Interreg Danube Region

Co-funded by the European Union

Fem2forests

D.1.1.1 Barriers and needs for inclusion of girls and young women

Joint report

This document is issued by the consortium formed for the implementation of the Fem2forests project by the following partners:

- Slovenian Forestry Institute (SFI), Slovenia
- Foundation for Improvement of Employment Possibilities PRIZMA (PRIZMA), Slovenia
- University of Ljubljana, Biotechnical Faculty (UL(BF)), Slovenia
- Bavarian State Institute of Forestry (LWF), Germany
- Forest Trainings Center PICHL (FAST Pichl), Austria
- NOWA Training Counselling Project management (NOWA), Austria
- Agency for sustainable development of the Carpathian region "FORZA" (FORZA), Ukraine
- Forestry and Environmental Action (FEA), Bosnia and Herzegovina
- University of Belgrade-Faculty of Forestry (UNIBG-FOF), Serbia
- University Ştefan cel Mare of Suceava (USV), Romania
- Czech University of Life Sciences Prague (CZU), Czech Republic
- Croatian Union of Private Forest Owners Associations (CUPFOA), Croatia
- Croatian Chamber of Forestry and Wood Technology Engineers (HKIŠTD), Croatia
- Foresta SG (Foresta SG), Czech Republic
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June 2024

Disclaimer

This paper was supported as part of Fem2forests, an Interreg Danube Region Programme project co-funded by the European Union.

Content

Activity 1.1: Identification of needs by a participatory approach

D.1.1.1: Barriers and needs for inclusion of girls and young women (joint report)

1 Introduction

Forestry and forest-based industries are facing labour shortages, while the number of those choosing careers in forestry is declining. However, the sector is known for providing so-called "green jobs" that help maintain forest ecosystems and ensure sustainable production of forest products and fair treatment of workers. These challenges are addressed by the Fem2forests project, which aims to (1) develop innovative career pathways for girls and young women, (2) strengthen the capacity of forestry education institutions through mainstreaming of the gender perspective, and (3) facilitate the framework conditions for efficient involvement of women at different levels and stages in forestry organizations and relevant labour markets. To achieve these objectives, the Fem2forests concept follows an interactive and multi-stakeholder-driven innovation model that covers career paths in forestry from early orientation stages to leadership positions. Workshops, surveys, and interviews are used to identify the needs and interests of girls and young women in the forestry sector. Education and training institutions, as well as employers, business support organizations, and other stakeholders, will be closely involved throughout the project to help change awareness and create a framework for a more diverse workforce that promotes sustainable development, especially in rural areas. Through all these activities, the project aims to increase the proportion of young women in the forestry sector by 2030 and beyond.

The project is built from the bottom up, so the communication and involvement of target groups from the start of the project is essential. The Fem2forests project is built on the solid ground laid down by its successor Fem4Forest (DTP3-500), which provided a first insight into the status of women in the forestry sector in DR. The Fem2forest project is being implemented at a time when all countries in DR are facing a shortage of working force in the forestry sector. Changing the perception of forestry from being seen as labour-intensive and male-dominated among young people can transform the attractiveness and accessibility of forestry and breathe new life into the sector.

The initial activity of the Fem2forests project involves research aimed at identifying the barriers and needs for greater inclusion of girls and young women in the forestry sector. The findings and results from surveys conducted across nine Danube region (DR) countries, where the project partners originate, are consolidated in the present report. In addition to presenting the research outcomes, the report highlights specific activities and solutions designed to enhance the participation of girls and young women in the forestry sector within the DR countries. These targeted initiatives aim to address the identified challenges and leverage opportunities to foster a more inclusive and diverse workforce in forestry.

To ensure the participatory approach during the research, data and information were collected directly from the target groups through questionnaires and roundtable discussions. This method facilitated active engagement and allowed for gathering of diverse perspectives and insights

directly from those most affected. By involving the target groups in the data collection process, the research aimed to capture a comprehensive understanding of their experiences, challenges, and needs, thereby enhancing the accuracy and relevance of the findings.

2 Background

The forestry sector in the Europe is crucial for the economy and environment, providing resources, supporting biodiversity, and mitigating climate change. However, it faces challenges such as labour shortage, declining interest in forestry careers, and gender imbalance. Encouraging girls and young women to enter the sector is essential for innovation and addressing these challenges. Technological advancements like precision forestry are creating new career opportunities requiring modern skills, is supported by the EU's policies like the EU Forest Strategy and the European Green Deal.

Sustainable forest management and climate adaptation are central to the EU's goals, focusing on balancing ecological, economic, and social benefits. Education and training must integrate modern practices and gender perspectives to prepare future forestry professionals. Embracing digital transformation and promoting gender inclusion are vital for addressing labour shortages and enriching the workforce, ensuring the long-term health and sustainability of EU forests.

Forestry is still a male-dominant sector, but the situation is gradually changing. A few decades ago, it was much harder for women to get a forestry position in the sector. Their efforts to establish themselves in forestry paved the ground for younger forest professionals. Women who want to build successful careers in forestry need to understand how gender equality issues affect them. Moreover, many women in forestry are mothers. They play an important role in raising a stable and capable future generation, and deserve strong support from society in this emotionally and physically challenging time.

While progress has been made, the forestry sector continues to face challenges in attracting and retaining female forestry professionals. Girls and young women face multiple barriers to inclusion, such as limited access to education and vocational training programs, gendered household responsibilities, identity exclusion, stereotyping, implicit bias in academic and social settings, and discriminatory social institutions that restrict their rights and agency. These barriers contribute to economic disparities, lack of opportunities in male-dominated fields, and perpetuate poverty cycles, reinforcing gendered inequalities in income and professional choices. To address these challenges, efforts should focus on expanding access to quality education, vocational training, and job opportunities, while also combatting stigma, discrimination, and gender biases through targeted policies and programs that empower girls and young women to overcome these obstacles and achieve greater inclusion and equality in society.

Integrating girls and young women into the forestry sector begins with truly understanding their unique perspectives, as well as those of educators and key stakeholders. This understanding forms the foundation for creating effective, sustainable initiatives that address real-world challenges and needs. Early engagement with these groups through a participatory approach ensures that solutions are more relevant and impactful.

Understanding student and stakeholder perspectives in forestry education and careers is crucial for sustainable forest management. Research highlights the need for tailored educational outreach programs for young girls and female to promote future generations` interest in forestry sector. Additionally, analysing forest engineering students' attitudes towards education and future jobs reveals concerns about readiness for careers and job prospects, emphasizing the importance of

aligning education with industry needs. Stakeholder perspectives on multi-functional forests underscore the significance of integrating biodiversity conservation with sustainable forest management, emphasizing the interdependence of economic, social, and environmental benefits from forests across different countries. By considering these perspectives, educational institutions, policymakers, and forest management entities can develop strategies to enhance forest education, promote sustainable practices, and ensure the long-term viability of forest ecosystems.

This inclusive method not only empowers girls and young women, giving them a voice in shaping their futures, but also fosters a sense of ownership and long-term commitment. Round table discussions with educators help share best practices and identify specific needs within the educational landscape. This collaboration leads to innovative teaching methods and career guidance tailored to the needs of girls and young women, making forestry education more appealing and accessible.

Furthermore, understanding these perspectives plays a crucial role in creating career pathways within forestry. By identifying the interests and needs of girls and young women, we can develop career paths that align with their aspirations, raise awareness about diverse opportunities, and provide targeted training and mentorship. Building a diverse and equitable workforce in the forestry sector requires a deep understanding of these perspectives.

Addressing the specific challenges faced by girls and young women creates an inclusive environment, enriching the workforce with fresh perspectives and innovative solutions. In summary, unlocking the potential of girls and young women in forestry starts with understanding their perspectives. This is key to identifying barriers, promoting inclusion, enhancing education, and facilitating career pathways. By actively involving these groups in a participatory process, we can develop strategies that meet their needs and aspirations, leading to a more inclusive and dynamic forestry sector.

3 Methodology

Research for Fem2forests report was conducted in 9 countries (Slovenia, Germany, Austria, Ukraine, Bosnia and Herzegovina, Serbia, Romania, Czech Republic and Croatia) using primary data sources.

Methodology consists of two instruments for data collection:

a) **Questionnaires** for different target groups (female students in forestry high school, other high schools, faculty in forestry, and other faculty),
b) **Round tables** with different target groups (educators and teachers, students, forestry professionals, decision makers, employers, career consultants, etc.).

Two sets of online questionnaires were designed to collect quantitative data for the identification of barriers and needs for inclusion of girls and young women. The first questionnaire was aimed at girls in forestry education (high school or faculty) and the second questionnaire was aimed at girls in non-forestry education (high school or faculty). The goal was to have at least 30 responses from the questionnaires per country. In every project partners' (PPs) country the questionnaire for girls and young women in forestry education was send to forestry schools and faculties, questionnaire for girls in non-forestry schools was send to non-forestry schools and faculties. The data were collected during April and May.

Every country also implemented two round tables, which took place in May and June. The goal was to have at least 5 participants from different fields, and at least one of the roundtables had to be held in person. With questionnaires and roundtables, we were interested to know the information and motivation for forestry education perceived by females, perceptions and challenges of career in forestry, interests and needs in forestry education and career, career paths and skills required for forestry careers and some good practices for involving girls and young women in forestry sector.

All PPs have than analysed the data from questionnaires and round tables within their own country, with the pre-defined analysis templates and identified key insights. They are covered in the present report. In addition, the inputs from Activity 1.1 will be used to present targeted/needed activities and solutions to increase the participation of girls and young women in the countries of the programme.

4 Key country findings

4.1 Slovenia

The questionnaires and round tables in Slovenia have shed light on several insights about the barriers and needs for the inclusion of girls and young women in forestry. One of the key insights is that personal interest in the subject matter is considered the most important factor influencing students' career choices. While interest is certainly important, so is information. Results show that most students from non-forestry schools have limited knowledge of forestry careers. Additionally, only one-third of participants from forestry educational institutions feel very or extremely well informed about the skills and qualifications required for a forestry career.

Despite most responses from family and friends about students' interest in forestry being positive, and the existence of a positive opinion within their community and social circle, there is still a need for greater awareness and education to dispel misconceptions and stereotypes about forestry careers. The results showed that the most highlighted misconceptions include the belief that there are limited opportunities in the forestry sector, that the work environment is inappropriate for women, and that forestry primarily involves hard physical labour and low pay.

The results also showed that more than two-thirds of students from forestry educational institutions experienced challenges or biases. Furthermore, just under half of the students from forestry educational institutions reported being treated differently during their training or internship because of their gender and that differential treatment was manifested in various ways.

One of the key findings from the round tables is that diversity of profession in forestry is very poorly recognised. This ignorance is probably the main reason for the stereotypes associated with women in forestry. We need to show young people that forestry is one of the most important green jobs of the future. It is essential to break the stereotype that all foresters are loggers who destroy nature and to present them as ambassadors of nature, acting as engineers who use modern devices (tablets, drones, etc.) in their work.

4.2 Germany (Bavaria)

The questionnaires and round tables in Bavaria provide several important insights on needs, shortcomings and possibilities for improvement of the Bavarian forestry educational system. The responses of the high school students indicate that there is a lack of knowledge about forestry professions among youngsters and that factors like access to informational material or internship opportunities could make studying forestry more attractive to high school girls. The presence of female role models was also an important factor for girls and young women to get motivated for careers in forestry. Young women who are studying forestry now express a clear demand for mentoring and guidance from forestry professionals in order to enhance their forestry education and career preparation.

Gender-specific challenges play an important role as barriers for girls and young women to pursue a career in forestry. Many young women in the questionnaires and during the round tables shared

their personal experiences gender-specific challenges and bias that they have made during their forestry educational path which shows that the forestry sector in Bavaria is still a male-dominated branch where women might face difficult situations.

The outcomes of the round tables show that there are few programs at universities that support women in their studies and career preparation, and none in the specific trainee paths leading up to professional positions in Bavaria forest sector. To enhance the inclusion of girls and young women in the forest sector participants of the round tables proposed many ideas and strategies that are in line with the demands and needs of high school and forestry students in the survey.

4.3 Austria

Survey and Round Tables led to the following key insights:

➔ **There have been positive developments in some areas, both from the perspective of survey participants and stakeholders**

- **Preparation and prospects:** A high proportion of students feel well prepared for a career and are confident to find a job.
- **The path leads upwards**: Teacher and employer note a fundamentally positive development, particularly with regard to the proportion of female students, their skills and their competences.

➔ **Opportunities for the forestry industry and for women in the forestry industry are identified in the following areas.**

- **Socio-economic changes:** Changes in the ownership structure (so-called 'new forest owners'), which will bring new perspectives to the sector, meet the innovative interests of the survey participants, which will bring new opportunities for both sides (e.g. forest wellness, forest-therapy tourism, innovative approaches to wood production).
- **Technical innovations are leading to new areas of work for women in forestry:** New professions will emerge, and the work will continue to move away from heavy physical labor – an opportunity for women.

