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Miscellanea

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Training Government Statisticians in Zimbabwe – An Update

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Abstract: Following independence in 1980, the Central Statistical Office of Zimbabwe instigated an in-service training programme to train government statisticians. This article reviews the outcome of the first eleven years of the training programme, and co-incident developments in university teaching of statistics within the country. Likely developments in the future are also discussed.

Key words: Zimbabwe; training; manpower development.

1. In-Service Training

The in-service training programme of the Central Statistical Office (CSO) of Zimbabwe was instigated in 1982. Details of the syllabus and the origins of the programme are given elsewhere (Woodward 1983, 1985). Briefly, the programme encompasses two courses, Parts A and B, which are studied part-time by employees of the CSO and other governmental or quasi-governmental bodies. Table 1 shows the sources of participants in the two most recent intakes for each course. Part A consists of five modules (Statistical Theory I, Mathematics I, Economics I, Practical Statistics and Government Statistics), and entrants must have at least five 'O' level passes from school (normally taken at age 16), including Mathematics and English. Part B also has five modules (Statistical Theory II, Mathematics II, Economics II, Computer Science and Statistical Project), with entrance being restricted to graduates of Part A (or equivalent). Lectures, for each Part, currently take place in a dedicated classroom within CSO for two hours on four days each week during term times. Altogether there are around 320 hours of teaching for each Part. The majority of the lectures are given by the two Training

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Table 1. Sources of the 1992/3 and 1993/4 intakes to the In-Service Training Programme. Figures in parentheses show number of dropouts in 1992/3

Employer	Part A		Part B	
	1992/3	1993/4	1992/3	1993/4
CSO	8 (0)	5	9 (2)	9
Min. of Education & Culture	4 (0)	4	1 (1)	2
Police	4 (1)	–	2 (0)	4
Central Mechanical Equip. Dpt.	3 (3)	–	–	–
Tsetse Control	1 (0)	–	–	–
Central Purchasing Authority	1 (1)	–	–	–
Army	1 (1)	–	–	–
Dept. of Printing & Stationery	–	3	–	–
Min. of Higher Education	–	1	–	–
Veterinary Services	–	–	1 (0)	–
Total	22 (6)	13	13 (3)	15

Officers of CSO, but subject specialists teach Computer Science and Government Statistics as well as provide project supervision.

The in-service training programme is now in its twelfth year. Initial assistance was given by the U.K. Overseas Development Administration (ODA), but since 1984 the programme has been run entirely by the CSO itself. Standards are monitored via external examining by the UK-based Royal Statistical Society (RSS), which inherited the responsibilities of the Institute of Statisticians when the two bodies merged on 1 January 1993. The RSS sets professional examinations in statistics at three levels. The first level, the Ordinary Certificate, is roughly equivalent to an 'A' level in statistics (normally taken in school at age 18). The second level, the Higher Certi-

Table 2. Number of examinees and number of passes for each year of the In-Service Training Programme

Year	Part A		Part B	
	Examinees	Passes	Examinees	Passes
1982/83	14	9	–	–
1983/84	15	7	7	3
1984/85	18	8	7	4
1985/86	15	5	7	6
1986/87	19	11	6	4
1987/88	21	13	11	10
1988/89	17	9	9	2
1989/90	–	–	–	–
1990/91	18	8	14	4
1991/92	19	13	6	4
1992/93	16	9	12	4
Total		92		41

Note: examinees include a small number of recounts where students re-sat.

ficate, is of a difficulty somewhere between the first and second year of an undergraduate course in statistics at an English university. The final level, the Graduate Diploma, provides a qualification that is recognised as equivalent to a second class Honours Degree in Statistics by the U.K. Committee of Professors of Statistics and certain employers, including the British and the Zimbabwean civil service. After a period of gaining relevant experience a holder of the Graduate Diploma (or equivalent) may, on application, be awarded the title of Chartered Statistician. The Zimbabwe Part A course is deemed equivalent to the Ordinary Certificate, whilst Part B is equivalent to the Higher Certificate. CSO awards an increment to those who pass either level, and entrance to the grade of Statistical Officer is conditional upon passing Part B (or equivalent).

