

STAFFING ZAMBIAN SECONDARY SCHOOLS

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Summary

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The study attempted to establish more objective, reliable and accurate criteria for staffing secondary schools in order to reduce cost, and to avoid wastage in man-power by a haphazard distribution of staff within the school or within the system, or by unrealistic teacher-pupil ratios and time-tables.

The investigation revealed areas of weakness and strength and suggested ways of utilising the human resources and improving the system.

Report

Recognition of the fact that the "education industry" remains stubbornly labour intensive and is the largest employer of highly trained people makes it essential that all educational systems find the best way of utilizing these scarce teaching skills. Obviously, this applies with even greater force in developing countries, where there is an acute shortage of qualified secondary teachers and the rapid expansion of education at this level is heavily dependent upon the employment of expatriates on a large scale. This is especially true of a country like Zambia where, because of the tremendously rapid expansion of secondary education involving a quadrupling of enrolments since Independence in 1964, the secondary teaching force still comprises about 90 per cent expatriates, and teachers' salaries represent about 55 per cent to 60 per cent of total recurrent expenditure, excluding amounts paid by donor countries in respect of various allowances to expatriate teachers.

Attempts to lower unit costs in education through a "technological breakthrough" or changes in school organisation by the introduction of team teaching have made no significant impact in developing countries, and for several reasons it is very unlikely that either of these approaches will in the foreseeable future result in marked economies in the use of teaching manpower. However, more obvious ways of economising in the use of teaching staff are often ignored. In determining the staffing levels of individual schools there is frequently a complete absence of any objective standards, and teachers are allocated to schools, if not according to the whim and caprice of some administrator, then, as the result of a variety of fortuitous influences. In considering the school staffing arrangements and procedures operating in an educational system we can judge the efficient

operation of the system by asking the following question: Is there an equitable distribution of teachers among the various secondary schools, or is the staff ratio in some schools comparatively generous, while others are more tightly staffed? If the latter is true, and more often than not this is the case, then scarce teaching manpower is being inefficiently utilised. If some or most schools are overstaffed then either other schools are suffering from staffing shortages or there is an overall surplus of teachers resulting in a serious drain on recurrent expenditure.

The fundamental aims of the investigation were three-fold. First, a methodology and procedure was planned that would aim at establishing, by a series of formulae, a method of estimating the number of teachers of various specialisms required by different types of secondary schools. What was required was the establishment of more objective and reliable criteria for accurately estimating the teacher requirements of individual secondary schools and so of the secondary system as a whole. Secondly, by interviewing a representative sample of headmasters, to gather information relative to the problems of staffing procedures not readily amenable to tabulation. In a broad sense to systematically assemble the views of heads of secondary schools as to the principles guiding good staffing practices. Thirdly, a study was made of the attitudes of secondary teachers to the actual work involved in teaching, as well as their attitudes to the broader issues in education. The 'work load' of secondary teachers was computed and a study made of how the teacher spends and distributes his time between the various tasks involved in the teaching process.

The procedure adopted in the investigation involved studies which can be divided into two parts. From school staffing returns and other statistical information available at the Ministry of Education part 1 of the inquiry concentrated, in particular, on a comparative analysis of pupil teacher ratios in all secondary schools. In part 2 of the inquiry a more detailed analysis on staffing and organisation in a carefully selected sample of 20 per cent of all secondary schools was carried out. Of the 99 government and aided secondary schools 21 schools were visited of which 4 were aided and the remainder government.

Before summarising the main conclusions and recommendations emanating from this inquiry there follows a few brief relevant facts regarding secondary education in Zambia:

- a) The secondary course extends over five years leading to the Cambridge Overseas School Certificate. The range of subjects offered is between 18 and 22 and there is no sixth form.
- b) The schools have a forty period week, and stipulated class size in the junior school (forms 1-3) is 40, and in the senior school (forms 4 and 5) is 35. Technical subjects for boys and domestic science for girls are taken in half-size classes. At the end of form 3 it is planned that 50 per cent of pupils should proceed to form 5.

