

## Quality of Higher Education and Labour Market Requirements: A Case Study of Jordan<sup>(\*)</sup>

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ملخص

### نوعية التعليم العالي ومتطلبات سوق العمل (حالة الأردن)

تتمتع الأردن كدولة نامية بوفرة الموارد الطبيعية ووفرة الموارد البشرية. وبمضيان هذا، فإن التوسعية تذهب لأن تعتمد الأردن على عمالها المتعلمين وذلك لأجل أن تصبح اقتصاداً يعتمد على إنتاج المعرفة. ومن ثم فإن تحقيق هذا الهدف قد يتم هيكلته لتحسين نوعية التعليم العالي وكذلك التأكد من أن خريجي الجامعات أنفسهم يمتلكون المهارات المطلوبة في سوق العمل. فبالإضافة إلى اللغة ومهارات الكمبيوتر، فإن خريجي الجامعات سوف يمتلكون وصولاً أفضل لفرص العمل إذا كانوا مزودين بالمهارات الأخرى المطلوبة لسوق العمل مثل التفكير العائسب - الاتصالات - مهارات الأعمال. وهذه النوعيات يمكن الحصول عليها فقط في نظام تعليمي يتصف بالديناميكية والتوجسب نحو احتياجات السوق. إن الجامعات الحكومية والخاصة تعاني من صعوبات متزايدة لكي تواجه هذه التحديات.

- والدراسة الحالية تشتمل على أربعة أجزاء:  
(١) مقدمة.  
(٢) نوعية التعليم.  
(٣) تكنولوجيا المعلومات في التعليم العالي.  
(٤) النتائج والتوصيات.

<sup>(\*)</sup> قدمت محاولة متكررة لهذا البحث في المؤتمر الدولي عن "دعم الروابط بين التعليم وأسواق العمل في الدول العربية" ٤-٦ مارس ٢٠٠٢، بيروت (نظمها المعهد العربي للتخطيط بالكويت).

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يود المؤلف أن يعرب عن شكره لمحكم الورقة لأجل تعليقاته واقتراحاته المفيدة والبناءة

## ***Part 1: Introduction***

**“Education, not physical capital, has become the major source of present and future wealth of nations.”**

(World Bank, 2000)

As a developing country characterised by scarce natural resources and abundant human resources, Jordan is highly recommended to depend on its educated workers for the purpose of becoming a knowledge-based economy (AL-Jaghoub and AL-Ameen, 2002). The importance of knowledge in building the human capital through education has been emphasised by many eminent educators at various conferences and seminars, which have taken place recently in Jordan (for example see Badran, 2001).

Jordan has traditionally emphasized the role of its human resources in exporting factor services (skilled workers) to Gulf countries. In the light of the government's recent policy stance to mitigate repercussions of regional disturbances as Jordan's economic performance, the country has adopted a broader export – led growth strategy, whereby exportable goods and services are locally produced for both regional and world markets.

This strategy requires upgrading technological capabilities and skills of Jordanian labour force, not only in the IT sector, but also in all high-technology industries, particularly in sectors which Jordan enjoys an actual or potential comparative advantage. Noticeable examples of such high-growth domestic industries are : pharmaceuticals, medical services and higher education services.

Public education expenditure in Jordan is estimated to be about 8% of GNP and about 20% of total government expenditure. Expenditure of higher education in Jordan is estimated to be about 33% of total public education expenditure, compared to 18.5% in Tunisia, 16.2% in Lebanon and 33.3% in Canada (UNDP 2000b).

Higher education in Jordan, like most Arab countries, is a recent phenomenon. With the exception of the University of Jordan, which was the first public university to be established in 1962 and Yarmouk University, which was established in 1976, the remaining public universities have been established during the last fifteen years.

It is to be noted that the life span of many public universities and most private universities in Jordan does not exceed ten years. Thus, these universities are relatively young. Therefore, they need time to consolidate their institutional structure and to refine their role in providing high quality education and market-oriented programmes.

The growing social demand for education in general and higher education in particular, the limited absorptive capacity of public universities, and the limited financial resources available to public universities, have led the government to allow the establishment of private universities since 1990 to fill in the gap. The number of private universities has increased from one in 1990 to nine at the present time, in addition to three colleges, which have university status.

