



The Copperbelt University
School of the Built Environment

BUILT ENVIRONMENT TRAINING AT CBU: SUCSESSES & CHALLENGES

KEYNOTE PAPER PRESENTED AT THE 4TH ASSOCSA CONFERENCE
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1.0 INTRODUCTION

1.1 The Copperbelt University

The Copperbelt University (CBU) is one of the three public universities in Zambia, the other two being the University of Zambia and Mulungushi University. It is located in Kitwe town, in the Copperbelt Province of Zambia. CBU started operating as a separate institution on 1st December 1987. The new University started with two schools namely, the School of Business and the School of the Built Environment with a total student population of just over five hundred students. It now has five schools after incorporating the School of Technology in 1989 and introducing the School of Forestry and Wood Science in 1996 and very recently, the School of Mathematics and Natural Sciences in 2008. The total student population in 2008 was just under five thousand (5,000).

1.2 The School of the Built Environment

The School of the Built Environment (SBE) conceptualizes Built Environment education as a catalyst for national development. The school is ever alive to the fact that it is entrusted with the task of imparting critical knowledge that must be used to improve life in the world. In this regard SBE offers programmes of study that ensure that its Built Environment (B.E.) graduates translate the University's motto of '**Knowledge and Service**' into reality.

To achieve this, the School combines academic and practical oriented style of teaching. The approach ensures that students benefit both from the theoretical and practical learning principles which adequately prepare them for the industry.

SBE has five academic departments that train students in five vital and interrelated areas of the B.E. namely:

- a. Architecture
- b. Building Science
- c. Civil Engineering & Construction
- d. Real Estate (formerly Land Economy) and
- e. Urban & Regional Planning Studies.

1.3 Built Environment Academic Programmes

a. Undergraduate Programmes:

The School currently offers the following undergraduate academic programmes in the five departments:

Table 1: SBE Undergraduate academic programmes

	Department	Programme	Duration
1	Architecture	Bachelor of Architecture	Five (5) years
2	Building	Bachelor of Science in Building	Five (5) years
3	Civil Engineering & Construction	Bachelor of Science in Civil Engineering	Five (5) years
		Diploma in Civil Engineering	Three (3) years
4	Real Estate	Bachelor of Science Real Estate	Five (5) years
5	Urban & Regional Planning	Bachelor of Science Urban and Regional	Five (5) years

b. Postgraduate Programmes

The school has also just introduced a Master of Science programme in Project Management. This programme is housed in the School of Postgraduate Studies. The inaugural class just started lectures last week!

Plans are underway to introduce masters programmes in the other departments

c. Previous Undergraduate programmes

Previously, the school also offered other academic programmes, namely:

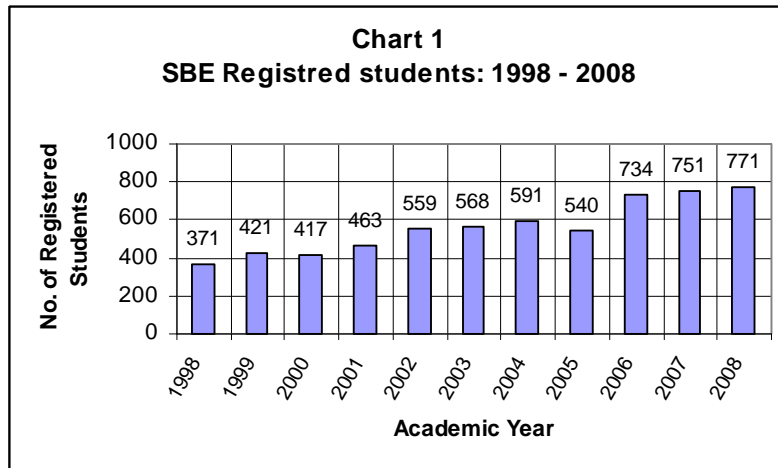
- i. Certificate in Advanced Construction Technician
- ii. Diploma in Architectural Technology
- iii. Diploma in Town and Country Planning Technology
- iv. Higher Diploma in Water Engineering
- v. Higher Diploma in Highway Engineering

2.0 SUCESSSES

2.1 Student Enrolment

When the school was fully established in 1988, it had less than 40 students in total. The figures have been steadily rising. For example in 1998 the school had a total of 371 **registered** students as compared to 771 students in 2008.

