TECHNISCHE UNIVERSITÄT DRESDEN

Faculty of Environmental Sciences Institute of International Forestry and Forest Products

ALUMNI SURVEY

Professorship of Tropical Forestry

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LIST OF ABBREVIATIONS AND SYMBOLS

DAAD	Deutscher Akademischer Austauschdienst
ERASMUS	European Community Action Scheme for the Mobility of University Students
ES	Ecosystem Services
GIS	Geographic information system
M.Sc.	Master of Science
NGO	Non-governmental organization
R&D	Research and development
REDD+	Reducing emissions from deforestation and forest degradation
SUTROFOR	Sustainable Tropical Forestry
TUD	Technische Universität Dresden

1. BACKGROUND OF THE SURVEY

Lectures in tropical forestry have been given in Tharandt already at the beginning of the 20th century. First students from a tropical country registered in 1961, and in 1995 the international M.Sc. course 'Tropical Forestry and Management' has been established. Benefitting from this long tradition, a comprehensive survey on alumni has been performed.

Overall goal of this survey was to evaluate the current career status of the graduates from the Master course Tropical Forestry and of PhD students from the Professorship of Tropical Forestry and the perceived impact of the education in Tharandt on their professional career. Furthermore, the alumni where asked for suggestions to improve the study program. The quality of the alumni network was also analyzed.

2. METHODOLOGY

The survey was conducted with the aid of LimeSurvey[1], a free and open-source online survey application. The questionnaire was only accessible through a unique reference link that was sent to each alumnus by email. Two reminders were sent in intervals of one week. The survey contains 26 questions committed to six thematic sections (Table 1). The response mode varies between open questions, yes/no questions, and single/multiple choice questions.

Table 1. Structure of questionnaire

Thematic section	Questions [n]
Opening questions	5
Professional career	5
Network and contact to other alumni	4
Evaluation of study content and methodical education	4
Statistical key figures	7
Additional comments	1

For the statistical analysis the answers were transformed into numerical codes and a coding sheet was prepared (Table A 1 in appendix). Subsequently the database was revised for redundant, empty or incomplete data records. Participants who answered only the first five questions were removed as well as participants who filled in the questionnaire several times due to multiple email addresses or cancelled attempts. Redundant records where thereby detected by reference links, correlating IP addresses, or participant names and answers. In total 329 requests to participate in the survey were sent to 246 alumni. After the revision and clearing of above mentioned redundant, empty and incomplete records, 184 records remained in the database for interpretation. 59 alumni participated at first contact, 89 after

[1] http://www.limesurvey.org/

the first reminder, and 36 after the second reminder. The overall response rate for all degrees accounts for 75 %.

Responses with manual data entry by the responding alumni, such as dates, were reviewed and if necessary put into a consistent form. The responses to open questions were classified into suitable categories. For the interpretation of the results each question was examined individually. The results were illustrated in appropriate charts.

3. SURVEY RESULTS

3.1 OPENING QUESTIONS AND PROFESSIONAL CAREER

3.1.1 Graduation year and degree of survey participants

Between 1997 when the first students graduated in the master course 'Tropical Forestry and Management', and 2012, per year on average ten M.Sc. alumni participated in the survey. The majority of the participants (55 %) graduated after 2006 (Figure 1). The number of participating alumni who graduated in 2002, 2004, and 2005 is comparably low due to a lower number of students in these years, respectively because less students could be contacted by email. The low number of participants in 2013 is explainable as only a small share of students in this year has already graduated at the time of the survey.

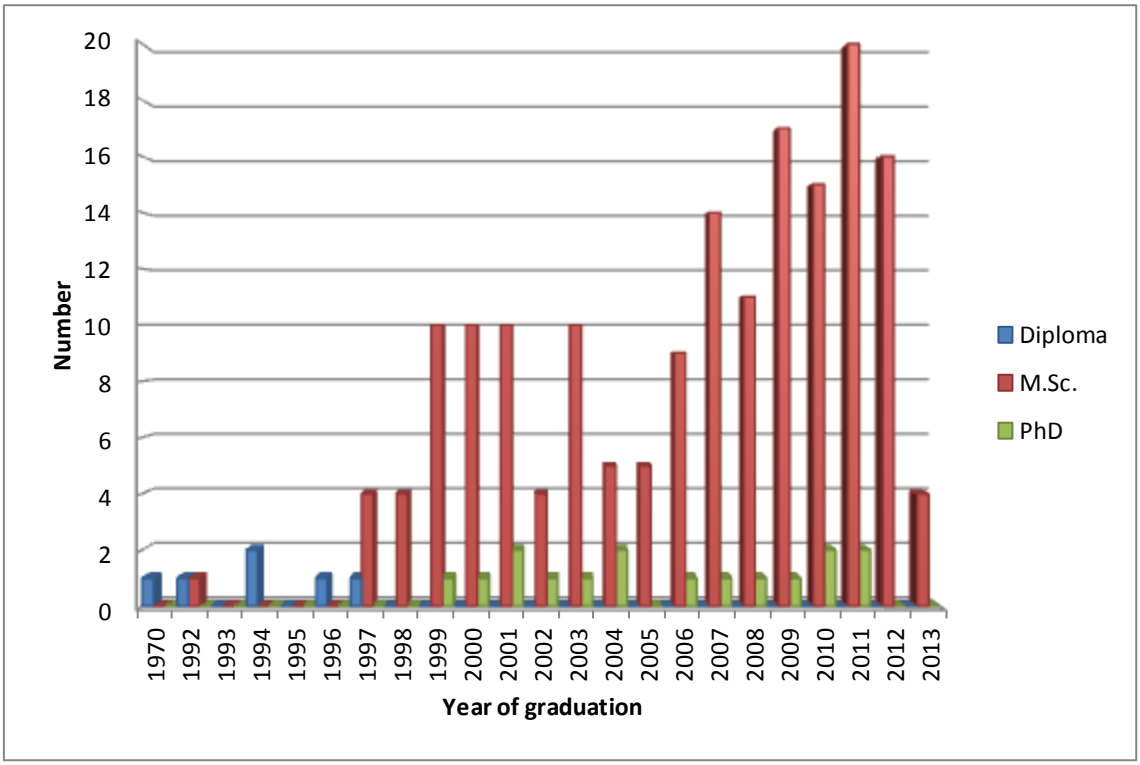

Figure 1. Graduation year and degree of participating alumni
Question 1: When did you complete your studies in Tharandt?
n = 192

The average study time was 2,14 years for non-SUTROFOR M.Sc. students. As SUTROFOR students usually spent only one year at the host institution, they were considered separately: their mean study time in Tharandt was 1,16 years (Table 2). PhD students took in average 4,8 years to complete their studies in Tharandt.

Table 2. Adherence to scheduled study time M.Sc. students

Scholarship	Mean study time (years)	Mean exceedance of study time
Erasmus/SUTROFOR	1,16	16,0 %
DAAD	2,03	1,5 %
Government	3,00	50,0 %
Other	2,33	16,5 %
None	2,10	5,0 %
Total w/o Erasmus/SUTROFOR	2,10	5,0 %

3.1.2 Financing of studies

Financing institutions vary depending on the degree (Figure 2). The rate of alumni without scholarship is 42 % among diploma students while among M.Sc. and PhD students less than 10 % are self-financed. The low rate of scholarships among diploma holders is explainable by the high share of German students[2] as scholarships addressing international students, such as the DAAD scholarships, are not available for them. The major part of the M.Sc. students is financed by DAAD[3] (58 %), followed by Erasmus/SUTROFOR[4] (25 %). Among PhD students only 29 % are funded by DAAD and funding is provided mainly by other financiers (42 %) or by the government (21 %).

