

Status of education and higher education in Iraq for post 2003

Prof. Dr. Yarub Al-Douri
University of Malaya – Malaysia
Email: yaldouri@yahoo.com

Abstract

A review of education and higher education in Iraq for pre and post 2003 is presented. Personal efforts, UNESCO references and other have been relied on and utilized to explore the hidden facts of educational cases for the period of 2003 and ongoing. This study has been divided into two divisions. The first is the education of schools has detailed the attendance and dropout rates, buildings damage, curriculum and school strange behaviours are elaborated. The second is higher education that has been taken into consideration since 1950s until 2003, thenafter the changes in higher education for post 2003 that imposed the academics to leave Iraq, followed by main challenges, political violence, threats, assassinations, enforced disappearance, danger and freedom absence are discussed. The university education and scientific research are studied in comparison with the regional and world levels.

1. Introduction

The education system in Iraq, prior to 1991, was one of the best in the region, with over 100% gross enrolment rate for primary schooling and high levels of literacy, both of men and women. The higher education, especially the scientific and technological institutions, were of an international standard, staffed by high quality personnel. Modern universities in Iraq were established in the second half of the last century, beginning with the University of Baghdad in 1957 uniting several constituent colleges in the process. During the 1960s five more universities were established – the University of Technology and the Al-Mustansiriya University in Baghdad as well as universities in Basra, Mosul and Sulaymaniah. The further development of higher education in Iraq was characterized by establishment of technical institutes reflecting the considerable demand for qualified technicians created by the flourishing oil industry. During that time, the policy of establishing a university in each governorate responded to both the demands of equity and the growing demand for higher education. Thus 14 new universities were founded [1].

While, Iraq enjoyed a long and proud tradition of distinguished universities, a sequence of wars and sanctions have severely damaged the system. After the recent invasion of Iraq by the coalition forces in 2003, hundreds of academics have been assassinated and many are under daily threat. Iraq's education system, once vaunted as the most advantaged in the region, has suffered a patterned process of degradation and dismantling. Iraqi schools and universities were bombed and destroyed. Under the occupation, according to a report by the United Nations University International Leadership Institute in Jordan, some 84% of Iraq's institutions of higher education have been burned, looted or destroyed. Some 2000 laboratories need to be re-equipped and 30000 computers need to be procured and installed nationwide [2].

Like most higher education institutions across Iraq, Baghdad University escaped almost unscathed from the bombing. In the subsequent looting and burning, 20 of the capital's colleges were destroyed. No institution escaped: the faculty of education in Waziriyya was raided daily for two weeks; the veterinary college in Abu Ghraib lost all its equipment; two buildings in the faculty of fine arts stand smoke-blackened against the skyline. In every college and classroom, you could write "education" in the dust on the tables. Looters began ransacking Mustansiriya University on

April 9, 2003. By April 12, the campus of yellow-brick buildings and grassy courtyards was stripped of its books, computers, lab equipment and desks. Since March 2003, more than 700 primary schools have been bombed, 200 have been burnt and over 3000 looted [3].

The US forces, the Iraqi army and Iraqi police units occupied school buildings for military purposes. It occupied more than 70 school buildings for military purposes in the Diyala governorate alone, in clear violation of the Hague Conventions. As a result, a report published in March 2011 by UNESCO confirmed the urgency of the situation currently faced by Iraqi educators and students. According to UNESCO, several Middle Eastern countries, including Iraq, are unlikely to achieve the education-for-all millennium development goals by 2015 due to insecurity and conflict. Decades of war, UN sanctions, insecurity and economic decline have adversely affected education in Iraq. Illiteracy levels have risen dramatically over the past years. According to data produced by the government and UNESCO in September 2010, at least five million of Iraq's almost 30 million people are illiterate [4].

2. Education

It is necessary to let the world know about the current status of education in Iraq. What is the trend of enrolment across governorates in recent years? Did the recent conflicts, as well as financial crisis, affect the Out of School Children (OOSC) situation? Are there significant differences in the OOSC rate among Internally Displaced Persons (IDPs) and those who are not internally displaced? All of these will be taken into consideration for the followings [5]:

2.1 Attendance rates

Review of enrolment figures over the last four decades indicates an excellent progress with increasing enrolment ratios until the 1980s. The effect of the deteriorating education system on enrolment became evident in the 1990s. The gross enrolment ratio (GER) was estimated to be 107.8% in 1990/1991 dropping to 98.4% in 2001/2002. The Central Statistics Organization (CSO) provides the following figures on trends from 1990/1991 to 2001/2002 [6] as given in Table 1:

Table 1 The enrolment rate of Iraqi schools since 1990-2002 [6].

Year	Enrolment rate for children 6-11 years
1990/1991	90.8% (93.9% for males & 87.7% for females)
2000/2001	87.3% (94.5% for males & 79.8% for females)
2001/2002	88.5% (93.6% for males & 83% for females)

Based on the CSO data, only 72.8% of children who had entered first grade reached fifth grade in 2001/2002 compared to 75.6% in 1990/1991. A study conducted in 2002 has revealed an enrolment rate in primary schools of 88% which is identical with the CSO estimates. The gross and net enrolment rates were reported to be 97% and 91%, respectively in 1999. There are significant gender disparities. The number of students enrolled in secondary schools increased more than three-fold, from 315600 in 1971/1972 to 1023710 in 1990/1991. As indicated above, although the current figure is higher, given the high rate of population growth, enrolment levels were in decline [5].

Evidence of the decline in enrolment levels in secondary education is demonstrated by the decreasing net enrolment rate from 41.5% in 1990/1991 to 34.3% in 001/2002 for intermediate schools (12-14 years). However, it was reported to have increasing from 10.8% in 1990/1991 to 13.9% in 2001/2002 for secondary schools (15-17 years). As in primary education, there are considerable gender disparities. The declining trend in enrolment is one indication of the rapidly deteriorating education indicators for Iraq compared with other countries of the region. UNESCO makes a comparison with the Jordanian trends over the last decades. The result in Jordan was 44.6% in 1990/1991 compared with 47% in Iraq. Ten years later, Jordan doubled its GER to 87.7% while the ratio for Iraq declined. In 1999/2000, the net enrolment rate (children aged 12-17 in secondary school as a proportion of the age group in the population) was only 33% in Iraq compared to 75.9% in Jordan [6] (see Table 2).

Table 2 Comparison of enrolment rate of Iraqi and Jordan schools since 1990-2002 [6].

Country	Gross enrolment ratio 1990/1991			Gross enrolment ratio 1999/2000			Gross enrolment ratio 1999/2000		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Iraq	47.0	57.1	36.4	38.3	47.1	29.1	33.0	39.6	26.0
Jordan	44.6	43.7	45.6	87.7	86.4	89.0	75.9	73.4	78.5

Evidence also shows that school attendance rates have declined, reaching seriously low levels. Poverty, combined with deteriorating education standards, lack of textbooks and learning materials, and unmotivated teachers have resulted in a rising number of children out of school. According to a survey conducted in 2000, only 76% of children aged 6-11 were reported to be attending primary school. More than 31% of girls in this age group were out of schools, compared to about 18% of boys. The situation was worse in rural areas where more than 50% of girls are reported to be out of school along with 28% of boys. About 28% of mothers believed the cause was poor performance in school, 19% attributed it to poverty and inability to meet the cost of education supplies, while another 19% stated it was because of child labour [5,6].

