

# **Report of External Peer Review Team**

On  
**Bachelor of Science in Civil Engineering Programme**  
Department of Civil Engineering  
University of Asia Pacific, Dhaka

Site Visit:  
January 24-26, 2018

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Report Submitted to the Director, Institutional Quality Assurance Cell  
University of Asia Pacific, Dhaka  
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## CHAPTER 1

### 1. Scope and Process of Peer Review

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University Grants Commission (UGC) of Bangladesh is implementing the Higher Education Quality Improvement Project (HEQEP) to ensure and enhance the quality of higher education in Bangladesh. This project has been undertaken to make sure that graduates coming out of the Universities in Bangladesh have the ability to satisfy stakeholders' need in terms of their cognitive skills, attitude and performance. Under this project, an Institutional Quality Assurance Cell (IQAC) was set up in each of the participating Universities. IQAC is currently coordinating self assessment exercise in different departments in the participating Universities. The self assessment exercise is mainly intended to take stock of the quality of the program measured against a set of criteria and standards set by the UGC as articulated in the Self Assessment Manual. The exercise should also identify areas that need to be improved while taking into consideration the concerns of major stakeholders.

The Department of Civil Engineering of the University of Asia Pacific (UAP) has carried out its self assessment exercise recently and submitted a report. The self assessment exercise was mainly coordinated by a program self assessment committee consisting of four faculty members of the Department of Civil Engineering (CE). The committee prepared the self assessment report (SAR) based on the inputs they received in a series of meetings, discussions, workshops, interviews, and opinion surveys. The assessment covers nine criteria set in the Self Assessment Manual:

- 1) Governance
- 2) Curriculum design and review
- 3) Student admission, progress and achievements
- 4) Physical facilities
- 5) Teaching, learning and assessment
- 6) Student support services
- 7) Staff & facilities,
- 8) Research & extension services and
- 9) Process management and continuous improvement.

The report also includes SWOT analysis.

An external peer review team (EPRT) consisting of one international and two local experts was constituted by IQAC of UAP to review and validate the SAR of the CE Department. The EPRT visited the UAP campus during 24-26 January, 2018. The visit schedule of the EPRT included presentations by IQAC; SAR presentation by the CE Department; meetings with senior UAP management including the Vice Chancellor; meetings with head of the department, faculty members, non-academic staff, students, alumni and employers; site visits to lecture sessions, class rooms, laboratories, library and other facilities; review of documentations etc. On the last day of the visit, EPRT presented an exit report to the IQAC and the CE Department in which it highlighted the preliminary findings of the team. The EPRT consisted of the following members:

**International Reviewer:**     **Prof. Dr. A. S. M. A. Haseeb**  
Dean, Innovative Technology Research Cluster, Institute of  
Research Management and Services  
&  
Professor of Materials Engineering, Department of Mechanical  
Engineering, University of Malaya, Kuala Lumpur, Malaysia

**National Reviewers:**       **Prof. Dr. Md. Zoynul Abedin**  
Professor, Department of Civil Engineering, BUET / MIST, Dhaka,  
Bangladesh

**Prof. Dr. M. Rafiqul Islam**  
Director, Institutional Quality Assurance Cell (IQAC), BUET  
&  
Professor, Department of Naval Architecture and Marine  
Engineering  
Bangladesh University of Engineering and Technology (BUET),  
Dhaka, Bangladesh

This final report presents the findings and recommendations of the EPRT in detail. Chapter 2 of the report presents the Institutional and Departmental Overview. Aims and Learning Outcomes of the Programme are highlighted in chapter 3. Chapter 4 presents the main findings of the EPRT. These findings of the EPRT are listed under the following three descriptors:

<b>Commendation</b>	Something that Department of Civil Engineering is doing well and should be recognized for.
<b>Affirmation</b>	Something that Department of Civil Engineering has started or aspires to achieve that is positive and that the review team encourages for further development and enhancement.
<b>Recommendation</b>	Something that Department of Civil Engineering should give consideration so as to highlights as an opportunity for improvement.

## CHAPTER 2

### 2. Institutional and Departmental Overview

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#### **The University of Asia Pacific (UAP)**

The University of Asia Pacific is a private University which was established in 1996 under the Private University Act 1992. UAP is sponsored by a not-for-profit and non-commercial organization, the University of Asia Pacific Foundation based in Dhaka.