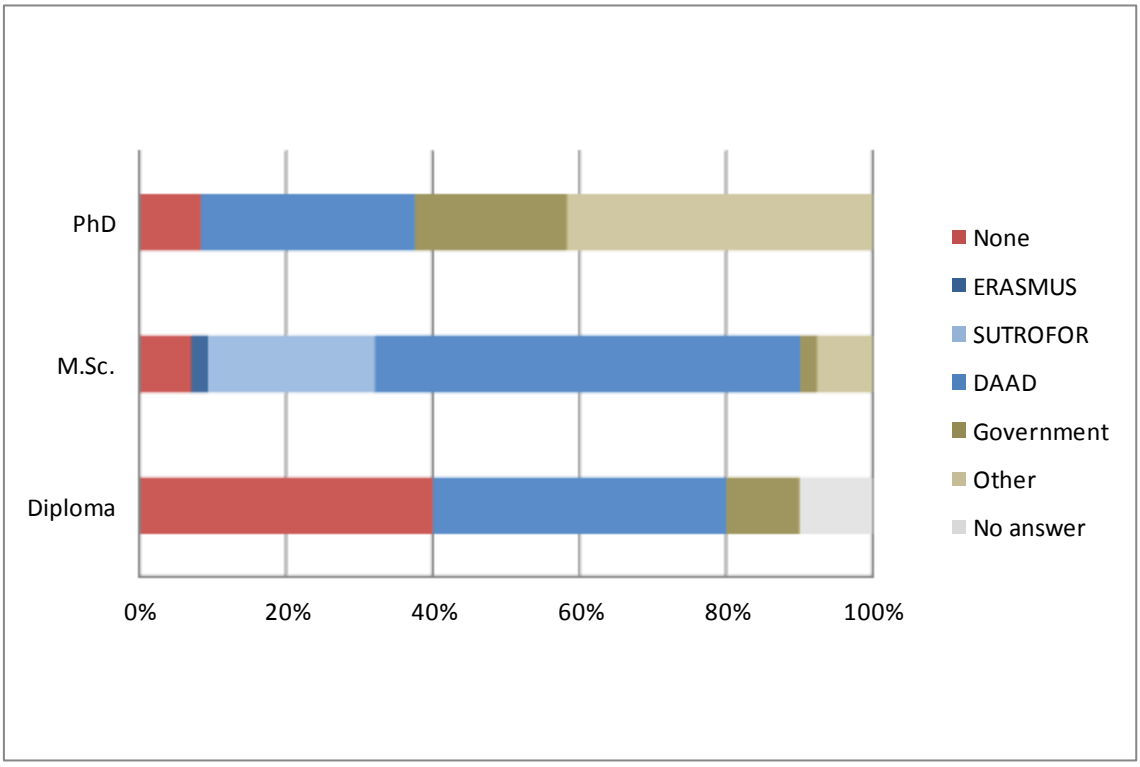

Figure 2. Funding of graduates
Question 2: Did you receive a scholarship during your studies?
Multiple choice question, n=205

[2] 67% of the diploma holders without scholarship are German
[3] an exchange program financed mainly by the German government
[4] financed by the EU

3.1.3 Completed qualification

The majority (86 %) of the respondents attended the M.Sc. course. 5 % acquired a diploma and 8 % a PhD (Figure 3). One respondent stated to have acquired no degree. However, the person concerned was still in the process of graduating. 56 % of the participants who obtained their PhD in Tharandt had also already acquired their M.Sc. or diploma in Tharandt earlier.

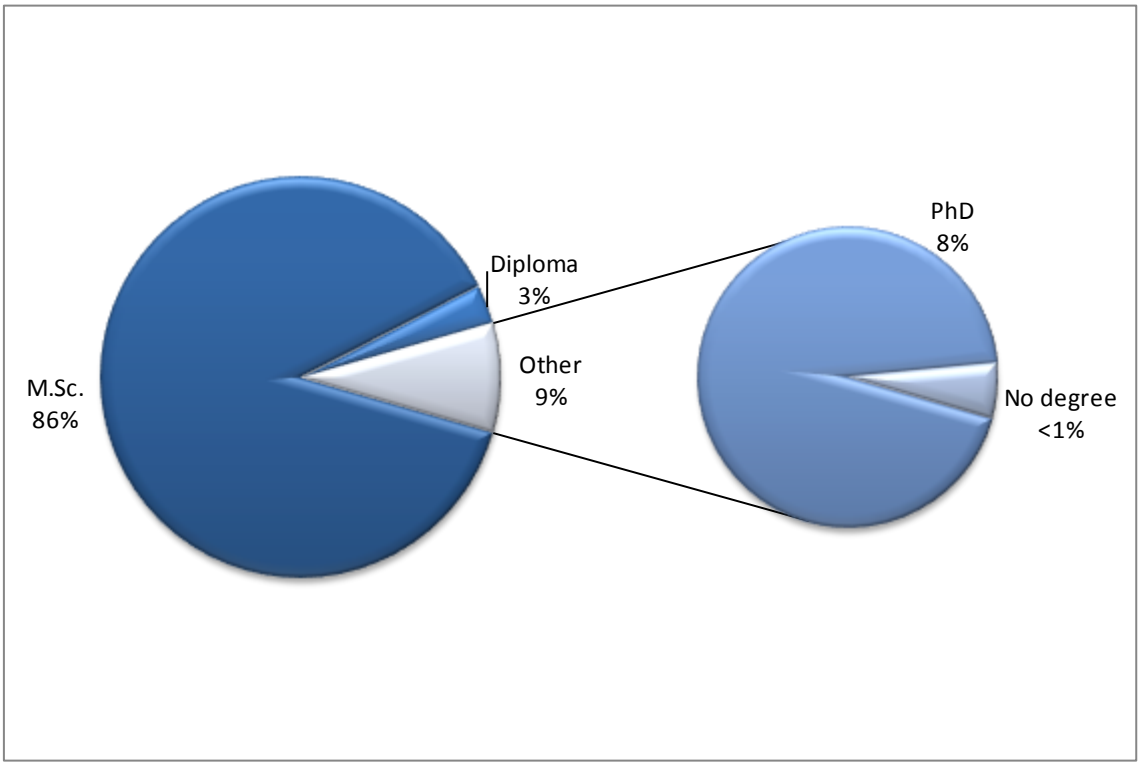

Figure 3. Acquired degree
Question 3: Which academic degree did you acquire in Tharandt?
Multiple choice question, n=193

3.1.4 Further academic career

While according to the interpretation of question 3 ('Which academic degree did you acquire in Tharandt?'), only 5 % of the diploma and M.Sc. graduates also finished a PhD in Tharandt, 43 % of all participants stated that they either have purchased, still are in the process to, or plan to acquire further graduation after their studies in Tharandt (Figure 4). 41 % of the respondents, who purchase a further title, pursued doctoral studies. 20 % acquired an additional M.Sc. degree. 56 % stated to have purchased no additional graduation after their studies in Tharandt. Among graduates with employment (see also question 6, Figure 6) the rate was with 60 % slightly higher.

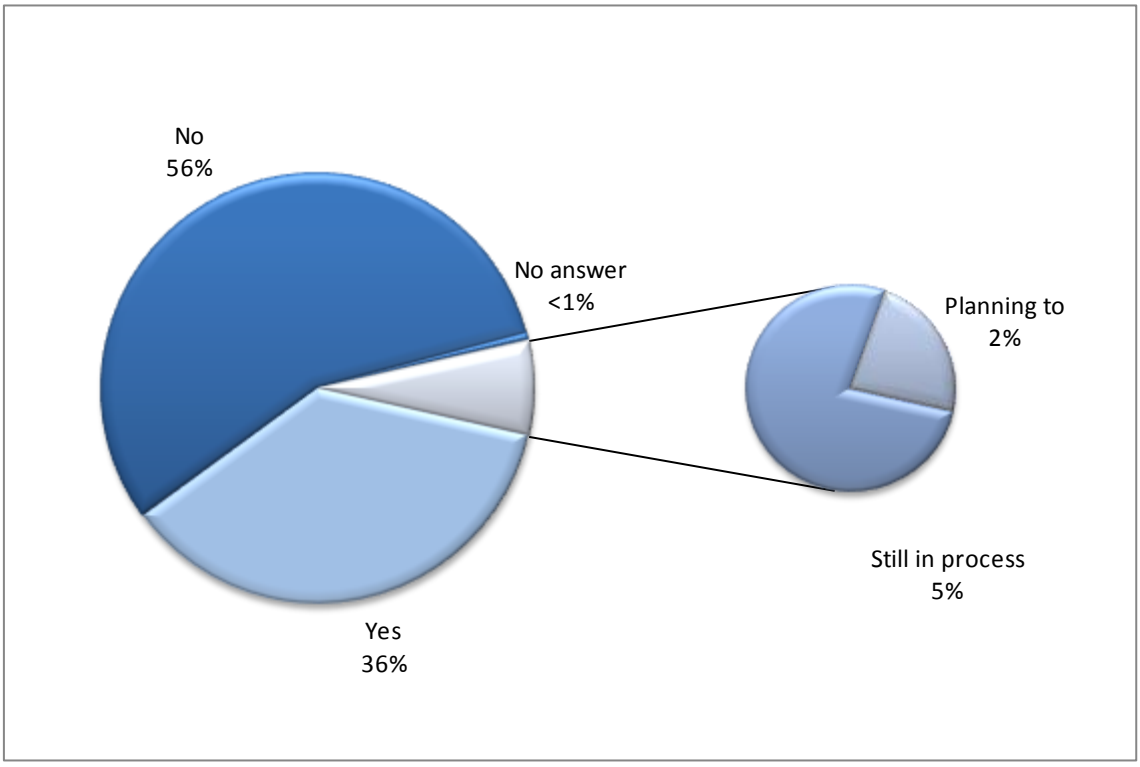

Figure 4. Further education of graduates
Question 5: Did you purchase a further academic graduation after your studies in Tharandt? Yes/no question, n=184

3.1.5 Duration of job seeking after graduation

The majority of the participating alumni (62 %) found a job within 6 months after graduation while 22 % were unemployed for more than one year (Figure 5).