➔ **The following fields were defined in which activities should be set**

- **Defining a vision for girls and young women:** Motivation and support through mentoring and role models helps girls and young women to develop a vision for their own career and to receive concrete help in realising it.
- **Overcoming gender stereotypes:** Communication and awareness raising are the key words to deconstruct gender stereotypes, to improve mutual understanding and initiate a new the culture of discussion between the genders.
- **Changing the image of forestry and highlighting the career opportunities:** In order to break up the image of a backward-looking industry and replace it with a modern image of a promising sector, it is necessary to clearly and impressively present the various fields of application and career opportunities. This also helps girls and young women to be more aware of the qualifications and skills they need.

- **Spreading information about forestry careers:** There is a considerable lack of information about forestry careers at non-forestry schools; only a very small proportion of students have ever received information and thought about a possible forestry career.

4.4 Ukraine

Key findings from the questionnaires

For the forestry female students, the most influential factors for career selection are: the personal interest in the subject matter (over 50 % important and very important), additional education and training opportunities (45 % IM and VIM), job availability and stability (40 % of IM and VIM), and financial considerations (40 %).

The top three sources of information about future forestry studies among forestry students were: A. Internet and social media, 58 %; B. Parents and relatives, 51 %; C. Forestry school/college/faculty website, 35 %.

For forestry students the most contributing factors to the profession choice were selected “out of love, passion to the nature/forest”, with a 20 % share, and “by accident”, with a 14 % share; along with 14 % of students who ended up studying forestry due to parents/family impact.

The top three areas of interest that contributed to the female student’s choice of forestry profession were: forest management (43 %), nature conservation (36 %), and forest economics (31 %).

The forestry students are the most interested in innovative forestry practices or technologies, such as Forest wellness and forest-therapy tourism (54 %) and AI in forest management (46 %).

Female forestry students are not very confident in their preparedness for the labour market (64 %).

Female forestry students value practical activities as the most interesting in their studies (66 %).

Misconceptions among female students on issues of forestry career very much are about the job being “not for women”, “hard work”, and “forestry is only lumberjacks”.

Career development is important to very important for 69 % of female forestry students.

Perception of foresters/profession is rather positive in the communities of respondents (49 %).

Key findings from the round tables

Current career guidance practices are not effective and need to be improved.

More active and interactive approaches to future and current students regarding career paths are needed.

Gender equality is an issue and more activities on awareness raising and tools on gender equality mainstreaming are needed.

Students are not very aware of what they will do at their forestry jobs and more explanatory actions prior to university studies are needed (map of forestry professions/positions, career path design).

More practical activities, and more contact with female forestry practitioners in various formats (excursions, meetings, mentoring etc.) are demanded.

Professional orientation of schoolchildren should be done by female foresters who set a good example.

4.5 Bosnia and Herzegovina

Based on the conducted surveys and discussions held during the roundtable meetings, the following are the key findings for Bosnia and Herzegovina (BiH):

- There is a significant disparity in awareness and interest between forestry students and other students when it comes to education and careers in forestry in BiH. Forestry students typically come from rural backgrounds compared to other students who predominantly come from urban areas. The forestry sector exhibits a significant gender imbalance, with a disproportionately high number of female students in forestry education and a notable absence of males.
- Analysis shows that forestry students are heavily influenced by personal networks such as parents, relatives, and friends who are already in the field (somewhat related to the more traditional/patriarchal upbringing in rural areas.). In contrast, other students rely more on educational institutions and social media for information about potential careers.
- Misconceptions about the forestry profession, such as it being solely about cutting trees or not suitable for women, are widespread. These misconceptions contribute to the low interest in forestry careers among other students and reinforce gender stereotypes.
- Both forestry and non-forestry students are motivated by personal interest, job stability, financial reasons, and work-life balance. However, forestry students place greater importance on job stability and financial reasons due to the perceived uncertainty in the sector.
- There is a significant gap between theoretical knowledge and practical application in forestry education. Students express the need for more practical field experiences to be adequately prepared for the professional world.
- Gender stereotypes, the lack of visibility of successful women in the sector, and concerns about job safety and physical demands are key barriers preventing more women from pursuing careers in forestry. To improve awareness of the diverse career opportunities in forestry, comprehensive information campaigns are needed. Social media should be used to target younger audiences, address misconceptions, and highlight the sector's importance for environmental conservation and sustainability. Increasing opportunities for practical training, internships, and field experiences, as well as establishing partnerships with forestry organizations to provide students with real-world experience and job placement support, is crucial. Career counselling and job shadowing programs should be enhanced to bridge the gap between education and employment.
- Introducing innovative and engaging courses that highlight modern practices in forestry, such as remote sensing, GIS, and forest bioeconomy, can attract a broader range of students. These courses should emphasize the technological and ecological aspects of forestry. Implementing targeted initiatives to promote gender equality within the forestry sector, such

as mentorship programs, visibility campaigns featuring successful women in forestry, and creating supportive networks for female students and professionals, can significantly contribute to gender equality.

- Public awareness campaigns to educate the community about the importance of forestry and the diverse roles within the sector are also essential. Highlighting the ecological and social benefits of forestry careers can change public perception and attract more students.
- Advocating for policies that support the inclusion of women in forestry, such as flexible working conditions and equal pay initiatives, is necessary. Educational institutions should work with government bodies to develop frameworks that encourage diversity and inclusion in forestry education and careers. By implementing these recommendations, BiH can create a more inclusive, informed, and engaged forestry sector, ensuring its sustainability and resilience for the future.

4.6 Serbia

Key findings from the questionnaires

The results of the survey show a wide range of motivations and interests among forestry students in Serbia, but also highlight the need for better promotion of career opportunities and the elimination of gender stereotypes. Raising awareness of the different aspects of forestry, improving public perception and providing more opportunities for hands-on learning are crucial steps to attract more young women to the sector.

Key influencing factors are personal interests and job availability and financial security. For most forestry students, parents or relatives are the main source of information about careers, emphasizing the importance of family support. Also, friends who are already studying forestry and the internet/social media are important sources of information for many respondents. Reasons for studying forestry are love of nature and meaningful work, as they see forestry as an opportunity to contribute to environmental protection and society. The majority of respondents had not considered forestry as a career option before their current education, suggesting that the sector needs to be better publicized. Results also show that practical learning and access to mentors, particularly successful women in forestry, are crucial to attract new students. Respondents would like more information about career opportunities through online resources and detailed information material. Many respondents say there is a belief that forestry is not suitable for women, which is a significant barrier that needs to be addressed. Also, they believe there is a perception that the skills and contributions of women in forestry are underestimated.

Key findings from the round tables

Insufficient information about career opportunities in forestry can significantly influence the low interest of girls in this field. To increase interest, the promotion of forestry must be directed not only to children, but also to parents and primary school teachers. They can and should promote forestry because there are cases where children want to enroll in a secondary forestry school, but their parents do not allow them to do so due to numerous prejudices. Early education and the reduction of prejudices through activities in elementary school can increase interest in forestry.

For the promotion to be successful, it must be well organized and carried out by professional staff. Many barriers prevent young girls from choosing a career in forestry, including stereotypes, perceptions of the profession and employment opportunities. Forestry is often perceived as a profession associated with hard physical labor, which is not true, but young people and their parents are not sufficiently informed about the different opportunities that forestry offers. Gender stereotypes play an important role, as forestry is still perceived as a male profession. Forestry companies need to recognize the different roles that women with a forestry education can take on. Work placements and dual training courses that combine theory and practice are also important.

The lack of female role models further reduces the motivation of girls to choose this profession. Promoting successful women in forestry is key to motivating young girls and promoting forestry as an attractive profession that contributes to sustainable development. In addition, girls are concerned about employment opportunities after graduating from the Faculty of Forestry, as they believe that it is difficult to find a job in this profession if you are not involved in forest management or utilization.

Innovative approaches in education and industry are needed to increase interest in forestry. A systematic approach is needed in promoting forestry, including cooperation between secondary forestry schools and the Faculty of Forestry, modernizing the education system through interactive, practical and digitalized methods, and providing international experience through programs such as Erasmus+.

Advertising through media activities, high-quality promotional material and events such as forums and science festivals can significantly increase the visibility and attractiveness of forestry. Raising awareness of opportunities for women in forestry through workshops and mentoring programs can help break down gender stereotypes and motivate young women to pursue this career.

4.7 Romania

The study reveals that students with a background in forestry are predominantly from rural areas, with 69 % of attendees coming from forestry high schools. The decision to pursue forestry is primarily driven by personal interests, financial considerations, and work-life balance. Family expectations are not a primary reason for choosing this job.

Among students studying disciplines other than forestry, 88 % of respondents indicated that they chose their field of study based on personal interests, employment opportunities, job security, financial factors, and work-life balance. Nevertheless, familial expectations do not serve as a key motive. Individuals with a forestry background mostly obtained information about forestry careers from their parents and relatives, as well as from forestry educational websites, acquaintances who had already pursued forestry studies, and the internet or social media. Among individuals without a background in forestry, 78 % chose not to pursue a career in forestry because they lacked motivation, had a general apathy, or believed that it is particularly difficult for women to get employment in the forestry sector.

The main emphasis of forestry studies is on the conservation of the environment and the ecology of forests, with an increasing interest in forest management and wildlife problems. The majority of

individuals without prior experience in forestry are uninformed about the potential career prospects in the forestry sector, maybe because they have not considered earning a degree in forestry or due to a lack of awareness campaigns sponsored by forestry faculties.

The participants of the survey conveyed a desire for increased availability of educational resources, workshops relating to forestry, and illustrations showcasing women as influential figures. In addition, they sought guidance from career counsellors and took advantage of job shadowing opportunities. The majority of respondents, 86 %, found practical activities to be more engaging and enticing. The second alternative emphasizes technological advancements and innovative approaches in the field of forestry, but, the utilization of remote sensing devices does not generate significant interest. Most respondents expressed a preference for more practical field experience, guidance from experienced mentors, and chances to build professional networks. Non-forestry students had a moderate level of engagement in forestry-related activities, with 53 % actively engaged in forest clean-up initiatives.

More than half of the present student population is prepared to join the forestry sector, while around 40 % express uncertainty regarding their preparedness upon finishing their studies. Students that possess a profound passion for forestry have compelling motives for selecting this discipline, including comprehensive training, hands-on experience, and practical knowledge acquired via academic pursuits. However, individuals who are unprepared attribute gender stereotypes and the prioritization of practical duties as obstacles. Most students have a keen interest in forest management, environmental protection, and sustainability. However, a smaller percentage, namely 21 %, aspire to pursue a career in urban forestry. Individuals lacking expertise in forestry may find a career focused on comprehending, preserving, and overseeing natural resources to be a more appealing choice.

Among the total, 81 % of students do not have any prior knowledge of the skills or qualifications needed to work in the forestry field. In order to better equip themselves for future professional progression, students can partake in activities that bolster their abilities and proficiencies. These activities may include joining student organizations, engaging in internships, and cultivating employability skills that extend beyond academic pursuits.

The new education strategy should prioritize a comprehensive, student-centered teaching approach that emphasizes the development of critical thinking and problem-solving abilities. This will better equip students for the ever-changing job market and facilitate higher rates of employment. Gaining insight into students' future aspirations and plans is essential for ensuring that educational offerings are in line with the demands of the job market and for promoting effective engagement between prospective employers and students.

4.8 Czech Republic

Round tables

- Timing plays a role
- Small group and face-to-face format bring the biggest benefits

- Although there are some specific issues that high forestry schools are facing (girls leaving after 1st year of study, transgender etc)., teachers and school representatives are not that much open to discuss it publicly
- It would be good to provide more space for preparation and feedback for participants
- The target group would benefit from enlarging with school psychologists, career advisors and representatives of school management as well as forestry role models
- **Facts: the share of female students is increasing (both high schools and universities), there are no strong barriers for young girls to enter the forestry education. Good practice is especially: communication, explanation what forestry and forestry jobs contain and what can students do after graduation**

Questionnaires

Although high number of potential respondents, the response rate was pretty low. It might be because of the timing, the general reluctance to fill questionnaires in (there are too many currently). It is hard to get the responses from students aged less than 18. To obtain responses, we had to collaborate closely with the representatives of schools. Although high number of potential respondents, the response rate was pretty low, but at the end, sufficient number of responses for both questionnaires was received.

4.9 Croatia

Based on the survey conducted among students in Croatia regarding their perceptions and motivations towards forestry education and careers and the Roundtable Discussions on women and girls in forestry education and Careers it can be concluded the following:

Motivation:

Most participants of the survey grew up in rural areas, suggesting that a rural background significantly influences the decision to pursue a career in forestry. This could be due to the closer connection to nature and the local economy's reliance on forestry in rural regions. A passion for nature and the desire to make a positive impact are the main motivations for studying forestry. Economic reasons and educational attractiveness are less influential, indicating that intrinsic motivations outweigh external pressures. Forestry students show a preference for careers in nature protection, research, and forest management. However, there is a notable lack of confidence in their preparedness for professional life, with many citing insufficient practical experience and job expectation understanding.

