before April 2003, there was a “National Committee for Science and Technology,” composed of university presidents, in charge of coordinating research activities. Research centres had received generous financial support in the 1970s when the oil industry was booming, but the situation changed in the 1980s because of the conflict with Iran. The lack of funding, materials, equipment and literature became even more evident in the 1990s, when international sanctions prohibited the import of materials and equipment with a possible ‘dual use’. Given the budget shortages, research activities relied mainly on post-graduate students, and were often undertaken in co-operation with partners from the economic or military sector which funded specific projects.

The presentation of research papers is traditionally an essential condition for the promotion of faculty members in Iraq. It is incumbent upon assistant lecturers, lecturers and assistant professors to publish at least one research paper per year. However, the choice of research topic was severely limited by the scarcity of scientific equipment and materials, including literature, needed for research (UNESCO 2004).

Scientific Research is a cornerstone for development of any nation around the World. However, economic difficulties will continue to inhibit the development of Scientific Research in the Iraqi Universities for indefinite future. At the same time, the Iraqi Universities should attempt to link research more closely with each other, higher educational activities and industries, and develop competitive research funding programs that stimulates creativity among young researchers, and establish new bridges from various research laboratories in the Middle East to production activities.

It is well known that the status of scientific Research activities inside Iraqi universities before March 2003 was more related to the needs of the community in it's different faces, either civil or military. This aspect was fully organized through good cooperation among all Iraqi Universities Scientific Research Institutes and the Different Iraqi Ministries, and Different other governmental Institutes. There was continues managed, monitored and fully funded research programs that help and support the finalizing of good results from the established research programs.

After April 2003, great damages were in the infrastructures of the most Scientific Researches Centers of the Iraqi Universities, and the Scientific Research Centers in the Research Institutes of other governmental Ministries. These facts affected seriously in the progress of the scientific research Activities inside Iraqi universities. Also, the cooperation among all Iraqi Research Institutes was very rarely! All these facts resulted in weak Quality Research activities.

There has been little possibility of international collaboration for a generation of academics that has never had the opportunity to engage internationally. Nor have there been many opportunities fornication given the country’s isolation and the higher education system’s declining academic rigor (Zahra Rasian, 2009).

There are many challenges facing the scientific researches activities inside Iraqi can be summaries as follows:
a- Funding Problems: It is fact that the scientific researches inside Iraqi Universities didn't supported in a well manner from the government. It is clear facts for all universities, that most of the research programs will not be financially supported by any governmental or private sector companies.

b- Strategies Challenges: It is known that the inexistence of clear strategies for scientific researches inside the universities in different researches fields.

c- Organizational and Management Challenges: The inexistence of Central Research Institutes that take care and distribute the management of scientific researches. And the ineffectiveness of the existing research organizations, and the deficiencies of the valid laws. And the incapability of making use of the other scientific researches activities in the well advanced countries, especially in planning and management and application of the research activities.

d- Information Technology Challenges: Such challenges can be summarized in the following different aspects, such as, the insufficient statistics, available data, effective uses of Internet access, Cultural Knowledge about what the Internet Access and opportunities can support the Research interests of the Research Staff. The national and international well prepared studies for all scientific researches activities, delay in publishing the good researches papers, and the insufficient make use of the results of scientific researches in application.

e- The independence of scientific researches activities in any level of organization in many scientific fields.

f- Great Gap between the private sectors and the scientific researches centers and places inside universities (Sattar B. Sadkhan, 2010).

3.5 Quality of Education System

The large number of students who have sought entry into the tertiary system in the last decade has put incredible pressure on higher education systems across the region. Efforts to absorb these students and to widen overall access have strained government resources and led to a focus on expanding quantity rather than quality. Despite successful efforts to increase higher education enrollment, enrollment ratios are still low in many countries, and the regional average is still low by international standards.

