

Chapter Nine

The Higher Education Cluster, 2000

Background

The higher education system in Jordan was founded in 1951 with a one-year post-secondary Teacher Training Institute. However, the first public university otherwise known as the "University of Jordan" was established in 1962 with 167 students initially. Its main objective was to provide the Jordanian public sector with qualified graduates. 28 years later in 1990, the first private university "Amman Private University" was founded with a student body consisting of 1,324 students. Evidently, investments in higher education have increased considerably since 1951. There has been a gradual yet consistent growth in the number of students enrolling in public and private Jordanian universities particularly between 1991 and 1999.

Although such trends can be regarded favorable, they have induced other unfavorable trends. Over the past decade or so, more and more graduates have applied for jobs in the public sector. This figure has been at a continuous rise since 1990. Unfortunately, only a fraction of applicants are accepted every year, and this fraction has been gradually decreasing since 1994. Hence, there is a widening gap between the number of graduates applying for jobs in the public sector and the number of graduates accepted.

Similarly, local university graduates seem to be incapable of fully satisfying the needs of the private sector. This is mainly owed to the fact that most Jordanian graduates lack practical knowledge and analytical skills, up-to-date knowledge, efficient computer skills, and strong language skills in particular English. Unfortunately, such factors greatly contribute to the individual's competitiveness in the labor market as they greatly influence the decision making process of employers. In general graduates from local universities do not prove competitive enough in the private sector. Reinforcing this perception, a private bank manager asserted that, *for certain vacancies (he) prefers hiring Jordanian graduates from either the US or UK.*

To elucidate the circumstances of the emergence of such unfavorable trends, the higher education cluster has been the subject of the following examination carried out by means of Porter's analytical tools.

Analysis

A. Factor Conditions:

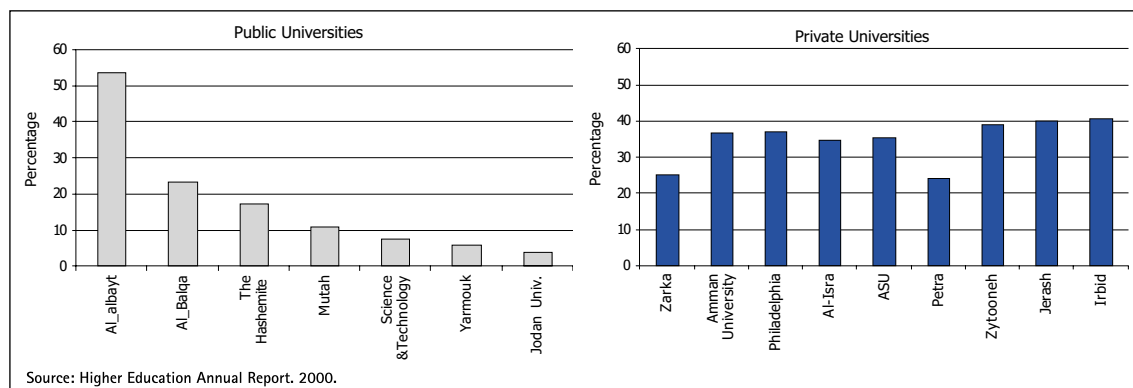
There are several factor conditions positively affecting the demand for education in Jordan. Such conditions include the high percentage of educated people, ongoing investment in the construction of universities, affordable university fees, and the overall climate of security and hospitality.

Another encouraging factor is the availability of qualified and diverse professional academic staff. Findings in 2000/2001 show that 38% of the academic staff were assistant professors, 19% were associate professors, 15% were full-time professors, 12% were instructors, 9% were full-time lecturers and finally 7% make up the segment of teaching and research assistants. In terms of staff diversity, the majority are graduates from

Europe (41%) as well as USA (32%) followed by graduates from Arab countries and Eastern Europe.

However when examining the distribution of foreign teaching staff in all private and public universities in Jordan, as shown in figure (9.1) private universities have a more even distribution of foreign academic staff than public universities. In private universities, the percentage of foreign teaching staff ranges from 25% to 40% of all teaching staff. In public universities, the range lies between 5% and 53%. More importantly the figure reveals the difference between the average percentage of foreign staff in private universities and that in public universities. Foreign teaching staff comprises an average of 30% of all teaching staff in private universities, exceeding that of public universities, which is a low average of 10%.