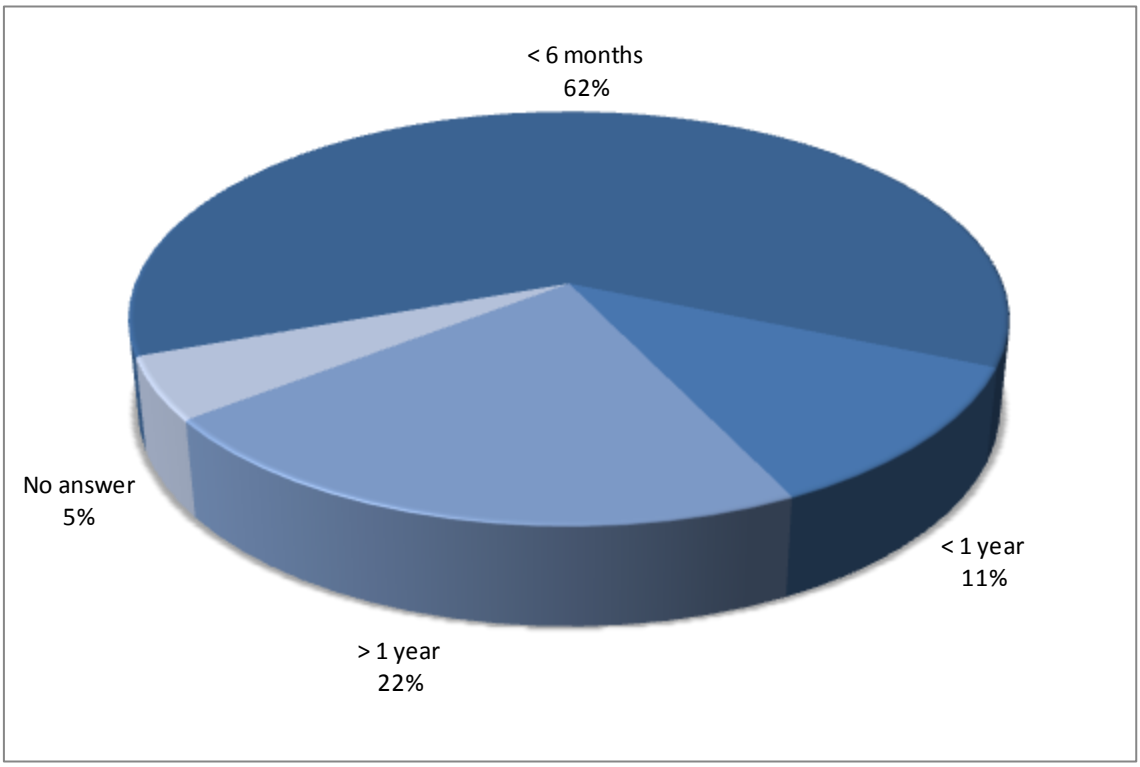

Figure 5. Time between graduation and career entry
Question 4: After what period of time was your career entry after your last graduation in Tharandt?
Single choice question, n=184

3.1.6 Job prospects

87 % of the participating graduates are currently employed; additional 6 % currently pursue further M.Sc. or PhD studies. Out of 5 % stating unemployment, 3 % adduce frictional[5] or seasonal unemployment (Figure 6). Only one participant responded that he was not able to find a job.

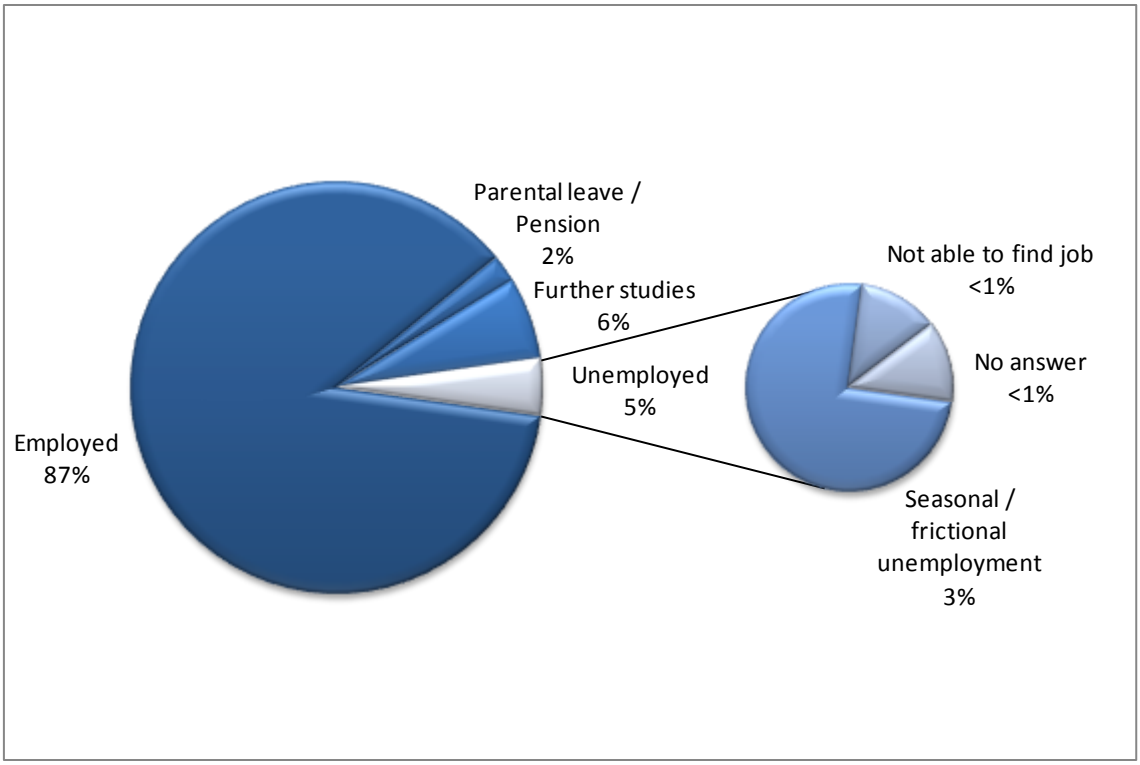

Figure 6. Employment rate of graduates and reasons for unemployment
Question 6: Are you currently employed?
Yes/no question, n=184
Question 10: Why are you currently without a regular income generation?
Multiple choice question, n=24

[5] Frictional unemployment is the time period between jobs when a worker is searching for, or transitioning from one job to another

3.1.7 Advancement opportunities

Asked for their current career position, 'manager' was the most frequently named career stage followed by 'young professional' (19 %). 12 % hold the position of a director and only 2 % were self employed (Figure 7). A large share of the respondents (43 %) classified their employment disaccording to the preset options.

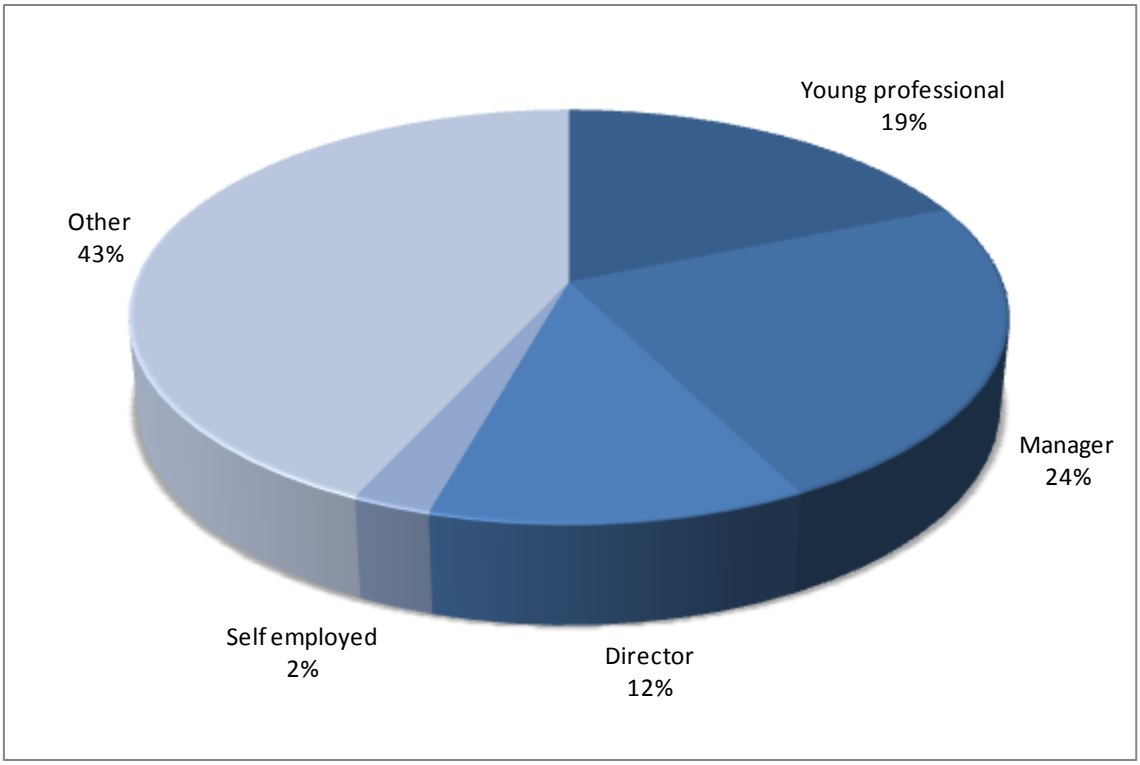

Figure 7. Current career positions of alumni
Question 7: Please specify your employment
n=160

3.1.8 Future employment sectors

The major part of the alumni is employed in the forestry sector (28 %) and at universities or other R&D institutions (30 %). Employment in administration, government (14 %) and in NGOs (9 %) is of rather minor importance and only 4 % are employed in the industry or in service companies (Figure 8). Others sectors named were e.g. freelancing, research institutes, UN organizations, consultancy, and education.