Comparative analysis of pupil/teacher ratios

From a comparative analysis of pupil/teacher ratios in all government and aided secondary schools the following points emerge:

- i) While there were certain significant differences in Regional averages, especially between urban Lusaka and the rural North Western Region, the greatest disparities were found to exist between different schools within each of the Regions.
- ii) There was no obvious difference between average pupil/teacher ratios in boarding schools and day schools and it is rather surprising that the latter were slightly more generously staffed.
- iii) The disparities in staffing between schools could not be correlated with the size of the school, in the sense that the analysis did not reveal any relationship between the size of a school and the pupil/teacher ratio.
- iv) The most generously staffed schools were found to be in the Lusaka area, in spite of the fact that the Capital of the Republic has an acute housing shortage, and almost all schools are day schools.
- v) The whole staffing situation is so chaotic and confused that the wide disparities in pupil/teacher ratios do not in any sense appear to be justified by any objective staffing criteria, and obviously something constructive must be done to narrow the gap between the worst and the best staffed schools.

A study of staffing and organisation in a selected sample of schools

In comparing and assessing the staffing situation in different schools the measures used, in addition to pupil/teacher ratios, were the number of periods taught by each teacher and teacher loads computed in terms of the number of pupil/teacher contacts in a week.

In boarding and day schools not only was there no difference in average pupil/teacher ratios but there was no significant disparity in average teacher work loads. There was no clear relationship between, on the one hand, size of school, and on the other, pupil/teacher ratio and average teacher work loads, nor could this be explained by the fact that the smaller schools were offering a restricted range of subjects and options. Even when an attempt was made to rationalise the staffing situation in the sample schools by proposing teacher loads compatible with effective teaching and workable timetables it was often shown that within a range of secondary school rolls between 500 and 900 pupils the larger schools would not be able to make significant economies in the utilisation of staff. Within the range of about 18-22 subjects offered in Zambia secondary schools as small as 400-500 pupils can be economically organised and staffed.

Almost two-thirds of heads and 80 per cent of teachers did not favour schools of more than 700 pupils and, considering the almost intractable problems facing the staff in the rural dual secondary schools of 800-900 pupils at present, there are very strong arguments against allowing these schools to become larger.

An acute housing shortage in certain urban areas creates staffing problems for some schools and, conversely, because of the inflexibility of the teacher supply situation created by the presence of expatriates, a school may well be overstaffed due to the fact that housing is available. In the present study only one head attributed his tight staffing situation to housing difficulties and only four heads, on their past experience, considered that housing problems had resulted in staff transfers. Since schools on the Copperbelt, where almost all are day institutions, had an average pupil/teacher ratio which was not significantly above the national average, and the Lusaka schools were the most generously staffed in the country, it can be concluded that housing difficulties account for disparities in staffing in only a very few cases. The fortuitous access to a 'pool of teaching wives' overcomes the problem of a housing shortage in these urban areas. However, a very high proportion of wives in a school may be a source of instability through increasing the rate of staff turnover. Moreover, there may be disadvantages from an educational point of view in schools where most of the pupils are boys, and wives may be less willing to undertake extra-curricular work. Wives make an invaluable contribution in staffing secondary schools but they should not be recruited indiscriminately.

Organisation of teaching groups

In schools which are tightly staffed teachers carry heavier teaching loads, and in the better staffed schools, not only do we find lighter teaching loads, but, in general, high percentages of the staff teach only one subject. Evidence produced exposed the fallacy of allowing staffing requirements to be determined by the subjective assessments of individual heads of schools.

Efficient timetabling and economic use of staff

A substantial majority of heads of schools thought that teachers should be expected to teach in two departments and only a slightly smaller proportion were in favour of having on the staff some teachers capable and willing to teach a range of subjects. Heads were divided on the issue of using part-time teachers, though a judicious use of these teachers can result in an economic utilisation of staff. Schools varied considerably on the issue of teachers willing and qualified to teach more than one subject. There are sound pedagogical reasons for teachers in the lower forms of the secondary school being trained to teach a range of subjects. Whether or not teachers should be expected to teach subjects in which they have not been trained is a controversial issue. In the present inquiry three-quarters of the teachers interviewed were at that time, or had in the past, taught subjects in which they had not been trained, a similar proportion had no real objection to this, but one-quarter said they would refuse or be very unwilling, if asked, to do so. An economical use of staff and the avoidance of unequal teaching loads is possible if most teachers in a school are prepared to offer two, or in some cases three, teaching subjects and there is a discriminating use of part-time staff. Except for certain teachers in chronic short supply, it should be a precondition of appointment that all teachers should offer at least two teaching subjects. Members of the 'voluntary services' should be given lighter teaching loads and involved more in the extra-curricular activities of the school. Experiments should be introduced to use these mainly inexperienced young people in a team-teaching situation with more experienced teachers.