Figure 9.1 : Distribution of the Foreign Teaching Staff at Private and Public Universities, 1999



Concentrating further on public universities, another factor, or resource available, for examination in addition to foreign teaching staff is represented by computers. The ratio of personal computers (PC) per student and per teaching staff in 1999, is examined in view of the fact that such a resource is no longer considered a luxury but rather a necessity in today's world. Findings show that there is an average of one computer for every 72 students, and an average of one computer for every 20 teaching staff. Taking into consideration the significance of computers in terms of modernization and progress, notwithstanding the necessity of computer skills in the world today, these relatively high ratios indicate that computers are still not sufficiently available to both students and teaching staff. With time, public universities must move ahead in improving and upgrading various resources in order to gain competitiveness and improve the standard of graduates.

One way of improving the graduates' standard of skills and competitiveness is by improving the teaching level. This can be easily and rapidly achieved by creating incentives for the present teaching staff. Unfortunately, in general both public and private universities in Jordan fall short of offering incentives. According to one university professor, professors at Jordanian universities are only promoted based on the amount of research they conduct, and not on their ability to link university students with the private and public sector needs. However, it takes 2 to 3 years for each research initiative to be published. Such a long time not only poses an obstacle for those worthy of promotion, hence destroying any previously existing incentives to improve productivity and performance, but also negatively affects the purpose of the research. By the time the research is published it is outdated and its innovative value diminished.

Investment in the resource development for public universities is essential and must be emphasized since it helps enhance self-financing. Despite the various sources of finance available primarily from government resources followed by university tuition fees, public universities continue to suffer from a total deficit estimated at US\$ 4.2 million. Hence it is crucial for universities to direct and concentrate all their efforts on discovering alternative methods of increasing funds without having to be totally dependant on the government.

One strategy used to reduce the deficit and enhance funds is known as the parallel system. It is an alternative for students seeking higher education in public universities but who fail to achieve the necessary grades. It allows these students to register in public universities but forces them to pay the same amount of tuition fees required by private universities.

JUST and the Hashemite University signed agreements with international investors to establish a QIZ. This project involves capital amounting to US\$ 135–200 million for the establishment of information technology parks, which hold a mutual benefit for students, staff, labs and companies. More importantly, this project gives employment priority to students. Such projects are extremely beneficial in terms of securing financial resources and improving the educational system.

Finally, the creation of linkages between universities and labor market needs is a goal all universities should strive to achieve. It is crucial in that it helps improve the entire educational sector. To achieve this, the needs of the labor market must be identified, and R&D encouraged. As a result, courses and programs will be modified according to labor market needs, sources of data on labor trends will be improved, and opportunities to raise the quality of teaching as well as opportunities to generate new sources of income will be offered.

B. Demand Conditions:

A thorough examination of demand conditions in this cluster reveals that both local and foreign demand on Jordanian universities is relatively high. In 1998, Jordan maintained the highest enrollment ratio (2,250 per 100,000) in higher education after Lebanon, where demand was highest among Arab countries. A sharp rise in the number of students studying in Jordan occurred after the year 1990. This rapid change in demand can be attributed to political, economical and structural variables. To begin with, the year 1990 witnessed the start of the Gulf War and the devaluation of the Jordanian Dinar concurrent with the establishment and opening of the first private university in Jordan.

However, most foreign demand is for the University of Jordan. Though high demand can create opportunities in an industry, it can also prompt some dilemmas and difficulties, particularly if the university has limited resources and is already operating at full capacity. The total number of foreign students in Jordan accounts for nearly 10.1% of the total number of students. The majority of foreign students are from Arab countries followed by those from Malaysia and other countries.

Interestingly enough, average expenditure per month for a student from the Gulf is US\$ 1,100, in addition to the tuition fees that are five times the amount charged to Jordanian students. Hence, knowing that the total number of students from Yemen, Malaysia, Oman, UAE, and Brunei is equal to 3,361, the total expenditure per year is US\$ 15 million. If a strategy is proposed to improve the higher education system, thereby increasing the

total number of students four times i.e. 13,848, then the total spending will also increase by the same amount to become US\$ 60 million. It is worth mentioning that these figures regard students only and do not include or take into account the total expenses of their families whilst visiting Jordan. Furthermore, Jordan hosts students from 83 other countries in addition to those previously mentioned. This simple example identifies one of the missed opportunities in this cluster. It demonstrates how Jordan can increase revenues from foreign students' total expenditure per year simply by attracting more students from abroad, rather than increasing costs such as tuition fees and living costs, which may induce a decrease in demand.