UAP started offering its undergraduate programs in 1996. The programs on offer at the beginning were bachelor degree in computer science and engineering, and bachelor of business administration. Currently UAP is offering undergraduate programs in Architecture, Business Administration, Civil Engineering, Computer Science and Engineering, Electrical and Electronic Engineering, English, and Law and Pharmacy. It also offers master degree programs in a few disciplines including Civil Engineering.

UAP has three main policy making bodies such as the Board of Trustees, the Syndicate, and the Academic Council, the latter being the highest academic body. Academic Council, chaired by the Vice Chancellor, is responsible for all academic matters including academic programs, curriculum, academic rules and regulations etc. It is mainly composed of Pro-Vice-Chancellor, Deans, Departmental Heads, senior faculty representatives, representatives of Board of Trustees and the Registrar.

The University is located at its permanent campus at Green Road, Dhaka. It is housed in a ten-storied building with a space of 2449.25 square meters. UAP also rents some additional space in an adjacent building.

The stated vision and mission of UAP are as follows:

#### ***Vision of UAP***

*“UAP holds steadfastly its passion to do better and better in fulfilling our young generation's needs and aspirations for a caring and quality education in casting their future career and become a desirable destination for an identity.”*

#### ***Mission of UAP***

*“UAP mission is to offer best possible education to our young generation. Towards the mission, UAP continues to develop a sustained culture of ascending to a top-tier of vibrant academic environment; maintain and foster well qualified faculty, provide adequate research support for cutting-edge research in-house and in collaboration national and international peers; update curricula to keep up with advancing trend in science and technology, use state-of-the-art best practices in teaching-learning and modern facilities in laboratories and libraries; and provide other supports in aid to students becoming competent graduates with their potential fully realized*

*and personality well-developed for joining the global forces in making the future of society in changing world.”*

## **The Department of Civil Engineering at UAP**

The Department of Civil Engineering at UAP started its undergraduate program in Fall, 1997. It started offering master degree programs in 2009. The first batch of students graduated with a bachelor degree in civil engineering in Spring, 2001. So far, thirty-three batches have graduated from the CE Department. At present, the Department has 23 full time academic staff consisting of four professors, four associate professors, six assistant professors and eight lecturers. The Department has a total of 760 students. The academic calendar of the Department follows a bi-semester system. A total number of eight semesters is needed to complete the degree which consists of 161 credit hours. The Departmental Head, assisted by a few standing committees, manages the Department.

The Bachelor of Science in Civil Engineering Program was accredited by Board of Accreditation of Engineering and Technical Education (BAETE) in 2007.

The department has its own vision and mission statements:

### ***Vision***

*“The vision of the department is to produce excellent professionals, who will provide engineering solutions to infrastructure development and be able to manage environment leading to a sustainable socio-economic development.”*

### ***Mission***

*“The mission of the civil engineering department is to educate students in a student-centered dynamic learning environment, to enhance their skills in line with the program outcomes, to provide advanced facility for conducting forward-looking inter and multi-disciplinary research to meet the challenges of 21st century and to motivate them toward life-long learning process.”*

## CHAPTER 3

### 3. Aims and Learning Outcomes of the Programme

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The Department of Civil Engineering has formulated Program Educational Objectives (PEO) and Program Outcomes for its bachelor degree program. These are stated below:

#### Program Educational Objectives (PEO)

- PEO 1: The graduates excel in their engineering career in the public and, private sectors or academia by applying the knowledge acquired in mathematical, computing and engineering principles and enhancing their skills.
- PEO 2: The graduates engage themselves toward lifelong learning and the pursuit of post graduate or other professional education including continuous professional development.
- PEO 3: The graduates are engaged in design and analysis of the civil engineering systems after considering safety, sustainability, economic and social impacts of engineering decisions.
- PEO 4: The graduates demonstrate professionalism, ethics, and ability to work in inter and multidisciplinary team and to adapt to the latest trends and technology.