Establishing more reliable criteria for staffing schools

Teacher requirements appear to be heavily dependent upon the rough estimates of Ministry of Education staffing officers and individual heads in secondary schools. The very wide variations in staffing between schools make it imperative that measures be introduced to bring about a more equitable allocation of teachers. From calculating the loads of teachers on the basis of the number of pupil/teacher contacts, in the twenty one selected schools, it was found that teachers with the heaviest loads teach those subjects which are taken by the great majority of pupils; teachers taking optional subjects had slightly lighter teaching loads, and practical subject teachers carried loads that were significantly lighter. An average of 30 periods per week for secondary teachers is considered reasonable and compatible with effective teaching. If heads of departments are given extra non-teaching periods of, say, five, then the average number of periods per teacher would be about 31. There should be no distinction between teachers in day and boarding schools in prescribed numbers of teaching periods, though in boarding schools, in addition to a boarding master, efforts should be made to give increased responsibility allowances to housemasters and hostel superintendents.

A reasonable average number of pupil contacts per week may lie within the following ranges for particular teachers;

Teachers of English, Maths., History, Geography, Civics, Music, P.E., R.K.	Teachers of Science, Art, Commerce, Agricultural Science, all languages (exc. English)	Teachers of Practical subjects-technical and Domestic Science
1,025-1,075	950 - 1,025	550 - 600

On the basis of these proposed teacher loads, it was estimated that in the selected schools there would be a staff saving of over sixty teachers, which would indicate a saving in the secondary system as a whole of 250 to 300 teachers. This must be regarded as a very large item of recurrent expenditure. It is important to notice that present financial and accounting procedures appear to allow a considerable degree of latitude in allocating funds for the payment of teachers' salaries. The latter is paid from 'Personal Emoluments' and estimates of sums of money budgeted for under this heading are based on the 'Establishments Register'. However, in estimating secondary teacher requirements for inclusion in the Establishments Register there is no clear indication as to how these estimates are arrived at, and in any event if additional teachers are appointed, say locally, it would appear that funds from Personal Emoluments can usually be found. Evidence for this can be deduced from the fact that some schools are permitted to continue to hire staff even when their staffing ratio is already particularly generous.

Prescribed pupil/teacher ratios in relation to school size

For the country as a whole an overall pupil/teacher ratio of 23 would seem to be viable. Where the sizes of secondary schools vary from 400 to 900 pupil/teacher ratios would lie within the range of 21 to 24 with schools offering approximately twenty subjects. Projections of future staffing requirements of individual secondary schools, and so of the secondary system as a whole, are probably best calculated by computing the total number of periods required for the teaching of each subject, used in comparison with prescribed pupil/teacher ratios.

Rationalising the system of staffing secondary schools

A very high rate of teacher turnover in Zambian secondary schools is having a seriously damaging effect on pupil performance and is undoubtedly an important contributing factor at the root of poor results in external examinations. A low rate of contract renewal by expatriate teachers is directly linked to this high and depressing rate of staff turnover. High turnover emanates from other sources and there seems to be a lack of adequate planning in the allocation of staff.

By any reasonable standards the majority of the schools in the selected group was significantly overstaffed. However, three-quarters of heads complained that even if the Ministry did send them a 'body' it was frequently not the subject teacher requested. More than half of the heads thought that the majority, or vast majority, of transfers of staff were by and large unnecessary. The great majority of heads are unhappy over general staffing procedures. To allow individual schools to recruit their own staff would be impracticable and unrealistic. The concept of a 'pool of teachers' is conducive to excessive movement within the system, and the situation is further aggravated by the fact that education has not succeeded in disentangling itself from other government departments and teachers are treated in many ways similarly to other civil servants.

The role of the staffing officer

The person responsible for staffing schools must be a professional educator of high rank in the Ministry of Education. There may be a tendency to appoint a 'Staffing Officer' whose background and experience is that of a general administrator, but this is bad practice, since the result is likely to be a conflict of views, and even a complete blockage of communication between the staffing officer and the people in the schools. A staffing officer without intimate knowledge and experience of the day to day problems and needs of the schools is not likely to be sufficiently expert or sympathetic, nor will he have the professional respect of teachers and heads of schools.

Statistical information and its interpretation

A proper rationalising of the staffing situation in the system will only be possible if there is a smooth flow of information between the schools and the Ministry of Education, both ways. The information that is required from schools, and embodied in staff returns, should be carefully thought out. More care, too, is required in compiling these returns, which should reflect the staffing situation on a specific day of the month, and the use of terms should be carefully defined. The organisation and allocation of teaching staff can only be efficiently planned for the future if comprehensive and accurate advance information is available to the staffing unit.