It should be pointed out, however, that although all private universities (that offer bachelor degree) operating in Jordan are profit-seeking universities, they play a complementary role, along with public universities, in building Jordan's national human capital and thereby contribute towards achieving Jordan's socio-economic development objectives.

If the current high percentage (95%) of high school graduates reaching higher education is to be maintained, either the absorptive capacity of public universities will have to be expanded, or more private universities will be needed. While local market demand for university graduates is not likely to push growth, an incentive system should be provided to encourage more high school graduates to enroll in technical and vocational institutes, for there is a great shortage of young people who have such skills which the local market needs at

present and more so in the near future as Jordan is committed to become an IT regional centre (Al-Jaghoub, 2001).

**Part 2: Quality of Higher Education**

“Education is the central mechanism by which young Jordanians develop the skills, motivation and ability to contribute to national development. The education system is the key to unlocking the enormous potential that is inherent in Jordan’s young and educated population.”

(UNDP, 2000b, p.62)

It should be pointed out that the labour market in Jordan is characterised by a noticeable mismatch between university graduates and labour market requirements. The rate of unemployment stood at 14.7% in 2001 (DS, 2001), where it is more than 16% among university graduates, especially those majoring in social sciences and humanities. Thus, unless the quality of higher education is to be improved, and more market-oriented university programmes are to be created, the current mismatch between university graduates and labour market requirements will be exacerbated.

It is often alleged that rapid expansion in higher education inevitably entails some trade-off between quality and quantity. This may be the case in Jordan since the establishment of private universities in 1990. However, there are no rigorous and comparable studies on quality of higher education not only in Jordan, but also in other Arab countries, especially in comparison with advanced countries. Therefore, research on the quality of higher education has become a pressing need in Arab countries (Fergany, 2001).

In the absence of such research in Jordan, some indirect indicators of the quality of higher education will be discussed. These are: (1) quality of students; (2) quality of faculty; (3) students/faculty ratio; (4) graduate studies; (5) research; (6) fields of study and (7) interpersonal skills.

## **2.1 Quality of Students**

The overwhelming majority of students enrolled in higher education institutions consider higher education as a means to achieve two objectives: social status, and a rewarding job. Although these objectives are legitimate, they have increased the dependency on the state to provide job opportunities for the increasing number of university graduates.

The mission of higher education should aim at achieving two main objectives: Firstly, it must be looked at not as a means to attain social status, but rather as social responsibility. Secondly, it should be considered as a means for self-dependency. University graduates have to be creative and innovative in their areas of specialisation. Thus, higher education institutions should be viewed as centres for learning, research, and innovations.

There is no doubt that during the last decade Jordan has invested heavily in higher education. The total number of undergraduate students enrolled in both public and private universities has increased from 31,049 to 114,372 during the period 1990/91-2000/01 and it is estimated to have reached more than 120,000 students in the academic year 2001/02.

Although this may be viewed as a remarkable progress, it remains to be, to a great extent, a positive quantitative achievement. In other words, very little efforts have been made so far to improve the quality of higher education, especially in private universities.

Students are admitted to the universities according to their grades in high school. Due to the large number of high school graduates and the limited absorptive capacity of public universities, high school graduates who do not have the minimum grades required according to their fields of study will be unable to continue their studies at public universities on a competitive basis. Thus, many of these high school graduates apply to private universities.

However, if the high school grade average is to be taken as an indicator of the quality of students, private universities accept students who were not accepted in public universities due to an average that either did not qualify them at all to be admitted to a public university, or to have the opportunity to study for the specialization of their choice.

It should be pointed out, that the decision taken by the Council of Higher Education starting at the academic year 2000/2001 to lower the admission requirements in private universities for high school graduates from 60% to 55% in Arts and Sciences, and from 80% to 76% for Engineering and Pharmacy is likely to have adverse effects on the quality of education in private universities.

There is little doubt that this decision has made private universities to become a last refuge for many students who have been denied admission in public universities. As a result, first year students admitted in private universities increased sharply from 7,440 in 1999/2000 to 10,983 students in the academic year 2000/2001 and likely to more than 12,000 in the academic year 2001/2002.