The chart below shows the trend of **total registered** students between 1998 and 2008.



2.2 BE Graduates from SBE

Between 1988 and 2008, the school produced 878 degree graduates from the five departments and 351 diploma/certificate graduates. Charts 2 and 3 show that the number of B.E. from the SBE has been steadily rising.

Chart 2
CBU's Built Environment Degree Graduates
1988 - 2008

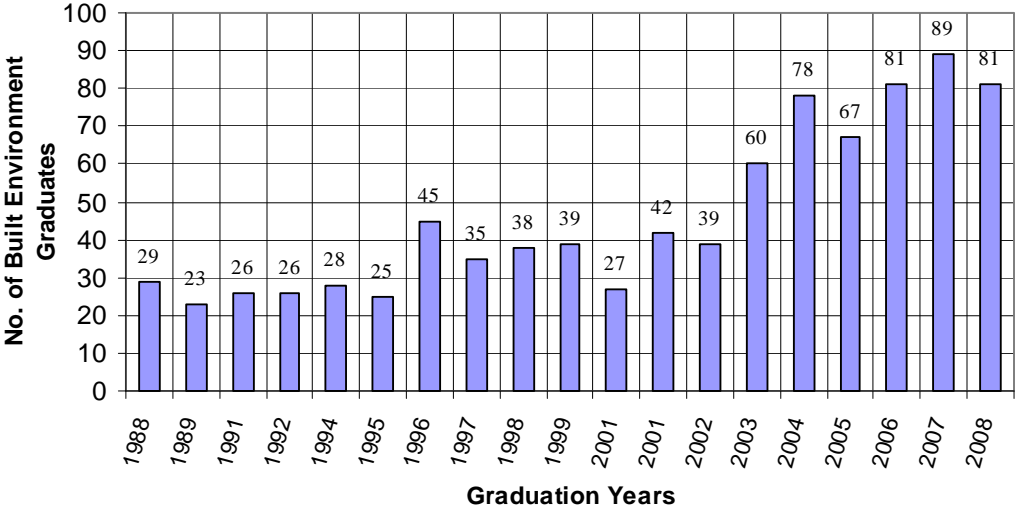
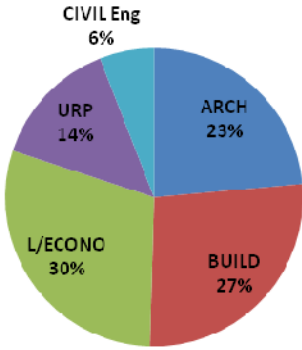
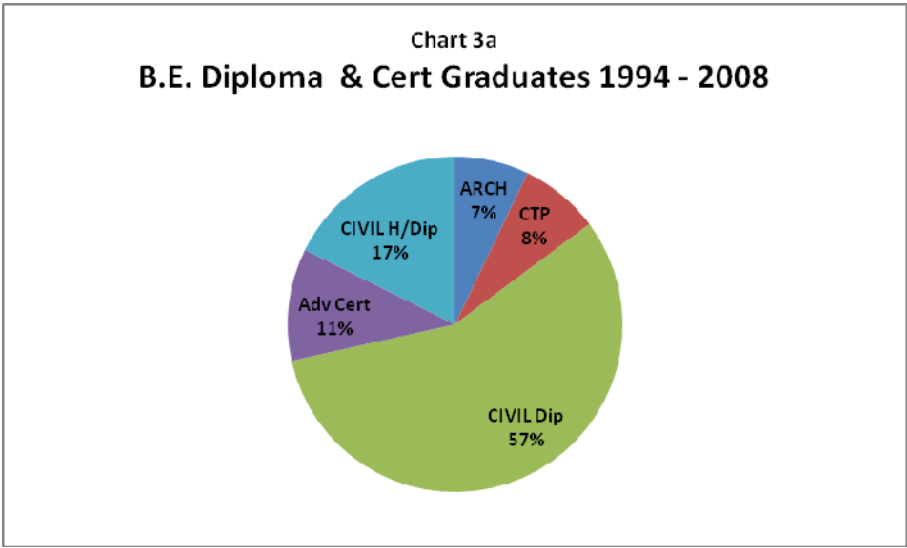
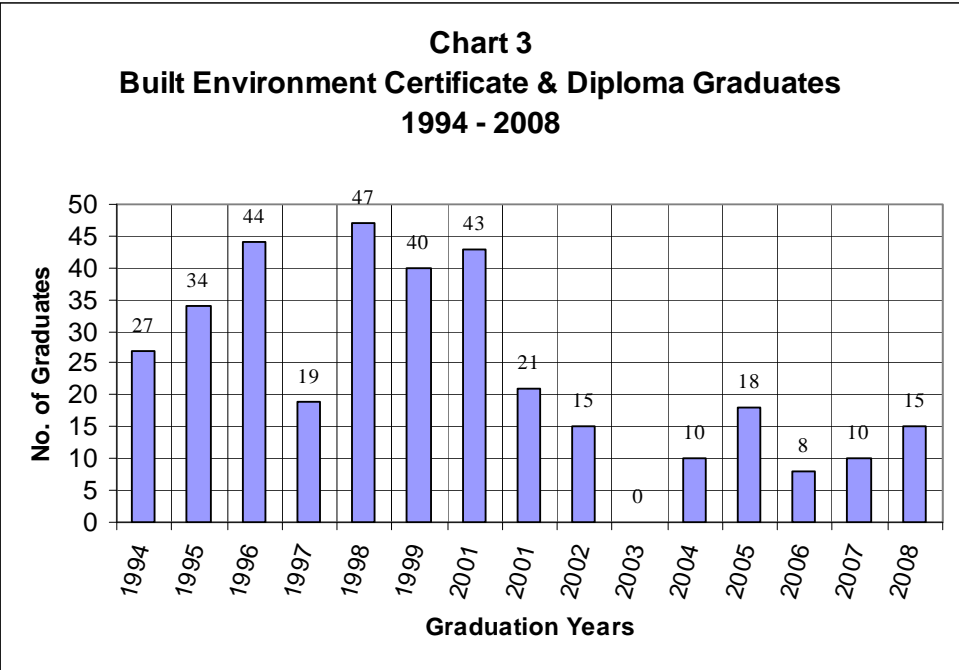