#### Program Outcomes

1. **Ability to acquire and apply knowledge:** An ability to acquire and apply knowledge of mathematics, science, engineering and technology in the field of Civil Engineering.
2. **Identifying problems and implementing solutions:** An ability to identify, formulate, and solve engineering problems.
3. **Ability to analyze, design and develop civil projects:** An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
2. **Ability to conduct, evaluate and interpret experiments:** An ability to design and conduct experiments, as well as to analyze and interpret data obtained from such experiments.
3. **Ability to use modern tools & techniques:** An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

4. **Ability to understand the impact of engineering decisions:** The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
5. **Knowledge of contemporary issues:** Knowledge of contemporary issues to expand and supplement one's understanding of the technical and non-technical matters.
6. **Professional and ethical responsibility:** An understanding of professional, ethical, legal, security and social responsibility.
7. **Contribute beyond professional careers:** An ability to function on multidisciplinary teams and contribute effectively beyond their professional careers.
8. **Ability to Communicate:** An ability to effectively communicate orally, visually and in writing.
9. **Project Management & Finance:** Develop and understanding of Project Management, Planning and Project Financing.
10. **Lifelong Learning:** A recognition of the need for an ability to engage in lifelong learning to cope up with contemporary and future/potential challenges.



## CHAPTER 4

### 4. Finding of External Peer Review Team

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This chapter provides the findings and suggestions of the EPRT against the nine quality assurance criteria stated in the self assessment manual. As mentioned before, the findings and comments are given under three descriptors which are explained in Chapter 1.

#### 4.1 Governance

##### ***Commendation***

1. A proper governance structure with well-defined policies and procedures is in place.
2. Academic Monitoring and Coordination Committee (AMCC) formed by UAP is a good practice to efficiently monitor academic issues on a regular basis.
3. UAP has an effective institutional leadership with enthusiasm to implement Quality Assurance.
4. Clear vision and mission of the University and the Department were cited in the SAR.
5. The University / Department maintains transparency regarding admission, teaching and examination process.
6. UAP maintains its academic calendar regularly.
7. The University strives to maintain academic discipline in the campus.

##### ***Affirmation***

1. Vision, Mission of the Department and PEO, PO are articulated in the SAR. However, it will be better if these are displayed at different places in the Department. Also, it would be good to have one program (discipline) specific objective of the Civil Engineering programme.
2. The Department of Civil Engineering is in the process of developing a strategic plan.

##### ***Recommendations***

1. It appears that stakeholders, i.e., employers, alumni and students were not consulted while preparing PEO and PO. Stakeholders' (employer, alumni and students) opinion should be taken into consideration to refine and update the PEO and PO in the near future.
2. The Department will also have to come up on ways to measure the achievement of PEO, PO and course LO.

3. While developing the strategic plan, the Department should ensure the participation of the faculty members. Input from all other relevant stakeholders, i.e., employers, students, non-academic staff etc. should be taken during the formulation of the plan.
4. The strategic plan of the Department should include quality as the main thrust.
5. The process of teacher and course evaluation by students should be improved. The evaluation process should be such that each student can express his/her opinion independently in a professional manner. The feedback form should include a section for student remarks (if any). The feedback form should also have one section on teaching and learning facilities.
6. Terms of reference and job description of the non-academic and laboratory staff should be clear and made available to each member.
7. Student/Faculty ratio should be improved in order to improve the quality of teaching and research.
8. For good and efficient governance at the departmental level, establish some standing committees such as Laboratory Committee, and Student Project/Thesis Committee etc. with written terms of reference.
9. An organizational structure (e.g., in the form of a tree diagram) of the Department should be prepared, displayed and circulated.
10. The issue of long delay in getting approval of curriculum by the UGC should be raised with the University authority so that it can be discussed and resolved at the appropriate level.
11. There should be a clear cut written policy for credit transfer/ exemption etc. for the transfer students in both undergraduate and postgraduate levels. At present they have a policy of 'Decided by the Course Equivalence Committee' which is vague.
12. As indicated above, there is no evidence that the Department engaged with industry in a meaningful way to review its curriculum, formulate PEO, PO etc. The Department should have an industrial advisory committee consisting of professional engineers. The committee should be invited to convene at the University and interact with the academic staff and students on a regular basis (at least once a year) to give its input for continuous improvement.
13. The survey results presented in the SAR should be considered in open mind. Instead of taking comfort in pointing out that a certain issue received an arbitrarily determined minimum score, the relative score of different issues in the graphs should be considered to identify areas for improvement in the future. For instance, student gave lowest score to *"Website is updated properly"* (Table 2.1). *"Students' opinion regarding academic and extra-academic matters are addressed properly"* received second lowest score from students. The alumni also did the same. The faculty members gave second lowest score to *"The entity reviews its policy and procedures periodically for further improvement"*. Measures should be taken to address these issues and make improvement.