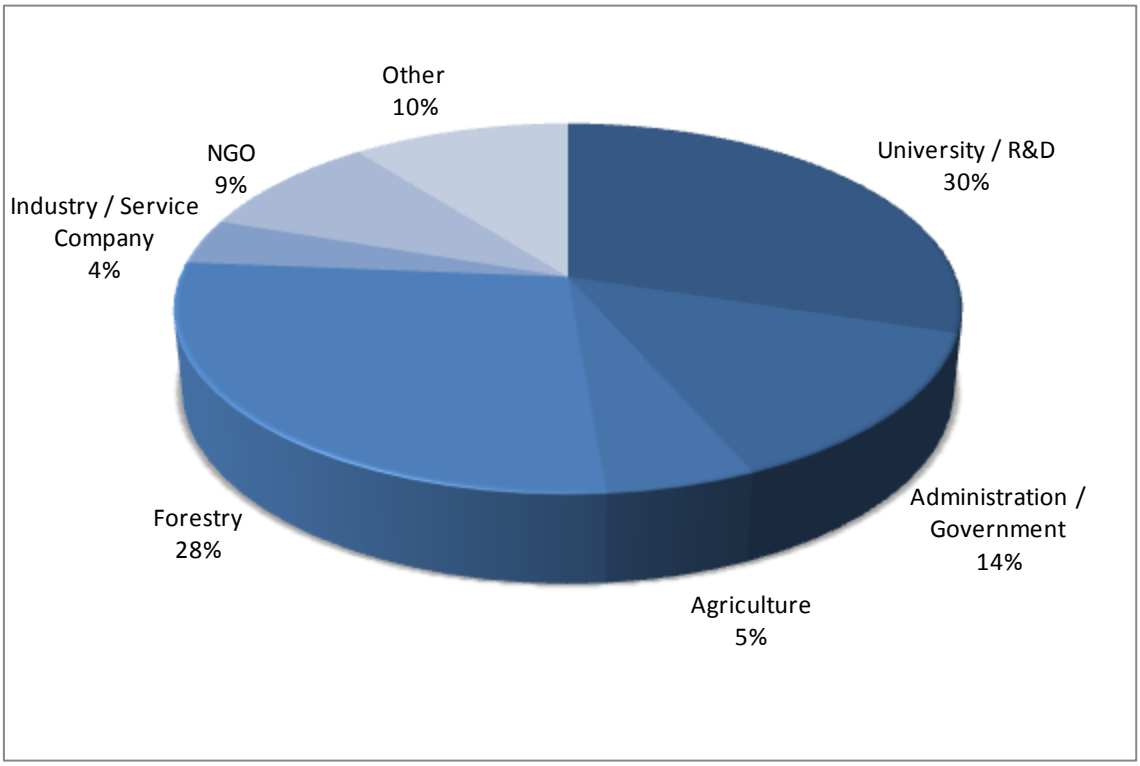

Figure 8. Sectors in which alumni are employed
Question 8: In which sector are you currently employed?
Multiple choice question; n=228

3.1.9 Future work fields

The major part (62 %) of the alumni is working with topics of forestry or nature conservation and environment (Figure 9). Agriculture with 14 % also still constitutes a relevant part while only few graduates are dealing with energy, tourism, infrastructure, hydrology or geology. Other work fields named were e.g. climate change, economics, conflict resolution, remote sensing, and rural development.

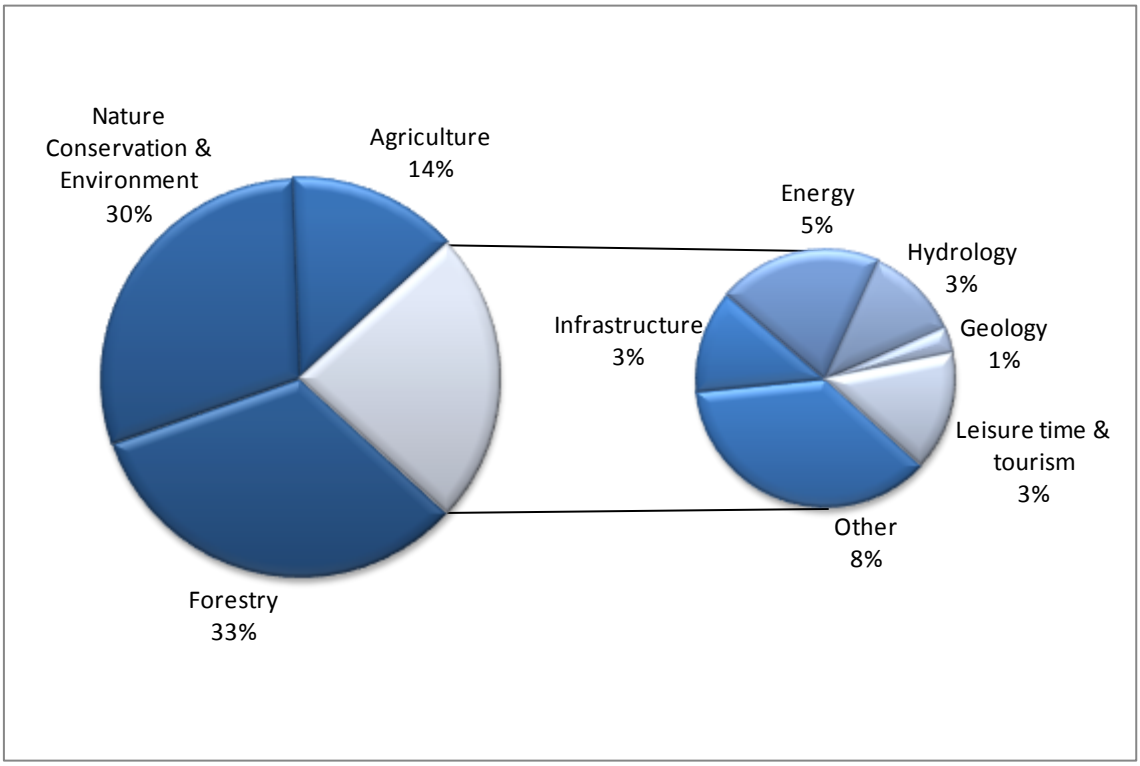

Figure 9. Fields of work activity
Question 9: Which subjects do you concern in your sector(s)?
Multiple choice question; n = 393

3.2 NETWORK AND CONTACT TO OTHER ALUMNI

3.2.1 Intensity of networking

About half of the alumni state to maintain regular contact to the professorship (57 %), to alumni of their semester (48 %), to DAAD alumni (46 %), and to alumni from other departments in Tharandt (41 %). The less marked network exists to alumni at faculties based in Dresden (17 %). A comparison with the answers of question 11 ('Which prospective contact(s) do you wish to the mentioned institutions?'; Figure 10) shows gaps between maintained and desired future networks to the professorship and to other alumni in Tharandt. By contrast, the networks to course mates and to other DAAD alumni appear to satisfy the demand. Additional contacts exist or are desired to the German Forestry Alumni Network, SUTROFOR alumni, individual TU professors, and PhD students in Tharandt.