Chart 2a
Departmental B.E. Degree Graduates
1988-2008





These graduates are readily absorbed in various B.E. sectors of the economy mainly in Zambia and the SADC region. Some of these are successfully running public and private B.E. organizations and firms within and outside Zambia.

2.3 Consultancy & Projects by SBE

Through the consultancy unit of the school (SBE Extension Services, formerly Built Environment Research Group) the school has undertaken a number of B.E. project consultancies and B.E. capacity building trainings. Notable among these are:

- a. Data Bank Development and Rehabilitation of 24 rural health centers in Northern, Luapula, Copperbelt and North Western Provinces. Staff drawn from the departments

of Architecture, Building and Civil engineering and Construction handled the design and construction supervision of the projects.

- b. Development (including module preparation, lecturing and assessment) of an intensive four-week course for Building Officers in the Ministry of Education - an ADB sponsored project.
- c. In collaboration with others, development and delivery of Contract Management Course (together with Roads Department and Department of Infrastructure Support Service), for personnel in the Roads Department and District Councils in Zambia – a NORAD sponsored project
- d. The Department of Urban and Regional Planning Studies was recently contracted to formulate a Social Management Plan (SMP) in the areas of its operation at Mufulira and Kitwe. Mopani Copper Mines Plc (MCM) based in Kitwe, Zambia. In its Mission Statement MCM stresses the need for the Company to work in harmony with the natural environment and establish mutually beneficial relationships with communities in areas it operates. The Department successfully completed the Social Management Plan documents in September 2007.
- e. In the very recent past, the School through the SBE Practice Office has carried out Architectural, Structural and Quantity Surveying services to the University for the construction of the School of Business and the Students' hostels.