2.2 Trends in dropout rates

The available data shows that the numbers of dropouts and dropout rates increased at almost all education levels in both Iraq Centre and Kurdistan Region of Iraq (KRI) (Table 3) between 2013-2014 and 2015-2016, with the only exception being in the upper secondary level in KRI. As of 2015-2016 in Iraq Centre, 2.3% of primary students dropped out of school. The dropout rate peaked at the lower secondary level (4.1%) and dropped back at upper secondary level (2.2%). Girls in Iraq Centre generally have a higher dropout rate than boys, and this is especially true at the lower secondary level where 4.7% of girls drop out as compared to 3.6% for boys. This represents the largest gender gap in dropout rates across all education levels. There is no significant difference in dropout rates between Iraq Centre and KRI; data for the latter is not available for 2015-2016. However, the change in the gender gap for dropout rates in Iraq Centre and KRI is

different. In Iraq Center, girls systematically have a higher dropout rate, while girls in KRI have a lower dropout rate than boys. The causes behind girls' higher dropout rates in Iraq Centre should be attributed to political stability, improved economy and better security, with a focus on the lower secondary level, and necessary measures should be taken [7].

Table 3 The dropout rate of Iraqi schools 2013-2016 [7].

Region	Level of Education	Sex	Dropout			Dropout Rate		
			2013-2014	2014-2015	2015-2016	2013-2014	2014-2015	2015-2016
Iraq Centre	Primary	Boy	46,948	35,132	52,653	1.6%	1.6%	2.0%
		Girl	54,095	37,223	57,515	2.1%	1.9%	2.5%
		Total	101,043	72,355	110,168	1.8%	1.7%	2.3%
	Lower Secondary	Boy	23,620	20,803	33,201	2.4%	2.7%	3.6%
		Girl	21,002	22,228	31,203	3.2%	4.0%	4.7%
		Total	44,622	43,031	64,404	2.7%	3.2%	4.1%
	Upper Secondary	Boy	6,408	5,462	8,819	1.4%	1.6%	2.1%
		Girl	6,724	5,793	7,902	2.0%	2.0%	2.2%
		Total	13,132	11,255	16,721	1.7%	1.8%	2.2%
	Total	Boy	76,976	61,397	94,673	1.8%	1.8%	2.4%
		Girl	81,821	65,244	96,620	2.3%	2.3%	2.9%
		Total	158,797	126,641	191,293	2.0%	2.1%	2.6%
KRI	Basic	Boy	10,631	12,667	-	1.7%	2.1%	-
		Girl	6,729	7,053	-	1.2%	1.3%	-
		Total	17,360	19,720	-	1.5%	1.7%	-
	Upper Secondary	Boy	4,862	4,149	-	3.6%	1.8%	-
		Girl	2,515	2,177	-	1.9%	1.6%	-
		Total	7,377	6,326	-	2.7%	1.7%	-
	Total	Boy	15,493	16,816	-	2.0%	2.0%	-
		Girl	9,244	9,230	-	1.3%	1.3%	-
		Total	24,737	26,046	-	1.7%	1.7%	-
Grand Total	Basic*	Boy	81,199	68,602	85,854	1.8%	1.9%	2.5%
		Girl	81,826	66,504	88,718	2.2%	2.2%	3.0%
		Total	163,025	135,106	174,572	2.0%	2.0%	2.7%
	Upper Secondary	Boy	11,270	9,611	8,819	1.9%	1.7%	2.1%
		Girl	9,239	7,970	7,902	1.9%	1.9%	2.2%
		Total	20,509	17,581	16,721	1.9%	1.8%	2.2%
	Total	Boy	92,469	78,213	94,673	1.8%	1.9%	2.4%
		Girl	91,065	74,474	96,620	2.2%	2.1%	2.9%
		Total	183,534	152,687	191,293	2.0%	2.0%	2.6%

2.3 Damage to school buildings

The situation has been compounded by the great damage inflicted upon the system following the destruction and looting that took place in March 2003 and subsequent months. The damage affected schools as well as other facilities like administration buildings, warehouses, the printing press and factories. The main warehouses were looted and destroyed. Stored paper and stocked textbooks were either stolen or burned. The examination and control centre of MOE was looted and damaged. The MOE building, one of the most sophisticated government buildings in Baghdad, was repeatedly looted and then burned and severely damaged. The Educational Management Information System (EMIS) was irreversibly damaged with complete loss of all computers, equipment and data. MOE and UNICEF assessed the magnitude of damage to school buildings. According to the data generated by this exercise, more than one sixth of Iraqi school buildings (2751 schools) were looted, damaged, or burned. More than 2400 schools were reported to be damaged due to looting, 146 were reported to be damaged due to bombing and 197 due to burning. Ammunition existed in 138 schools and weapons in 101. The percentage of schools damaged in Baghdad during the events was 21% (466 out of 2213). The degree of damage varied. Looting covered ceiling fans, lighting, furniture, school desks, fences, doors, glass, blackboards, cabinets, electric cables, school radio stations, telephones, refrigerators, air coolers and conditioners [8,9].

According to statistics available in the MOE, 64% of school buildings required maintenance and rehabilitation in 1999/2000. The situation has been progressively getting worse since then. Based on the surveys conducted in 2003, about 80% of buildings require repair [10] (see Fig. 1).



Fig. 1 Situation of schools for post 2003.

2.4 Curriculum reform

Despite daily challenges, the education system in Iraq continues to function. Actions thus far include but are not limited to:

- 3600 schools rehabilitated
- 120000 teachers recruited
- Focus on girl's education
- Curriculum reform
- Provision of learning resources
- Distance learning programs for out of school children
- Organizational chart reform

- Increasing collaboration with external partners

We will focus on curriculum reform that is very necessary and important to build new generation has wealthy view to the life. The most effective factors, that may lead to develop curricula contents so as to be compatible with the changing demand of the individual and society, are the following [11]:

- Caring for individual differences.
- Fostering critical thinking.
- Applying problem-solving and experimental techniques.
- Linking scientific knowledge to life.
- Improving textbooks quality by:
 - ▶ Continual revision of content, design and printing.
 - ▶ Experimenting textbooks.
 - ▶ Inclusion some contemporary educational concepts, such as: popular, environment, hygienic and traffic education.

The educational system is witnessing qualitative changes in all branches of the educational process, including:

- Educational policy
- Educational structure
- Curricula and textbooks
- Educational technologies
- Educational facilities and school buildings
- Pre-school education (Kindergartens)
- Compulsory and Basic Education
- Illiteracy and adult education
- Educational evaluation (school and general examinations)
- Computer services, (Informatics, computer education)
- Educational administration
- Educational Innovation
- Inclusion of productive work in education

But, we can sum up the adopted strategies as follows [12]:

- Regarding the student as the center of the educational process, which aims at improving his standards by enriching his teaching programs with knowledge.
- Providing education for all
- Developing learning centers prerequisites
- Providing Basic Schools with teaching materials
- Developing the educational programs
- Introducing computer in teaching and learning
- Paying attention to science, mathematics and foreign languages curricula since they represent the starting point to overall cultural progress
- Paying attention to the process of evaluation in the various fields, particularly in relation to educational programs and students' achievements

The curriculum of education should be reviewed by eminent figures of Iraqi universities. For class 14, the curriculum of history needs to avoid any deliberate discrimination of Messenger of Allah's successors, absence of Nakba of Baramkeh at the Abbasid state and Muslims inventions in Andalus, as shown in textbook History, 28th edition, 2015 (see Fig. 2).



Fig. 2 The curriculum of history, class 14.

For class 15, the curriculum of Quran Kareem and Islamic education, there is a typo error of compulsory punishment to do prayer, fasting, Zakat, do not act sin and say the truth, as shown in textbook; Quran Kareem and Islamic education, 1st edition, 2015. So, where is the specialized committee to read and review the curriculum before preparing and printing them out? (see Fig. 3).



Fig. 3 Pages of class 15, the curriculum of Quran Kareem and Islamic education.

In addition to disseminate the sectarian culture between pupils as shown is book, Islamic education, class 1. The control committee is absent totally (see Fig. 4).