## **4.2 Curriculum Content Design and Review**

### ***Commendation***

1. The department has already prepared course documents reflecting the requirements of outcome based education (OBE).
2. It has prepared course files for different courses.
3. The courses and their contents cover topics of standard undergraduate program in civil engineering as followed by renowned national and international universities.
4. The Department follows bi-semester system as per UGS suggestion.

### ***Affirmation***

1. IQAC has trained a number of staff in quality assurance. However, all faculty members should be periodically trained on a regular basis.
2. The Department already formulated the Graduate Profile. It should also have one discipline specific PO for its Civil Engineering Programme.
3. The Department has started an initiative on Improving Learning & Teaching Skills (ILTS) which is commendable.

### ***Recommendation***

1. Course curriculum should be regularly updated taking into account the global best practice and national needs.
2. The Department should conduct need based assessment of the curriculum once in every three/four years. It should involve all stakeholders including students, alumni, employers and industry in the need assessment process.
3. It appears that students do not have adequate exposure to outcome based education, PEO, PO etc. Efforts should be made to rectify this.
4. It seems that, in some of the course learning outcomes, two action verbs of different levels are used. As such, LO's of some of the courses should be refined.
5. CLOs and PO should be aligned and mapped out in the form of a table so as to assure meaningful assessment of student learning and achievement of PO.
6. The Department should record indicators of the progress of students, such as GPA, achievement of CLO, PO, graduation rate, retention rate, employment rate etc. and compile an assessment report for the whole department.
7. EPRT suggests that the Department organize workshops and training for faculty members on the implementation of OBE e.g., development of program mission, program goals,

- program and course learning outcomes (PLOs & CLOs) and their alignment and measurement.
8. As a part of continuous quality improvement, each faculty member should submit a formal assessment on the achievement in each course at the end of a semester and a plan for improvement for the next semester.
  9. There should be more systematic efforts to expose students to engineering practice.
  10. The University authority should consider compulsory internship for every student within the duration of the program (4 years).
  11. The Department should introduce a capstone project that necessitates the application of knowledge gained from various courses in a comprehensive and integrative way. This is a standard practice in modern undergraduate engineering programmes.
  12. To expose students to engineering practice, the Department should organize lectures/workshop by professional engineers on a regular basis and made these compulsory to senior students (level 3 and 4).
  13. Management related courses should be offered by experienced academicians with exposure to construction management and/or by professional engineers.
  14. Based on the class room visit and student feedback, it appears that there is a need to improve the teaching skill of some of the faculty members. All faculty members should be trained in modern teaching and learning theories and skills.
  15. In the survey conducted by the Department, alumni gave lowest score for *“The curriculum is effective in achieving day-1 skill”* (Fig. 3.7 of SAR). The Department should look into it more closely and work to improve the situation. On the same table, faculty members gave lowest score to *“Opinions from the relevant stakeholders (students, teachers, employers and alumni) are duly considered during review”*. These need to be addressed. Students and alumni score low for practical training. This should be addressed by improving laboratory courses, developing modern facilities, providing more field exposure, exposing students to more open-ended problems, discussing case studies etc.
  16. English language skill of the students appears to be an important issue. The Department may consider more rigorous evaluation of English language skill of the incoming students during admission test.

### **4.3 Student Admission, Progress and Achievements**

#### ***Commendation***

1. Current admission policies and practices are well established at UAP. The admission process appears to be secure and fair.
2. Each student is assigned to an academic advisor once he/she enters the Department.

3. Support is provided to students for their participation in extracurricular activities to build soft skills.
4. A number of students achieved notable national and international awards in different competitions.
5. Anecdotal evidence suggests that a good number of UAP Civil engineering graduates are doing well in their jobs and higher studies both at home and abroad.

### ***Affirmation***

1. The recent formation of alumni association by the Department is very timely.
2. Student participation in community activities is praiseworthy and should continue. This is important to build their soft skills and character.

