

THE EFFECT OF UNIVERSITY PARTNERSHIPS ON ENGINEERING EDUCATION IN AFGHANISTAN

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Abstract: This paper discusses the context, the recent development and the present condition of engineering educational institutions in Afghanistan. In addition, the importance of the Afghan government initiative to establish partnerships between selected Afghan universities and the universities in more developed countries will be highlighted in this paper. The discussions and conclusions outline promising directions for this work and consider the lessons learned.

Keywords: Engineering Education, partnerships, Afghanistan.

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1. HISTORY OF EDUCATION IN AFGHANISTAN

Modern education in Afghanistan began with the establishment of its first secondary education school in Kabul in 1903 with the main objective to train the civil servants for the Afghan government. However, the establishment of higher education in the country only started in the 1930's, and continued in the 1950's-1970's (Samady, 2001). It has been well known and widely publicized that the infra structure of Afghanistan was totally destroyed through the decades of wars and instabilities in the country. Amongst other domains, the higher education sector was not only decimated, but had been misused by politicians in order to achieve their short-term political objectives. The majority of well qualified and experienced academics were forced to leave the country, retired or killed. Those academics that stayed behind were isolated from the rest of the world and remained detached from the enhancement of education, knowledge and the development of new technologies. The colleges and universities infrastructure suffered in the wars; for instance, laboratory equipment and libraries have been looted or burned, and most of buildings have been damaged. Furthermore, the curricula have stagnated for decades and neither has there been staff development of suitably qualified and experienced academics or technical staff who are able to educate the students to face the challenges in Afghanistan in the 21st century (Baha, 2003).

Engineering education has a relatively long history in Afghanistan but because of the instabilities in the country, this sector like many others, has experienced catastrophic decline. Several Engineering and Technical Vocational Educational (TVE) institutions were

established in the capital and some other major cities between 1930's – 1980's: the most successful ones established with the help and technical assistance from countries such as Germany, the US and the USSR.

The paper discusses the history, present conditions and the progress of Engineering and Technical Vocational Educational (TVE) institutions in Afghanistan. It is recognised that the establishment of Engineering and TVE institutions is vital for the reconstruction and future development in the country. Therefore, recommendations are made as to how TVE and Engineering education in Afghanistan may be re-established to meet international standards and to address local needs.

In addition, the ministry of higher education (MoHE) in Afghanistan has recently established partnerships between the Universities in Afghanistan to selected universities in the developed world. The operation and effectiveness of such partnerships will also be discussed in this paper.

2. THE PROGRESS AND THE PRESENT SITUATION

The Afghan higher education (HE) system has experienced significant improvement (1974 – 1978); however, the destruction of the higher education was begun with the establishment of first pro-communist government in Afghanistan in 1978. Moreover, the HE system was further downgraded after the USSR direct intervention and successive civil wars between the periods of 1980 – 2002.

After the intervention of the international community in 2001 and the subsequent establishment of the new government in 2002, limited progress has been made to rebuild the education sector specifically in engineering and Technical Vocational Education (TVE) (Baha, 2008).

Efforts have been made to improve this sector during the last seven years; some examples of success include:

- An increase in the number of students;
- The establishment of uncoordinated new institutions for political reasons;
- The training of some junior lecturers at universities in the developed world;
- Some limited improvement of the physical infrastructure of selected Afghan universities.

Despite the above efforts, the quality of education provided by the universities in Afghanistan has not considerably improved. However, most institutions are functioning with limited resources and inadequate investment.

3. EVALUATION OF THE SUITABILITY OF THE EXISTING ENGINEERING EDUCATION PROGRAMMES

The University of Brighton (UoB) has established several partnerships with Kabul University (KU), Kabul Polytechnic University (KPU) and Information and Communication Technology Institute (ICTI) over the last four years. The authors have visited these institutions and have evaluated their existing programmes. The following deficiencies have been found:

- a. The curricula have not been updated for decades;
- b. The curricula are not supported by suitable experimental work;
- c. Some of the programmes are less relevant to local need;
- d. Most of the programmes are only theoretical;
- e. ICT has not been integrated into many courses;
- f. There is strong evidence of the lack of application of up-to-date teaching and learning paradigms.