تم تدوين اسم الحشد الشعبي في المناهج الدراسية 🙏❤️
 في منهج الاسلامية للصف السادس الابتدائي قصة عن نبي
 الله يونس (ع) حوار بين الجد واحفاده ويسأل احدهم هل
 صحيح ان الارهابيين قد فجروا المرقد الشريف فكان رد اخته
 في هذه الصورة 🙏❤️
 #محمد_الحشد

منهم جزاء أعمالهم الشريرة وانتهاكهم للحرمات .
 أحمد : نعم جدي لعنهم الله ونسأله تعالى أن ينصرنا ويحرر بلدنا الغالي
 بجهود الغيارى من أبطال الجيش والشرطة .
 أسماء : نعم أخي ولا تنسى أبطال الحشد الشعبي الذين لبوا نداء العقيدة
 للدفاع عن المقدسات والأرض والعرض .
 أحمد : نعم صدقت أختي .
 الجد : أحسنتم أولادي وبوركتم فعلينا أن ندعوا بالنصر والحفظ للأبطال
 دوماً وأن نساعدهم بكل الوسائل، والآن أحبتي لنقرأ سورة الفاتحة
 ونهدي ثوابها الى أرواح شهدائنا الأبطال .

القرآن الكريم والتربية الاسلامية
 للصف الاول الابتدائي
 الأب: نعم يا ولدي انها أولى العبادات بعد الشهادة وأهمها وهي ركن من
 أركان الإسلام.
 الأم: قال رسول الله (صلى الله عليه وآله وصحبه): ((الصلوة عمود
 الدين)) انها تنير القلب والوجه وترضي الله عنا.
 محمد: أبي العزيز أريد أن أذهب معك الى المسجد يوم الجمعة، فعلمني
 الصلاة.
 عمار: وأنا أيضاً يا أبي.
 الأب: حسن أنا أيضاً أريدكما أن تتعلما الصلاة منذ الآن.
 محمد: أبي.. هل هذه هي كل أركان الاسلام ؟
 الأب: لا يا ولدي، فالصوم والحج والزكاة والخمس من أركان الاسلام
 وماشرحها لك لاحقاً.
 هذه الة
 1/17
 أسئلة الاسلاميه
 المناقشات
 ١. اذكر ثلاثة أسماء من أسماء الله الحسنى التي وردت.
 ٢. اذكر أمثلة تبين عظمة الله.
 ٣. ماهي الشهادة ؟ وما معناها؟
 ٢٤

Fig. 4 Sectarian culture at book, Islamic education, class 1.

2.5 The stange behaviors of schools

Internal preparation or disposition to face and address challenges and tasks in a certain way – attitudes are influenced by knowledge, values and are usually triggering behaviors contrary to the national sprit of country. The following movie (available on youtube) shows an example of these wrong bahviors. All of these affect the educational level of whole generation. Last year 2017, Iraq has classified 102 of 110 countries in the 58th International Mathematical Olympiad that has been held in Brazil. It is a dangerous indication of lowest level of edcautional system for post 2003 (see Fig. 5).



IMO 2017
RIO DE JANEIRO - BRAZIL

**58th International
Mathematical Olympiad**
Rio de Janeiro - Brazil
12 - 23 July 2017

Iceland	6	6	0	31	5	0	9	0	0	45	89	0	0
Luxembourg	6	5	1	27	1	0	15	2	0	45	89	0	0
Nicaragua	4	4	0	17	4	0	22	1	0	44	91	0	0
Uruguay	6	6	0	37	0	0	6	0	0	43	92	0	0
Montenegro	4	3	1	21	4	0	10	7	0	42	93	0	0
Bolivia	6	5	1	24	0	0	17	0	0	41	94	0	0
Liechtenstein	3	0	3	19	0	0	3	0	0	22	95	0	0
Uganda	6	5	1	6	5	0	11	0	0	22	95	0	0
Guatemala	4	3	1	12	0	0	6	2	0	20	97	0	0
Botswana	6	3	3	8	1	0	10	0	0	19	98	0	0
Myanmar	6	5	1	2	2	0	11	0	0	15	99	0	0
Panama	1	1	0	7	3	0	5	0	0	15	99	0	0
Trinidad and Tobago	1	1	0	7	1	0	7	0	0	15	99	0	0
Cuba	1	1	0	5	1	0	7	0	0	13	102	0	0
Iraq	4	4	0	11	0	0	2	0	0	13	102	0	0
Honduras	2	2	0	6	0	0	6	0	0	12	104	0	0
Cambodia	6	5	1	1	0	0	10	0	0	11	105	0	0
Ivory Coast	6	5	1	2	2	0	7	0	0	11	105	0	0
Kenya	6	4	2	3	0	0	3	2	0	8	107	0	0
Ghana	1	1	0	5	0	0	1	0	0	6	108	0	0
Tanzania	2	2	0	4	0	0	1	0	0	5	109	0	0
Egypt	3	3	0	2	0	0	1	0	0	3	110	0	0
Nepal	6	6	0	0	1	0	2	0	0	3	110	0	0

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Fig. 5 Iraq is in 102 of 110 in 58th International Mathematical Olympiad in Brazil.

3. Higher education

The following information shows the numbers of the academic staff throughout Iraq were enough to manage the education system in the universities [13] as presented in Table 4. Baghdad has more than one university, therefore it is the highest, followed by Mosul and Basrah. The total number of academic staff is quite enough to manage and build whole country for a prosperous future.

Table 4 The academic staff number of Iraqi universities for pre 2003 [13].

University name	Total	Total female	Total male	Teacher-student ratio
Anbar	800	216	584	8
Babylon	882	343	539	13
Baghdad	3962	2004	1958	17
Basrah	1898	888	1010	8
Diyala	442	189	253	13
Diwanayah	658	294	364	14
Islamic	36	0	36	40
Dahuk	277	N/A	N/A	12
Kerbala	264	138	126	7
Mosul	2935	1148	1487	10
Kirkuk	60	N/A	N/A	27
Kufa	410	N/A	N/A	18
Mustansiriyah	1584	853	731	22
Salah Al-Din	1427	596	831	10
Sulaymaniyah	489	N/A	N/A	16
Technology	1267	543	724	10
Thi-Qar	227	89	138	9
Tikrit	1084	330	754	6
Wassit	99	22	77	43
Al-Nahrain	275	106	169	7
Total	19076	7759	10081	290

Before 2003, all the universities were controlled by the government, after 2003, each university or college came under the control of different party or militia. Moreover, these new parties and militias were struggling among themselves, and their struggle and differences were transferred to the universities.

3.1 The role of higher education for pre 2003

With respect to the role higher education had in Iraqi society before 2003, the academics stress it was very positive and highly influential. They use words as '*greatly influential*', '*greatly positive*', and '*very effective*' to depict its importance. Many respondents stress in particular that higher education made a large contribution to developing and enhancing Iraq as a society. Several examples were given with respect to partnerships between universities and the private sector and higher education's connection to societal movements or its focus to address societal processes and problems. Moreover, all academics state that the higher education system was one of high quality. They talk about the numerous different disciplines which were taught and the focus on conducting elaborate scientific research according to international standards. Many academics also draw attention to the many MSc and PhD graduates the system produced each year and the high number of universities, colleges, and scientific institutions present. An often-cited characteristic of the previous higher education system was that it foremost contained a qualified and specialized academic staff and likewise produced qualified and specialized graduates in all fields due to its advanced levels of education and research. Although was mentioned that the academic system was partially damaged or hampered by the embargo imposed on Iraq in the 1990's, they still underline the positive aspects and effects of higher education and this is clearly what the emphasis is on. The women were very well represented in the academic field, both in academic staff as well as in the number of students [14].

The essence of the role the academics attribute to higher education is very well captured in the words of one of the respondents: higher education in Iraq prior to the occupation was a very well-functioning system with high academic standards and a large role in enhancing the Iraqi society.

3.2 The main changes in higher education since 2003

When asked to identify the main changes and problems in higher education since the occupation in 2003, many different impediments with respect to its functioning come to the

fore. There are several ways in which higher education is now hampered. This implies that every change with respect to higher education is seen as a problem, for no positive or neutral changes are identified at all as displayed in Fig. 6 [15].