### ***Recommendation***

1. The University should find ways to attract quality students to the CE program.
2. The Department should arrange more effective orientation programme to motivate the students about the wide scope and opportunities in civil engineering. The Department should continue to arrange motivation sessions, particularly for poorly performing students, in the course of their stay at UAP.
3. At present, each student is assigned an academic advisor to address problems faced by the student. The Department should look into how to make the system more effective. It was observed that some students experienced frequent changes of faculty advisor during their stay at UAP.
4. In the survey, student, alumni and faculty members – all – gave lowest score to *“Commitment among students is observed to ensure desired progress and achievement”* (Table 4.1 in SAR). This issue should be addressed. At present no effective system appears to be in place in the Department to identify, track and advise un-motivated/de-motivated and poorly performing students. The department should implement a systematic approach to handle and help poorly performing students. It can be done by constituting a committee.
5. Alumni Association should be made active and effective.
6. Higher levels of Bloom’s Taxonomy should be addressed in the examination questions.
7. Achievement of POs and CLOs by each student and by cohort should be tracked, recorded and analysed for continuous quality improvement.
8. Student progress and achievement should be analysed and documented on a cohort basis.

## **4.4 Physical Facilities**

### ***Commendation***

1. The Department is housed in a new, well-kept premise.
2. The department has a well-managed and organized setup for the CE program.
3. Laboratories are well-kept and clean.
4. The Department provides internet facilities to all students.

### ***Affirmation***

1. There are a number of informal learning spaces available to the students. However, these places should be well maintained.
2. The area of student learning spaces should also be increased to meet the requirement.
3. Central Library has a reasonable collection of books and online access to ebooks and journals. However, students and faculty members do not appear to be familiar with the online facility. The library facilities should be upgraded to incorporate automation.
4. The number of the classrooms is barely adequate.
5. The Department should continue to update the website more frequently and make it more dynamic.

### ***Recommendation***

1. Class room area seems rather small relative to the number of students. Physical visits reveal that the classrooms are stuffy and over-crowded. Class room size should be adequate enough for modern student-centred, collaborative learning.
2. Size and placement of multimedia screen are inappropriate. Students sitting at the back of the room cannot see the screen fully. This should be rectified immediately.
3. The white boards should also be properly placed to ensure easy visibility by the students from all distance in the class room.
4. The door of the class rooms should have a small see-through glass window so that inside of the class room is visible at all time from outside.
5. Student and faculty members should be made aware of the resources and facilities available at the library.
6. It is recommended that the central library be modernized and automated. Collection of latest edition of text and reference books should be increased in the library immediately.
7. The library should procure relevant codes and standards, such as ASTM, BNBC, BSTI etc. and students should be exposed to these in relevant courses as a part of their exposure to engineering practice.

8. Students should be further exposed to software relevant to various civil engineering disciplines.
9. Software for detecting plagiarism should be procured and used to scrutinize student work.
10. Some of the laboratories (e.g. geotechnical engineering laboratory) have old fashioned equipment even for routine tests. They should be replaced by modern updated equipment.
11. In general, laboratory facilities appear substandard for a modern University. It is understood that at the early stage of UAP, some faculty members took the initiative to work with local manufacturers to develop indigenous lab equipment while getting the best out of the limited budget. The faculty members take pride in this effort which is understandable and much appreciated. However, at this stage, the Department should be forward looking and upgrade the facilities to match their counterparts in a modern University.
12. Environmental Engineering Laboratory needs a fume chamber on an emergency basis.
13. Space in the laboratories is not adequate. This is hampering the smooth running of lab sessions. During the laboratory classes, groups of students have to wait outside for their turn to carry out experiments, as the space is not enough to accommodate all students at the same time.
14. Existing gymnasium is not adequate and needs improvement.
15. There should be transport facilities available for the students and staff.
16. The environment, facilities of the central cafeteria should be improved, in addition to improving the quality of food.
17. UAP should create a safety-conscious culture in the campus. It should carry out fire drill periodically.

## **4.5 Teaching, Learning and Assessment**

### ***Commendation***

1. The teaching and learning are supported by a qualified team of academicians.
2. Twelve out of twenty-three faculty members hold PhD degree.
3. The evaluation schemes (question paper etc.) are reasonably good.
4. The University takes teaching and learning seriously and puts efforts to improve the quality.
5. Both alumni and students expressed their appreciation for the sincere efforts of the faculty members.
6. In addition to class room teaching, the Department organizes various co-curricular activities.