Although high local and foreign demand on higher education in Jordan prevails, some Jordanians continue to seek education and obtain their degrees from non-Jordanian universities abroad. Of the estimated total of 30,000 Jordanian students, enrolled in 1997-1998 in universities outside the country, 83.4% were studying to obtain their BA, followed by those enrolled in MA programs (7.8%). Of the 83.4%, who are working for BA degrees, 3,495 students are enrolled in Syrian universities, as it is far less expensive than Jordan; no tuition fees are charged and the cost of living per month does not exceed US\$ 150. Nevertheless, it is hoped that the advanced strategy adopted by the Higher Education Council¹ will succeed in attracting the largest number of Jordanian students studying abroad, equivalent to 30,000 students, to pursue their education in their home country.

More important issues concern specialization; unfortunately there are perennial shortages of people with specific skills. Most Jordanian students abroad specialize in engineering (13%), medicine and pharmacy (10%), or law (10%), while those at Jordanian universities tend to enroll mainly in business and commerce (18%), or humanities and religion (14%). Unfortunately, most specialization choices indicate a lack of awareness of the labor market needs and demands, since the choices usually made fail to meet, or are not based on market requirements. This is primarily due to the fact that 70% of all specialization options are being selected and determined by families on behalf of their children.

C. Strategy, Structure and Rivalry:

The main point of this comprehensive initiative is not solely focused on introducing information technology to students, but more importantly, the end goal remains enhancing the country's human resources to equip Jordan with the necessary skills needed to compete on a global scale.

Her Majesty Queen Rania Al-Abdullah

Increased continuous efforts made by all related parties to enhance the competitiveness of this sector can turn the above vision into reality.

A vital element affecting the competitiveness of the education cluster relates to strategy. Jordanian universities are trying to focus on creating linkages between their institutes and the labor market to graduate job creators rather than job seekers. This is accomplished by encouraging students to think independently, by enhancing coordination among schools and universities for students to familiarize with the various

¹ As of August 2001 known as the Ministry of Higher Education and Scientific Research.

specialization programs offered hence be in a position to choose freely, and by finding the proper mechanism to enhance and utilize student capabilities fully and appropriately. It is desirable that instances like the Jordanian-US graduate in engineering who has a patent in telecommunications, occur more often.

Although the adoption of such a strategy is a step taken in the right direction, the implementation process leading to the gains and benefits is far more difficult to achieve successfully. Figure (9.2) illustrates the areas of discipline at private and public Jordanian universities.

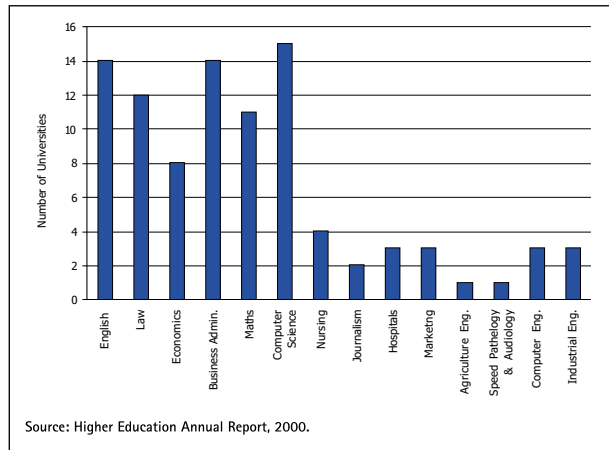


Figure 9.2: Areas of Discipline at Jordanian Private and Public Universities

The figure obviously indicates that the most popular areas of discipline, such as English, are those that do not meet the demands of the labor market and as such do not translate into jobs. Furthermore, most specialization courses offered by Jordanian universities including the few that are demanded by the market are theory based rather than practical and not substantive enough to be used on the ground. This shows that the education cluster is still plagued by a shortage of awareness and information concerning market needs, and lacks the means to meet those needs. Public universities claim that they *"do not have enough money to cover their expenses,"* let alone initiate new specialization programs. Whereas private universities state that *"the Higher Education Council does not allow them to initiate new specialization programs such as medicine, dentistry and postgraduate degrees, even though they have all the required capabilities to do so"*.

