Trends in forestry education in Great Britain and Germany, 1992 to 2001

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Results of a survey in two European countries indicate a decline in numbers of students choosing to pursue forestry studies, which could have significant consequences for the future availability and quality of professional forestry education.

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In many European countries the number of students electing to study forestry at university or college has been in decline. Anecdotal evidence suggests that by the late 1970s – at a time when universities and colleges were wishing to increase student enrolment and new forestry programmes were being established in institutions that had not previously offered them – the demand for places in forestry education programmes may already have been falling.

Competing educational institutions were reluctant to admit to their recruitment problems too openly. However, as the 1990s progressed the problem in some countries became so obvious that concern arose that there might in future be inadequate numbers of forestry graduates.

This article summarizes the results of a survey commissioned by FAO to clarify the situation in Germany and Great Britain. Responses were obtained from the four long-established universities in Britain and the four in Germany that have traditionally offered university degrees in forestry. Good information was also obtained on the degrees and technical qualifications offered by four newer universities or colleges in Britain (referred to as "new universities" in this article), giving almost complete coverage. However, only three of the five similar German *Fachhochschule* or colleges approached replied to the survey.

COMPARABILITY OF QUALIFICATIONS

The German universities reported data for the traditional *Diplom*, which is awarded after four and a half years of study. In recent years, in accord with the Bologna Agreement, a commitment to harmonize university education in Europe, the *Diplom* is being replaced or augmented by a three-year bachelor's degree followed by a two-year master's degree (of which half a year may be practical).

In Scotland the pattern is a three-year ordinary bachelor's degree or a four-year B.Sc. with Honours. In England and Wales the undergraduate degree is two years plus one to achieve Honours. In Britain it is also possible at the new universities and some colleges to proceed from a technical qualification to a B.Sc. by undertaking a further year of study.

For the purposes of this survey, the German *Diplom*, the German master's degree and the British bachelor's degree with Honours are considered equivalent qualifications and are all termed "degrees".

In both Germany and Britain it is possible to obtain a high-level technical qualification or certificate which emphasizes practical study; in Britain this is termed a diploma, which should not be confused with the German *Diplom*. In this survey these various applied qualifications are grouped together under the term "technical qualifications".

Some of the long-established universities in Great Britain and Germany offer one- or two-year postgraduate M.Sc. programmes designed either to provide a specialization beyond a general forestry degree or to enable graduates with different but relevant degrees (such as botany or ecology) to enter the forestry profession. As graduates from such courses generally compete for jobs with those whose first degree is forestry, the data for all degrees, irrespective of terminology, have usually been added together in the following analysis. In some cases, however, data for such master's degrees are analysed separately under the term "postgraduate master".

UNDERGRADUATE STUDIES IN GREAT BRITAIN

In Britain there was a steady decline in numbers entering degree programmes in forestry in established universities over the decade 1992 to 2001 (Figure 1). This decline was in some measure compen-

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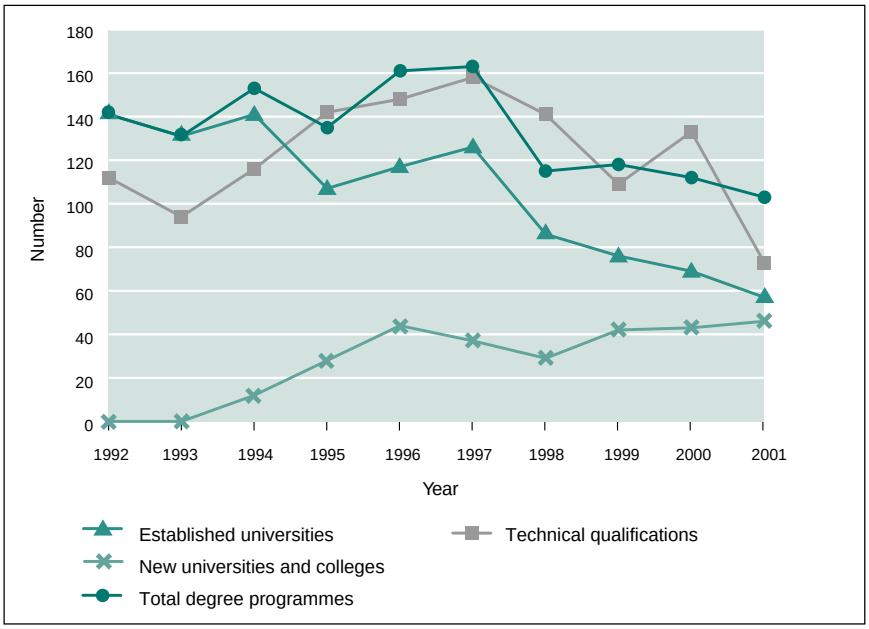
Numbers accepted into degree programmes and technical studies in Great Britain



sated for by those studying for degrees at the new universities. It should not be concluded, however, that the new degree programmes were simply robbing applicants from the old, for undoubtedly many of those graduating from the new programmes would otherwise have graduated only with technical qualifications.