Despite the boom of private universities and paid programs across the Middle East and North Africa in recent years, these institutions have not dampened the effects of the demographic dilemma facing the region. The proportion of private institutions is as high as 40 percent in some countries, yet these institutions absorb less than 11 percent of the student body for higher education. In many cases, governance and accreditation systems are insufficient to guarantee that quality, rather than profit, is at the core of new for-profit institutions’ missions. With some exceptions, new private institutions are viewed as further undermining quality and equity and producing graduates at high personal cost without the knowledge and skills needed to succeed. In large public sector institutions—which continue to serve the overwhelming majority of the population throughout the region—overcrowding and resource shortages make it difficult to place more emphasis on the key ingredients of quality: teaching, pedagogy, curriculum, and faculty. In addition, the continuing emphasis at the secondary level on traditional rote memorization methods, rather than critical thinking.
techniques, has contributed to a pool of applicants that are unprepared for higher level learning—creating a greater burden on the system and requiring additional resources (Katherine Wilkens, 2011).

The most fundamental of the many challenges facing Iraq's higher education sector is that of re-establishing its universities as independent institutions, dedicated to education, and free of political, religious, and ethnic influence. There has been no independent quality control agency to monitor and ensure minimum standards in teaching and research across higher education institutions. And there have been no government or private research-funding bodies to consistently encourage, nurture, and reward excellence in research (Zahra Rasian, 2009).

3.6 Education Institutions and Labor Markets

Linkages between higher education institutions and local and regional labor markets are of paramount importance to sustainable economic development. These linkages are critical to the task of supporting broader societal goals, fueling the creation of knowledge, advancing research, and educating a new generation of leaders able to engage in the global knowledge economy but also steeped in their own cultural and linguistic traditions. In the Middle East and North Africa, these linkages have been less developed and have not effectively served the broader goals of society. There is a growing recognition that Arab higher education systems should focus more on improving the “relevance” of their services in terms of knowledge and research and in linking them to the labor market and economic development (Katherine Wilkens, 2011).

3.7 Education Institutions Governance

The ministry of Higher Education and Scientific Research, consisting of six departments, defines the higher education policy and supervises the administration and organization of the higher education system (universities, colleges, and technical institutes). Both private and public universities in Iraq are autonomous in financial, administrative, and technical matters (World data on education, 2010/11).

Governance and regulation of public sector institutions are rigid across the region, with important implications for the function of the university in society and its ability to respond to the needs of students, faculty, and employers. Low government-run bureaucracies still control the rules of the game, including curriculum design, the standards for approval of new degrees, and the regulations for teacher certification. This system is unable to nimbly implement the priorities for reform and respond to the rapidly changing environment of higher education. In addition, institutional actors at every level are accountable to state authorities, addition; they are largely governmental bodies and lack the independence and scope to push for more fundamental reforms. How can the region and individual institutions begin to address the problem of advancing educational quality in this difficult environment? Governments have an important role to play in raising the bar for educational quality, by encouraging the process, rewarding those who embrace reform, and penalizing those who do not. It must also be willing to step back and empower institutional leadership and independent commissions on higher education to take the lead in reform efforts, recognizing that internal reforms cannot be dictated—they must be internalized to succeed.
It would be a mistake not to recognize that quality is costly. In the case of public institutions, governments will need to financially support the process of internalizing quality assurance. Establishing internal structures for quality and accountability requires building a new evaluations bureaucracy that includes institutional offices and committees for assessment, university statistics, program review, and strategic management. In an environment where resources are scarce, difficult choices need to be made. Institutions are being asked to do more with less. Nevertheless, results cannot be expected to improve without tackling this difficult task (Katherine Wilkens, 2011).

3.8 The Teaching Staff

The Strategy of the Iraqi Ministry of Higher Education and Scientific Research indicate that teaching staff need more attention, because it is the most important element in the education system, so the priority should be given to develop the teaching staff, by providing a university atmosphere that insures freedom of research, publishing, and ownership rights, also encourage and enhance scientific output, and immunity and the freedom of expression and belief, to enhance the scientific and technical abilities and skills of the teacher and provide suitable academic environment, suitable and comfortable to develop his achievements; great concern should be given to:

A. Teaching skills and the development of their method and providing the teacher with their requirements.
B. Teaching staff in the modern specializations like computer science, information technology, software engineering, medical techniques, genetic engineering remote sensing, nanotechnology, tissue transplantation, and management of water resources.
C. Scientific conferences and symposia, both local and international and make them regular to improve the staff and exchange expertise especially with the dignified scientific personalities.
D. Rehabilitation of the teaching staff and make every possible effort for this slice, rank and rights and give them the opportunity to enhance their knowledge without obstacles.
E. Decrease the burden of higher scientific rank and provide all the research requirements that will make of them distinguished schools.
F. Establishment of educational development centers to rehabilitate the teacher before and during commencing his services and keep him in touch with the latest teaching methods (Strategies of the Iraqi Ministry of Higher Education and Scientific Research).