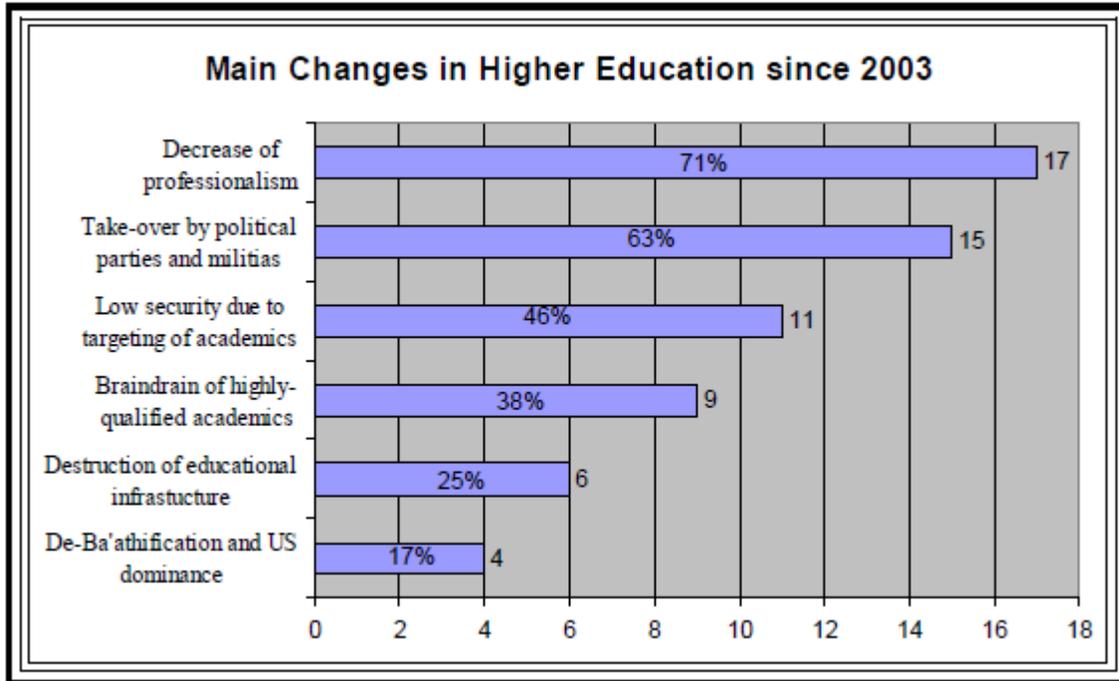


Fig. 6 The changes in higher education for post 2003 [13].

The first change occurred is the material destruction of educational infrastructure, while the invasion was taking place and immediately thereafter. There is an indication of destruction of university buildings and facilities such as libraries through bombing or burning, and mention the looting by civilians that took place directly afterwards. Libraries have seemed to be a particular target: what was not destroyed was stolen, as was lab equipment and computers, but also valuable archives and students' personal accounts. In addition, the role of US in this destruction and looting, also on a wider scale. The looting in particular is believed to be encouraged by Americans. The resulted conceptual model is depicted in Fig. 7. There are specific parameters could affect the higher education system and may lead to destroy it completely.

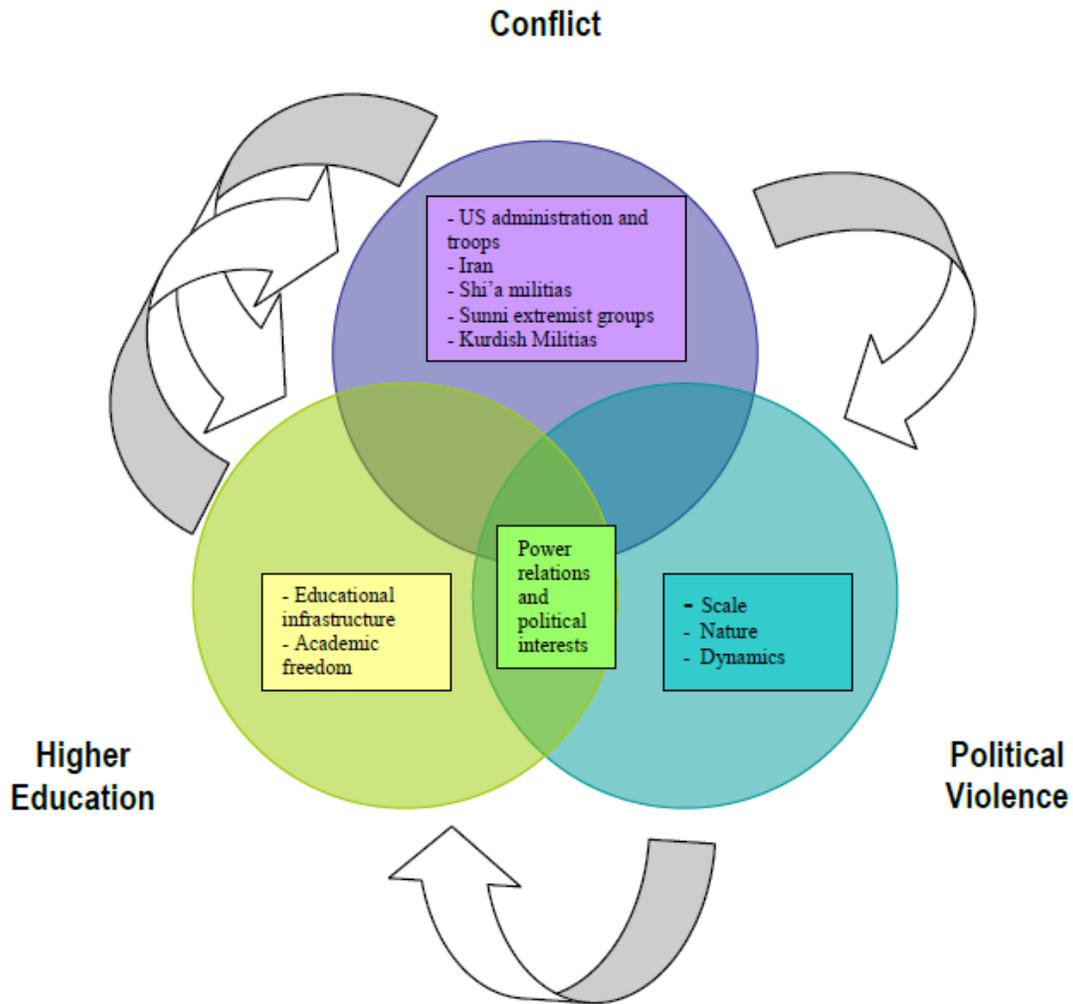


Fig. 7 The parameters affect the higher education since 2003 [13].

3.3 Reasons to leave Iraq

One of the main indicators to determine the impact of the conflict on higher education in Iraq is the reason why academics have left the Iraq [16]. The deterioration of education and security are the main reasons imposed the academics to leave Iraq (see Fig. 8).

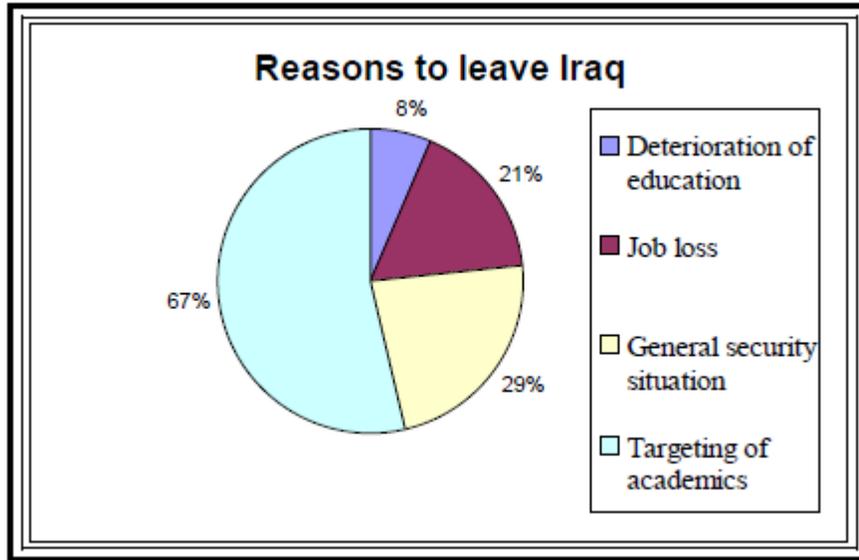


Fig. 8 The parameters affect the higher education since 2003 [13].