It is estimated that 20% to 30% of the total number of students who have been admitted to private universities in the academic year 2000/2001 have high school average between 55% and 60%. At least 20% of these first year students failed to maintain the minimum passing grades in their first semester. This indicates that private universities serve as a residual provider of higher education after public universities utilize their full capacities, taking into consideration that the minimum admission requirements (65% in Arts and Sciences and 80% in Engineering and Medicine) were not lowered for public universities.

## **2.2 Quality of Faculty**

The quality of faculty members is discussed in terms of their academic ranks and the countries from which they earned their Ph.D. degrees. The distribution of faculty members according to their

academic ranks in public universities is as follows: 25% are full professor, 30% are associate professor, 44% are assistant professor, compared to 11%, 21%, and 68% respectively in private universities (see Table No. 1).

**Table No. (1)**  
**Number of Faculty Members and their Academic Ranks**  
**In Public and Private Universities**  
**2000/2001<sup>1</sup>**

	Total	Full Professor	Associate Professor	Assistant Professor
Public Universities	2,259	583	682	994
%		25%	30%	44%
Private Universities	1,021	111	217	693
%		11%	21%	68%

<sup>1</sup> Instructors, lecturers and teaching / research assistants are excluded.

Source: Al - Ameen (2002).

It should be noted that higher percentage share of the ranks of full professor and associate professor in public universities is attributed to the fact that faculty members in these universities are usually under a greater pressure to publish and apply for academic promotion than it is the case in private universities. This is mainly attributed to many factors; the most important are the following:

- (1) Private universities tend to de-emphasize research.
- (2) Funds allocated to research in private universities are limited.

- (3) The right of faculty members to have a sabbatical leave is not observed in private universities.
- (4) Absence of the tenure system in private universities may explain the weak sense of belonging and high turn – over among faculty members.
- (5) Due to shortage of faculty members in some private universities, they are encouraged to teach beyond their maximum teaching load for extra income. Thus, faculty members have very little time for research.
- (6) Finally, the annual increase in salaries, if any, is not linked to faculty's performance in research and publication. Thus, there is no built- in incentive system to encourage faculty to do research.

As far as the quality of faculty members in terms of the countries from which they earned their Ph.D. degrees is concerned, taking University of Jordan and Amman University as a reference of comparison between public and private universities, it is to be noted that about 82% of the faculty of the University of Jordan are graduates of United States, United kingdom, and other Western European countries, compared to 56% in Amman University (see Table No. 2).

**Table No. (2)**

**Distribution of Faculty Members According to their Ph.D. Degree Granting Countries 2000/2001**

	Total <sup>1</sup>	USA & W. Europe <sup>2</sup>	Others
University of Jordan	761	82%	18%
Amman University	137	56%	44%

<sup>1</sup> Instructors, lecturers and teaching / research assistants are excluded.

<sup>2</sup> The percentage ratios are calculated by the author based on the information in the Faculty Guide published by the University of Jordan, 2001 and unpublished data from Amman University.

Source: Al-Ameen ( 2002 ).



It is to be noted, that the quality of faculty at of the University of Jordan fairly represents other public universities, due to the fact that they send their teaching assistants to pursue their studies towards the Ph.D. degree in the above-mentioned countries. On the other hand, private universities do not have an adequate scholarship policy of sending a reasonable number of their instructors to obtain their Ph.D. degrees from reputable universities.

This selective scholarship policy of public universities provides them with a flow of new highly qualified faculty members on a continuous basis. This gives the universities a sense of stability, and at the same time, it gives faculty members a genuine commitment to the university. This also explains the low turnover of faculty members in public universities, compared to high turnover in private universities.

### **2.3 Student / Faculty Ratio**

Another indicator of the educational process in higher education institutions is the ratio of students to faculty. The number of students per faculty in all public universities in the academic year 2000/01 was 34:1, compared to 35:1 in private universities. Thus, according to this indicator, private universities are as good as some well-established public universities and much better than some other public universities that have been established recently. It should be noted, however, that the recently established public universities rely more heavily on outside lecturers who are excluded in calculating this ratio.