Promotion:

For forestry students, the internet and social media are the main sources of information about forestry careers, emphasizing the importance of digital platforms in reaching potential students. Promoting forestry from an early age, particularly in rural areas, is essential. Engaging students through practical workshops rather than just presentations can spark interest and provide a

clearer understanding of the profession. Utilizing social media platforms effectively can engage young audiences and promote forestry careers. Sharing student experiences, fieldwork, and educational content through these channels can increase interest and awareness. Increasing the visibility of successful women in forestry can inspire and guide young girls, providing them with real-life examples to emulate.

Obstacles:

The forestry sector suffers from a negative public perception. Public education and positive media representation are necessary to change attitudes and highlight the complexity and importance of sustainable forest management. Biases in hiring and job assignments persist, with employers often favouring male candidates for fieldwork. Addressing these prejudices and promoting gender equality is essential for creating a more inclusive work environment. Lack of confidence is a significant barrier for young girls pursuing careers in forestry. Workshops focused on personal and communication skills are crucial for developing the confidence needed to navigate male-dominated fields. Low wages in forestry are a deterrent, especially for women. Highlighting this issue is crucial, as financial stability will inevitably influence career decisions, even for those motivated by a passion for nature.

Good practice examples:

- Scholarships, internships, and professional practice courses are crucial support systems that help students, especially from rural areas, to pursue education and careers in forestry. These incentives can provide financial support and valuable industry connections.
- Expanding and promoting green jobs within forestry, which focus on sustainable practices and environmental conservation, can attract more young women. Increasing awareness of these opportunities can alleviate concerns about unemployment and highlight the sector's relevance to modern environmental challenges.
- Promoting successful stories of women in forestry and establishing mentorship programs are essential strategies for encouraging more girls and young women to consider careers in this sector. Visible role models and mentorship can provide the necessary support and inspiration.

5 Analysis of country results

5.1 General background

Results are based on answers of 1170 participants (girls) from nine countries.

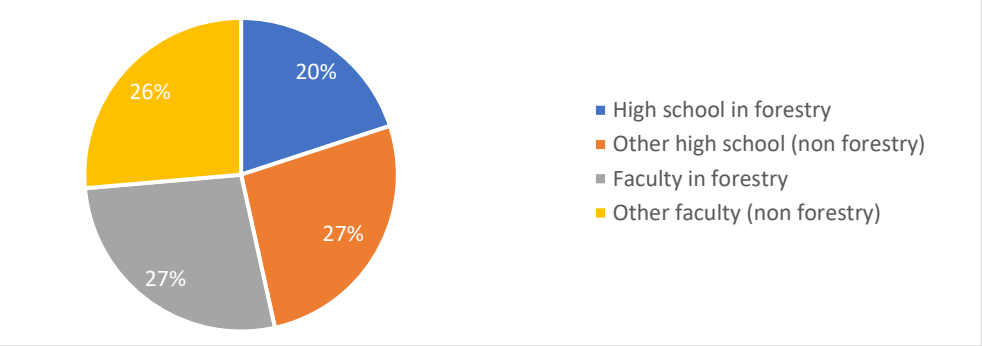


Figure 1: Schools that students attended

We made every effort to ensure that students from forestry and from other schools (high school and faculty) were represented in the sample (Figure 1).

Except for Serbia and Bosnia and Herzegovina, most of the students who attended forestry schools grew up in the rural area. 15 % of faculty students had previously studied at forestry high school, more specifically between 2 % (Croatia) and 35 % (Czech Republic). 8 % of forestry faculty students studied at high schools with forestry related field. On the contrary the majority of other faculty students did not study at forestry high schools, only 2 % did. 6 % of other students studied at high school related to forestry field.

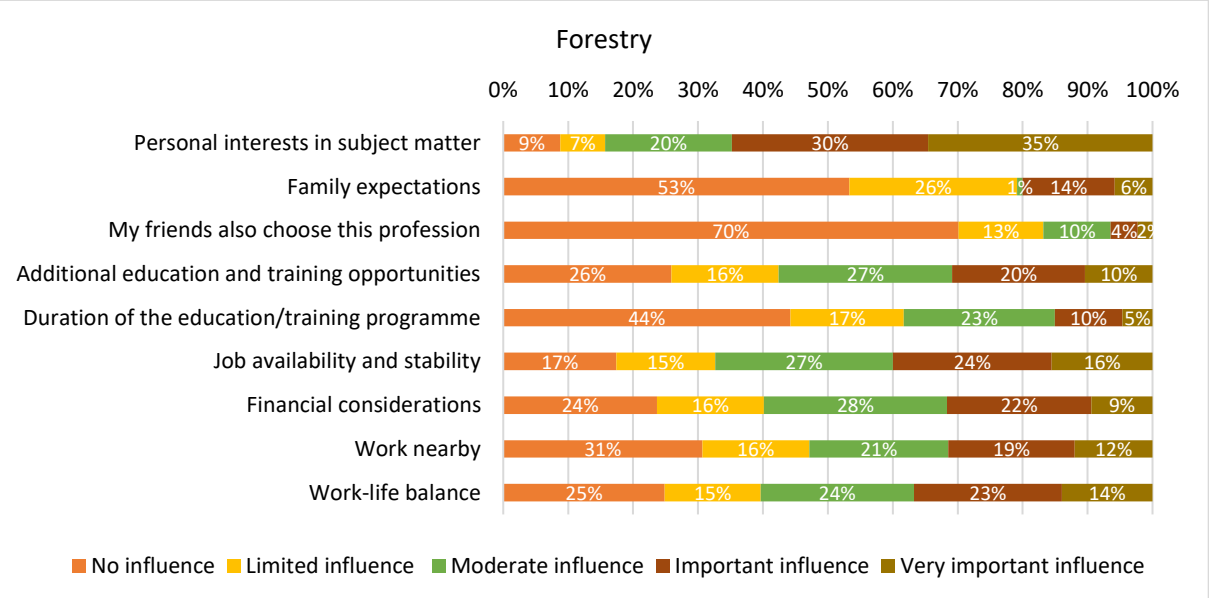


Figure 2: Factors influencing students career choices

The most influential factor in career choice among forestry students was personal interest in subject matter, which 65 % of students rated as important or very important (Figure 2). 70 % of students felt that the fact that their friends had chosen forestry profession had no influence on their career choice. Similarly, 50 % of students felt that family expectations had no influence on their career choice, and 44 % felt the same for duration of education/training programme. Results from students that attended other schools were quite similar as they also rated personal interests in subject matter as important influence or very important influence. Most students from other schools also rated friends choosing the same profession and the duration of education/training as having no influence.

5.2 Information and motivation for forestry education

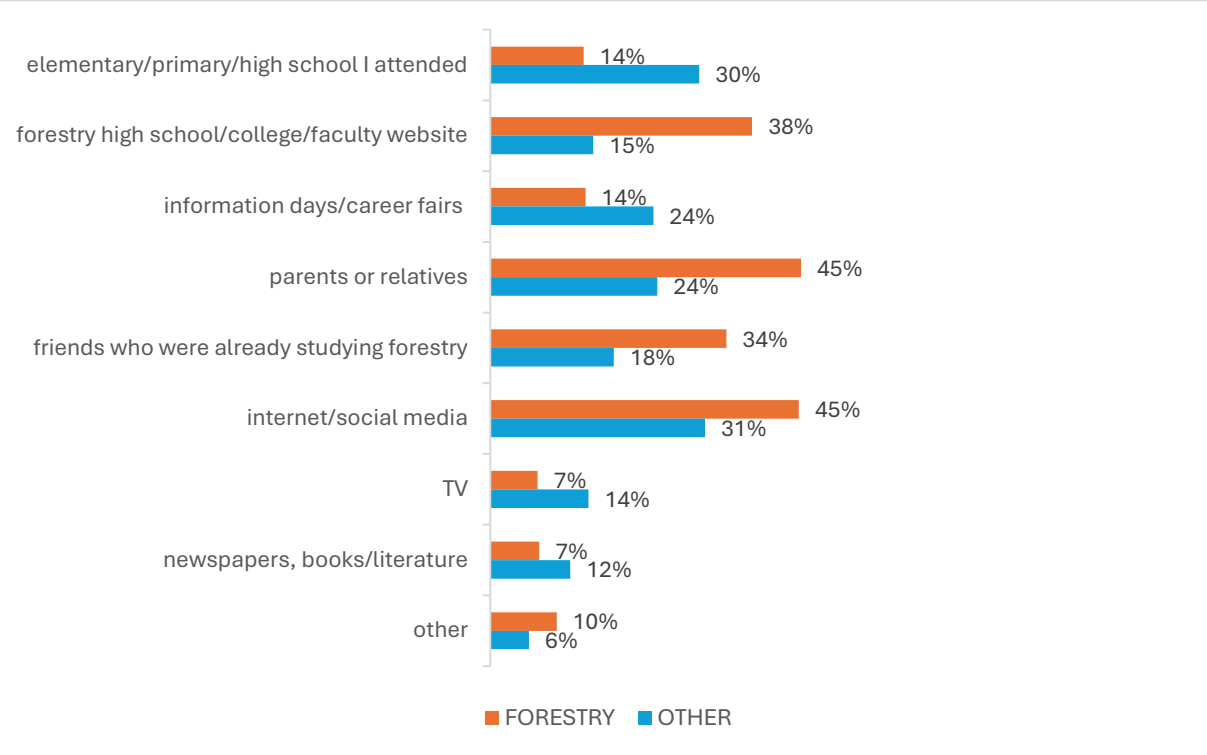


Figure 3: Where did students find most information about forests professions/fields of activity

45 % of students from forestry schools got most information about forests professions/fields of activities from parents and relatives and on social media (Figure 3). Unsurprisingly, the biggest difference between forestry and other students in terms of source of information were forestry school's website as a source of information, as forestry students likely visit the schools and can check the information beforehand on the school's website. Another important source of information for forestry students, contrary to non-forestry is the information from parents or relatives. Students from other schools find the most information from social media (31 %) and elementary/primary/high school that they attended (30 %).

*Table 1: Reasons contributing to the choice to pursue higher education/study in forestry in **Romania, Czech Republic and Ukraine***

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	14	6 %
I came to high school/college/faculty with my friends/at their urging.	5	2 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	15	6 %
Parents/close relatives work in the forestry sector and have guided me into this field.	23	10 %
I heard that studying at this high school/college/faculty is not so difficult.	11	5 %
For economic reasons thinking of the possible financial benefits as an employee.	15	6 %
I was attracted by the way of the educational offer of the high school/college/faculty.	17	7 %
Out of love, passion for nature/forest.	70	30 %
Sustainable and ecologically oriented economic sector.	7	3 %
Awareness of climate problems.	7	3 %
The meaning of work - doing good.	17	7 %
I ended up studying forestry by accident/by chance.	25	11 %
Other	6	3 %
Total (Romania, Czech Republic, Ukraine)	232	100 %

Students from Romania, Czech Republic and Ukraine had to choose one reason that contributed to their choice to pursue higher education/study in forestry (Table 1). Most students selected love and passion for nature/forest (30 %), followed by studying forestry by accident/chance with 11 %. 10 % of forestry students stated that their parents/close relatives work in the forestry sector and had guided them into this field. 7 % of students stated that they were attracted by the way of the educational offer of the high school/college/faculty, also 7 % stated that the main reason contributing to their choice to pursue education in career was the meaning of work – doing good.

*Table 2: Reasons contributing to the choice to pursue higher education/study in forestry in **Slovenia, Germany, Austria, Bosnia and Herzegovina, Serbia, Croatia***

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	32	8 %
I came to high school/college/faculty with my friends/at their urging.	16	4 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	43	11 %
Parents/close relatives work in the forestry sector and have guided me into this field.	53	14 %
I heard that studying at this high school/college/faculty is not so difficult.	33	9 %
For economic reasons thinking of the possible financial benefits as an employee.	41	11 %
I was attracted by the way of the educational offer of the high school/college/faculty.	128	34 %
Out of love, passion for nature/forest.	262	69 %
Sustainable and ecologically oriented economic sector.	130	34 %
Awareness of climate problems.	122	32 %
The meaning of work - doing good.	167	44 %
I ended up studying forestry by accident/by chance.	77	20 %
Other	10	3 %
Number of respondents =n **(Slovenia, Germany, Austria, Bosnia and Herzegovina, Serbia, Croatia)**	377	

Students from Slovenia, Germany, Austria, Bosnia and Herzegovina, Serbia and Croatia could choose several reasons that contributed to their choice to pursue higher education/study in forestry (Table 2). Here again, students mostly chose love and passion for nature/forest (69 %). Next most frequently selected reason was the meaning of work – doing good with 44 %. 34 % of students stated that sustainable and ecologically oriented economic sector contributed to their pursue in higher education/study in forestry. Reason with 32 % was awareness of climate problems. 20 % of forestry students also stated that they ended studying forestry by accident/by chance.