3.3.1 The main challenges face academics

The answers to the question what the main challenges are that academics face and have been facing since 2003 broadly follow the same lines as the answers to what the main changes in the higher education system are. However, there are also some new challenges formulated and some changes are formulated differently when they are described as a challenge. Again, the lack of professionalism makes up the largest category: the employment of unqualified personnel, widespread corruption and loss of respect for teachers by students. The braindrain as a result of many qualified academics leaving the country, which was argued to be a direct cause of the lack of professionalism [17]. Remarkably, a lack of academic freedom, which was not mentioned as such before, emerges as an important challenge. Like unqualified personnel, corruption, loss of respect and braindrain, academic freedom can be distinguished as an important element of the broader degradation of higher education. These five factors are therefore integrated in this broader category (see Fig. 9), where the corruption and braindrain are the main reason. Additionally, the challenges face the academics are detailed in Fig. 10, that are compatible with the previous indications.

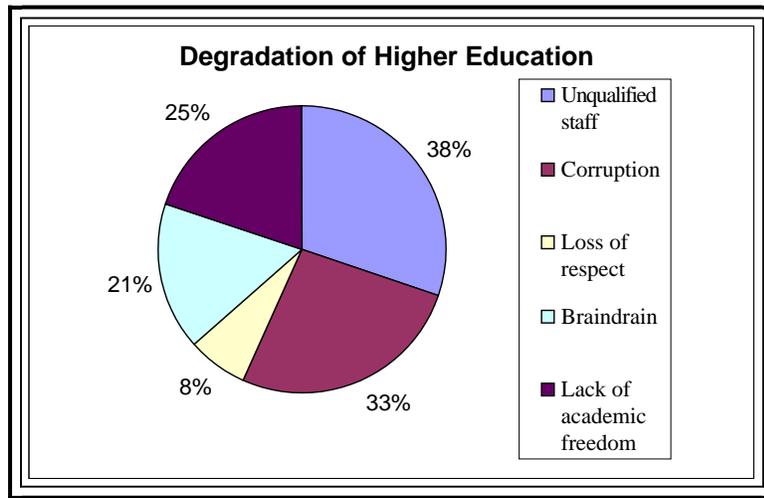


Fig. 9 The degradation of higher education since 2003 [13].

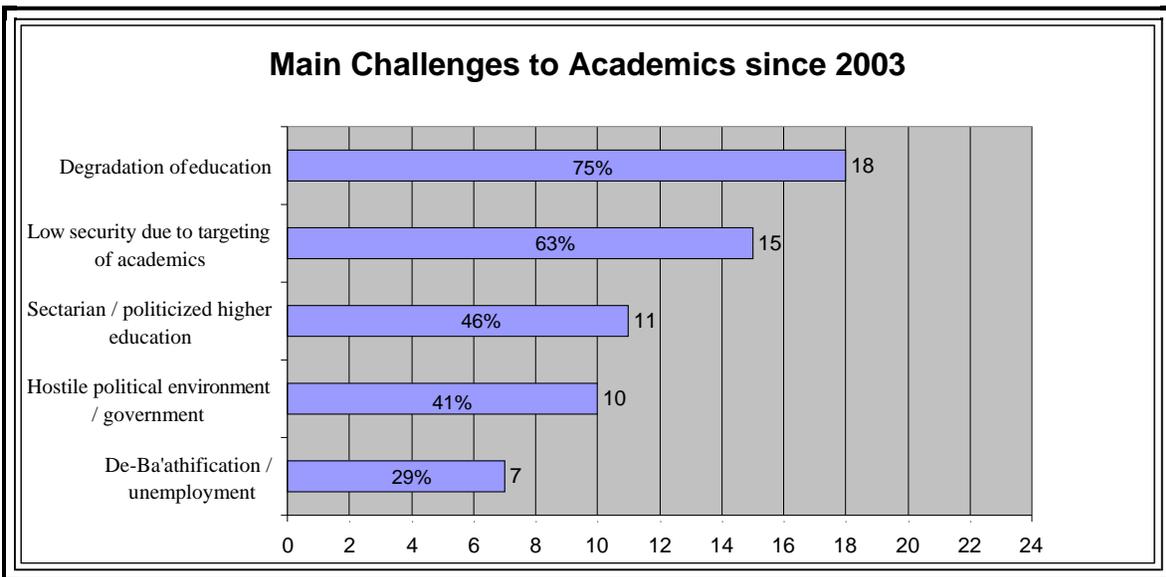


Fig. 10 The challenges face the academics since 2003 [13].

3.3.2 The nature of political violence

To determine the perceived scale of political violence academics were asked if they agreed or disagreed with the statement that academics are targeted *specifically* and *systematically*. The academics are indeed specifically and systematically targeted, but not because they are academics, but because they are part of the intellectual class of Iraq. These academics believe the larger intellectual class as a entire constitutes the target of the attacks [12,15]. Another academic that agrees with the statement adds that so many others are targeted too.

To fully disclose the nature of political violence, it is important to identify which means or forms of violence are used against academics. In addition, many insights can be gained with respect to which a variety of examples of violence were discussed too.

3.3.2.1 The threats, assassinations and enforced disappearance

Roughly 40% of Iraq's middle class is believed to have fled by the end of 2006, the UN [18] said. In 2005, alone, 296 members of education staff were killed [19]. An estimated 331 schoolteachers were slain in the first four months of 2006, according to Human Rights Watch [20] and 180 teachers were killed between February and November 2006, according to the Brookings Institute in Washington [21]. According to the UN office for humanitarian affairs, up to 100 teachers have been kidnapped and over 3250 have fled the country. The International Medical Corps reports that populations of teachers in Baghdad have fallen by 80%. 467 Iraqi professors and lecturers have been assassinated since 2003, according to the BRussells Tribunal database [22]. The exodus of academics has dramatically lowered educational standards [23]. Most are fleeing systematic persecution and have no desire to return due to dangers they face. They are displayed in Table 5 and illustrated in Fig. 11.

Table 5 The risk ratios face the Iraqi academics since 2003 [13].

<i>Forms of political violence as mentioned by academics</i>				
Killing	Threatening	Kidnapping	Expulsion from posts	Intimidation
100% (24)	63% (15)	54% (13)	38% (9)	33% (8)
Detention / Arrest	Forced migration	Torture	Other physical violence	-
25% (6)	17% (4)	17% (4)	Beating: 8% (2) Rape: 4% (1)	-

**Outcome of 307 Reported Attacks on Iraqi Academics and Doctors
April 2003 to April 2006**

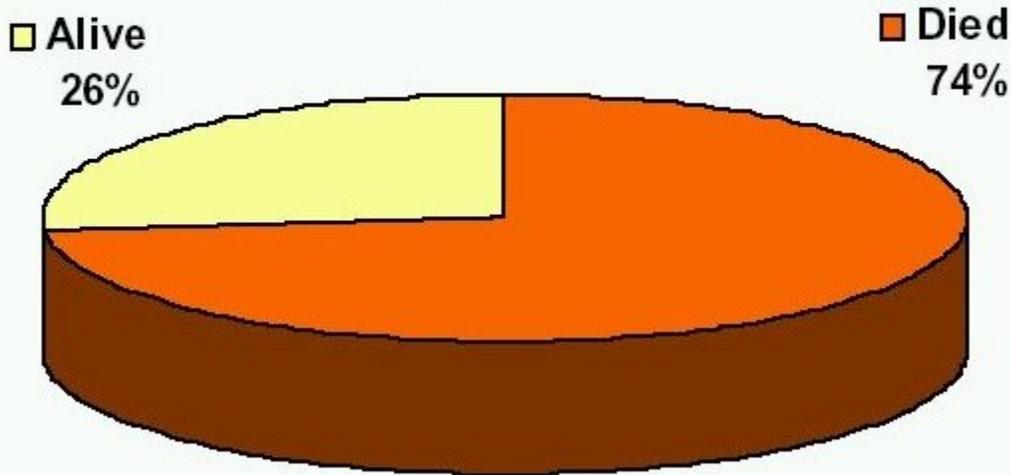


Fig. 11 The attacks on Iraqi academics since 2003 [24].