Year-by-year performances of students in the in-service training programme are shown in Table 2. In 1982/83 the original cohort of students was recruited, and hence only Part A was taught. In 1989/90 both Parts were suspended due to problems with the health and inexperience of the then Training Officer. As can be seen from Table 2, the success rate by year is very variable, and often has not reached 50%. However, it would be wrong to see this as a failure of the Zimbabwean trainers, since many of the participants have a weak academic background and the part-time nature of the course makes it especially difficult. Even the failures have often been noted to show a marked improvement in their work. Since failures are allowed to have a second attempt, Table 2 includes some people twice under the column headed 'examinees'. Thus comparing Table 2 with Table 1 shows that there were two re-sits for Part B in 1992/93.

2. Further Training

There are too few graduates of Part B, who wish to continue studying, to warrant a further tier of in-service training within

Table 3. Number of Zimbabwean examinees and passes for the EASTC Diploma for each year since the In-Service Training Programme began, showing CSO retention as at April 1993

Year	CSO Employees				Others	
	Examinees	Passes	Retention	Positions	Examinees	Passes
1984/85	2	2	2	PS (2)		
1985/86	2	2	2	Prog, S		
1986/87	4	4	3	Prov (3)	1	1
1987/88	1	1	1	Prog		
1988/89	5	5	4	SO (2), Prog (2)	2	2
1989/90	1	1	1	Prov		
1990/91	–	–	–			
1991/92	2	0	2	SO (2)		
1992/93	–	–	–			
Total	17	15	15		3	3

Note: PS = Principal Statistician, S = Statistician, SO = Statistical Officer, Prov = Provincial Statistician, Prog = Programmer.
Note: One Zimbabwean dropped out during 1985/86.

Zimbabwe. Instead suitable students are sent, when funds allow, to the Eastern Africa Statistical Training Centre (EASTC) in Dar es Salaam, Tanzania. EASTC offers two courses, the Certificate and the Diploma, which are also externally examined by the RSS. The Certificate is equivalent to the Higher Certificate of RSS, and is thus of no interest to the Zimbabweans. The Diploma carries exemptions from part of the RSS Graduate Diploma, and thus provides a logical progression from Zimbabwe's Part B course.

Table 3 shows that eighteen Zimbabweans have successfully completed the EASTC Diploma since the in-service training programme in Zimbabwe began. Every one of these eighteen will have begun training with the home-based Part A course. Lack of entrants and success in recent years is largely explained by the hiatus in the in-service training courses during 1989/90. Two Zimbabweans are expected at EASTC in 1993/94. One Zimbabwean has entered the EASTC Diploma course and failed to finish during the period covered by Table 3. In the table, extra detail is given for CSO's own employees: the number still in CSO employment and their current positions as at April 1993. Only two of the seventeen Zimbabweans who finished the EASTC Diploma have since left the CSO. This contrasts with a high turnover of staff recruited into professional grades within CSO direct from university: as at April 1993 only a handful of university recruits had more than five years service in CSO. Three of the initial 1982/83 entry cohort to Part A of the Zimbabwe course are included in Table 3. These three have risen from Statistical Clerk or Statistical Officer to be Head of Section by 1993. Their progression has been the most visable success story of the in-service training programme, to date.