Figure 4: Areas of interest that contributed to students' choice of the high school/college/faculty of Forestry

Forestry students were interested in different areas that contributed to a choice in attending forestry high school/faculty (Figure 4). Most students were interested in environmental protection (57 %), forest ecology (49 %), forest management (42 %) and hunting and game aspects (36 %).

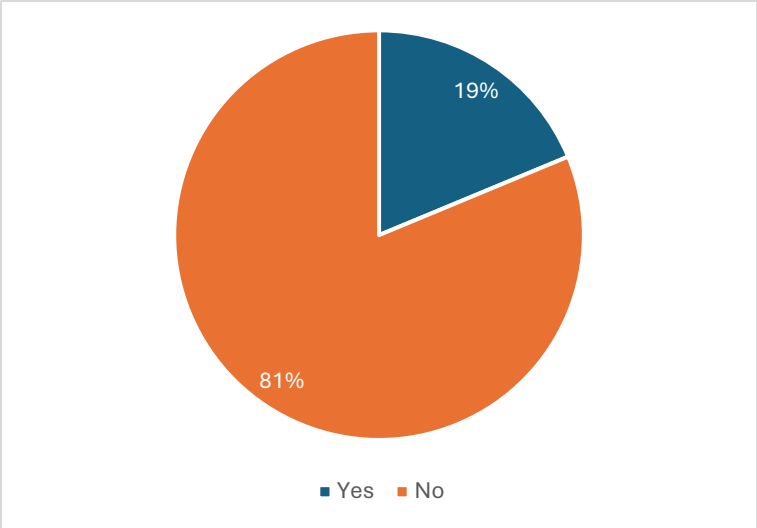


Figure 5: Consideration of forestry as a career option for students from other schools

We were also interested in knowing whether students from other schools had ever consider forestry as a career option (Figure 5). 19 % did consider it but 81 % did not.

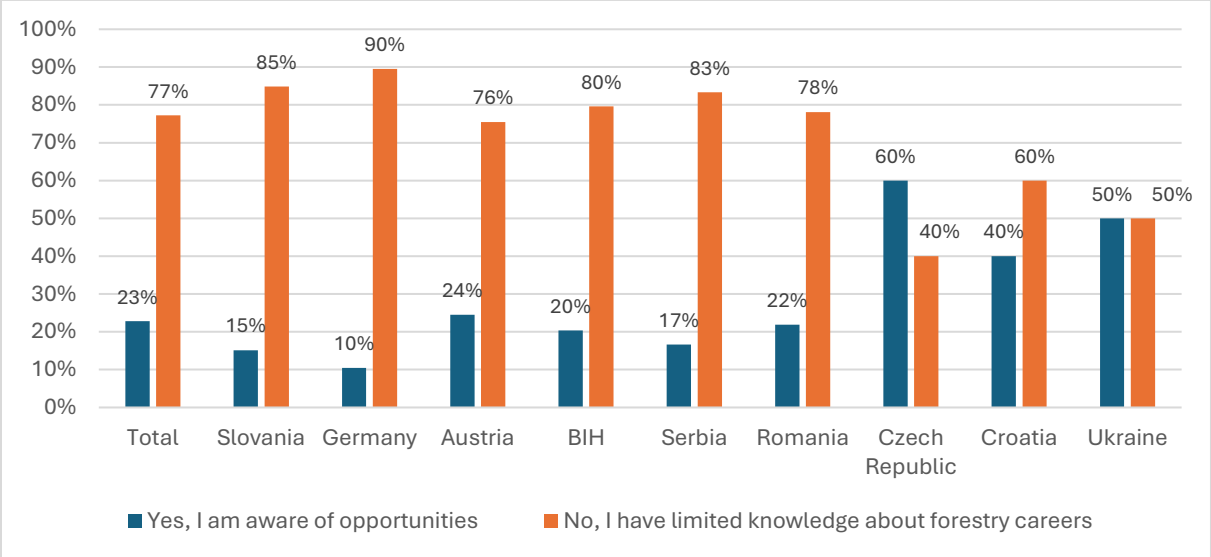


Figure 6: Awareness of career opportunities in the forestry sector

We were also interested in knowing whether students from other schools are aware of career opportunities available in forestry sector (Figure 6). The overall results indicate that 77 % of students had limited knowledge about forestry careers, only 23 % were aware of opportunities. 60 % of other students from Czech Republic, 50 % of students from Ukraine and 40 % of students from Croatia were aware of opportunities in forestry.

Table 3: What would student appreciate to have/know to consider studying in forestry

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	268	60 %
Guidance from career counsellors familiar with forestry professions.	170	38 %
Opportunities for job shadowing or internships in forestry-related fields.	191	42 %
Networking events with professionals working in the forestry sector.	92	20 %
Forestry-related workshop or field trip.	188	42 %
Access to a mentor from the forestry sector.	78	17 %
Seeing more role models (especially women) in forestry.	175	39 %
Online platforms or databases showcasing forestry job opportunities and requirements.	133	30 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	62	14 %
Gamified learning modules and challenges related to forestry careers.	58	13 %
Information via social media.	175	39 %
Other	19	4 %
Number of respondents =n	450	

As for what students from other schools would like to have or know in order to choose to study forestry (Table 3), the majority of them said that access to informational materials about forestry careers (60 %), opportunities for job shadowing or internships in forestry-related fields as well as forestry-related workshop or field trip (42 %) would help. 39 % of students would also appreciate seeing more role models (especially women) in forestry and gaining information via social media. Finally, 38 % of students mentioned that guidance from career counsellors who are knowledgeable about forestry professions would also be helpful.

5.3 Interests and needs in forestry education and career

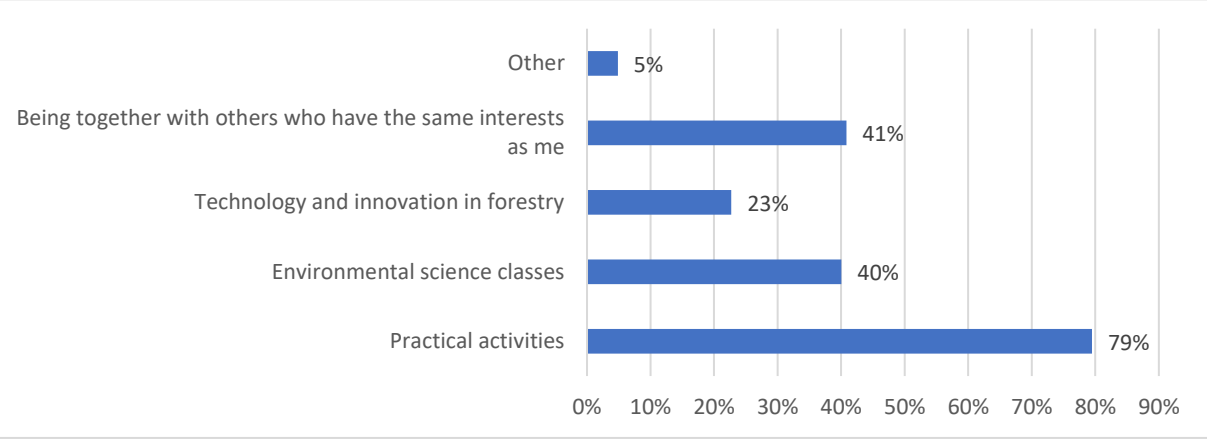


Figure 7: Engaging aspect of forestry education

As is shown in Figure 7, forestry students find practical activities to be the most engaging part of forestry education (79 %), followed by being together with others with same interests (41 %) and environmental and science classes (40 %).

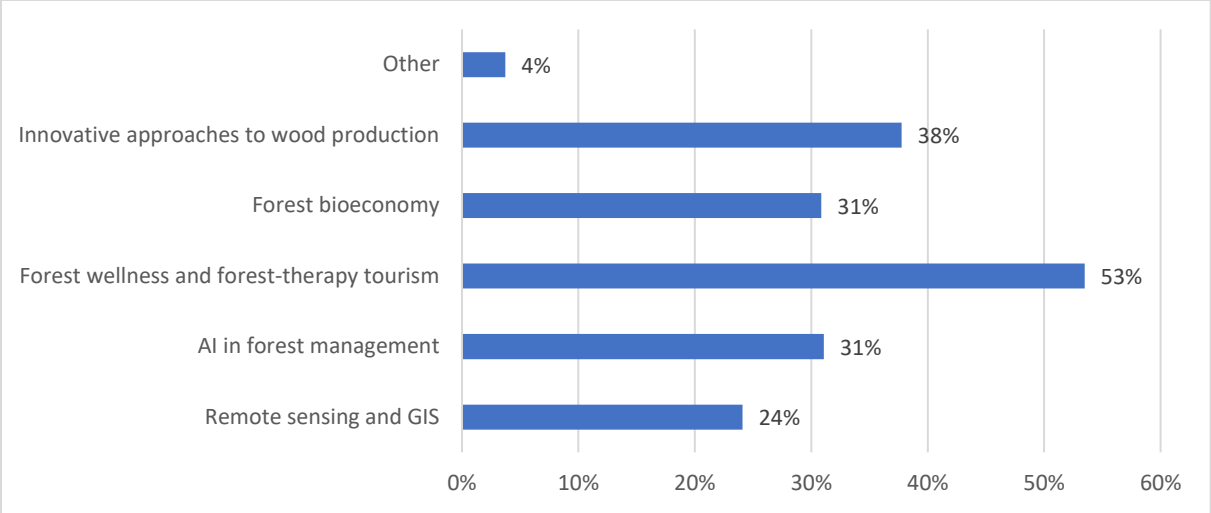


Figure 8: Interesting innovative forestry practices or technologies

The innovative forestry practices or technologies that forestry students are most interested in (Figure 8) include forest wellness and forest-therapy tourism (53 %), with students from all countries except Slovenia most likely to choose this option. Additionally, 38 % of students expressed interest in innovative approaches to wood production. Interest in the forest bioeconomy and AI in forest management was noted by 31 % of students, while 24 % were interested in remote sensing and GIS.

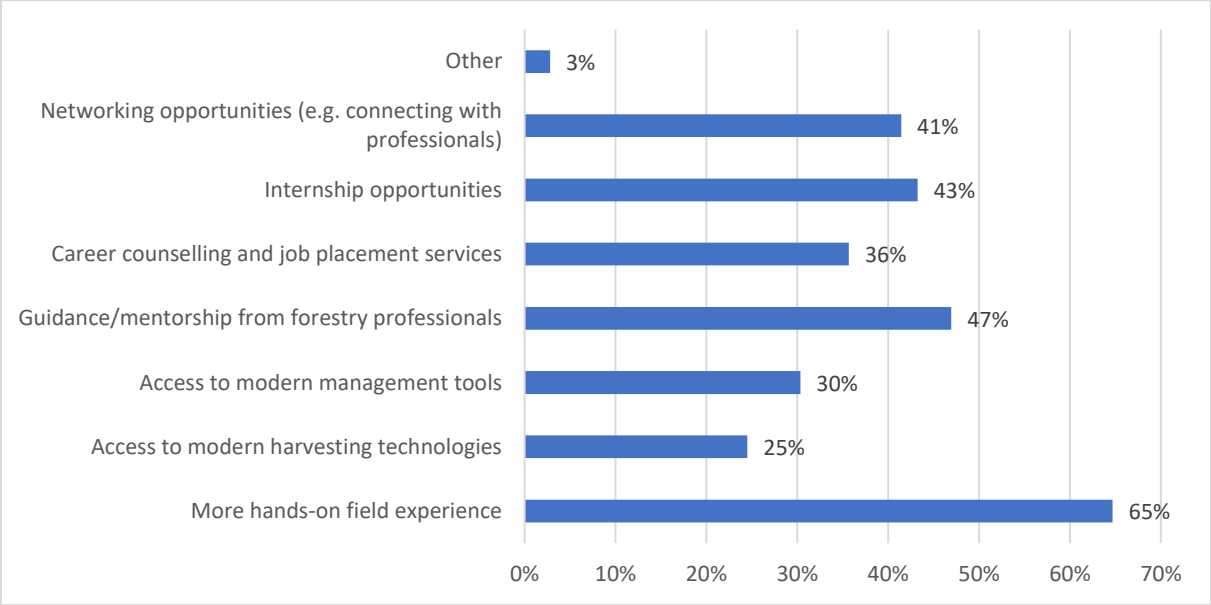


Figure 9: Support or resources to enhance students' forestry education and career preparation

Most students in seven countries stated that more hands-on field experience would enhance their forestry education and career preparation, with 65 % indicating this need (Figure 9). In Germany, the most common answer was guidance and mentorship from forestry professionals, cited by 47 % of students. In Ukraine, the most frequent response was the need for internship opportunities, with 43 % of students highlighting this. Additionally, 41 % of students expressed a desire for more networking opportunities, such as connecting with professionals. Career counselling and job placement services were important to 36 % of students. Access to modern management tools and advanced harvesting technologies was also seen as essential for enhancing forestry education and career preparation.