The proposed partnerships between the Afghan universities and universities in more developed countries have provided a unique opportunity to address some of the above issues. However, the success has been limited because of the following reasons:

- There is strong resistance for change by some senior academics at the Afghan universities
- Regrettably, there is a lack of strong leadership at the MoHE and Afghan Universities
- The bureaucratic, long processes at the MoHE and perhaps at the World Bank have hindered the equipping the laboratories at Universities.

The resistance from senior staff is not particularly surprising, as they have been starved of resources for many years but now see external influence threatening their existing values and way of life, even though it brings material improvements. A major challenge is to find ways that they can engage with these changes and feel ownership of the outcome.

4. THE PARTNERSHIP BETWEEN THE AFGHAN UNIVERSITIES WITH THE UNIVERSITIES IN MORE DEVELOPED COUNTRIES

Some progress has been made to address the issues discussed in the previous section; however, further serious work is needed to improve the higher education sector. One of the reasons behind any success has been the establishment of partnerships between the Afghan universities and universities in the developed world.

The five major engineering institutions in Afghanistan have established a kind of partnership with well-known universities in the US, Europe, and Asia through a World Bank sponsored program entitled the Strengthening Higher Education Project (SHEP). The aim of this program is to promote strategic planning and the introduction of a development and reform program at key higher educational institutions. According to the author's knowledge, the list of the Afghan engineering institutions and their international partners include:

- a. Faculty of Engineering, Kabul University, Afghanistan, with Kansas State University, and Ohio University, US, and with some institutions in Japan;
- b. The departments of Electrical Engineering and Computer Engineering and IT, Kabul Polytechnic University, Afghanistan, with the University of Brighton, UK;
- c. Faculty of Engineering, Nangarhar University, Afghanistan, with San Diego State University (SDSU), USA;
- d. Faculty of Engineering, Herat University, Afghanistan, with the University of Hartford, USA;
- e. Faculty of Engineering, Balkh University, Afghanistan, with Asian Institute of Technology (AIT), Thailand.

A major component of these partnerships is the training of selected junior lecturers for the universities in Afghanistan. According to information from the MoHE, around one hundred and fifty individuals have been engaged at various postgraduate programmes at partner universities in the developed world. It is hoped that the return of these young lecturers will have a major effect in enhancing the provision of education at their respective university departments in Afghanistan.

Furthermore, the curricula of certain departments have been updated and the list of equipment and materials has been provided to support the curriculum. It is highly recommended to the MoHE and donor agencies such as the World Bank in this example to supply and equip the laboratories.

The success of the above and other partnerships should be closely monitored by the Afghan government and the World Bank. The Afghan government needs to explore the possibility of close collaboration, including student and staff exchanges with educational establishments through USAID, the British Council, the European Union, Japan, China, India, various UN agencies, and other bilateral cooperation.

Afghan expatriates working at colleges and universities in the Western world can play an important catalytic role in re-establishing proper technical vocational and engineering education in Afghanistan. Afghan expatriates teaching at such institutions in the Western world will have up-to-date knowledge in their disciplines, could easily comprehend the existing situation in the country, could be instrumental in bringing rapid changes, and would know how to properly use the resources. These academics could participate in short-term training of the existing staff at the institutions of higher learning in Afghanistan. Expatriates could help in preparing curricula, training junior academics, and offering timely seminars in

the urgently needed areas of each institution. However, it must be recognised that there may be some internal resentments or jealousies that could hinder acceptance from the indigenous academics.

5. CONCLUSIONS

The history, recent development and the importance of international partnership on engineering education in Afghanistan has been investigated in this paper. Because of the efforts from the Afghan government, the Afghan Diaspora and international community, limited progress has been achieved.