3.3.2.2. The dangers face academics

UNESCO has extensive experience of post-conflict situations. In many of them because of very limited resources, the threat of renewed conflict and the absence of a robust tradition of education, it is hard to go beyond hand wringing. None of these conditions obtain in Iraq. This is a unique chance for the world to help a newly liberated people become prominent players in the free exchange of ideas and knowledge that is called for in UNESCO's constitution [15].

3.3.3 The degree of academic freedom

The lack of academic freedom has come repeatedly to the fore and it has been hinted at it is a phenomenon of great importance. However, academic freedom deserves some specific attention as such, for when it is looked at in more detail, it becomes apparent that it might actually be the focal point of the political violence and the destruction of higher education it aims at. The common characteristic in the definitions of academic freedom is that academic freedom encompasses a set of freedoms to exercise the function of academic properly and independently, without any intervention or restrictions: the freedom to go to work and move around universities freely, the freedom to teach, discuss, write and do research on topics the academic himself or herself deems relevant and important, the freedom to think, to learn about alternative realities and to acquire scientific skills, and to not be hindered by a curriculum on which boundaries are set or by unfair or biased rules and regulations in the hiring and appointing of academic staff or the acceptance, grading or passing of students. To summarize, it is the freedom to learn, teach, think and work and to do so without any fear, or apprehension to face any repercussions for utilizing this freedom [15]. They do however emphasize many others ways in which academic freedom is restricted and because of which they actually do fall in the category of academics that perceive academic freedom in higher education to be very limited in Iraq. The last statement discloses the perception that militias have imposed segregation on students too. Students loyal to sects are favored in spite of others and the acceptance, passing and graduation of students is dependent on and eased by their ties to militias or by political connections. Figure 12 shows the findings on the extent to and ways in which academics believe sectarianism is present at universities.

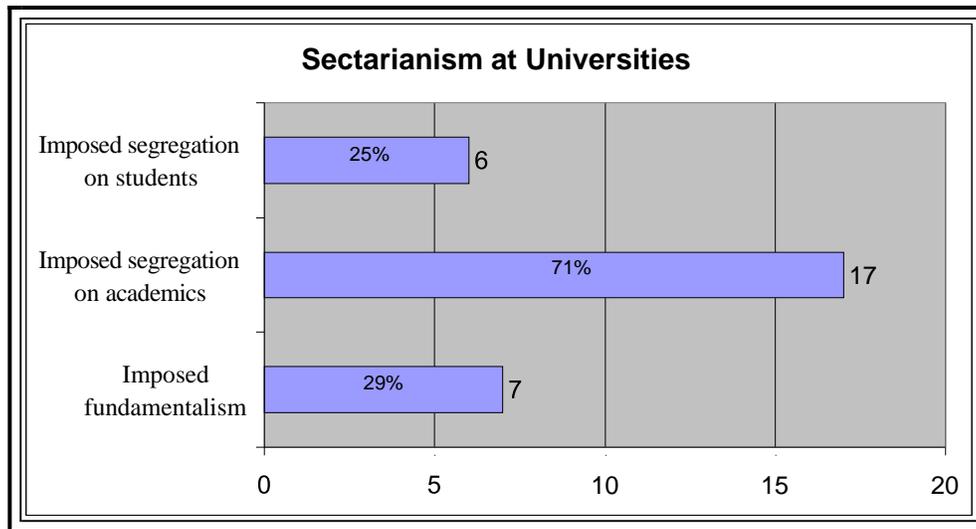


Fig. 12 The sectarianism at Iraqi universities since 2003 [13].

Clearly, sectarian segregation and fundamentalism at universities reproduce the elements underpinning the conflict in the larger society by promoting sectarian divisions and furthering the political struggle for power and control, and thereby reinforce the foundation the conflict is built on and reinforce its manifestations. In addition, the complete level of control militias exert at universities may also directly increase the violence against academics because it has created an environment, or climate of impunity, by which violence is facilitated and in which it is normalized. Either way, it contributes to the undermining of academic freedom and reproduces the conflict in the larger society, extending its impact to higher education [24].

The abuse of higher education to further political goals and encourage violence and conflict is an obvious form of the politicization of higher education and is a direct restriction of academic freedom, for no such freedom exists in a system like that. Once more, this is a way in which political violence aims at and results in the restriction of academic freedom and does so in a non- violent or repressive manner. The promotion of hatred through higher education is a direct attempt to aggravate the violence as well as the conflict [24]. According to some academics however, it has no actual effect because Iraqis do not believe in sectarianism and its violent manifestations. The findings on the different ways in which

higher education impacts negatively on violence and conflict as perceived by academics as shown in Fig. 13.

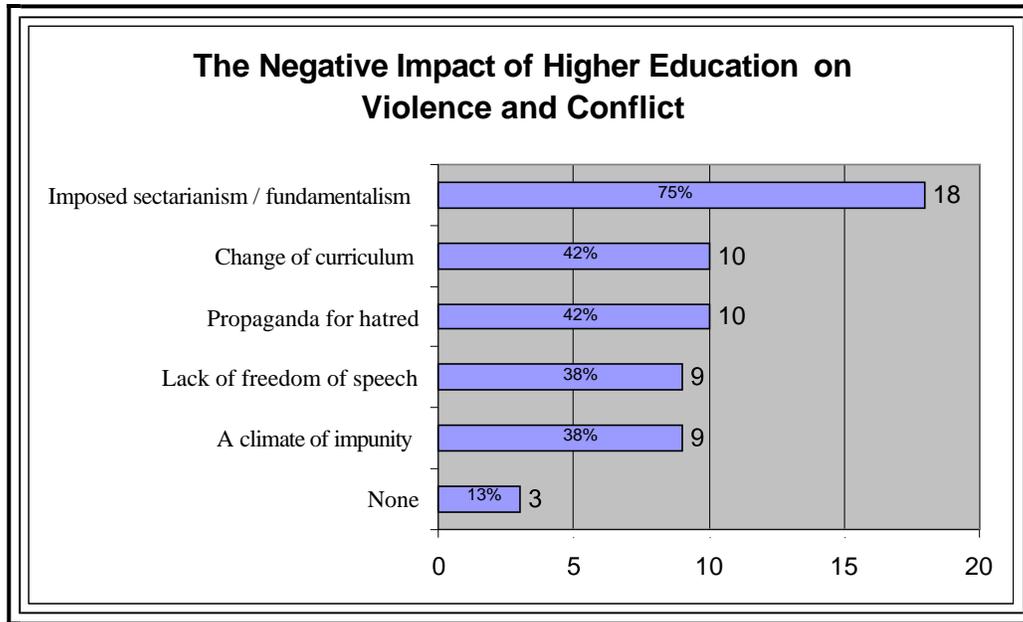


Fig. 13 The conflict effect in Iraqi higher education since 2003 [13].

A final category concerns the academics that do not believe higher education is equipped with the potential to take the lead in producing any positive changes at all. These academics stress that any change in society should come from political power. For the conflict to be mitigated, the political system should be replaced for a political system that has academics' interests at heart as opposed to the currently ruling politicians who are unable or unwilling to ensure security for academics and to do anything constructive for higher education in general. From the remaining six respondents the data is missing. It can be concluded that higher education as it is now cannot play any significant role because of the many restrictions and limitations it faces due to the current political situation and the targeted undermining of the higher education system as part of it, which highlights the political nature of the violence and conflict once more [24]. However, it could play a role if only it was brought back to its pre-occupational state (Fig. 14).