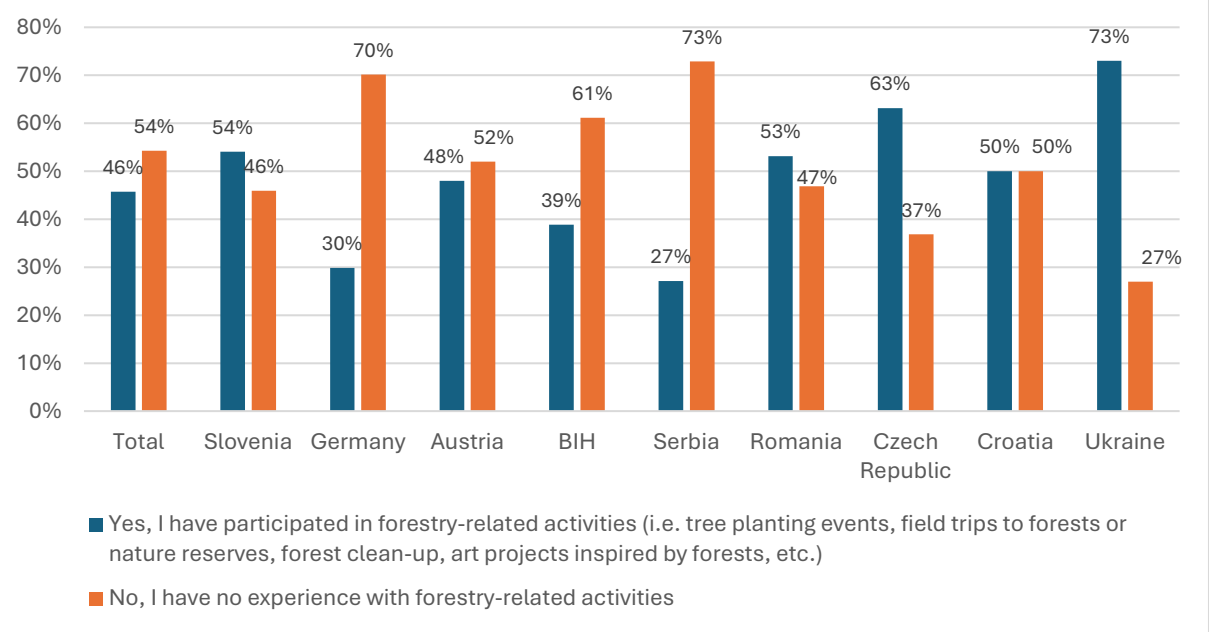


Figure 10: Exposure to forestry related activities

In total more than half (54 %) of students form other schools were not expose to forestry related activities, education or extracurricular activities (Figure 10). Conversely, 46 % of these students participated in forestry-related activities. Examining the results by country, 73 % of students from Ukraine engaged in forestry-related activities, followed by 63 % of students from the Czech Republic.

5.4 Career paths and skills required for forestry careers

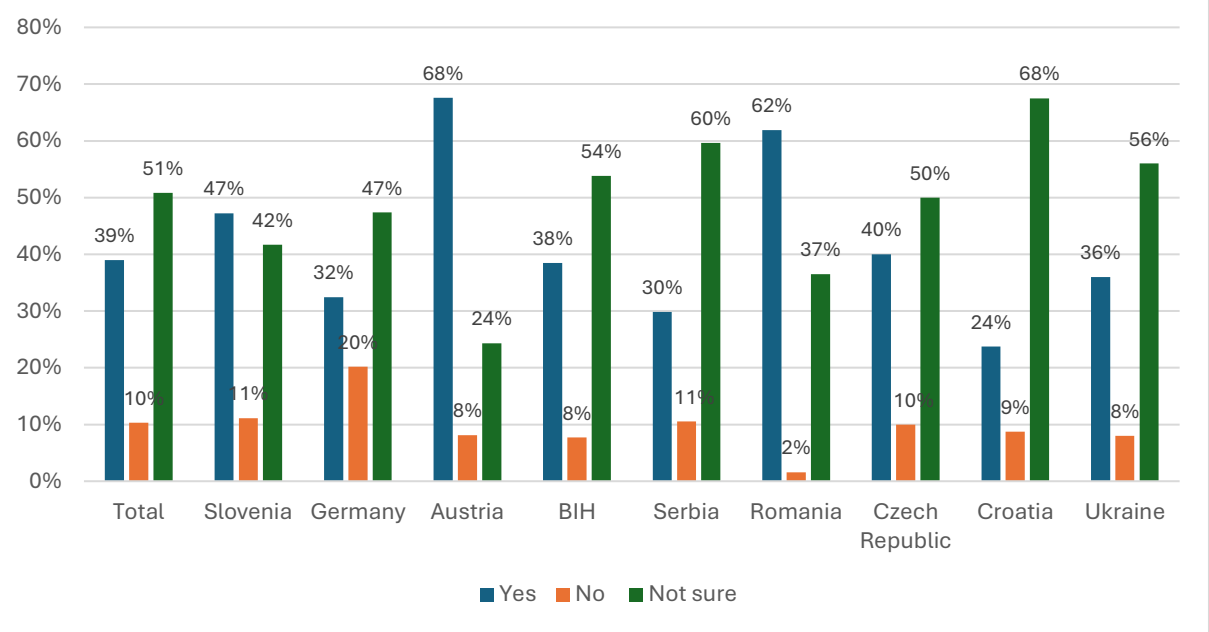


Figure 11: Readiness to enter the forestry sector after graduation

51 % of students were unsure whether they would be well-prepared to enter the forestry sector upon completing their studies, while 39 % felt confident in their preparedness (Figure 11). Examining the results by country, 68 % of students in Austria believed they would be well-prepared, followed by 62 % of students in Romania.

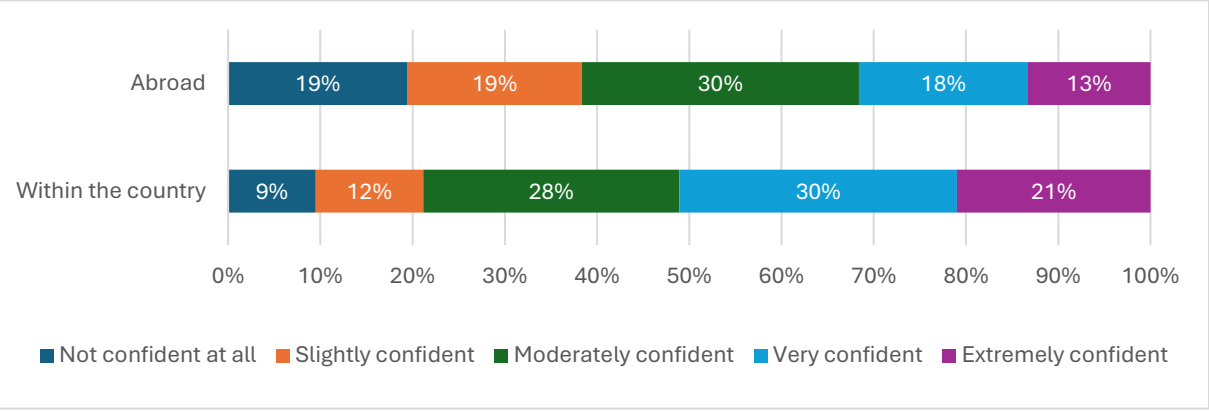


Figure 12: Forestry students' confidence in finding employment in the forestry sector after graduation

As shown in Figure 12, 51 % of students were very confident or extremely confident that they would find employment in the forestry sector within their country after graduation. Only 9 % were not confident at all about finding employment domestically. Additionally, 30 % of students were moderately confident about finding employment abroad after graduation, while 31 % were very

confident or extremely confident. Conversely, 19 % of students were not confident in their prospects of finding employment abroad.

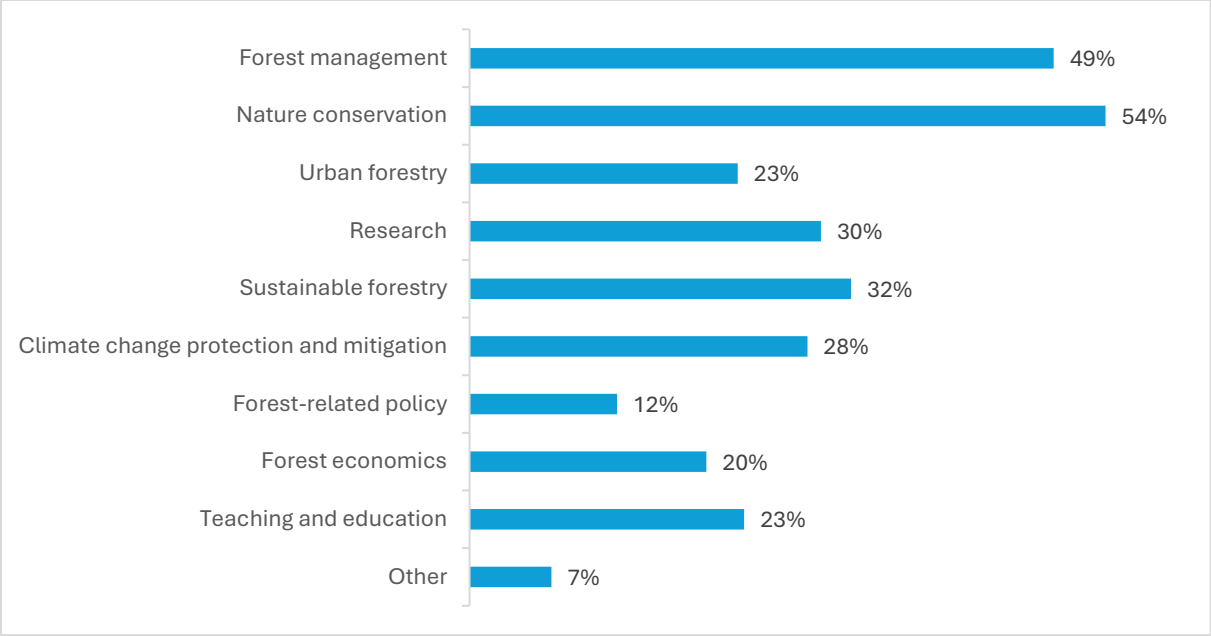


Figure 13: Career path that students are considering

Forestry students showed interest in various forestry sectors (Figure 13). In five countries, the most common interest was forest management, with 49 % of students indicating this preference. In four other countries, the most common interest was nature conservation, chosen by 54 % of students. In Austria, sustainable forestry was as popular as forest management. Additionally, 30 % of students were considering careers in sustainable forestry, 30 % in research, 28 % in climate change protection and mitigation, and 23 % in urban forestry and teaching and education.

Table 4: What would make forestry a more attractive career option for other students

	Number	*Share*
Understanding that forestry can impact climate change positively	207	46 %
Better image of foresters	164	37 %
Appropriate payment	289	64 %
Opportunities to work closely with local communities, and contribute positively to rural development	116	26 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	195	43 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	197	44 %
Other	13	3 %
Number of respondents =n	449	

Students from other schools were asked what would make forestry a more attractive career to them (Table 4). In eight countries (excluding Slovenia), the most frequent answer was appropriate payment, with a total of 64 %. In Croatia, alongside appropriate payment, 37 % of students also highlighted the importance of improving the image of foresters. In Slovenia, the majority of students stated that a career path involving the understanding, conservation, and management of some of the world's most valuable natural resources would make forestry more attractive, totaling 44 %. Additionally, 43 % of students mentioned that the opportunity to participate in international and national conservation activities, such as programs focused on biodiversity conservation and forest protection, would enhance the attractiveness of a forestry career.