Nevertheless, more emphasis should be placed on introducing specialization programs, as well as enhancing and developing potential domains of specialization that are required in the market. One example of a less popular discipline that has potential is nursing. Nowadays, there is a high demand for nursing staff at both local and regional levels, and it is expected to grow within the coming ten years. This is mainly due to three major factors: a) the increasing number of private hospitals operating in Jordan, b) the opening of King Abdullah Hospital (expected to employ more than 1,000 nurses) and, c) the expansion of health services provided in Gulf countries that offer more incentives than the local market.

Specialization in marketing is another example of less popular yet greatly demanded discipline areas. More sophisticated marketing skills are essential in today's business world if Jordan is to compete internationally and globally. One survey² undergone in 1999 compares the marketing skills of 59 countries. Out of these 59 countries, Jordan ranked 47, pointing to the necessity to enhance and improve specialization in this area, in order to retain customers.

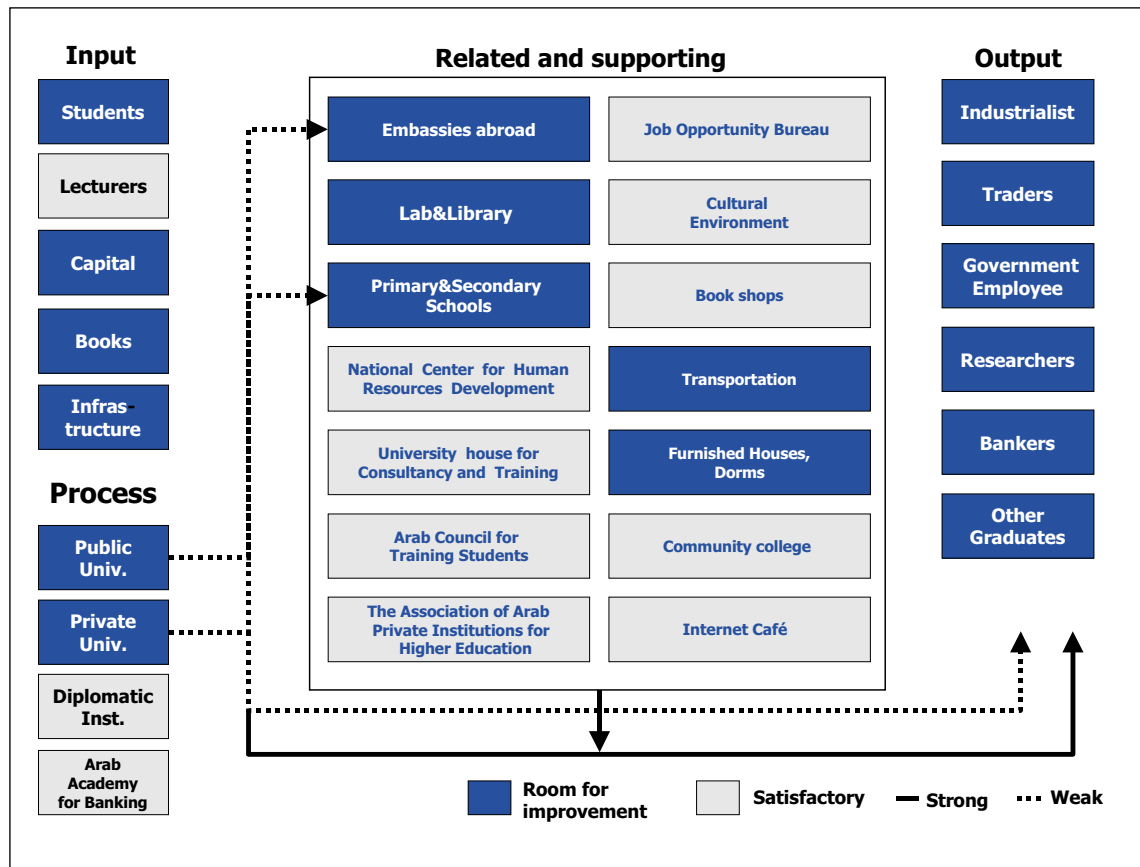
Another part of the strategy that universities in Jordan follow involves decreasing all types of expenditure to

2 The Executive Opinion Survey is an annual survey produced by the World Economic Forum to measure and assess intangible factors affecting a country's competitiveness that are not found in official statistics. The information gathered in the survey is used as part of the analysis in the Global Competitiveness Report.

reduce the current deficit. However, a reduction in spending on R&D can lead to a sharp decline in university performance and productivity, henceforth negatively affecting the competitiveness of the cluster as a whole. There is already evidence of such an effect; records reveal that in 1998, the average expenditure per student in public universities in Jordan was below the amount required for a satisfactory level of education according to international standards. Therefore, any necessary reductions in total spending should not be applied to R&D, which holds the key to future international success and competitiveness.