Acceptances for studies towards technical qualifications actually rose through the first half of the decade and did not decline until the last year. Hidden in these figures, however, was a decline in the number of students seeking the higher-level technical qualification (Higher National Diploma) from about 1998. This decline was compensated for by applications to new lower-level certificate programmes in colleges that previously had not provided such education opportunities.

Figures for acceptances alone can hide a decline in interest if greater numbers of poorly qualified students are being accepted. Data on the number of applicants can indicate overall demand, but few institutions responded to the request for such data. In any case, totalling numbers of applicants across institutions could be misleading because interested students invariably apply to more than one institution. Complete data on the number of applicants were provided for at least one master's programme, one bachelor's programme, one diploma programme and one certificate programme (Table 1). In all but the certificate programme a slow decline was evident from 1994 and became accentuated from 1998 onwards. In the two degree programmes there was a small increase in the percentage accepted, but this was not sufficiently marked to suggest a notable drop in standards. For the diploma qualification, however, the rise in percentage accepted was very marked.

UNDERGRADUATE STUDIES IN GERMANY

There was a steady and worrying fall in the total number of students accepted into undergraduate degree programmes at the four traditional forestry universities in Germany throughout the first half of the decade (Figure 2). Then, just when the British numbers started to decline rapidly, those in Germany started to show a strong improvement, increasing by 40 percent between 1996 and 2000, although they fell thereafter. This pattern of a fall followed by a recovery was remarkably similar at all four institutions.

Two institutions provided relevant figures about numbers of students accepted to study for technical qualifications, although these are only shown from 1995 in Figure 2 because data provided by one of the institutions only began in that year. There is no evidence of any real decline in these figures.

An incomplete run of data on applications and percentage accepted was provided for one university in Germany and a complete run for one *Fachhochschule* (Table 2). At both institutions, and particularly at the second, the number of applicants fell appreciably over the period surveyed. Enrolment levels have been maintained at least in part by increasing the proportion of applicants accepted.

POSTGRADUATE STUDIES

Details of one of the postgraduate master's programmes in Britain and one in Germany are given in Table 3. The fall in enrolment was much more marked in the British programme than in the German one, although at another British university, as shown in Table 1, the decline in numbers was much less pronounced than at either of those shown in Table 3. The decline probably reflects decreasing funding opportunities for students, particularly students from abroad.

DROP-OUT RATES

In Germany many students may take longer than the minimum period to complete their degrees, and in Britain a variable number in each cohort opt to take a

voluntary year out to gain practical experience. Therefore it is difficult to match figures for graduation to those for acceptances to establish the number that drop out, i.e. fail to complete the qualification for which they have enrolled. The British figures, however, suggest that it is rare for more than three students to drop out from any entering class. An exception is that drop-out rates among those studying part-time at the new universities can be high. In Germany, drop-out rates seem to have been higher, ranging from 10 percent to more than 40 percent. However, there has been some indication of an improvement in recent years.

CONSEQUENCES IN TERMS OF CURRICULUM DEVELOPMENT

The history of forestry education in both countries has been influenced by progressive disengagement from the State forest service, which is no longer the dominant employer, and the development of new markets for forestry graduates. Although forestry has never been the easiest profession in which to obtain first employment, most respondents to the survey from both countries suggested that within a year or two after completion of their studies all graduates had obtained some form of employment appropriate to their training. The range of types of employment, however, has become very wide, which creates problems both for recruitment and for curriculum design.

Almost without exception the German universities have responded to the changing situation by introducing new and more flexible curricula which in the words of one respondent are designed to "give the chance to react more dynamically to changes in the employment market" and "offer niches for individuals". Greater emphasis is being placed on personal, social, interdisciplinary and problem-solving skills. Such developments are certainly educationally desirable, but whether they have influenced recruitment is not clear. For example, the University of Freiburg introduced a radically new curriculum in 1994. The University of Munich did not do so until 2000, yet the figures for applications and acceptances do not indicate that the former benefited over the latter by having introduced change earlier.

In Great Britain, as in Germany, the new demand to widen the base of forestry education is leading to tensions regarding the relative importance of traditional subjects (e.g. silviculture and economics) and emerging ones such as those that emphasize social and wider environmental issues. Curricula have been broadened and new options for specialization have

TABLE 1. **Numbers applying, and percent accepted, to specific programmes in four different institutions in Britain**

Year	Master/postgraduate		Bachelor		Diploma		Certificate	
	No. of applicants	% accepted	No. of applicants	% accepted	No. of applicants	% accepted	No. of applicants	% accepted
1992	86	24	179	26	236	12	40	83
1993	87	26	218	19	221	14	32	75
1994	94	27	263	18	178	21	30	70
1995	80	25	176	18	156	29	28	82
1996	83	22	155	21	118	36	30	80
1997	71	30	162	28	112	38	34	82
1998	56	29	116	25	63	46	34	50
1999	48	38	81	27	51	68	26	35
2000	44	39	66	23	40	63	25	80
2001	45	31	53	26	27	48	29	45