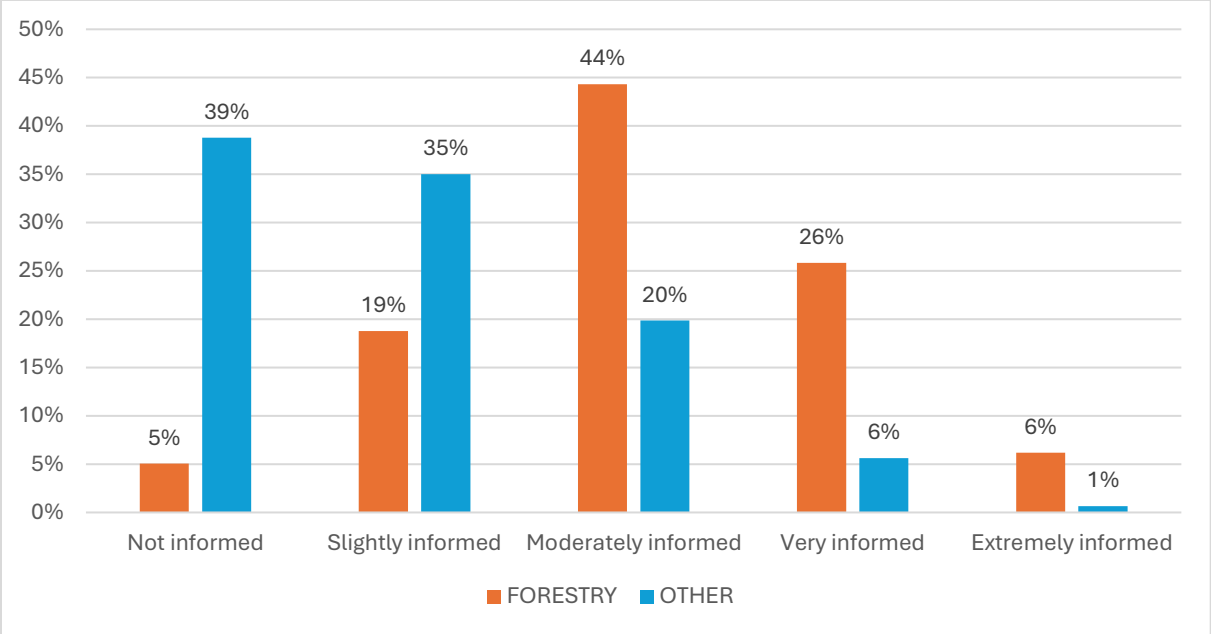


Figure 14: How informed are students about the skills and qualifications required for forestry careers

As shown in Figure 14, the majority (44 %) of forestry school students reported being moderately informed about the skills and qualifications required for forestry careers. Additionally, 26 % stated they were very informed, 19 % said they were slightly informed, and 5 % admitted they were not informed at all.

In contrast, among students from other schools, the majority (39 %) indicated that they were not informed about the skills and qualifications required for forestry careers. 35 % mentioned they were slightly informed, while only 1 % claimed to be extremely informed.

5.5 Perceptions and challenges of career in forestry

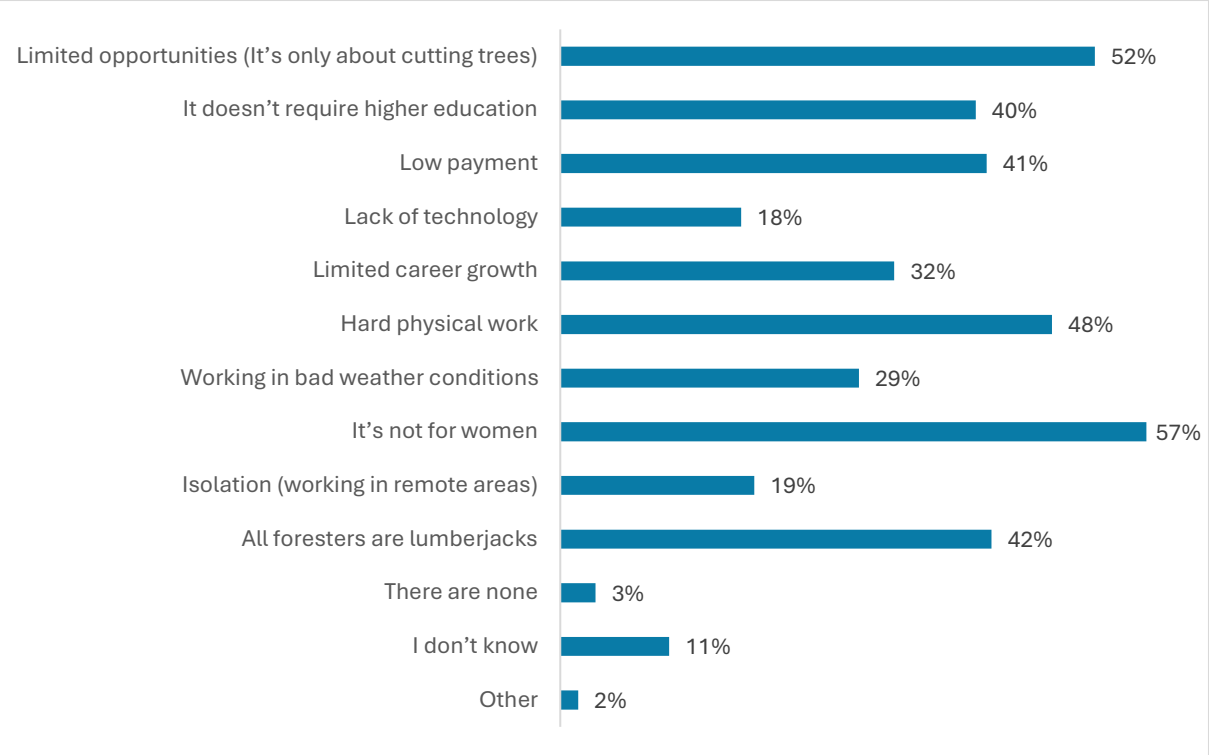


Figure 15: Biggest misconceptions/stereotypes about careers in forestry among students' peers

Students were asked what they believe are the biggest misconceptions/stereotypes about careers in forestry among their peers (Figure 15), with the largest number of students answering that forestry careers are not for women (57 %), followed by limited opportunities (52 %). 48 % of students said that hard physical work is also a misconception, 42 % said all foresters are lumberjacks, 41 % said low payment, 40 % said that it does not require higher education. 32 % of students stated that it is also a misconception that there is limited career growth in forestry. Only 3 % of students stated, that there are no of misconceptions/stereotypes among their peers. 11 % of students were not aware of any misconceptions/stereotypes among their peers.

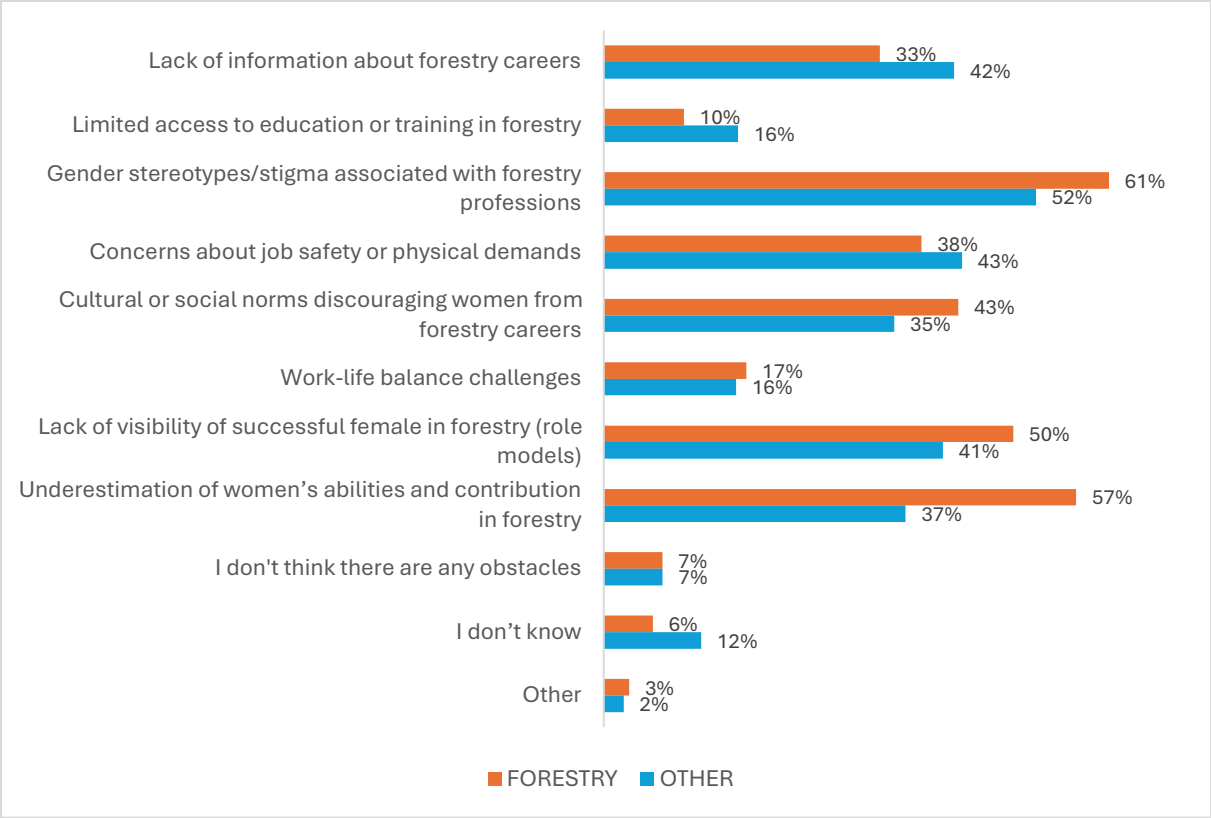


Figure 16: Students' perception of main barriers for girls to study in forestry sector

Students were asked what they perceived to be the main barriers for girls to study in forestry sector (Figure 16). Students saw gender stereotypes/stigma associated with forestry professions as the main barrier, specifically 61 % of forestry students and 52 % of other students. 57 % of forestry students also saw underestimation of women's abilities and contribution in forestry as the major barrier, while 50 % saw lack of visibility of successful female in forestry as the main barrier. Cultural or social norms that are discouraging women from forestry careers were seen as the main barrier for 43 % of forestry students. More students from other schools than forestry students saw concerns about job safety or physical demands (43 % vs. 38 %) as the main barrier for girls to study in forestry sector, also more students from other school saw lack of information about forestry careers as main barrier (42 % vs. 33 %).

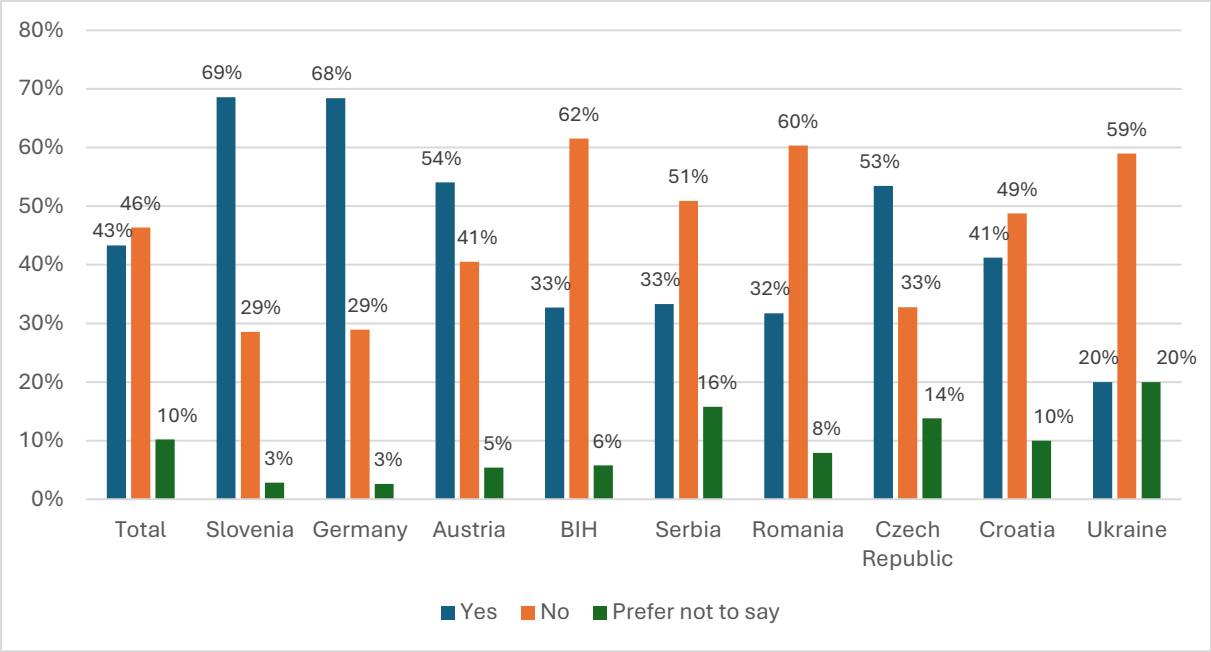


Figure 17: Gender-specific challenges or biases in forestry students' forestry education or field experiences

46 % of forestry students stated that they had not encountered any gender specific challenges or biases in their forestry education or field experiences (Figure 17), and 43 % had encountered gender-specific challenges or biases. The majority of forestry students from Slovenia, Germany, Austria and Czech Republic had come across gender-specific challenges or biases in their forestry education or field of experience (ranging from 53 % in the Czech Republic to 69 % in Slovenia). The majority of forestry students from Bosnia and Herzegovina, Serbia, Romania, Croatia and Ukraine responded that they had not come across gender-specific challenges or biases in their forestry education or field of experience (ranging from 49 % for Croatia to 62 % for Bosnia and Herzegovina). It should also be noted that a portion of students chose not to answer yes or no, with the highest percentage in Ukraine (20 %) and the lowest in Slovenia and Germany (3 %).