## ***Affirmations***

1. The Department records information such as course outlines, sample questions, attendance record, moderation and mark scrutiny papers. But these are kept in separate files. All such information for a particular course should be kept in a single file.
2. The Department organizes professional lecture series by inviting professionals /experts, but these not mandatory for students. Participation in such professional lecture series should be mandatory, particularly for the senior students.

## ***Recommendation***

1. Teaching-learning needs to incorporate more practical elements, should encourage critical thinking and should help students to learn how to apply the acquired knowledge in the real life situations.
2. Professional skill development program may be enhanced in the form either credit or non-credit course.
3. The Department should take student evaluation of courses and faculty members seriously in order to make continuous improvement. But it must not be used as a witch hunt. It appears that a few of the faculty members consistently obtain low scores in student feedback. Efforts should be taken to understand the reasons and help the concerned faculty members to improve their performance.
4. The Department should organize regular sessions to share best practice in teaching and learning among faculty members. This should be done for research, extension and community services as well.
5. More workshops on teaching and learning should be organized for the faculty members. More efforts should be made to get constructive feedback from students which should be used to improve students' learning experience.
6. Faculty members should adopt modern student-centred learning approach, active learning, collaborative learning etc. It appears that many students need tutorial classes to fully digest the contents covered in lectures. Introduction of tutorial classes should be considered seriously, particularly for courses which are known to be difficult.
7. Practical courses (sessional), even at higher levels, e.g. level 3, are too prescriptive. Laboratory classes, especially at higher levels, should be more open-ended to encourage students to think critically.
8. Every student should work individually on one project for the final year thesis. This is to grow his/her capability to work independently.
9. Students should be given an effective briefing on research work, methodology, thesis writing etc. before they start the final year thesis.
10. Design based / industrial problem based group projects should also be introduced.



11. Effective measures should be taken to improve communication skills of students which is of general concern of all stakeholders.
12. In the course of attending the Civil Engineering programme, students should acquire soft skills such as ability to take responsibility, work independently, take a leadership role, willingness to engage in lifelong learning etc.
13. Internship/industrial training should be made compulsory for each student and the performance should be properly supervised, monitored and graded.
14. Visits to class rooms and follow up discussions with faculty members reveal that teachers need training in pedagogy and modern teaching and learning methods. Regular training on teaching and learning should be made compulsory for all teachers.
15. Questions papers should strike a balance between higher level and lower level thinking skills.
16. Minimum requirement for the recruitment of faculty members is a bachelor degree. At present, there are seven lecturers who have only a bachelor degree. This is not an internationally accepted practice. The minimum qualification for the lecturer should be at least a master degree, if not a PhD.
17. Employer survey results (Fig. 11.1 in SAR) suggest that the Department should intensify its efforts to improve the performance of the students in the following areas: written and oral, time management communication, ability to link theory to practice, problem formulation and solution, knowledge, IT knowledge etc.

## **4.6 Student Support Services**

### ***Commendation***

1. Students counselling services are provided by UAP which is a positive step.
2. Students get scholarships on the basis of academic results, GPA in SSC and HSC. They also get scholarships based on their performance at UAP which is motivating for the students.
3. Various clubs conducting extra-curricular activities are in place at the departmental and central levels.
4. Good rapport between faculty members and students.

### ***Affirmation***

1. UAP has created the Directorate of Student Welfare (DSW).
2. The University has already appointed a male student counsellor. A female counsellor should also be appointed on a permanent basis in the DSW office.

### ***Recommendation***

1. Since many of the extracurricular and co-curricular activities are based on voluntary participation, the Department should analyse how many students in a cohort are actually participating in such activities and how many are left out. Appropriate steps should then be taken to ensure adequate participation of all.
2. The department should have a database of the alumni for better communication with them. More effective engagement should be made with the alumni in order to get feedback for improvement.
3. The Department may consider training provisions for its faculty members on student counselling and guidance.
4. Facilities for outdoor games should be made available on a more frequent basis.
5. Transport facilities should be arranged for the students.
6. Accommodation facilities for students should be arranged specially for those coming from outside of Dhaka.
7. The University cafeteria should be more clean and hygienic. The quality of food should be improved and the choice of food items should be increased.

