Invited Paper

Quality Assurance in Engineering Education in Nepal: Role of Nepal Engineering Council

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Abstract

Formal enrollment in engineering education in Nepal began in 1943 with civil sub-overseer (currently called technical SEE/10th grader), Diploma in Civil Engineering in 1953 (equivalent to 12th grader), and then Bachelor of Civil Engineering in 1978. The first master's degree in the engineering discipline was formed in 1996. PhD programs were launched in 2003, which focused on various engineering subjects. Now, 49 colleges affiliated with six different universities are offering engineering degrees in 17 subjects, enrolling 9,415 students each year. Before Kathmandu University was established in 1995, Tribhuvan University was the only institution responsible for regulating the quality of engineering education. The professional body Nepal Engineering Council (NEC), an autonomous organization formed by the government, was founded in 1999 with the objective of proper and effectual mobilization of the engineering profession. It was also responsible for determining engineering qualification standards, the approval and monitoring of engineering colleges, and the registration of engineering graduates in Nepal. The University Grant Commission (UGC) was established in 1994 to regulate quality, alongside other issues of multiple universities. The need for the formation of the Quality Assurance and Accreditation Division (QAAD) was realized in 2007. The NEC has been independently monitoring the quality of engineering education provided by different colleges in Nepal. The UGC also prepared guidelines in 2013 for the purpose of quality assurance and accreditation. None of the engineering campuses have received accreditation. Since the publishing of the QAA guidelines, the UGC, in coordination with the NEC, has been carrying out accreditation procedures for engineering colleges. Quality monitoring procedures being implemented by the NEC highlight physical infrastructure, faculty/administrative staff, and teaching methodologies adopted. The prevailing act of the NEC qualifies only those graduates who have received a four-year degree from engineering campuses. This prevents engineers from gaining their qualifications through other modes of learning, such as vocational qualification systems, lateral entry systems or distance learning models. The NEC has planned to address other equivalent qualifications through an amendment of the act.

Arna Raj Silwal received his MSc in structural engineering from TU, Nepal, in 2002, his bachelor's degree in civil engineering from the Institution of Engineers (India) in 1999, and a diploma in civil engineering from TU, Nepal, in 1994. He has attended training and seminars, including but not limited to the Afro-Asian Hydro Power Conference in Bhutan (1 week), Training of Trainers for Vocational Skills from Interserve/United Industrial Services (2 weeks), and Technical Auditor Training from TITI (3 weeks). He presented a paper at the National Convention on Science Information and Technology by National Youth Council, Nepal, and at TVET in Nepal: Issues and Challenges, organized by CTEVT, as well as facilitated an ISO Audit for 9001:2015 for two companies. From 2003 to date, he has been the chairperson, Inclusive Consultants (P) Ltd, Kalimati, Kathmandu (Inclusive Consultants has gained expertise in providing consulting service in planning, designing of roads and bridges, construction supervision, etc.). He gained experience working with many government and nongovernmental agencies in Nepal. From 2013 to date, he has been the chairperson, Padmashree International College, Tinkune, Kathmandu (Padmashree provides bachelor-level education in food technology, information technology, etc.). From 2000 to date, he has been the managing director, Training Center Nepal, Sitapaila, Kathmandu (one of biggest private-sector companies in training and consulting sector in Nepal. Currently, it employs more than 500 technical persons, including 150 engineers). From 1999 to 2000, he was a structural engineer, National Society for Earthquake Technology (NSET): Nepal (NSET is a pioneer nongovernmental organization working in the area of reducing earthquake risks). He is a member of the Nepal Engineering Council, Nepal Engineers Association, Institution of Engineers, India, and Structural Engineers Association Nepal. He is now the vice chairperson of the Nepal Engineering Council.