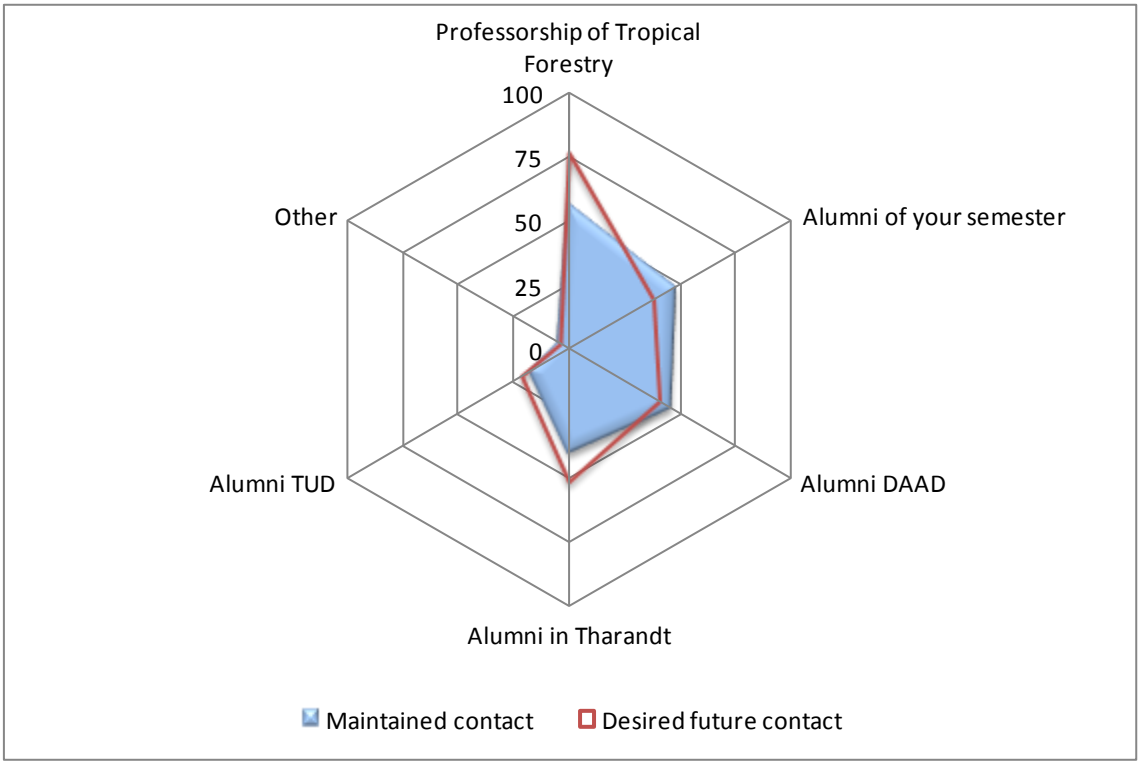

Figure 10. Regular networking activities of alumni
Question 11: Do you maintain with one or more of the mentioned institutions regular contact?
Question 12: Which prospective contact(s) do you wish to the mentioned institution(s)?
Multiple choice question; question 11 n=395, question 12 n=426

3.2.2 Networking tools

Of the given options, e-mail is considered the most important means for regular contact (Figure 11). Only 2 % of the participants consider it as less important. The alumni concerned prefer contact via social networks or more participatory means such as workshops and conferences. Workshops and conferences are ranked second regarding their appreciation for regular contact. Social networks are lowest in the estimation as contact method. Only 17 % consider social networks such as Facebook, LinkedIn, or Xing as very important. However, in total social media are still perceived as important to relatively important contact tool.

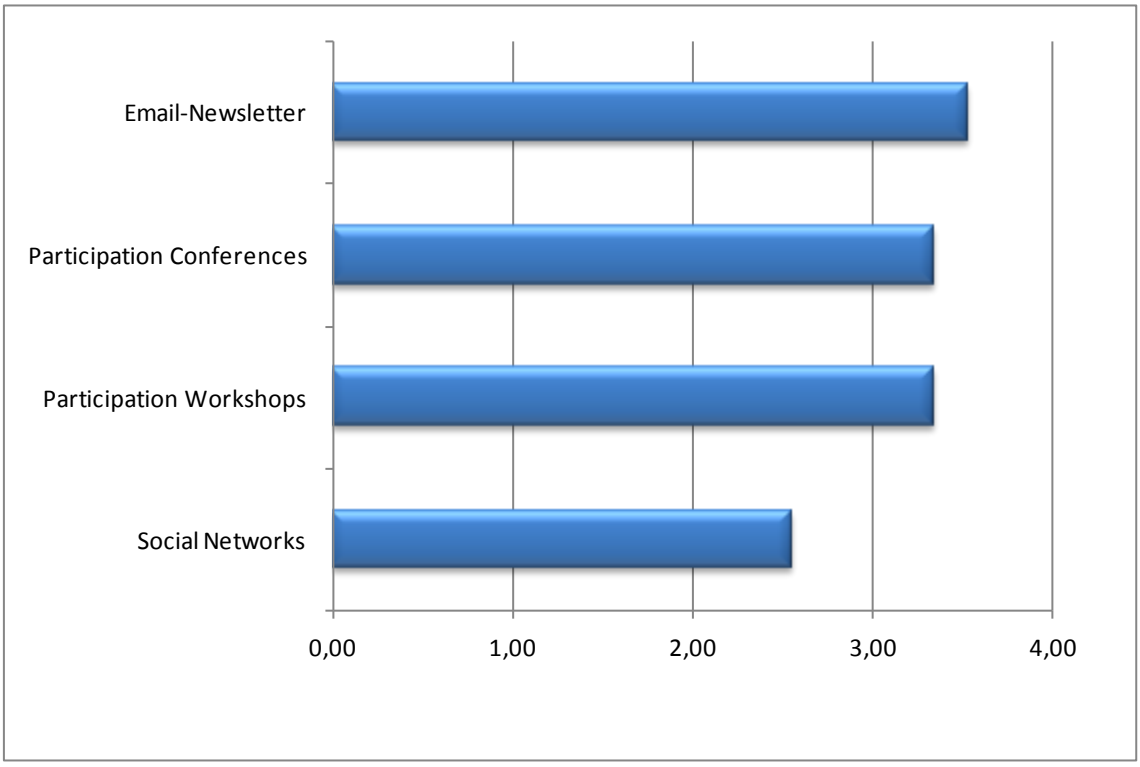

Figure 11. Preferred means of contact
Question 13: Which option(s) should be used for regular contacting?
n=920
4 ≙ very important; 3 ≙ relatively important,
2 ≙ important, 1 ≙ less important;
0 ≙ not important

3.2.3 Contributions to future collaboration

About two third of the participants show interest in a joint collaboration with the professorship by naming specific inputs (Figure 12). The most frequently mentioned contribution can be classified as sharing experiences or knowledge and joint research. Less frequently, intensive institutional cooperation with exchange of staff and students and offers to host M.Sc. students, doctoral students or interns for projects is proposed.

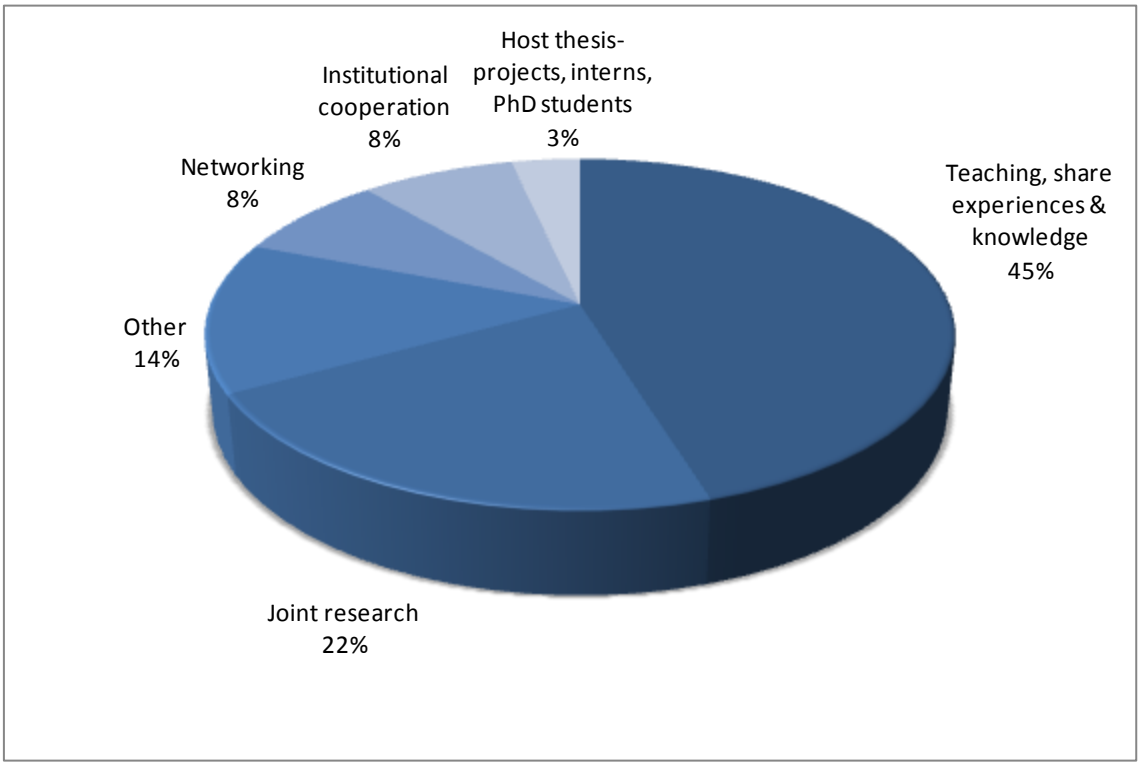

Figure 12. Willingness for future collaboration
Question 15: Which input do you want to contribute to a joint collaboration?
Open question, n=115

3.3 EVALUATION

3.3.1 Evaluation of the study content

In this section the alumni were asked to evaluate their study in Tharandt. The share of participants rating the predefined sub items as 'excellent' or 'good' was consistently at least 92 % (Figure A 2 in appendix). After assigning scores to the four evaluation categories (Excellent ≙ 4; Good ≙ 3; Acceptable ≙ 2; Bad ≙ 1) the resulting ranking showed that 'Relevance for career' was the best valued category followed by 'acquisition of relevant forestry knowledge'. 'Acquisition of relevant methodological knowledge' and 'ability to apply new knowledge' underperformed, but were rated still way above good (Figure 13).