The major achievements of establishing that partnerships are as follows:

- a. The training of selected junior lecturers
- b. The updating the curriculum of selected subjects
- c. The limited improvement of learning resources

From the authors' point of view, the following challenges remain unresolved:

1. The management at the Ministry of Higher Education (MoHE) and universities is not strong and they lack direction and vision for the future. Furthermore, they are unwilling to change their practices or attitude: a major issue that has to be addressed. It is regrettable that some appointments of such officials at senior positions may not be made on merit but are based on their political affiliations and other reasons.
2. There is little evidence amongst some of the colleagues for respecting the rule of law within the MOHE and universities in Kabul. For instance, clear cases of discrimination have been witnessed at the appointments of junior lecturers and their subsequent selection for the scholarships or other training programmes at universities in the developed world. There is clear evidence to prove this claim, but little consequence to the perpetrators.
3. There are several multi-million USAID and World Bank projects running at the MoHE, nevertheless, the outcomes of these projects have been limited. Better management can prioritize projects and will have a major influence on the effectiveness of such projects.
4. The management at the MOHE and the universities changes regularly and most managers do not continue the programmes of their predecessors, which leads to an unstable system there. Institutions need longer-term vision and plans.
5. Because of the above and other weakness, the real issues to update the curriculum, equipping the laboratories in subjects related to science and technologies, updating the skills of the academics have been difficult to adequately address.
6. The quality of graduates has been very poor and the majority lack technical knowledge and necessary practical skills, which is highly desirable in Afghanistan.

7. The general social instability and pervasive culture means that there is little incentive for personal or staff development within these institutions. This pushes innovators in education to work abroad.

It is a huge task for the people of Afghanistan to overcome the catastrophic destruction of her institutions and educational infrastructure and to address the above issues. This task cannot be accomplished without significant contribution from the international community. In order for the Afghan population to take a role in their country's present reconstruction projects, the Afghan government needs to be proactive in attracting international assistance in building its human capacity. This fact has been recognised, and recently reported by the UN (Eide, 2010). Thus, the following recommendations are made to further improve the higher education sector including engineering education in Afghanistan.

5.2. Recommendations

Improving science, technology and engineering education is essential for countries such as Afghanistan, as a well-educated technical workforce can accelerate development in the country. The following recommendations are made to enhance higher education including engineering education in Afghanistan:

- a. Strong management teams are needed at the MoHE and universities in order to tackle the above problems and lay down the foundations of suitable higher education system, which will address the real issues in Afghanistan. These teams need to have suitable experience and a clear vision of how to further develop the education system.
- b. Despite the fact that the curriculum of selected subjects has been updated, there is a strong need to evaluate and to improve the quality of all the existing degree programmes, i.e. update the curriculum, develop appropriate educational paradigms, refurbish and re-equip the laboratories in science, engineering and technology-based subjects.
- c. The establishment of a council for promoting the education of science, engineering and technology is essential for the country, as engineers and scientists have a collective responsibility to improve the lives of people around the world including Afghanistan. Many expatriate Afghanis may be happy and willing to help here.
- d. There is a strong need for better planning to create a higher education system that can address the present problems of the country and it is sustainable in the long-term using the local resources rather than being dependent on international aid.
- e. There is certainly the lack of professionals at the MoHE and Universities to prioritize and to control the multi-million Dollars USAID and other funding agencies funded projects in this sector, as the success of such projects in the present time are rather limited and less evident.
- f. The expansion of practical vocational and technical courses is highly recommended to be integrated within the higher education system. The practical skills that the University graduates in Afghanistan can offer is very limited at present, which leads to ineffective practitioners trying to maintain the country's technical infrastructure.

- g. If higher education, including engineering education, is to play a vital role in the reconstruction and future development in Afghanistan, significant investment in control and resources is needed to address the issues discussed in this paper.

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