

HOW TO SPECIALIZE:

A STUDENT'S RESPONSIBILITY!

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Abstract

Wageningen University educates forest and nature managers and scientists for almost one hundred years. Over this whole period, students were allowed to determine a larger or smaller part of their individual curriculum themselves, on thesis level, or course level. Contacts with staff changed from a mere personal contact between teachers and students to a more regulated coaching. In the vision of Wageningen University the freedom of the student is a key to motivate students and become successful alumni, fitting well in the labour market. Hence not all students should learn the same.

Key words: Bachelor, Master, forestry, nature management, education, free choice, coaching, active students, role of student, role of teacher

Introduction

Regular alumni surveys from Wageningen University (WU) indicate that forestry graduates (till about 2000) and forest and nature management graduates (after 2000) find a great variety of jobs, both inside and outside the forest and nature sector and both inside and outside the Netherlands (Figure 1 and 2). Of all working forest and nature alumni 58% have a job in the green sector, while for alumni after 2000 this is about 65%. Table 1 shows the large variability in fields within the green sector and the variation in jobs for alumni. For more details see Bos-Boers and Schmidt (2010) and Blok *et al.* (2015) and the referred literature.

Forestry and forest and nature management is a broad field and many disciplines are covered: from ecology and basic disciplines like genetics to extraction technology and social and economic aspects; and from inventory and statistics to forest economics and wood science. Many of the people working in the sector have been educated in these programmes. Forest and nature management specialists in these disciplines too were quite often educated in forest and nature management programmes allowing them to specialize.

We will show you how this preparation for a wide variety of jobs was achieved in the past and present by Wageningen University and her predecessors.

Table 1: Alumni of Wageningen University and alumni of its study programme Forest and Nature Management working in the green and in the non-green sector (in %) (data KLV, 2011).

	WU Total	WU After 2000	Forest and Nature Management Total	Forest and Nature Management After 2000
Nature management	6	7	33	42
Forestry	2	3	29	33
Land management	4	5	12	13
Environmental Sciences	3	5	6	7
Recreation	2	2	6	5
Planning	4	3	5	4
Landscape Architecture	2	4	1	2
Total green sector	16	16	58	65
Total non green sector	84	84	42	35

Table 2: Schematic overview of Wageningen University study programmes Forestry 1918-2000. (Th=Thesis; C=Courses)

Period	Programme	Specialisation	Free Choice (%)	type	No. of theses
1918-1956	Forestry	Tropical Forestry Forestry	20	Th	4
1956-1971	Forestry	Forest Ecology Forest Techniques/ Economy	20	Th	4
1971-1982	Forestry	Silviculture Socio-economy Forest Techniques	20 10	Th C	4
1982-1995	Forestry	Forest Policy Forest Management Afforestation Forest Development Forest products	12 33	Th C	2
1990-2003	Tropical Forestry (MSc)		15	C	1
1995-2000	Forest and Nature Management	For. & Nature Policy F&N Management F&N Development Recreation and Tourism	20	C	3

Forestry programmes at Wageningen University, 1918 till 2000

These years cover the pre-Bologna period, with mainly forestry programmes and forestry graduates. The education in this period is characterized by a limited number of programmes and specializations, with quite a large amount of free choice, especially in the thesis phase (see Table 2). From 1918 till 1995, a forestry thesis, supervised by one of the three forestry chairs (silviculture, forest economics, forest technology) was obligatory, the other theses could be chosen from all the other chairs inside Wageningen University or even - with a good motivation - at another Dutch university. This allowed students to specialize in various (sub) disciplines

they liked most, prepared them well for or were expected to be useful on the labour market at the moment of graduation. The reputation of WU to educate motivated alumni was probably enhanced by these broad possibilities to make their own choice. Coaching of these choices was not or only minimally organised in the first half of this period, but became more and more intensive in the second half. During the whole period, personal contact with professors was an important way of choosing. More information on the programmes during this period can be found in Jansen and Schmidt (2006) and Blok *et al.* (2015) and the referred literature. In 1995 the forestry programme was changed into a forest and nature management programme; see also van Baren *et al.* (1998) and van Baren (2004).

Despite differences in the various programmes, the common denominator is the possibility for a student to make their own choices.

Forest and nature management programmes at WU, 2000-2015

After the Bologna declaration in 1999, the forest and nature management programme was reformulated as a three-year Bachelor and two-year Master programmes (see Table 3). The programmes and courses were rather gradually changed following changes in science, changes in society (nature, ecosystem services, sustainable but money generating resource use like wood for biomass production, exploitation of timber, hunting of animals), programme and course evaluations, remarks by the external advisory committee and changes in the job market. The Bachelor programme is mainly taught in Dutch, the Master programme in English. More information on these programmes are given in Blok *et al.* (2015).

Table 3: Schematic overview of Wageningen University Bachelor and Master programme forest and nature management 2000-now. (C=Courses; Spec=Size of the specialisation).