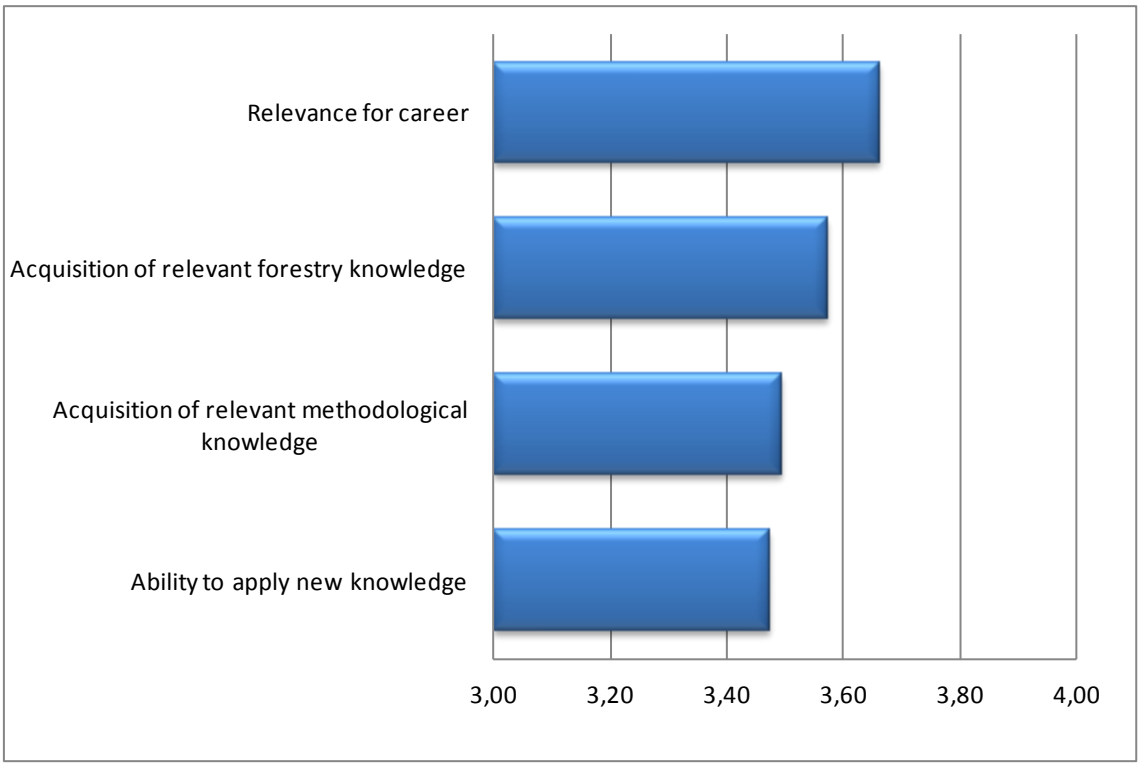

Figure 13. Evaluation of study content
Question 16: Please answer the following points with regard to your academic education in Tharandt.
n=736 (≙ 4 categories x 184 respondents)
Excellent ≙ 4; Good ≙ 3; Acceptable ≙ 2; Bad ≙ 1

3.3.2 Overall ranking

The positive evaluation of the study is also reflected in the following two questions:

83% of the alumni would study again in Tharandt (Figure 14). Thereby it has to be noted that the reasons given by 10 % of the respondents why they would not chose to study in Tharandt once again, implied that they misconceived the question[6]. Only 2 % expressed explicit discontent with the course.

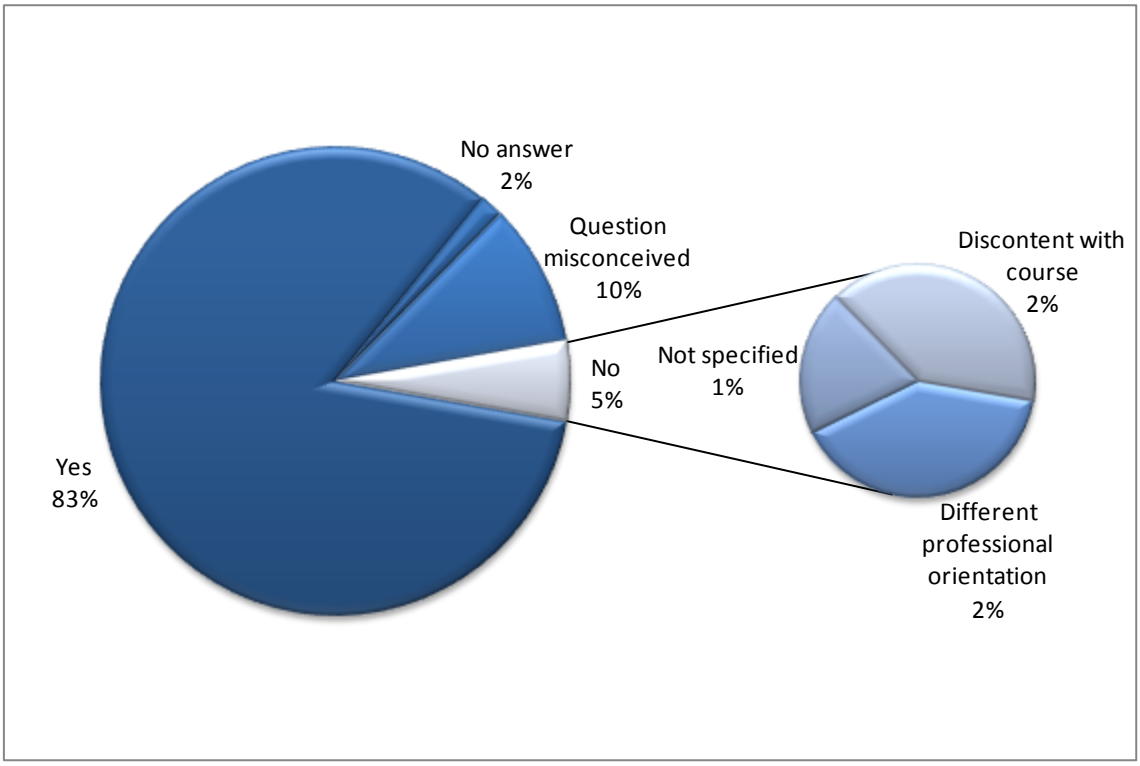

Figure 14. Appreciation of the study in Tharandt
Question 18: Afterwards, would you study once more in Tharandt?
Yes/No question, n=184

[6] reasons given were for example advanced age, involvement in family affairs and other obligations, or already completed PhD studies

3.3.3 Recommendation to third parties

Furthermore, 96 % state that they have already recommended the education in Tharandt to potential students (Figure 15). Only 2 % quoted discontent with the education as impediment for recommending the course.