3.9 The Graduates Qualities

The hard circumstances sustained by the country in past quarter of a century, affected the quality of education, and lead to poor graduates quality control, among the reasons for that is the mass expansion of the higher education, at the expense of the quality, despite the poor facilities available, that leads students to overcrowd in class rooms and the weak relations between them and their teachers, and it is inevitable, to adopt teaching methods based on, memorizing rather than comprehension through reading lectures on them because of poor facilities, furthermore, the students are not able to use foreign references because they are in general weak in foreign languages and depend on Arabic, so they concentrating on theoretical
aspect of education because of the poor status of the labs, and the shortage in modern equipment. Teaching is based on one text book which kept students away from going to the libraries to look for other books and references, the curricula are old and unable to cope with modern developments which affected negatively on the quality of the graduates (Strategies of the Iraqi Ministry of Higher Education and Scientific Research).

4. Future Educational Needs

In order to overcome all challenges facing higher education system in Iraq, we think that we need to make the following:

1- It is important to put comprehensive strategy for higher education and scientific research include Working on putting flexible legislations to facilitate academic commission to develop the teaching and research in the university development of cooperation plans, twining of specializations, and teachers training. Planning contracting limitations clear enough, between the university and the state, for university to implement its authority within the independency stated by the law, under the supervision of the ministry to verify the fulfillment of university commitments.

2- It is important to study the market needs to Distribute the students within the universities according to the actual need of the jobs market through to coordination between the ministry of higher education and the ministry of planning.

3- Development of university environment to suite the needs of the teaching staff and students, availability of training and teaching staff according to the needs of the universities and foundations to the specializations currently exist. Providing devices, equipment, and other appliances needed by the universities to execute curricula designated for ordinary and higher education, and raising the level of teaching and training staff in universities and foundations through providing training opportunities in the well established foreign universities and research centers.

4- Encouraging private education and the amendment of the private education low to encourage the investors to open new colleges according to standards stated by the ministry, and implementation of the justice in the distribution of available resources according to the need of every university in Iraq.

5- Working on the enhancing of the universities authorities and ex-tend them to include the financial independence and put flexible monetary system.

6- Regarding to the scientific research and its importance, there is an assist need to laying a plan for scientific research, to facilitate obtaining the research requirements, support the scientific researcher in on encouraging way to execute the researches, introduce training courses abroad to raise the proficiency of the researchers in his knowledge of techniques, modern research requirements, and the contribution with other researchers in developed and distinguished universities, and the building of new efficient managerial ship to lead the scientific research.

7- Regarding to the educational staff, we think that the prime minister program for Addressing Iraq’s Development Needs through Higher Education - 10,000 Fellowships is enough. The government will be allocating government funds to send 10,000 students
abroad to Britain, the United States, and elsewhere to earn undergraduate and graduate degrees (Iraqi Academic Conference Summary Report, 2009).

8- Improving quality: renewal of curricula, teaching-learning materials and teaching methods.

9- Improving quality: ICTs in support of higher education. ICTs offer the opportunity to bridge the information gap through virtual libraries and use of the internet. It will be important to ensure the interconnection of the universities (academic intranet) and their access to the internet. It will be necessary to provide computer laboratories and tuition in basic computer skills for all staff and students in higher education institutions.

10- Improving quality: provision of books, equipment and furniture.

11- Strengthening the culture of research. Resources will be needed for research and development work to support the process of social and economic renewal. Decisions will be needed on research specializations at different academic institutions, drawing on special competencies and centres that are already present, together with methods for coordination and communication between these institutions.

12- Quality assurance. Steps are needed to strengthen assessment and quality assurance activities at national and institutional level, so that courses can be recognized as of international standard.

13- Rehabilitation/reconstruction of infrastructure.

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