Forestry students had the opportunity to share their experiences regarding gender-specific challenges or biases, which often manifested in various ways. Girls often faced scepticism about studying and working in the forestry profession, they were not trusted to do the work or were given "easier" work. They also stated that they had to prove themselves more than the boys to be taken seriously. Some indicated that they had negative experiences with teachers, peers, colleagues and parents. They also lack support. Some stated that they faced condescending and sexist attitudes. Some also pointed out challenges related to female hygiene, such as menstruation or going to the toilet, which are not respected or even ridiculed by instructors/supervisors during excursions or field work.

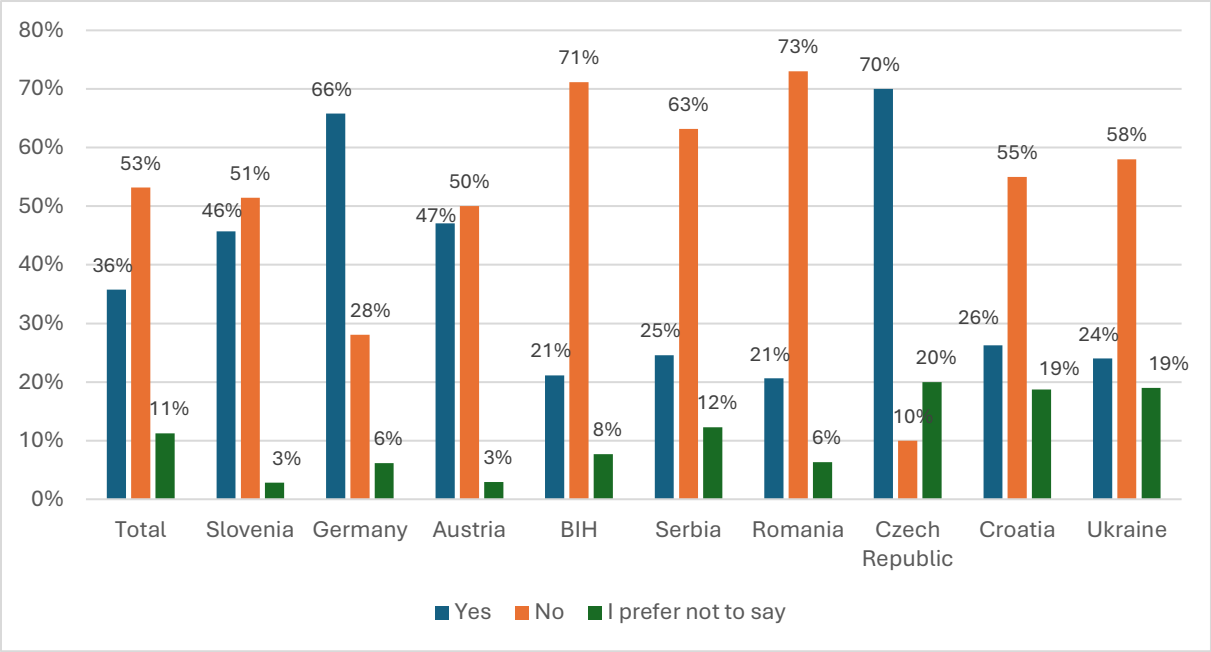


Figure 18: Were forestry students treated differently during their training/internship because of being a woman

53 % of students said that they were not treated differently during training/internship because they were woman (Figure 18). The majority of forestry students from Slovenia, Austria, Bosnia and Herzegovina, Serbia, Romania, Croatia and Ukraine were not treated differently during their training/internship because of being a woman (ranging from 51 % from Slovenia to 73 % from Romania). 70 % of forestry students from Czech Republic and 66 % from Germany said that they were treated differently during training/internship because of being a woman. It should be also noted that some of the students did not want to answer yes or no, most in Czech Republic (20 %), Croatia and Ukraine (19 % per country), least in Slovenia and Austria (3 %).

Students had the opportunity to share their experiences of differential treatment. They reported that their opinions were often overlooked and that they were asked different questions than boys. Additionally, they mentioned receiving negative comments from forest owners or other forestry professionals. However, not all the treatment was necessarily negative. For example, some girls reported being treated better than boys and appreciated not having to lift heavy objects. Several respondents also mentioned that their male peers eventually accepted them when they demonstrated their capabilities.

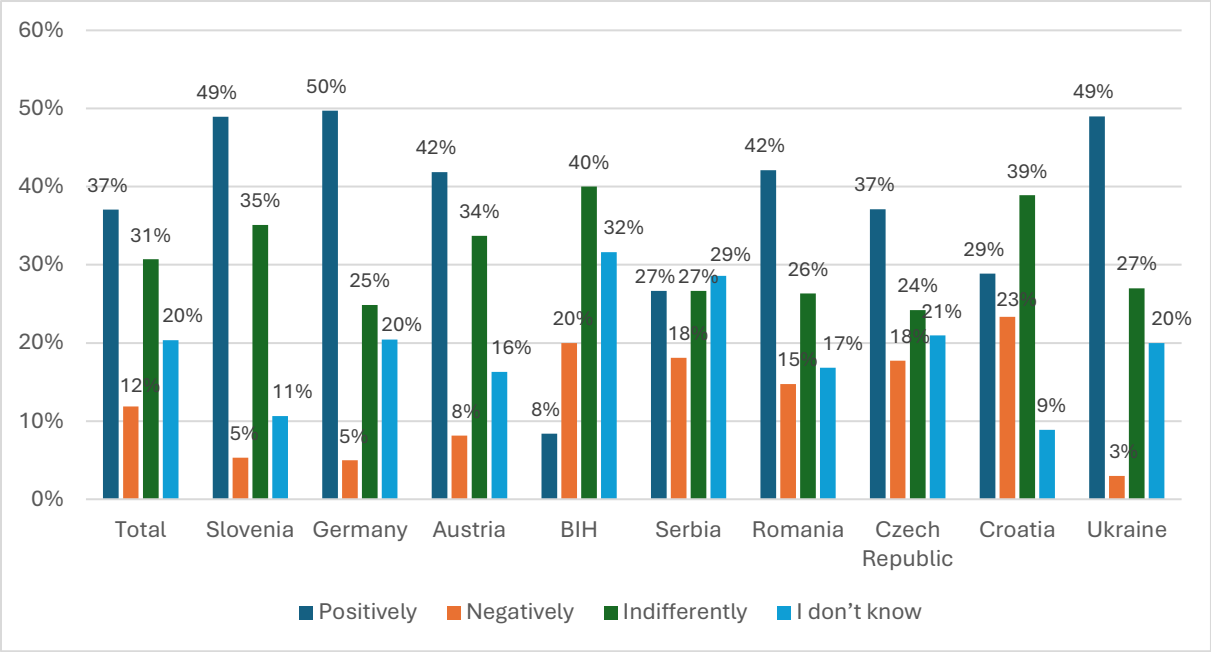


Figure 19: Perception of forestry careers within student's community or social circle

Overall, 37 of students stated that forestry careers are positively perceived in their community or social circle (Figure 19), 31 % of students choose to answer indefinitely, 20 % said that they don't know. Only 12 % stated that forestry careers are perceived negatively in their community or social circle. In Germany 50 % of students stated that the perception of forestry careers is positive (most of all), followed by Slovenia and Ukraine with 49 %. In Bosnia and Herzegovina only 8 % of students stated that forestry careers are perceived positively. Negative perception of forestry careers within students' community or social circle was ranging from 3 % in Ukraine to 23 % in Croatia. 40 % of students in Bosnia and Herzegovina stated indifferently, followed by 39 % in Croatia. 32 % of students in Bosnia and Herzegovina also did not know how forestry careers are perceived within their community or social circle.

The analysis of country-specific results and background information gathered from 1170 female participants across nine countries reveals several key insights into their perceptions, challenges, and motivations related to forestry education and careers.

Firstly, a notable demographic trend among forestry school students is their predominantly rural upbringing, with exceptions observed in Serbia and Bosnia and Herzegovina. Moreover, a significant proportion of forestry faculty students had prior education in forestry-related fields, particularly notable in the Czech Republic where 35 % had such background, contrasting sharply with Croatia's 2 %.

In terms of career choice influences, personal interest emerged as the primary motivator among forestry students, with 65 % indicating its importance. In contrast, family expectations and the career choices of friends played lesser roles in their decision-making process.

The sources of information about forestry careers varied significantly between forestry students and their peers from other schools. Forestry students often relied on parents and relatives for information, whereas students from other schools predominantly sought information from social media platforms and their previous educational institutions.

Environmental protection and forest ecology were identified as the most compelling interests among students pursuing higher education in forestry. These interests reflect a strong inclination towards conservation and sustainable management of natural resources.

Regarding perceptions and misconceptions about forestry careers, there were pervasive stereotypes identified among peers. Many students believed that forestry careers were unsuitable for women (57 %), involved only hard physical labour (48 %), and offered limited career growth opportunities (32 %). Addressing these stereotypes emerged as a critical challenge across the surveyed countries.

Gender-specific challenges were also highlighted, with a significant proportion of female forestry students reporting instances of skepticism about their abilities and differential treatment during training or internships. Despite these challenges, some students shared positive experiences where they were treated better or gained acceptance after demonstrating their capabilities.

Perceptions of forestry careers within students' communities varied widely by country. For instance, Germany had the highest positive perception of forestry careers (50 %), whereas perceptions were more negative in Bosnia and Herzegovina and Croatia. These variations underscored the cultural and social influences shaping perceptions of forestry professions.

Overall, the findings underscore the complex interplay of personal motivations, societal perceptions, and gender-specific challenges influencing female students' decisions to pursue forestry education and careers. Addressing misconceptions, promoting inclusivity, and providing adequate support are crucial steps towards attracting and retaining diverse talent in the forestry sector across different national contexts.

6 Recommendations and conclusion

Personal interest in forestry emerges as the most influential factor in career selection, underscoring the need to cultivate and sustain this interest. This must be complemented by addressing financial considerations and work-life balance. However, the forestry sector faces significant challenges, particularly for women, due to entrenched gender stereotypes, misperceptions about the profession, and concerns about job safety and physical demands.

A pervasive lack of awareness and information about forestry careers persists across countries. Students from non-forestry backgrounds often possess limited knowledge about the sector, and even those from forestry institutions frequently feel inadequately informed about the necessary skills and qualifications. Misconceptions are widespread, with many believing that forestry offers limited opportunities, involves primarily hard physical labour, and is unsuitable for women. These erroneous beliefs deter potential candidates, particularly women, from pursuing forestry careers.

Gender stereotypes and biases further complicate the landscape for female students. Many encounter gender-specific challenges during their education and internships, such as differential treatment and stereotypes that dissuade their interest in forestry careers. The male-dominated nature of the sector amplifies these issues, creating an environment that can be discouraging for women.

There is a compelling need for practical experience and mentorship in forestry education. Female students express a strong demand for more hands-on field experiences, internships, and mentorship programs, particularly those featuring successful women in the field. The presence of female role models and mentors is crucial for inspiring and guiding young women through their educational and career journeys.

Educational institutions must enhance their career guidance efforts, providing more comprehensive information about the diverse opportunities within forestry. The profession's broad spectrum of careers and modern practices are poorly recognized, necessitating targeted educational materials and programs that highlight these aspects.

Supportive policies and environments are essential for fostering gender equality in the forestry sector. Institutions and organizations should implement initiatives such as flexible working conditions and equal pay to support women. Additionally, raising awareness and changing public perceptions about forestry careers are critical steps towards attracting a more diverse workforce and ensuring a more inclusive sector.

<u>Recommendations based on the analysis of the findings, outlining actionable steps for stakeholders in the forestry sector:</u>

Enhance Awareness and Change Perceptions of Forestry:

To transform the image of forestry, it is essential to conduct comprehensive information campaigns that dispel common misconceptions and emphasize the sector's diverse opportunities and modern practices. Improved marketing strategies for forestry training should be more targeted and effective. Highlight the importance of forestry as a key green job of the future,

portraying foresters as ambassadors of nature who contribute to ecological and social benefits, rather than as nature destroyers. Replace the outdated image of forestry with that of a modern, promising sector. Utilize social media, educational websites, and outreach programs to disseminate detailed information about forestry careers to a broader audience, including non-forestry schools. Organize initiatives such as taster event days, one-day guided tours by forestry students, job fairs, and science festivals to engage and inform the public.

Promote Gender Equality and Inclusion:

Promoting gender equality and inclusion in forestry is crucial. Develop and implement mentorship programs that feature successful women in forestry to provide role models and guidance for young women. Address gender stereotypes through targeted communication and awareness-raising initiatives, fostering a culture of inclusivity and mutual respect. Highlight the contributions of women in forestry and showcase their successes to encourage more women to pursue careers in this field.

Increase Motivation for Careers in Forestry:

Increasing motivation for forestry careers involves creating more opportunities for practical fieldwork, internships, and hands-on learning experiences to better prepare students. Establish partnerships with forestry organizations to facilitate real-world experience and job placement support. Mentoring and role models are vital in helping girls and young women develop a vision for their careers and receive concrete assistance in achieving their goals. Employ active and interactive approaches to engage future and current students about career paths. Introduce early education and activities in elementary schools to reduce prejudices and promote forestry as an attractive profession that contributes to sustainable development.