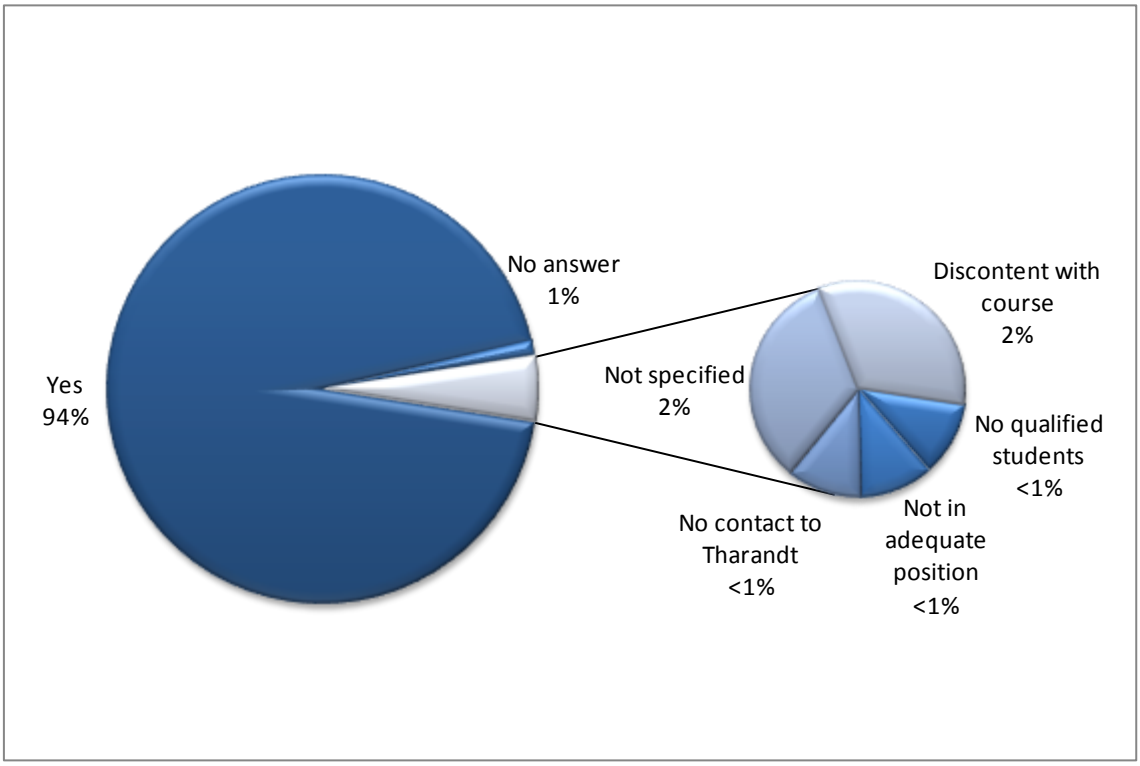

Figure 15. Recommendation of the course
Question 19: Have you ever recommended the academic education in Tharandt to potential students?
Why have you never recommended the academic education in Tharandt to potential students?
Yes/no question, n=184

3.3.4 Improvement suggestions

When asked for necessary changes in the education, about half (54 %) of the participants made use of the comment field. However, 9% only approved the education in its current state and accounted changes unnecessary. Of the remaining 45 % about half of the participants (45 %) suggested additional subjects in the curriculum (Figure 16, see also Table 3 and Table A 2 in appendix). The second most mentioned suggestion was changes in the course structure[7], such as more optional modules with the possibility of deeper specialization, an improved linking of the different modules to avoid repetition and overlapping of the approached topics, and a better combination of theoretical knowledge and the practical application of skills[8]. An intensification of practical teaching and training was mentioned by 9 participants (≙ 8 %). Field surveys, practical exercises, group work, and participation in faculty projects where instanced.

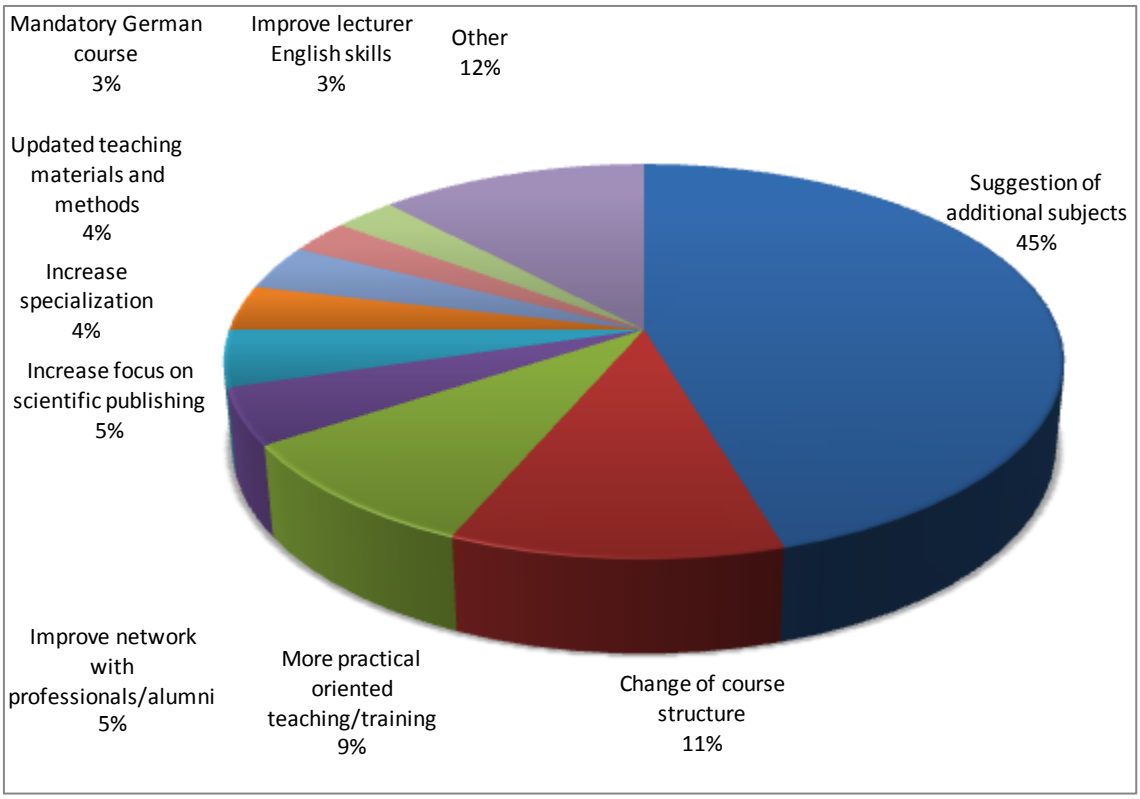

Figure 16. Improvement suggestions for the academic education in Tharandt
Question 17: Please mention points you would change about the academic education in Tharandt from your present perspective and experience
Open question, n=106

[7] E.g.: *, I would prefer each module to be taught by specialized professors, and not to have different sections of a module to be taught by different lecturers. For example, I would prefer not to be seeing the same set of professors participating in every module; let every professor focus on their specialized subject.'*

[8] E.g.:*'More combination between knowledge, practice and skills e.g. presentation, group work, semester project, etc.'*

The indicated wish to learn or improve applicable skills is confirmed by looking closer at the suggested additional subjects: The most frequently mentioned subjects are to be found in the field of computer applications such as GIS, or modeling (Table 3). Other application-oriented subjects such as research methods, statistics, field practice, people and leadership skills, and scientific writing were named 19 times in total. An increased focus on currently important issues such as climate change was with ten entries named second most. Other repeatedly mentioned topics were governance and business management.

Table 3. Most frequently mentioned additional subjects

Suggested subjects	Number
Computer applications (IT, GIS, modelling, databases)	11
Contemporary issues in forestry (e.g. climate change, ES, REDD+)	10
Labratory / field research methods	5
Statistics	5
Field practice in tropical surrounding	5
Forest / environmental governance	4
Forest business / enterprise management	3
People skills and leadership	2
Scientific writing, publishing, reviewing	2

4. CONCLUSION

The use of the email reminders has proven itself very valuable as it was possible to increase the response rate from 24 % before the first reminder to 60 % before the second reminder, and to a very fairly high final response rate of 75 % at the time of the expiration of the survey. Nulty (2008) found response rates in online course and teaching evaluations between 20 and 47 %. The author calculates a required response rate of 58 % for course sizes of 20 students at liberal testing conditions[9]. The results of this survey are therefore considered to be representative.

Overall the education in Tharandt is perceived as very positive by the alumni. As well in all objectivity by treating the low unemployment rate of 5% among graduates as a quality criterion, the studies in Tharandt can be assumed benefiting for the further career of the graduates. The classical fields of employment for graduates are to be found in forestry and in nature conservation and environment.

The analysis of the alumni networking activities revealed good contacts among DAAD alumni and course mates but also a demand for more intense contact to the professorship and other alumni. Especially participatory activities such as conferences and workshops, but also collaboration in terms of knowledge and experience sharing or joint research attracted wide interest.

The interpretation of improvement suggestions showed that 41 % of the suggested changes can be associated with a demand for more practical experience and increased teaching of applicable skills. As well in the direct evaluation of the course, acquisition of relevant methodological knowledge and the ability to apply new knowledge were rated lower than the acquisition of knowledge, and indicate opportunities for improvements in this

[9] 10 % sampling error, 80 % confidence level

field. To strengthen the study program, it might be consequently beneficial to equilibrate the ratio between theoretical knowledge acquisition and learning of applicable skills. The relatively frequent wish for various computer related skills in the course schedule indicates their perceived importance in future work fields of tropical foresters. Therefore additional teaching in this field appears also recommendable.

5. SUGGESTIONS FOR FURTHER ANALYSIS

The collected data offers possibilities for deeper analysis by associating the outcomes of different questions e.g. with the aid of contingency tables or by examining the answers of different sub-groups more precisely. Possible analyses are suggested below:

Analysis	**Yes**	**No**
SUTROFOR vs. DAAD / other in terms of employment / further academic graduation / course evaluation		
Examine the results of the course evaluation in individual time periods to find if there are differences e.g. when the program was restructured or over time between recent and past graduates		
Course evaluation: employed alumni vs. unemployed alumni, PhD vs. M.Sc./Diploma,		
Examine recommendations by groups (Director, manager; European, African, Asian, etc…)		
Examine/compare different continents individually (evaluation, employment, further studies, work fields, etc.)		