It should be pointed out that the number of students per faculty member in higher education institutions in Arab countries ranged between 18 and 19 in the period (1980-1995) (Fergany, 2001). As far as Jordan is concerned, this ratio may deteriorate further due to the rapid expansion in higher education unless necessary means that can ensure high quality education are taken.

## **2.4 Graduate Studies**

Private universities are not allowed, so far, to offer graduate studies. On the other hand, public universities offer graduate studies that lead to High Diploma and Master degree in most programmes, and even to Ph.D. degree in some programmes. These studies provide incentives to universities to improve their academic infrastructures, and attract highly qualified senior faculty members.

The absence of graduate studies places private universities at a disadvantage compared with public universities. However, taking into consideration that private universities are relatively new, it is the responsibility of the decision makers in these universities to prove that their universities are competent enough to be allowed to offer graduate studies. This can be done, basically, by improving the quality of undergraduate programmes offered by these universities, and by attracting more qualified and experienced faculty members. Some of these universities have taken some measures to achieve this objective, but it is still a long way to go for others.

## **2.5 Research**

It is to be noted that universities in the Arab countries (including Jordan) are preoccupied with teaching and they are not giving enough attention to academic and basic research, in addition to the fact that research facilities are very limited. Thus, most university faculty members do not find themselves under pressures, especially in private universities, to do research and publish in refereed journals.

It should be emphasized, however, that no higher education system can be expected to be effective in achieving its mission without providing the proper environment to enable its faculty members to become scientists and researchers. Furthermore, higher education system which does not require its faculty members to do research but merely teach in an old fashion way will be expected to lag behind. This will be adversely reflected on the quality of students who may have hard time finding suitable job opportunities.

Private universities operate as either public or private shareholding companies. According to the law of Jordanian private universities number 43 issued in late 2001, private universities are required to allocate 5% of their annual operating budgets for scholarship, training, scientific research, publishing and scientific conferences( Article 17-D). It seems from this new law that the newly established Ministry of Higher Education and Scientific Research is more serious than before to take the necessary measures aiming at supporting and developing scientific research in higher education institutions and providing incentives to researchers in these institutions to applied research.

The newly established Ministry of Higher Education & Scientific Research has issued new regulations aiming at ensuring that this 1% of the annual net profits of private companies allocated for research and training is strictly observed, and a special fund is to be set up for this purpose.

It should be emphasized that the positive impact of research and development (R&D) on the national economy in general, and higher education in particular, will remain limited unless certain requirements are to be met, such as: (1) a clear government strategy and policy measures, (2) adequate research infrastructure facilities, (3) adequate funding, and (4) commitment of business firms to meet their obligations towards supporting R&D.

Finally, it should be pointed out that there must be a link and partnership between all public and private universities and business firms to ensure that research projects carried out by the faculty are designed to solve some practical problems which these firms are facing or to increase productivity, or find new ways of doing things less costly. Furthermore, this kind of collaboration is likely to enhance the prospects of job opportunities for the university graduates, as it gives universities an insight of what skills are needed by the local firms, so that these universities can adjust their programmes accordingly.

## **2.6 Fields of Study**

A close look at the distribution of students in Jordanian universities according to their fields of study reveals that about 61% of these students are enrolled in non-science majors such as Humanities, Social Sciences, Law, Commerce and Business Administration. Thus, only 39% are enrolled in Sciences. Furthermore, the percentage share of students enrolled in Mathematics, Computer and Engineering is about 22% of the total number of students enrolled in public and private universities, noting that this percentage is almost the same in both public and private universities (CHE, 2001).

It is worth mentioning that the percentage share of students in Science, Mathematics and Engineering in all higher education institutions in Jordan is 27%. This percentage is higher than that in some Arab countries such as Egypt (15%), Lebanon (17%) and Saudi Arabia (18%). However, this percentage is still lower than that in Ireland (30%) and Singapore (62%) (UNDP, 2001a). It is to be noted that Ireland and Singapore have achieved remarkable progress in IT, and Jordan is trying to benefit from their experience in this area.