There is extensive room for improvement in the academic sector, yet Jordanian universities continue to accept huge numbers of students every year because of social pressure. Even if this may expand the inflow of income, it is not worth the huge negative implications on the quality of graduates produced despite the ability of Jordanian universities to attract qualified lecturers. Consequently, universities focus on graduating quantitatively, rather than qualitatively.

D. Related and Supporting Industries:



Source: JNCT, 2000.

The cluster map above reveals and acknowledges the strong role of the Association of Arab Private Institutions for Higher Education, and the Arab Council for Training Students. The prominence of lecturers is also considered a positive factor in attracting students from abroad. This is coupled with the availability of significant facilities such as transportation, restaurants, housing, hospitals, entertainment, and airlines etc., which greatly influence the number of students seeking higher education in Jordan. Primary and secondary schools are another element in the cluster map. Although the general quality standard of such schools is good, their output is often relatively weak. Nevertheless, graduates from Jordanian universities still manage to maintain a well-established reputation.

Alternatively, one area for improvement is the weak role of Jordanian embassies abroad. Efforts are still undergoing to increase their role in order to attract and persuade interested foreign students in pursuing their higher education in Jordan. More importantly, Jordanian embassies can assist the educational system in Jordan by gathering, sharing and disseminating information with regard to the most advanced techniques adopted in the educational systems in their countries of duty.

E. Government:

After reviewing the role of the government in this particular cluster, it is evident that the government has recently made significant efforts towards improving the educational system in Jordan. However, its role in modifying the Tawjihi (General Secondary Education) exam, a system based on evaluating memorization rather than comprehension and analytical skills, is still absent.

The government plays the additional role of financier by subsidizing public universities. Unfortunately though, public universities continue to suffer from budget deficits as previously stated.

Another area in need of improvement concerns the Higher Education Council, which continues to fall short of clear policies. For instance, according to the Law of Higher Education, private universities in Jordan do not admit Jordanian students who have an average grade below 55%, although non-Jordanians with an average grade below that level are permitted to enroll. Additionally, Jordanian students with an average grade below 55%, who graduate from foreign universities, still have their degrees acknowledged by the Higher Education Council even though they were not admitted into a Jordanian university. Such policies appear to focus on accepting the largest number of students possible as a source of income for universities, when they should in fact be more concerned with the quality of students admitted into Jordanian universities as the core input.

There is also an urgent need to establish a Jordanian evaluation institute for ranking local universities according to specific criteria. Such criteria include the percentage of students pursuing Ph.D. degrees, availability of job opportunities for recent graduates, total expenditure on R&D, and finally the maintenance of linkages between successful and creative businessmen alumni. Evaluation centers are essential in that they help create healthy competition amongst Jordanian universities, and consequently improve their ranks. It is preferable for the government to take charge of this initiative since confidence in the public sector exceeds that in the private sector. It is worth mentioning that evaluation centers in the USA have proven to be a great success. The identification of top-ranking universities depends greatly on such centers.

Future Challenges

We have made it a priority to address the challenges of meeting international standards in technology, education and production in order to grasp the full benefits of globalization.

His Majesty King Abdullah II

The attainability of such a goal or rather, the realization of such a vision turns out to be far more difficult than expected. An evaluation of the Jordanian higher education system according to international standards has been undertaken, based on two key criteria. The results show that there are around 22 students for every lecturer, which according to international standards is classified as non-satisfactory. Conversely, the percentage of total teaching staff members that are Ph.D. holders is equivalent to 83%, which is considered a good rating.

While considering public and private universities separately the results of the evaluation process indicate that public universities have a relatively high number of students per lecturer (23:1); which positions the system a non-satisfactory level. On the other hand, 85.8% of the total teaching staff are Ph.D. holders, which is a very good rating internationally. As for private universities, they have a satisfactory number of students per lecturer (20:1), and a relatively good percentage of teaching staff that are Ph.D. holders (75%).