Level	Programme	Specialisations	Free Choice (%)	type	No. of theses
BSc	Forest and Nature Conservation	Policy and Society	17	C	1
		Ecology and Management	17	Spec	
MSc	Forest and Nature Conservation	Policy and Society	15	C	1
		Management	15	Spec	
		Ecology			

In the Bachelor programme each student is coached towards and expected to:

- Select a specialisation in the Bachelor (half a year, 30 ECTS credits);
- Select free choice courses (half a year, 30 ECTS credits), the so-called ‘profile’;
- Discuss the choices with the study advisor;
- Gather information on job possibilities, by following career evenings, visit companies and organisations, organised by the programme or by him- or herself;
- The student will do (from 2015 onwards) a personal assessment, and will base his choices in the programme on this assessment;
- Select a Master programme.

In the Master programme each student:

- Is admitted to the Master forest and nature management individually (presently alumni of the Bachelor forest and nature management are admitted automatically);
- Formulates a motivation why this choice for the MSc forest and nature management is made;
- Gathers information on job possibilities, by following a compulsory academic consultancy training, doing an internship of 4 months, and following career evenings;
- Selects restricted optional courses and motivates the choice;
- Selects free choice courses and selects thesis and internship topics;
- Discusses individually the choices with the study advisor, who acts also as a coach;
- Is supposed to do networking;
- Is supposed to do extra-curricular activities in the domain.

If we compare the approach before the year 2000 with the present one, the concept of providing freedom for the student to make his own choices is continued. A difference is that coaching in this process became much more important, indicating that the university feels more responsible that students themselves make well-motivated choices.

Why are the Wageningen University study programmes so flexible?

In the vision of Wageningen University (see WU-Mission, 2015) all study programmes should:

- Have a relevance for society and industry;
- Have an international orientation;
- Be inspiring to students.

In order to achieve this vision, and especially to be inspiring for students, Wageningen University favours and strives for:

- Education in small groups and with activating working forms;
- Approachable staff and inspiring teachers;
- Ample opportunities for students
- To choose an individual learning track;
- To participate in extracurricular activities;
- To develop individual talents;
- To challenge students;
- To participate actively in courses;
- To interact with lecturers and with each other;
- To share responsibilities for the content and the quality of the programmes.

Also in the present strategic plan this line is followed.

Why are the Bachelor and Master study programmes forest and nature management so flexible?

The Bachelor and Master programmes forest and nature management follow the vision and rules of Wageningen University. But according to the programme committee and authors there are good reasons to be flexible:

- The labour market for forest and nature management alumni is diverse and a specific specialization is quite often helpful;
- Next to knowledge and skills in forest and nature management, almost every job requires specific background knowledge and skills, like communication, information technology, ecosystem services. Within a fixed programme it is impossible to teach all students to a high level in all those fields. And also for an individual it is not necessary to achieve a very high level in all disciplines involved.
- Forest and nature management are interdisciplinary;
- Responsibility and the possibility to choose are important to educate motivated students and alumni;
- The business approach of the sector is changing. For instance presently there is growing attention for innovation and entrepreneurship. Students can easily anticipate on these aspects in the free choice.
- Alumni have to compete for jobs inside the green sector worldwide with graduates from other study programmes from the WU, from other Dutch universities and from graduates from universities of applied sciences;
- Alumni should be able to compete for jobs outside the sector, since the possibilities are limited within the sector (see Table 1).

Conclusion: The Wageningen answer to the question

The theme of this volume is ‘Should all forestry students learn the same?’. Wageningen University has a clear answer to that question and has formulated – possibly from the start in 1918 – its curricula according to that answer: NO, not all (forest and nature management) students should learn the same and YES, all (forest and nature management) students should specialize.

This answer is somewhat generalized. It is not clear if this question was in the earlier years formulated and discussed as explicitly as now. The specialization and choices should also fit in the framework of the learning outcomes. Nowadays both in Bachelor and Master one learning outcome is explicitly formulated as to assure that the student should be able to make their own decisions.

Alumni prove that the concept of flexibility is right: they find jobs in a broad field and in various companies and organisations, as specialist, researcher, advisor, teacher, policy maker, trainee or entrepreneur and in their own country or abroad, using specific skills like communication, GIS expertise or entrepreneurship. The discussion which one was first (the flexibility in the programme or the broad range

of jobs) has a high chicken or egg problem content. Which one was first is not important, that it exists is important.

Quite clear is also that the individual study programme as it is presently formulated in detail is a responsibility of the student coached by the university. The fact that recently the role of the study advisor was given more weight and that the tasks of the student and the study advisor were more strictly formulated indicates that WU takes this aspect seriously.

This flexibility requires a careful design of the programme and a check by an independent examination committee. For the potential employer the diploma supplement is informative. In addition to the programme and specialization, all courses, including thesis and internship, are described, including an explanation of the marks in the ECTS system.

Individual study programme should contain enough of forest and nature management disciplines and identity to make the student a true forest and nature manager. All learning outcomes have to be achieved. Moreover, based on his individual study programme, alumni should be able to compete for a job on the European labour market inside the green sector and especially inside the forestry and nature management sector. They also should be able to compete with graduates from more narrow disciplinary programmes like biology or social sciences. Here the study programme committee and the study advisor have to be and remain alert.

We believe that in this flexible way we educate forest and nature managers at a high level, who are able to find suitable and attractive positions in an ever changing society.

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