It should be pointed out that about 67% of all students enrolled in non-science fields are in public universities, thus to change this pattern of distribution away from the traditional fields of study and in favour of Computer, Engineering and other IT related fields, the absorptive capacities of public and private universities in these fields will have to be expanded. This is the most effective strategy to build the scientific base needed to achieve Jordan's ambitious objective to become a regional IT centre and solve its pressing unemployment problem among university graduates, which is estimated at about 16%.

## **2.7 Interpersonal Skills**

Although academic achievements are important, they are not sufficient to ensure that university graduates find suitable job opportunities. They need to be complemented by non-academic skills,

which help these graduates to promote themselves in the job market. These skills include: language, creative thinking, innovation, taking initiative, bearing responsibility, team work, meeting deadlines, communication and presentation ability, self confidence, high level of integrity and honesty, business skills, at least for certain segments of university graduates, global marketing skills. The last two skills are crucial to the viable provision of self-employment opportunities in a globalized business environment.

Many of these qualitative qualities can be developed in the classrooms if the method of teaching is changed away from the traditional form of lecturing and dictating students without active participation from their part, which is currently the dominant form of teaching in most universities.

It should be pointed out that the most effective instructors are not those who spend most of the class time talking while students take notes, but those who engage students in learning from each other and developing confidence to assume responsibility for their learning. For many instructors and students, these are new roles that need to be developed and encouraged in our universities for the purpose of improving the output of higher education, and thereby providing the market with the right types of graduates.

### **Part 3: Information Technology and Higher Education**

**“Technology networks are transforming the traditional map of development, expanding people’s horizons and creating the potential to realise in a decade progress that required generations in the past”**

**(UNDP, Human Development Report, 2001).**

Information technology (IT) has become the most determining force of the world economy. Eradicating illiteracy is still considered one of the major socioeconomic objectives in developing countries.

Adult illiteracy (% age 15 and above) is estimated at about 27% in these countries, compared to 39% in Arab countries, whereas it is 11% in Jordan (UNDP, 2001a).

Having achieved this objective a long time ago, the highly developed countries have moved their attention since early 1990 towards eradicating computer illiteracy as a necessary precondition to compete in the world market.

Jordan has realized the crucial importance of IT in its development, and has taken some serious measures to transform its economy to knowledge-based economy. The last two years have witnessed a series of measures to achieve this objective. The Ministry of Education has revised the curriculum in primary schools where English is to be taught at first grade and computer at second grade. Also, starting at the academic year 2000/2001, a general computer literacy course has become compulsory to all first year students in all public and private universities. Thus, in the near future students entering university will be expected to know how to use some basic IT applications, which are necessary in the job market.

It should be noted, that the continuing fast progress in IT in developed countries is expected to lead in the near future to new types of universities, making more access to increasing number of students to attain higher education without necessarily attending the current traditional types of universities, i.e., vis-à-vis distance learning. This is a great opportunity for universities in Arab countries in general, and in Jordan in particular, to leap to the twenty first century without having to go through the traditional patterns of providing higher education to their citizens.

Some serious studies have been conducted recently, such as Jordan Vision 2020 and the REACH initiative. All these studies confirm the necessity for capacity building in IT and in relating the outputs of higher education to the market needs (HCST, 2001; UNDP, 2001b).

To achieve this objective, all university students must be trained to know how to access the sources of information that will be necessary in their jobs. Furthermore, effective links between prospective employers and universities must be built. Thus, it is important that the higher education system should be adjusted to achieve this objective by offering the necessary infrastructure and the related fields of study.

Therefore, two major projects related to IT in higher education in Jordan are already underway. The **first** project called "Jordan Higher Education Development Project" is sponsored by the World Bank. The **second** project called "Information Technology in Higher Education" is a joint effort between UNDP and UNESCO. Both projects are directed at public universities; however, they are expected to provide incentive for private universities to follow suit (Al-Jaghoub, 2001).