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Numbers accepted into degree programmes and technical studies in Germany

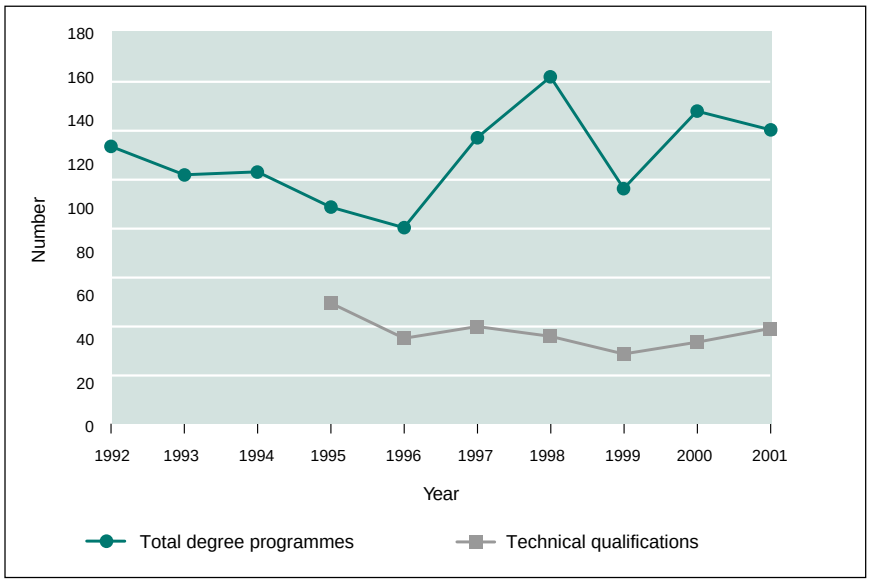

TABLE 2. **Numbers applying, and percent accepted, to specific programmes at two institutions in Germany**

Year	Degree programmes		Technical qualifications	
	No. of applicants	% accepted	No. of applicants	% accepted
1992	136	54	810	16
1993	145	57	1134	12
1994	119	71	799	17
1995	98	56	527	26
1996			407	25
1997			293	39
1998			252	39
1999			227	44
2000	99	69	255	38
2001	94	70	253	43

been introduced. Because the university forestry departments in Britain are smaller than the equivalent faculties in Germany, the ability to introduce new courses is necessarily limited; to achieve breadth, forestry degree and technical qualification programmes increasingly include courses taught in departments other than forestry. Most universities and colleges approve of such moves on the grounds of efficiency and are accordingly trimming numbers of specialist forestry staff. However, as a result of such staffing reductions the forestry content of many forestry programmes now risks being heavily diluted.

THE FUTURE

The decline in acceptances on forestry courses is likely to have significant consequences if not reversed. Already in Britain one university, Oxford, has ceased to offer forestry teaching except at the research level. Reductions in specialist staff at some of the other universities must call into question the ability of these institutions to provide forestry training in the long term. In Germany, numbers of acceptances have declined less radically, but these numbers seem to hide a slow decline in the number of people seeking a forestry education. At a time when the number of students entering universities and colleges in general is increasing, the number of applicants to forestry programmes is declining. The profession seems to have lost its appeal to young people seeking university or college education.

TABLE 3. **Numbers accepted to study for the postgraduate master's degree at one German university and one British university**

Year	Germany	Great Britain
1992	-	26
1993	-	17
1994	93	19
1995	91	10
1996	82	13
1997	*	10
1998	9	9
1999	33	11
2000	28	8
2001	24	3
2002	20	0

* No students enrolled in 1997 because of changes in the structure of the programme.

The question remains whether this matters. Some people may believe that forestry should not be accorded the place of a distinct subject, but is rather a means of claiming professional exclusivity to the detriment of those from other academic backgrounds such as ecology or the pure sciences. While it is true that a botanist learning forestry on the job is unlikely to do as much harm as a zoologist learning medical practice on the job, the analogy remains apposite. Where retraining is available, either through postgraduate degree programmes or in-service training courses, the entry into the forestry profession of graduates from other disciplines, including the social sciences, may add a powerful new dimension. Unfortunately, the survey suggests that the availability of such retraining (once a great strength of the now closed course at Oxford University) is also becoming limited.

Another argument might be that the reduction in student numbers is merely bringing supply into accord with demand. It is significant in this regard that the reduction in numbers, with consequent changes in curricula and reductions in staff numbers, is occurring in a wide share of institutions, each of which is gradually becoming less able to provide the extent of professional education once expected. As long as the institutions surveyed all strive to remain in existence, there is a risk of loss of critical teaching mass, which in turn makes the degrees less attractive to potential students.

The challenge is both to improve the image of forestry to those who might study the subject and to ensure, if necessary through mergers or closures, that at least some institutions at each level can continue to teach forestry as a complete subject, rather than relegating forestry to a minor speciality in a biology or other science degree. ◆