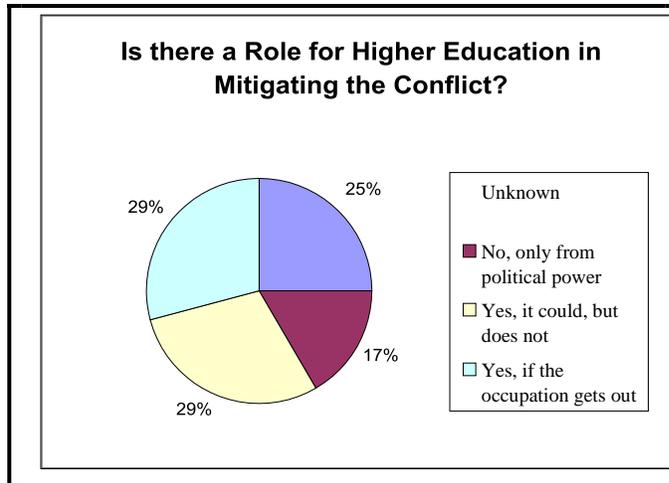


Fig. 14 The higher education effect in the Iraqi society since 2003 [13].

Therefore, related to the desire for the occupation to leave is the expressed desire of substitution of the representatives in the current Iraqi government. They determine a change in *'regime'*, *'the political process'*, *'politics'* or plainly *'change of government'* has priority in improving higher education and is the minimum requirement to return to Iraq. Next, it states that putting a halt to the extent of control militias exert at universities should be addressed to improve higher education and in order for them to go back. In this respect academics specifically mention the politicization of higher education by militias and them turning it into an ideological field. The higher education system should stop to be run on the basis of politics and ideology. Furthermore, professional standards should be reintroduced and should be respected like they were prior to the occupation, which entails the termination of favoritism and selectivity both with respect to academics and students, and allowing Ba'athist academics to resume their positions. It is emphasized that the law must be reinforced, both in universities and in the wider society, and the perpetrators of the crimes must be brought to justice. This represents bringing a halt to the climate of impunity. Finally, the most important thing to improve higher education and to consider going back is that their safety and security is ensured. There are no improvements can be accomplished before a basic level of security is present. Below these findings are integrated in Table 6.

Table 6 The improving priority of Iraqi higher education for post 2003 [13].

Priorities in Improving Higher Education and Conditions to Go Back		
Occupation must leave	Change of government	Termination of militias' political and ideological control
67% (16)	29% (7)	21% (5)
Reintroducing and respecting professional standards	Safety and security	End of climate of impunity
25% (6)	25% (6)	17% (4)

In conclusion, it is resulted that 67% of them states that to improve higher education it has priority that the occupation gets out. A change of government is explicitly mentioned as a priority by 29% and the termination of militias control over higher education by 21%. However, these latter two categories are probably part of the identified priority of termination of the occupation since the vast majority perceives the current government and the militias as part of or at the very least directly linked to the occupation. Other priorities in improving higher education are a return to professional standards (25%), general safety and security (25%) and the ending of the climate of impunity (17%), all of which are also perceived to be a direct result of the occupation. These factors are simultaneously the basic requirements respondents have to return to Iraq and resume their positions. According to academics, the termination of the occupation has undeniably major priority in every respect.

Since the start of the war of 2003, 84% of Iraq's higher education institutions have been burnt or destroyed while around hundreds of academics have been assassinated and many braver daily threats, according to an analysis of the system's reconstruction needs released by UN [19]. The deteriorating security situation has prevented many students from attending school which leads to

the suspension of school attendance for several days because of the curfew, which could last for days and frequent curfews on several occasions in the year leading to the end of the school year without completing the school curriculum [23].

3.4 University Education

The UNESCO survey reveals that 20 universities of Iraq that existed in August 2003 had some 200 colleges with about 800 departments and 28 specialized institutes or research centres. This is in addition to the Commission for Computers and Informatics (CCI), offering specialized courses for postgraduate students. Baghdad University has 23 colleges, while some recently established universities had only three or four. As given in Table 7 for pre 2003, below is 5 universities and 13 research centres were concentrated in Baghdad. Only 2 governorates, Muthanna and Missan, did not have universities, mainly due to geographical conditions. Muthanna is largely desert and Missan is marshy, leading to low population and minimal economic activities. Except for Baghdad, which is the capital of the country, the universities catered mainly to the higher education needs of their respective constituents. Specialized institutes and research centres were concentrated in the largest and most developed universities such as Baghdad, Basrah, Mosul and Mustansirya [4,5].

Table 7 The status of Iraq universities for pre 2003 [5].

Governorate	University name	Year of foundation	No. colleges	No. institutes/research centers
Anbar/Ramadi	Anbar	1987	11	-
Babylon/Hilla	Babylon	1988	11	2
Baghdad/Baghdad	Al-Nahrain	1988	11	1
Baghdad/Baghdad	Baghdad	1957	24	5
Baghdad/Baghdad	Commission for Computers & Informatics	1972	1	1
Baghdad/Baghdad	Islamic	1989	3	-
Baghdad/Baghdad	Mustansiriya	1963	10	5
Baghdad/Baghdad	Technology	1960	13	1
Basrah/Garmat Ali	Basrah	1967	14	6
Dahuk/Dahuk	Dahuk	1992	9	-
Diyala/Ba'qubah	Diyala	1995	6	-
Erbil/Erbil	Salah Al-Din	1981	15	-
Kerbala/Kerbala	Kerbala	1987	4	-
Missan	-	-	-	-
Muthanna	-	-	-	-
Najaf/Najaf	Kufa	1987	7	-
Ninewa/Mosul	Mosul	1963	18	7
Qadisiya/Diwaniyah	Diwaniyah	1987	9	-
Salah Al-Din/Tikrit	Tikrit	1988	11	-
Sulaymaniyah/ Sulaymaniyah	Sulaymaniyah	1968	18	-
Tameem/Kirkuk	Kirkuk	2002	4	-
Thi-Qar/Nassiriyah	Thi-Qar	2002	4	-
Wassit/Al-Kut	Wassit	2003	3	-
Total			201	28

For post 2003 directly, there were reported 40 incidents of bombing, 25 of burning and 101 of looting (Table 8). Fifteen ten years later, the incidents have become unrecorded due to its huge number and the people are bored of the bad situation without improvement or renewing.

Table 8 The damages of Iraq universities since 2003 [5].

Univereity	No. declared colleges	Not damaged	No. war-related incidents		
Anbar	11	2	3	1	9
Basrah	15	1	5	2	8
Doyaniyah	9	0	2	7	8
Babylon	11	3	2	1	7
Baghdad	23	5	9	6	11
Mustansiriya	10	1	3	4	7
Technology	13	0	1	6	15
Al-Nahrain	6	1	4	0	2
Islamic	3	0	0	0	3
Thi-Qar	4	0	2	3	3
Diyala	6	0	2	0	4
Kerbala	4	0	3	1	3
Mosul	18	4	2	2	15
Tikrit	11	4	2	1	5
Total	144	21	40	25	101

Mustansiriya University may be considered as an example of these damages. Mustansiriya is the second largest university in Iraq and has an architectural design similar to the University of Baghdad. After the invasion, 5 of its buildings were extensively damaged, i.e., the university administrative building, presidency, College of Education building, Political Institute and the Student's Club [6]. The rehabilitation of the damaged infrastructure in higher education is a priority element of the strategy for the renewal of the sub-sector. Without an environment that motivates and encourages quality teaching-learning, delivery of higher education program is imperiled. The UNESCO survey found that out of the 46 responding technical institutes and colleges, the buildings in 14 were considered as unsafe, 5 were badly damaged, 11 were partially damaged e.g. through looting, and 17 were in good condition [5].