The **first project** aims in general at improving the quality of higher education in Jordan. However, IT represents a major component of this project. It has three main objectives. The first objective is to establish system-wide modern Information Technology (IT), Management Information System (MIS), and library infrastructure for higher education. The second objective is to support a Higher Education Development Fund that would provide grants for public universities for innovative projects. The third objective is to initiate improvements in the quality, relevance, and efficiency of Jordan's higher education. The project is to be implemented over five year period 2000-2005. The total cost of the project, which is estimated at \$ 65.8 millions, is to be financed by the government (\$15.7 millions), public universities (\$15,8 millions) and the World Bank (\$34.3 millions) in the form of loan. In addition to improving the quality and relevance of higher education, the main beneficiaries of the project are students in public universities.

The **second project** aims at achieving three main objectives. The first objective is to develop a national strategy for IT in higher education. It should be noted that the first draft of this strategy was

completed in July 2001. The second objective is to build basic Web technology skills for courseware development. The third objective is to introduce well-respected international standards for certification of basic computer skills.

As mentioned earlier, both projects involve public universities. Taking into consideration the importance of IT as discussed earlier, private universities should also take the necessary measures to become part of and not to lag behind in Jordan's efforts to become a regional IT centre.

#### **Part 4: Conclusions and Recommendations**

1. In order to solve the pressing unemployment problem (especially among university graduates) and at the same time meet the challenges of the 21<sup>st</sup> century, the education system must be restructured to ensure that some major qualitative changes in the curriculum are made to achieve the following four objectives.

**Firstly**, interpersonal communication skills must be emphasized to enhance students' abilities to distinguish what is more important than others in their learning process.

**Secondly**, teaching basic computer and language skills must be given priority. These are very important tools university graduates need in their job search.

**Thirdly**, modern and applied sciences programmes must be expanded to enable students to choose certain professions that suit their liking.

**Fourthly**, the education system must be well equipped and resilient to cope with the new challenges for the purpose of providing students with new knowledge and skills they need in order to survive in the market place.

2. Effective links between prospective employers and universities should be built. This may take various forms, such as programmes of internships, student projects, summer employment, joint advisory councils between senior executives



of major industrial and business firms in the private sector and representatives of public and private universities to review and advise some specific programmes.

3. A process of surveying university graduates must be undertaken to see if they are employed in their fields of study, and if they have found their university education a good match for their career.
4. Adequate funds should be allocated to attract some new faculty with current ICT skills and to provide technical support staff for both faculty and students.
5. All forms of incentives should be provided to encourage faculty to become engaged in the use of ICT in teaching, training, and applied research.
6. In an attempt to improve their image by raising their academic standards, private universities should be selective in their admission policy. The immediate effect of this may have adverse effects on students' enrolment in these universities. Nevertheless, these universities are well advised to set their priorities in such a way to achieve a proper balance between their right to make a fair rate of return on their investments and the right of students to be assured that their own investments to obtain university education have been worthwhile too.
7. Instead of offering duplicate programmes to those in public universities, private universities should be more creative and market-oriented in their programmes. This will not only enable them to attract more students who are interested in certain fields that are not available in public universities, but also strengthen their complimentary role with public universities.
8. An assessment system has to be designed and administrated to measure students' ability of interpersonal skills. Furthermore, an incentive system should be developed to encourage faculty members to improve their teaching methods.

9. Academic programmes should be revised and kept up-to-date to ensure that students are provided with the skills the prospective employers need.
10. Policy measures must be taken to reduce the number of students majoring in humanities and social sciences where there is already high unemployment among graduates in these fields, especially those who lack language and computer skills.
11. Policy measures should be taken to encourage high school graduates to enrol in vocational and technical institutions, the skills of which are needed in the job market. An extensive campaign must be carried out to enhance the social value of blue-collar workers' role in achieving the national development objectives.
12. Finally, in order to enhance the quality of Jordan's higher education, an effective university rating system must be established. This domestic benchmarking system ranks local universities (both private and public) and their departments according to specific quality criteria supporting the goals of the higher education strategy in Jordan. The independent rating agency responsible for such ranking should disclose and disseminate its information and reports for the public as a reason of informing high school graduates, thus helping in spurring competition among domestic universities. This initiative can effectively enhance the image and performance of local universities for the purpose of competing internationally and attracting more Arab and non-Arab students. Moreover, this proposal complements the recent endeavours of the Ministry of Higher Education and Scientific Research to upgrade the quality of higher education in Jordan.

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