## **4.7 Staff and Facilities**

### ***Commendation***

1. The Department of CE currently has 23 regular faculty members. A significant proportion of them have PhD from reputed Universities.
2. Dedication and availability of teachers for consultation are highly appreciated by students and alumni.
3. UAP has a clear recruitment policy for faculty recruitment.
4. UAP encourages its academic staff members to pursue PhD degree.

### ***Affirmation***

1. UAP appears to have KPI for its academic staff in an informal way.
2. The University arranges training for newly appointed academic staff members.
3. UAP provides financial support to academic staff to attend conferences.

## ***Recommendation***

1. International norm dictates that the minimum academic qualification of a University lecturer is a postgraduate degree. UAP should consider implementing this in the future. However, to retain the best graduates, appropriate arrangements may be made to employ them with adequate compensation package during the interim period while they are pursuing a postgraduate degree.
2. UAP should introduce yearly KPI in a formal way and monitor the performance of academic staff periodically.
1. For faculty appointment, the UAP policy requires the applicant to have “at least ‘X’ publication” – the value of ‘X’ being dependant on the academic position. But this is a very vague statement. UAP should define what this “publication” exactly means and specify the types of publication that are acceptable.
2. Training and professional development of academic staff should be conducted regularly in areas including modern teaching and learning methods, leadership, personal improvement etc.
3. In the survey, faculty members gave lowest score for “*Salary and incentives are attractive to retain the academic and non-academic staff*” (Fig. 8.1). Non-academic staff also expressed similar view in the survey (Table 8.2). UAP should look into it and take appropriate measures.
4. Non-academic staff scored lowest for the item: “*non-academics have enough opportunities to take part in different programs for skill development*” (Fig. 8.2). UAP should put in place a framework for continuous improvement of its non-academic staff.
5. Job scopes of the non-academic staff should be made clear.
6. It is recommended that UAP introduce sick leave and paid maternity leave for six months in alignment with the governmental policy. This should be considered for all including those in the probation period.
7. Health insurance coverage should be considered for the faculty and non-academic staff.

## **4.8 Research and Extension**

### ***Commendation***

1. The University has established a body -Institute for Energy, Environment, Research and Development (IEERD) - for research management. It allocates internal research grants to promote research activities of faculty members.
2. Faculty members are supported by UAP to attend international conferences to present their research findings.
3. The Department have provisions to employ TAs and RAs which support research efforts.

4. A number of faculty members are engaged in research and are eager to hunt for research funding from external sources which is praiseworthy.

### **Affirmation**

1. Some of the faculty members have a good number of publications in good quality journals, e.g., those indexed by Web of Science (WoS)/ SCOPUS, in spite of the limited research funding and facilities. The Department should make additional efforts to engage more faculty members in research and publications.
2. One of the criteria for faculty appointment is to have a certain number of publications. However, the type and quality of publications are not clearly stated. This situation should be improved.
3. UAP has created the Center for Research, Training, Testing and Consultation (CRTTC). A good number of academics from Civil Engineering Department are engaged in providing their expert services through CRTTC.
4. The Department puts emphasis on the participation of undergraduate students in research in their final year project.

### **Recommendation**

1. In order to the strengthen research culture, formal incentives and awards should be introduced for the faculty members for publishing articles in reputed journals.
2. The Department should strengthen postgraduate programs leading to MSc/ PhD which is a prerequisite to creating a comprehensive research base in the University.
3. For senior staff should lead team efforts to explore more external grants and also mentor young faculty members.
4. In the midst of recent proliferation of predatory journals, proper guidance should be given to faculty members across UAP to select and publish in only recognized and reputable journals (e.g., those indexed by WoS, SCOPUS etc.).
5. Application for the payment of journal publication charge should be very carefully considered. UAP should not spend money for paying charges for publication in dubious and worthless journals.
6. The Institute for Energy, Environment, Research and Development (IEERD) should be manned/supported by faculty members who are experienced in high quality research and publication, and are knowledgeable about research in a modern University setting.
7. The name of IEERD may be re-considered, as its name does not really reflect the scope of its current work.

8. UAP should consider making more internal research grants available, particularly to younger faculty members.

## **4.9 Process Management and Continuous Improvement**

### ***Commendation***

1. The self-assessment process has been started at UAP under the guidance of its IQAC.
2. The Department has mobilized faculty members to participate in the self assessment process and came up with the first SAR.
3. The Civil Engineering Program was accredited by BAETE, Institution of Engineers, Bangladesh (IEB), in 2007 which shows UAP's commitment to academic quality.