The 14 technical institutions considered as unsafe were found in Baghdad (5), Tameem, Najaf and Basrah (2 each), and Thi-Qar, Babylon, and Kerbala (1 each). Most of these buildings were completely burned or bombed or extensively looted and destroyed (see Fig. 15). Buildings under this category need almost complete reconstruction. For these cases, demolition of the building is recommended as rehabilitation may be more expensive than building a new one. The 5 badly damaged technical institutions were located in Baghdad (4) and in Qadissiya (1). There were 11 partially damaged technical institutions, in Baghdad (3); Ninewa (3); and in Muthanna, Thi-Qar, Missan, Tameen and Wassit (1 each), which incurred damage while being looted. Seventeen institutes were found to be in good condition, in Erbil (4), Sulaymaniyah (3), Dahuk (3), Babylon (2), and Anbar, Diyala, Wassit, Najaf and Salah Al-Din (1 each). As noted earlier, however, the notion of ‘good condition’ is relative since very few buildings in Iraq may be classified as such. Even these buildings need rehabilitation, given the long period of neglect and lack of building maintenance which characterized the past decades [6].



Fig. 15 The central library of Mosul University for pre and post 2003.

3.5 Scientific research

Due to wide information of scientific research in the higher educational institutions of Iraq, we will pay attention to two famous institutions in Iraq, namely “The House of Wisdom - Beit Al-Hikma” and “The Iraqi Academy of Sciences - Majma' Al-'Ilmi al Iraqi”. "Beit Al-Hikma" took its name from a translation/research institute founded by the Abbasid Caliph Al-Ma'mun in 832 AD, which was famous for its translations of Greek philosophical texts into Arabic [5]. The government established the modern Beit Al-Hikma in 1995 to function as a research centre, with lecture facilities, publications, a library and a museum. The institute also organized international scientific conferences related to historical contexts, such as a recent conference on Islamic medicine. The faculty associates of "Beit Al-Hikma" were drawn from the various universities in Baghdad. Junior researchers received scholarships and office space at the institute. It published several journals, including a monthly magazine of general cultural interest, the "Majallat am Hikma," including translations of important documents written in foreign languages. The centre suffered heavy losses during March/April 2003, when parts of the building were destroyed, the library was looted and artefacts from the small museum stolen. After April 2003, " Beit Al-Hikma" was placed under the authority of the Ministry of Culture and was therefore not included in UNESCO's needs assessment. Nevertheless, due to its strong relations to the Iraqi academic community, its historical significance and premises, it could play a major role in future higher education activities in Iraq.

The Iraqi Academy of Sciences was founded in 1948 under the Hashemite Kingdom, following the model of the Cairo and Damascus Academies. It was a centre for fellows from various disciplines including modern and ancient Middle Eastern languages, history, social sciences and physical sciences. Faculty associates and researchers were given office space, research support and library access. In its premises, the Academy also housed conference rooms, storage space and a print shop. The Academy's main goal as stated in a law adopted in 1995 was to promote the Arabic language and heritage as well as “to promote scientific studies and research in Iraq to keep up with the scientific progress in the world” and “to encourage and aid authorship and research in science, letters, and arts.” In reality, it was focused mainly on the sciences and produced dictionaries for the translation of scientific and technical texts. The active members of the Academy were

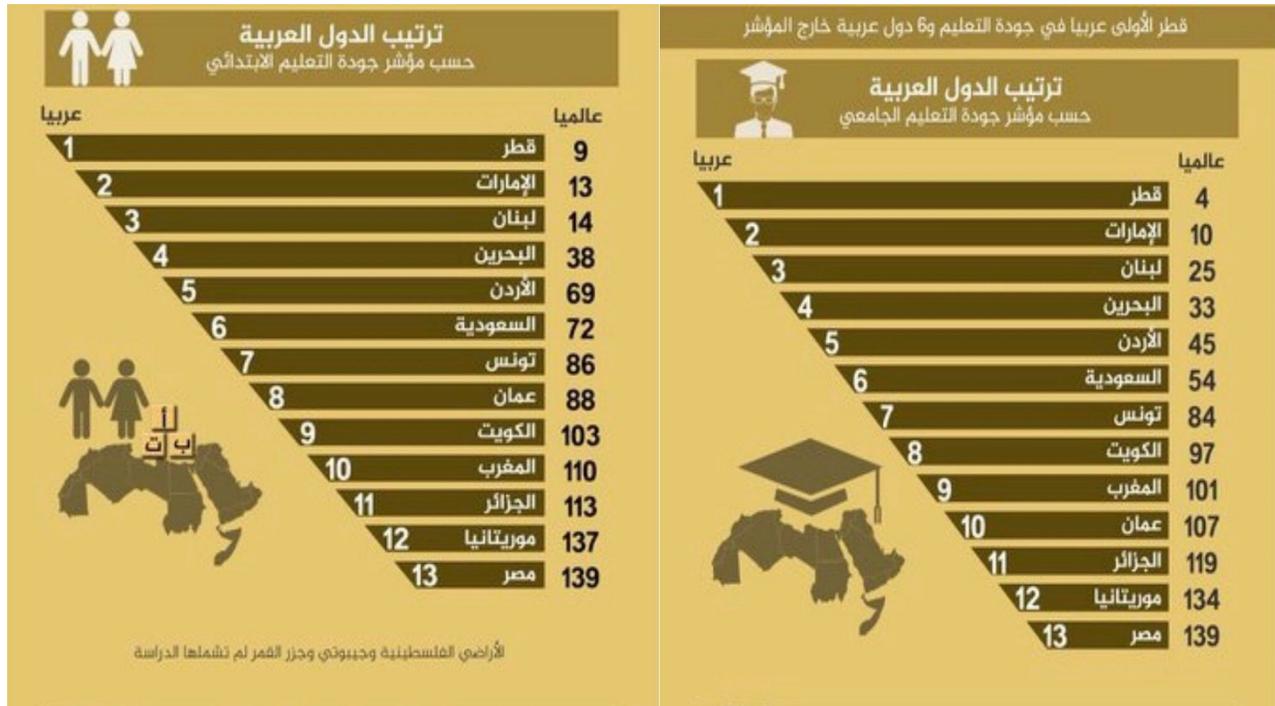
appointed by a Republican Decree, and the honorary members needed the ratification of the Presidency *Diwan*. In 2002, the Academy had 37 highly specialized academicians as its members, while in August 2003 there were 29. The Academy enjoyed considerable autonomy concerning the choice of research themes and staff. Until April 2003 the Academy had a somewhat autonomous status under the responsibility of the Presidential office. It was subsequently put under the authority of Minisgry of Higher Education and Scientific Research, but by December 2003, it again was autonomous [4]. Post 2003, the Academy also published books and studies concerning terminology and had organized conferences and published the conference proceedings. Its digital library and the traditional library, containing especially books about ancient languages, were partially looted. Microform copies of manuscript and periodicals, as well as some old books in Arabic, Ottoman and Persian, were damaged or stolen. Urgent interventions are needed to rebuild the Academy's damaged infrastructure, including the provision of furniture and ICT equipment and books to complete the collections of its 6 libraries. A modest \$825000 was indicated in the survey as the initial requirement to refurbish its libraries, which would greatly benefit the research community. Its role in building sustainable development needs to be redefined due to the emerging political, economic and social developments not only in Iraq but also on the international scene [6].

One of the odd features in the Iraqi universities is to include secteraian shows in the campuses contrary to the mission and vision of the universities worldwide. Figure 16 illustrates the mentioned shows.



Fig. 16 The comparison of Iraqi universities for pre and post 2003.

Due to whole review of status of education and higher education in Iraq for post 2003, the Davos forum scale issued in 2016, has not included Iraq for both education and higher education levels as shown in Fig. 17.



(a)

(b)

Fig. 17 The Davos forum scale of (a) education and (b) higher education of Iraq in 2016 [24].

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