As already noted, the EASTC Diploma only takes participants part-way through the RSS Graduate Diploma syllabus, and thus does not provide a degree-level qualification. Opportunities for achieving such a level of qualification in Africa are reviewed by Ntozi (1992). However, all the African courses include some repetition of the EASTC material, and require at least two years further study after completion of the EASTC Diploma. A more attractive proposition, for EASTC Diploma graduates, is the one-year Graduate Diploma course offered by the University of Central Lancashire (UCL) in the U.K. As its name suggests, this course is based on the RSS Graduate Diploma syllabus, and thus leads to a recognised degree-level qualification in statistics. This is a pre-requisite for promotion to the professional grade of Statistician, and above, within CSO. So far only one Zimbabwean has studied (and passed) the Graduate Diploma at UCL. CSO management anticipates sending one employee per year to UCL, in addition to two to EASTC, provided that donor funding continues. All the grant awards in recent years have come from ODA.

3. University Courses

At independence in 1980, Zimbabwe had a single university in Harare which offered no specialist courses in statistics. Both the Mathematics and Economics Departments had undergraduate programmes with a statistics component, but the mathematics courses were largely theoretical. CSO mainly recruited its new graduates from the Economics Department of the University of Zimbabwe, or from overseas.

With initial assistance from Statistics Sweden, the University of Zimbabwe established a Statistics Department in 1989. This department offers three and four-year undergraduate degrees in statistics includ-

ing modules on official statistics, an M. Phil. in statistics by research, and has also taught short courses for government departments. In 1991 and 1992 there were, respectively, 28 and 43 graduates from the undergraduate degrees in statistics. As well as government statistics, these graduates have found employment in the manufacturing and mining industries, banks, insurance companies and the education sector.

Elsewhere in Zimbabwe, new universities have now been established in Bulawayo and Mutare, although the latter is very small and does not provide courses suitable for training government statisticians. The National University of Science and Technology in Bulawayo has a newly-appointed statistics lecturer within its Applied Mathematics Department. As yet, statistics forms only a small component of the sandwich degree in Applied Mathematics, but the applied nature of this university offers considerable hope of suitable training for the needs of CSO.

4. Future Developments

Zimbabwe now has an efficient system of training in basic statistical methods applicable in government, both through in-service and university training. One weakness of the current system is the limited contact between CSO and the universities. As is shown by the missing year (1989/90) in Table 2, the CSO course is vulnerable to difficulties with the staff of its small training section (one or two people). An associated problem is the lack of status of the Training Officers within the mainstream CSO. A greater involvement with the universities should improve the standard of teaching within CSO, provide an alternative source of lecturers and increase the scope and job satisfaction of the CSO trainers. On the other hand, the universities would gain from greater contact with CSO, since they should then be able to make their courses more relevant to government.

After more than ten years of being taught, the CSO course syllabi are now in need of modernisation. Specifically the computer science module is very dated, and will be altered to consist entirely of microcomputing, including commonly-used packages such as Lotus 1-2-3 and WordPerfect. Clearly this part of the syllabus, in particular, needs constant review. Once again, greater contact with the universities could help in this respect.

A problem that remains to be tackled is the provision of training of those statisticians, both employed by CSO or other government and quasi-government departments, who work outside the capital city, Harare. With moves to decentralise government services, this problem will become more acute. The current plan is to construct a set of distance learning materials based on the in-service course syllabi, possibly with some donor assistance. These will expand upon the existing course notes, providing further explanations, examples and self-tests. Supplementary contact with CSO Training Officers, possibly at periodic workshop sessions, is envisaged.

Within the University of Zimbabwe, the Statistics Department will soon move into new purpose-built accommodation. Permission has already been granted to begin a postgraduate diploma in statistics, and a taught Masters programme is under consideration. Currently six of the ten lecturers in the Statistics Department are from abroad, but as more local graduates are produced and temporary expatriates leave, Zimbabweans will predominate.

The progress in statistical training for government within Zimbabwe since inde-

pendence has been remarkable; the present arrangements are as good, if not better, than any country in the region, with the possible exception of South Africa. Although begun with aid assistance, both in-service and university training have quickly become self-sustained. The indications are that statistical training will continue to expand and improve in the foreseeable future.

5. References

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