Other suggestions:	

6. REFERENCES

Nulty, D.D. (2008). The adequacy of response rates to online and paper surveys: what can be done? *Assessment & Evaluation in Higher Education*, 33:(3), 301-314.

APPENDIX

Table A 1. Questions with coding sheet

Question_nr	Question	Code	Answer
1	When did you complete your studies in Tharandt?	na	Year
2	Did you receive a scholarship while studying?	1	None
		2	ERASMUS
		3	SUTROFOR
		4	DAAD
		5	Government
		6	Other
3	Which academich degree/title did you acquire in Tharandt?	Y	yes
		empty	no
4	When was your career entry after your graduation in Tharandt?	1	<6 months
		2	<1 year
		3	>1 year
5	Did you purchase a further academic graduation after your studies in Tharandt?	1	Yes
		2	No
6	Are you currently employed?	Y	Yes
		N	No
7	Please specify your employment?	1	Young professional
		2	Manager
		3	Director
		4	Self employed
		5	Other
8	In which sector are you currently employed?	Y	Yes
		empty	No
9	Which subjects do you concern in your sector?	Y	Yes
		empty	No
10	Why are you currently without income generation?	1	Seasonal unemployment
		2	Frictional unemployment
		3	Sabbatical
		4	Parental leave
		5	Pension
11	Do you maintain with one or more of the mentioned institutions regular contact?	Y	Yes
		empty	No
12	Which prospective contact do you wish to the mentioned institutions?	Y	Yes
		empty	No
13	Which contact means should be used for this?	1	Very important
		2	Relatively important
		3	Important
		4	Less important
		5	Not important
14		?	?
15	Which contribution do you want to contribute to a joint collaboration?	na	Open question
16	Did the studies in Tharandt helpt o achieve your current career level?	1	Excellent
		2	Good
		3	Acceptable
		4	Bad
17	Please mention points you would change about the academic education in Tharandt from your present perspective and experience	na	Open question
18	Afterwards, would you study once more in Tharandt?	Y	Yes
		N	No
19	Have you ever recommended the academic education in Tharandt to potential students?	Y	Yes
		N	No

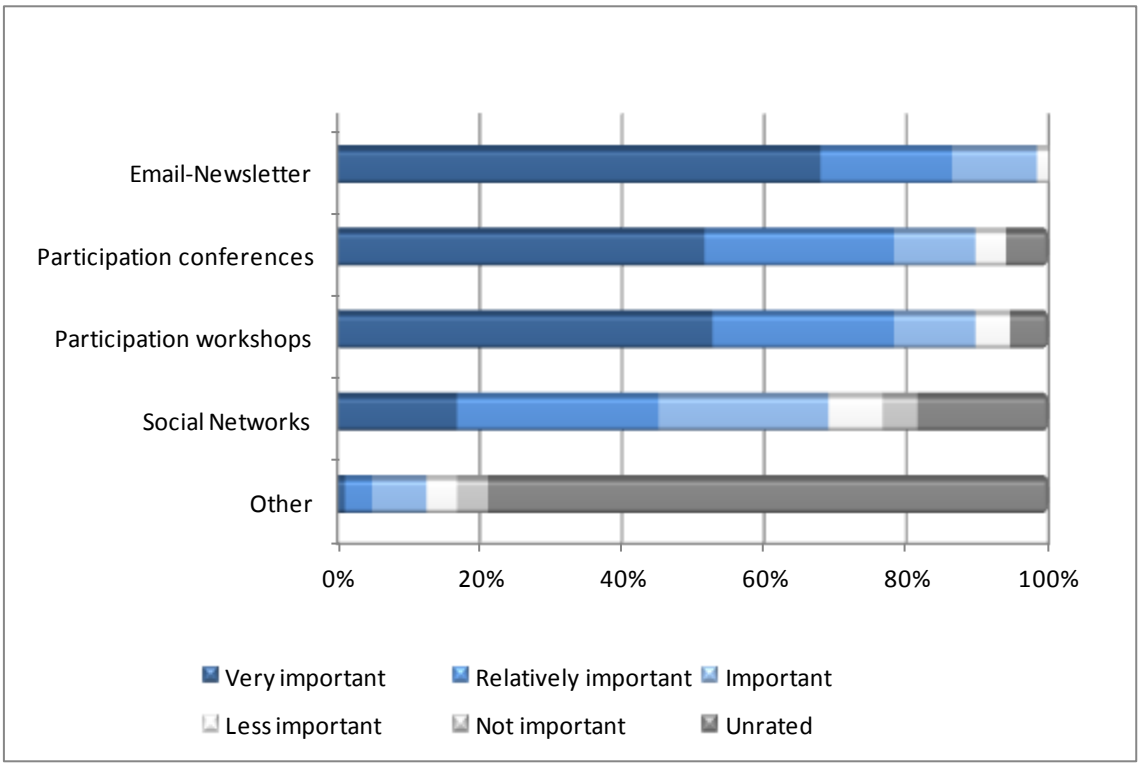

Figure A 1. Appreciation of contact means

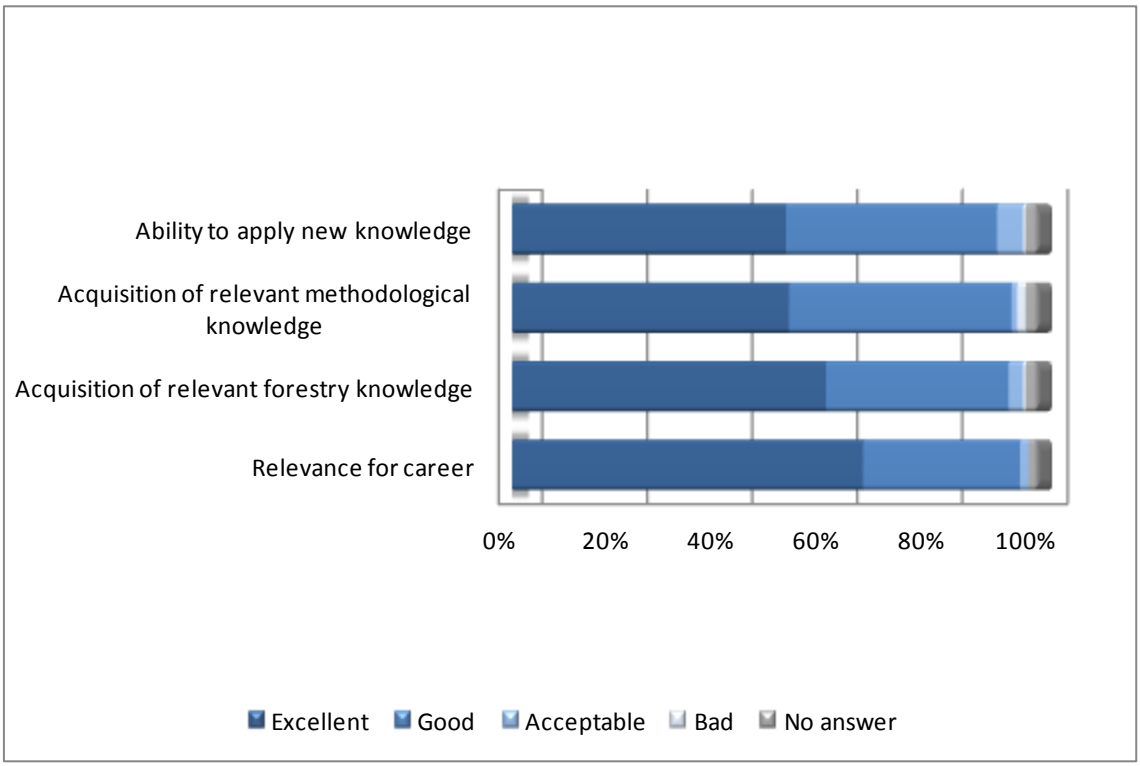

Figure A 2. Evaluation of study content

Table A 2. Additional subjects suggested by alumni

Suggested topics (mentioned only once)
Tree physiology
Ecology
Native vs. alien species
Community forestry and indigenous knowledge concerning natural resource conservation
Tropical forestry issues and improvement of community livelihoods from nature based enterprises
Relation of forest resources and livelihood & recovery and development
Social aspects
General Equilibrium Model, Dynamic recursive model using GAMS solver
Training module on SHG
Mandatory internship with international organization
Development of research projects
Presentation skills
Political, sociocultural, economic, environmental dimentions in forest resource and development
Conflicts over resources
Basic forest machinery knowledge
Watershed management
Disaster management
Biomass based energy production
Forest products
More cases from Africa and tropical countries
Social and environmental sustainability as contribution of forestry to sustainable development
Role of forests for promoting sustainable development, with special attention to sustainable forest management.
Sustainable forest management: principles, strategies/ tools
Co-management of natural resources, including forest
Strengthening institutional capacity and policy issues for forest resources management.
Ecotourism
Administrative and financial issues
Privat sector involvement in forestry