### ***Affirmation***

1. Faculty members realized the importance of implementation of quality assurance mechanism in the Department of Civil Engineering and are contributing to this effort.
2. The Department has done SWOT analysis.

### ***Recommendation***

1. Outcome based education (OBE) is at its infancy in the Department. It is an ongoing journey and the Department must create and sustain a culture of continuous quality improvement (CQI).
2. The Department must now put a system in place to systematically collect data on the attainment of PEO, PO, CO for individual student and cohort and on feedback from all stakeholders on a regular basis. These data should be analyzed periodically (semester wise /cohort wise etc.) and used as a feedback for continuous quality improvement.
3. A comprehensive plan should be developed to implement the recommendation given in this report and in SAR. The Department must institute a system to monitor the progress on a regular basis.
4. The Department should implement a systematic quality assurance approach, such as Plan-Do-Check-Action (PDCA) and adopt a closed loop CQI cycle.
5. The Department should have plan for the development of professional skills faculty members and administrative and laboratory staff.
6. The Department should form an industrial advisory committee consisting of practicing engineers and other relevant professionals. The Department should meet with the

committee on a regular basis and take their suggestions into account in continuous quality improvement.

7. The curriculum should be reviewed on a more regular basis.

## CHAPTER 5

### 5. Overall Judgment

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To summarise, the EPRT has noted the commitment of the senior management of UAP and the Departmental management to quality assurance. The Department has an enthusiastic group of faculty members who demonstrate their pledge to enhance the quality of education. Students and alumni gave their testimony to the sincere efforts made the faculty members to help them in their learning. The Department needs to continue to make improvements. It should adopt modern pedagogical techniques and introduce student-centred learning approaches for deeper learning. It should ensure that the students get more exposure to engineering practice, in addition to creating a sound scientific knowledge base. The laboratory and library facilities should be improved. The implementation of outcome based education (OBE) is at its infancy in the Department, and indeed in the country. The Department and the University authority must put a lot of efforts in the coming years to achieve it. The Department must put in place a robust system to regularly collect feedback from all stakeholders, analyse the data systematically and use them for continuous quality improvement. It should build a system of continuous quality improvement (CQI) by using a plan-do-check-action (PDCA) cycle for every semester and cohort. The Department also needs to build on the success some of its faculty members in quality publication and enhance research culture in the Department.

In the previous chapter (Chapter 4), EPRT gave its detailed recommendations on each of the nine self-assessment criteria outlined in the self assessment manual. These recommendations are based on best international practices, which are expected from the EPRT.

The overall judgement given in this chapter is, however, based on the performance of the Department in conducting its bachelor degree in Civil Engineering Programme relative to the performance of similar programs in Bangladesh. Each member of the EPRT gave their judgement independently to avoid any bias, following the rating scale given in the Self Assessment Manual (Table 1). The results were then averaged out and are given in Table 2.

**Table 1. Rating Scale**

Final Score	Overall Judgement
0-15	Unsatisfactory
16-25	Poor
26-35	Good
36-45	Very good
46-50	Excellent

**Table 2. Average Score**

<b>Aspects Reviewed</b>		<b>Points Allocated</b>	<b>Numerical Weight</b>
1	Governance	4	5
2	Curriculum Content Design and Review	5	7
3	Student Admission, Progress and Achievements	4	6
4	Physical facilities	5	7
5	Teaching, Learning and Assessment	5	6
6	Student Support Services	4	5
7	Staff and Facilities	4	5
8	Research and Extension	3	4
9	Process Management for Continual Improvement	4	5
<b>Total</b>		<b>38</b>	<b>50</b>

***EPRT finally concludes that, in its judgement, the Bachelor Science in Civil Engineering Programme at the UAP can be rated VERY GOOD (38/50).***

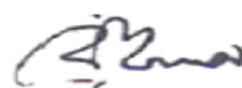
Of the nine set criteria considered for the evaluation of civil engineering programme by the EPRT, UAP appears to be reasonably good in criteria 1, 5, 6, 7 and 9. However, in these items (criteria) there are further scopes of improvement as indicated in the recommendations of each item. For the other items like 2, 3, 4 and 8, the university authorities should pay their immediate attention in order to improve their rating/ranking.



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