The present practice of overstaffing schools for two terms of the year, to the extent of 250 to 300 teachers, because of staffing difficulties experienced during one term, is extremely wasteful. In large part this could be overcome if expatriate contract appointments were more definitely and carefully fixed and arranged. Tours of duty should be for two or three years and expatriate teachers should, as far as possible, take their leave to coincide with the school holidays.

Secondary teachers' work load

From data collected during the interviews the following shows how the average secondary teacher divides and distributes his time between the various aspects of teaching:

Number of teaching periods	27.5
Number of hours spent marking	6
Number of hours devoted to preparation	6
Number of hours spent on extra-curricular activities	5.5

However, it must be stressed that these averages conceal a great range in the amount of time devoted to each aspect of teaching. Some duties extraneous to teaching for teachers in day and boarding schools are regarded as burdensome, but for the majority the problem of extraneous duties is a marginal one. The average working week for all secondary teachers was found to be 49.5 and there was a marked difference between the average 54-hour week for teachers in boarding schools and an average of 40.5 for teachers in day schools. The typical secondary teacher in Zambia is conscientious and industrious and in many cases prepared to work longer hours than would generally be expected of him, but again it should be stressed that the range in working hours is considerable.

Problem facing secondary teachers

The most serious problems facing teachers were found to be as follows, ranked in order of importance:

1. Large classes
2. Low standard of work due to pupils' apparent lack of ability or inadequate motivation
3. Rigid curriculum or restrictions by examination requirements
4. Poor or insufficient equipment
5. Too many clerical or extraneous duties
6. Lack of school policy
7. Salaries

The following, again ranked in order of importance, were what teachers considered most important in their work:

1. School administration, good school organisation and efficient communication
2. Good staff relations
3. Smaller classes
4. Good school buildings, school amenities, equipment and materials
5. Salaries and status

Job satisfaction

About three-quarters of the teachers interviewed found their job fully satisfying or generally satisfying. A subjective impression gained by the investigator was that, in spite of some dissatisfaction with prevailing conditions and some criticism of those in authority, there is among teachers in Zambian secondary schools a great deal of good will towards the country and an awareness of its educational problems.

Career plans of teachers

About one-quarter of the teachers were, at the time of the interviews, seriously considering asking for a move to another school in Zambia - this must be seen as another potential source of instability in school staffing. When teachers in the sample were asked if they intended to renew their present contracts they replied as follows:

Yes	17%
No	56%
/undecided/doubtful	27%

Over 80% of the teachers gave as their primary reason for not wishing to renew their contracts unhappiness with the conduct of administrative affairs generally speaking. Even when allowances were made for the formidable difficulties facing educational administrators, and doubts may be cast on the reliability of the replies given by some teachers, it seems that the great majority of teachers have little confidence in some officials and relationships between them left much to be desired. The emphasis which teachers place on sound administration and staff relations throws into striking relief the fact that the problem of retaining expatriate staff in schools, and increasing teacher satisfaction, must be regarded as an exercise in personal relations. The people working in the schools feel that some Ministry officials do not care about their welfare, and some teachers have come to look on these officials not as their friends. Unless something is done to promote mutual confidence throughout the secondary school system, which is essential for harmonious relations, then the prevailing atmosphere within the secondary schools will continue to deteriorate.

Attitudes of heads and teachers to broader issues in education

Four-fifths of heads and almost three-quarters of teachers were against the 'comprehensive' type of secondary school, and similar proportions opposed the idea that all secondary schools should offer the same range of subjects and options. Eighty per cent of teachers and 86 per cent of heads were in favour of streaming or setting, and three-quarters of teachers and two-thirds of heads thought this should happen, at the latest, by the end of the first year. Arguments to the effect that it is educationally desirable, and in some sense fairer, to group pupils according to subject and not ability are largely illusionary, and in practice this system of grouping can be even more pernicious than normal streaming practices. On the issue of co-education heads were very much divided. In many cases separate schools were justified on the grounds that girls in schools of their own gained confidence and had a better chance of overcoming inferiority feelings which find their origins in historical and cultural patterns.

An expanded version of this report has recently been published by the University of Zambia, Institute of Education in Communication No. 8 for 1972 under the title 'An Inquiry into Staffing Organisation of Secondary Schools in Zambia'. Available from the University Publications Office, P.O. Box 900 Lusaka, Zambia (K1.60 (0.80))