Fig. 1 – Almost completed Student Hostels

- f. Further to e) above the School has also been contracted by the University to Design and Build a complex of offices and lecture rooms for the Centre for Life Long Education (CLLE). This has given birth to a B.E. group called the 'SBE Construction Team' that does the supervision of the project. All members of this team are from the SBE. The project is scheduled to be handed over to the University in July 2009.



Fig. 2 – CLLE Building

- g. The Civil Engineering Materials Laboratory has been quite involved in the testing of construction materials for various clients. These range from soils for earth embankments to various cement-bound construction materials.

These activities have enhanced the practical applications of a number of subjects covered in the school's BE undergraduate courses.

3.0 CHALLENGES

3.1 Academic Staffing

The staffing has for some time been below the required establishment in the school as a whole, and in individual departments.

There are various reasons for this. Two of them stand out:

- Inability by the university to attract academic staff. The Built Environment market outside the academic world seems to be more rewarding. Thus the BE graduates from SBE are more inclined to be in 'industry' than in the 'world of academia'
- Failure to return after completion of studies. Between 1996 and 2008, seven (7) research fellows and one (1) SDF never came back after completing their studies. These obviously have their own reasons for not returning back to CBU.

The following was the staffing scenario for the school during the 2008 academic year:

- Zero (0) Professors
- Four (4) senior lecturers,
- Thirty three (33) lecturers,
- Two (2) technical instructors (TI) and
- Three (3) staff development fellows (SDF).

Thus, out of a required establishment of 70 academic staff only 39 were in place, making a deficit of 31. Two (2) of the 39 lecturers were on study leave. The school had to depend on a number of part time lecturers. Further, some of the staff have had to take higher than normal teaching loads. This continues to greatly affect the other crucial academic activities, like research and publications, by the staff.

3.2 Increased Demand for B.E. courses

As can be seen from Chart 2, the general trend has been an increase in the number of graduates from the school since the inception of BE programmes. This is a consequence of the increased demand and hence increased enrolment figures for these programmes in the school. In addition, secondary schools in the country have churned out a lot of 'excellent candidates' for the universities who are 'forcing' the university to take in more than before.

The challenge is such that while the number of academic staff remains stagnant at half the establishment, the number of students has been steadily rising. The staff-student ratio has widened to over 1:20. To compound the challenge further, the classroom, laboratory and studio spaces remain the same.

3.3 Limited Capital Injection for capital projects

For a university, increase in enrolment figures demands corresponding expansion in infrastructure. CBU is a public institution, financially supported by the Government of Zambia. The financial implications of this are such that if Government has limited financial resources, funding for capital projects is also limited.

It is consoling, however, to note that in the last three years Government has evidently addressed this issue. The University now has a number of new buildings under construction. This gives hope for the desperate need for infrastructure expansion in the school.

4.0 CONCLUSION

The successes scored by the school have obviously been many and there is potential to do more. The school continues to endeavour to fulfil its mission of imparting critical knowledge that must be used to improve life in the world. The SBE academic staff and many of the school's graduates are doing just that.

At the same time, the school continues to face various challenges - which are also common to almost all BE faculties in Southern Africa. If left unaddressed for long, these have the potential to impact very negatively on the BE graduates. ASSOCSA must seriously address these and ensure that tangible solutions are obtained and implemented. ASSOCSA must also see these challenges as opportunities for collaboration amongst its member, and associate BE schools.

At CBU the various challenges are seriously being addressed through the able university executive team led by the Vice Chancellor. SBE is therefore confident of a better academic environment in the very near future.