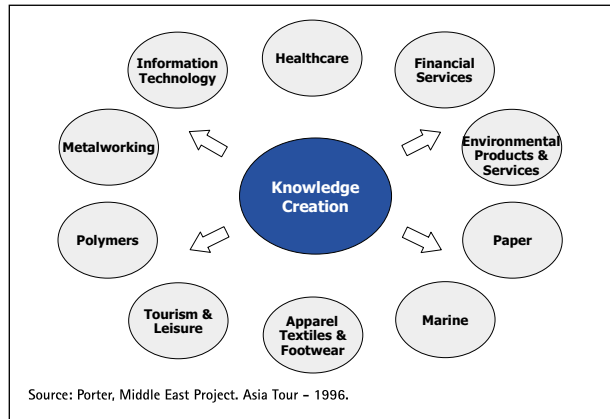
These results emphasize the urgency to improve the Higher Education system in Jordan to meet local as well as global challenges at present and in the future. World Information Technology (IT) leaders at the Dead Sea IT Forum stressed the need to introduce new curricula and IT courses in the higher education system. Majors such as computer engineering should be made a priority, and e-commerce should be offered by universities or introduced in curricula. This is in view of the availability of millions of IT related jobs globally, estimated at US\$ 1.7 million in western Europe alone for computer engineers. Other countries in the region are introducing new improved higher education specialization programs in IT. Dubai Internet City/ Internet University is offering international quality courses in e-finance, e-marketing, e-design and e-management.

The rectification and advancement of the higher education system in Jordan can only be accomplished as previously mentioned, through extensive investments in R&D. Unfortunately Jordan's investment in R&D is insignificant and unsubstantial. According to the GCR 2001 Jordan ranked 55 out of 75 countries in terms of expenditure in this area. Furthermore, the percentage of total expenditure on academic research and conferences at public universities decreased from 1.13% in 1998 to 0.75% in 2001. In contrast, the total expenses at Harvard University reached US\$ 1.531 billion in 1997, of which 22% was allocated to research. Incidentally, out of the 10 richest US universities, Harvard ranked first by market value endowment assets in 1998.

The biggest challenge facing the Jordanian Higher Education Cluster however, is the creation of a knowledge-based economy, in which knowledge in all its forms plays a crucial role in economic processes, including growth and job creation. *Individuals with more knowledge get better-paid jobs, firms with more knowledge are winners in their markets, and nations endowed with more knowledge are more productive. This is why individuals, firms and nations are increasingly investing in knowledge.*³ Massachusetts' clusters represent an

3 The Global Information Economy, 1997.

ideal example of a knowledge-based economy as illustrated in figure (9.4). It demonstrates how efficient and advanced education systems lead to the creation of knowledge that is useful in all sectors of the market no matter how diverse. Knowledge creation is the main link between universities and the labor market and the key to global competitiveness and success.



The productivity, performance and competitiveness of the Higher Education Cluster on a more international and global scale depend critically on the modification of various elements. The higher education system should focus on graduating qualified graduates who are job creators. This can be achieved by adopting and incorporating more advanced strategies and techniques in the system to enhance knowledge creation, such as increasing access to technology, i.e. PCs and the internet that are essential tools in education. Additionally initiating new specialization programs to meet identified labor market needs, has to be prioritized.

However, some existing courses do not sufficiently recognize the requirements of the industry. University environments have tended to emphasize theory and research, whereas industry places more emphasis on reliability, best practice, and broader communication skills and industry experience. Hence, it is advisable that the government and industry encourage partnerships between industry and educational institutes at all levels to ensure course relevance.

Furthermore, investments in the cluster are necessary and should be increased to improve competitiveness, particularly investments in R&D, which can aid universities to become less dependant on external sources of finance and generate their funds i.e. enhance self-financing. Finally, embassies play a significant role in promoting this cluster; therefore their role should not be neglected but augmented.

In conclusion, developing higher education both internally and externally will support and assist the whole system to overcome the so called "vicious cycle," that continues to promote the practice of each related industry blaming the other for the worsening conditions. Such a state of affairs will only magnify the deterioration of the cluster.

To be precise, the industrial sector blames universities for what it has to put up with, namely, low quality graduates due to their dependency on theoretical learning and shortage of up to date computer knowledge and language skills. Subsequently, universities condemn basic education for the low level of output, which in turn blames the government for its deficiency, on account of limited financial resources, in addition to the limited incentives offered to teaching staff. Finally, the government believes and attributes the deterioration of the higher education system to the high rate of population growth in Jordan. Hence, the question to be addressed immediately is: who is to blame for the rise in the population growth rate?