Strengthen Educational and Career Guidance:

Strengthening educational and career guidance is essential for fostering interest in forestry careers. Provide comprehensive career counselling and job shadowing programs to help students understand the diverse career paths available in forestry. Offer mentoring and guidance from forestry professionals. Introduce innovative courses focusing on modern forestry practices, such as remote sensing, GIS, forest wellness, forest therapy tourism, and forest bioeconomy, to attract a broader range of students. Utilize interactive, practical, and digitalized methods, along with international experiences like the Erasmus+ mobility program. Clearly present the various fields of application and career opportunities. Provide detailed information about forestry professions, including tasks, competences, and career options, to school counsellors, career advisors, teachers, and parents who significantly influence children's career choices.

Employment Strategies:

Employment strategies should recognize the diverse roles that women with forestry education can assume. Work placements and dual training courses that combine theory and practice are essential for effectively integrating women into the forestry workforce. Providing these opportunities will help to ensure that women are well-prepared and supported in their forestry careers, contributing to a more inclusive and diverse sector.

Supportive Institutional Policies:

Supportive institutional policies are crucial for promoting gender equality in the forestry sector. Advocate for policies that include flexible working conditions, equal pay initiatives, and supportive networks for female students and professionals. Encourage educational institutions to collaborate with government bodies to develop frameworks supporting diversity and inclusion in forestry education and careers. A new education strategy should prioritize a comprehensive, student-centred teaching approach that emphasizes critical thinking and problem-solving abilities.

By implementing these recommendations, stakeholders can create a more inclusive, informed, and engaged forestry sector, ensuring its sustainability and resilience for the future.

Actionable steps for stakeholders in forestry sector include:

Enhancing awareness and changing perceptions:

1. Information campaigns:
    - Design and launch campaigns to dispel misconceptions about forestry, showcasing the sector's diverse opportunities and modern practices.
    - Highlight the ecological and social benefits of forestry careers and emphasize that foresters are ambassadors of nature.
2. Marketing strategies:
    - Develop targeted marketing for forestry training programs to attract diverse groups.
    - Utilize social media, educational websites, and outreach programs to spread detailed information about forestry careers.
3. Public engagement initiatives:
    - Organize taster event days, guided tours by forestry students, job fairs, science festivals, and girls/boys days on forestry professions to engage the public.

Promoting gender equality and inclusion:

4. Mentorship programs:
    - Develop mentorship programs featuring successful women in forestry to provide role models and guidance for young women.
5. Addressing stereotypes:
    - Implement targeted communication and awareness-raising initiatives to combat gender stereotypes and promote inclusivity.

Increasing motivation for forestry careers:

6. Practical experiences:
    - Create more opportunities for practical fieldwork, internships, and hands-on learning experiences.
    - Establish partnerships with forestry organizations to facilitate real-world experience and job placement support.
7. Mentorship and role models:
    - Provide mentoring and role models to help young women develop a vision for their careers and receive concrete help in realizing it.

8. Early education initiatives:
    - Introduce forestry-related activities in elementary schools to reduce prejudices and promote forestry as a sustainable career option.

Strengthening educational and career guidance:

9. Career counselling and job shadowing:
    - Offer comprehensive career counselling and job shadowing programs to help students understand diverse forestry career paths.
    - Introduce innovative courses focusing on modern forestry practices, such as remote sensing, GIS, forest wellness, and forest therapy tourism.
10. Interactive and digitalized learning:
    - Utilize interactive, practical, and digitalized methods in education, and incorporate international experiences like the Erasmus+ mobility program.
11. Informing school counsellors and parents:
    - Provide detailed information about forestry professions to school counsellors, career advisors, teachers, and parents to influence children's career choices positively.

Implementing supportive institutional policies:

12. Policy advocacy:
    - Advocate for policies promoting gender equality, including flexible working conditions, equal pay initiatives, and supportive networks for female students and professionals.
13. Collaboration with government bodies:
    - Encourage educational institutions to work with government bodies to develop frameworks that support diversity and inclusion in forestry education and careers.
14. Education strategy:
    - Prioritize a student-centered teaching approach in new education strategies, focusing on critical thinking and problem-solving abilities.

Employment strategies:

15. Recognizing diverse roles:
    - Ensure forestry companies recognize the diverse roles that women with forestry education can undertake.
16. Work placements and dual training:
    - Implement work placements and dual training courses that combine theory and practice to better integrate women into the forestry workforce.

7 Findings from the students' questionnaires

7.1 Country Report: Slovenia

7.1.1 General background

The survey conducted in Slovenia, as in other countries, was aimed at female students attending forestry or other high school or higher education institutions (college or university).

The questionnaire, which was translated and transferred to the 1ka online platform, was distributed by email, primarily to social workers and career counsellors in high schools and higher education institutions. The sample included 30 high schools (2 majoring in forestry) and 4 higher education institutions (2 majoring in forestry). In addition, students from the Department of Forestry and Renewable Resources at the Biotechnical Faculty of the University of Ljubljana were contacted directly, while students from other departments were reached through their respective student associations.

All survey participants were female, resulting in a total of 107 completed and partially completed questionnaires. The age distribution of the participants varied according to their educational context. Girls from forestry high schools and higher education institutions had an average age of 20.3 years. The average age of respondents from forestry high schools was 17.3 years (between 15 and 20 years), and that of forestry higher education institutions was 22.5 years (between 20 and 28 years). The average age of respondents from other high schools was 17.7 years (between 15 and 20 years), while the average age of girls from other higher education institutions was 21.5 years (between 20 and 28 years).

The survey also looked at the background of the respondents, in particular whether they grew up in rural or urban areas. According to the results, the majority of students grew up in rural areas. This rural-urban distinction is especially notable among forestry students, with 78 % growing up in a rural area compared to 22 % who grew up in urban areas.

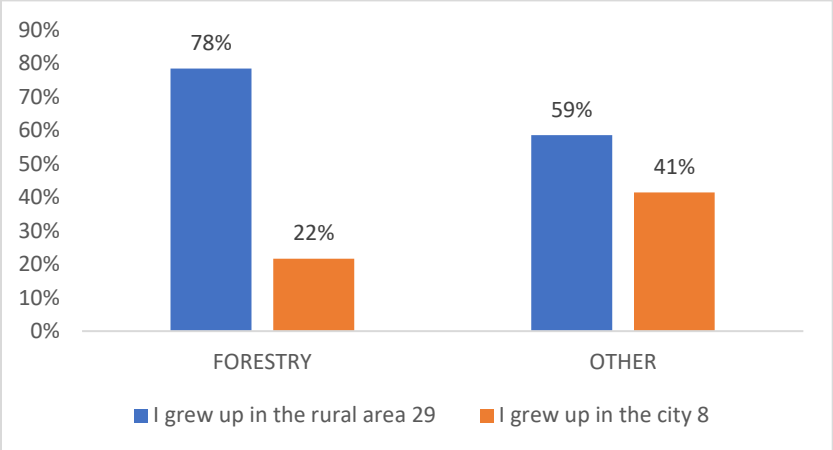


Figure 20: Origin of participants

From forestry educational institutions, we received 35 complete answers and 2 partially complete answers and from other educational institutions, we obtained 59 complete answers and 11 partially complete answers. The analysis of Figure 21 shows that 15 % of the participants are currently attending a forestry high school, while 20 % are enrolled in a forestry higher education institution. Furthermore, 11 % of participants attend other high schools and 54 % are enrolled in other higher education fields. In addition, the results show that only one participant (5 %) from forestry higher educational institutions previously attended a forestry high school, and 14 % attended a high school in a related field (e.g., wood-working, environmental studies). Of the participants from other higher educational institutions, none attended a forestry high school and only 3 % attended a high school in a related field.

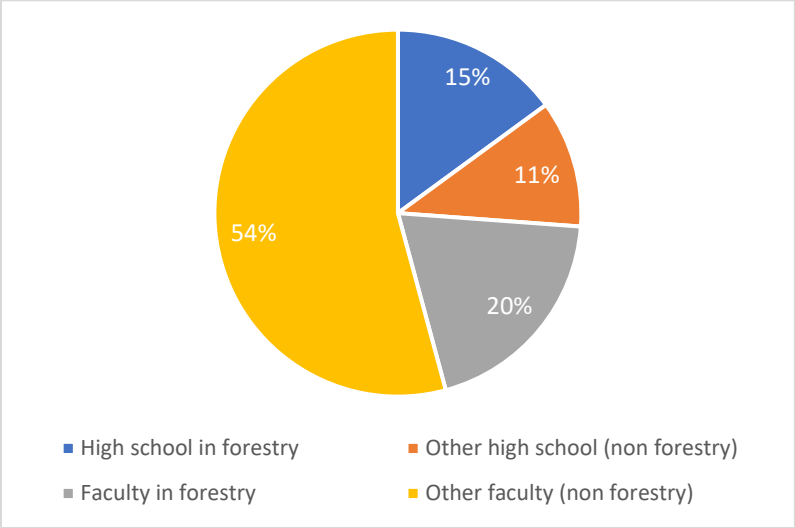


Figure 21: School attendance of the participants

The participants were also asked about the factors that influence their career choice. The results of the participants who attended forestry educational institutions are shown in Figure 22. "Personal interest in the subject matter, i.e., forestry" was identified as the most important factor, with 86 % of participants rated as influential or very influential. The factors "Work-life balance" and "Job availability and stability" were also rated influential by more than half of the participants. Conversely, "My friends also chose this profession" was the least influential factor, with 57 % of respondents stating that it had no influence. Other influential factors mentioned by participants were the connection between forestry and hunting, the connection to the forest and nature, and the fact that there are foresters in the family.

A similar question was also included in the survey sent to students from other educational institutions. The results from these students are shown in Figure 23. Similar to students from forestry educational institutions, students from other educational institutions identified "Personal interest in the subject matter" as the most important factor influencing their career choice. 97 % of respondents considered this factor to be influential or very influential. The second most important factor was "Work-life balance". 61 % of participants considered this factor to be influential and 13 % very influential. "Additional education and training opportunities" was also perceived as important, with 68 % of respondents rating this factor as influential or very influential.

In summary, both forestry students and other students prioritize personal interest in the subject matter and work-life balance as important factors in their career choices.

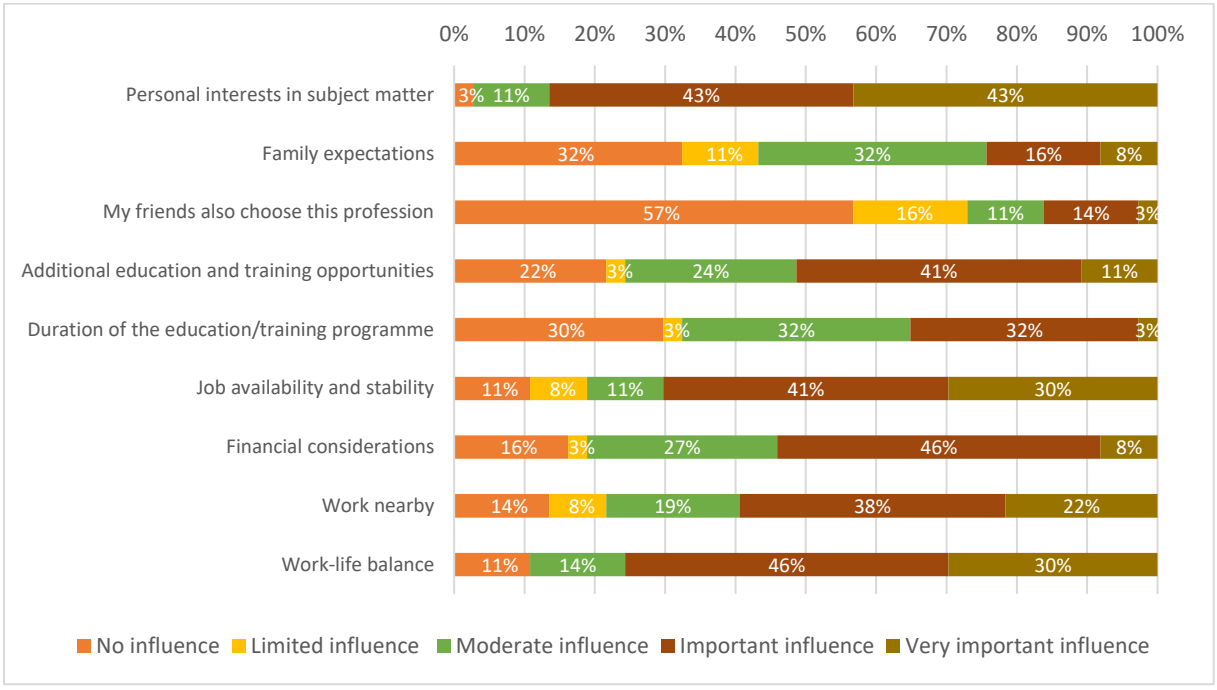


Figure 22: Factors influencing career choices of the students of forestry educational institutions

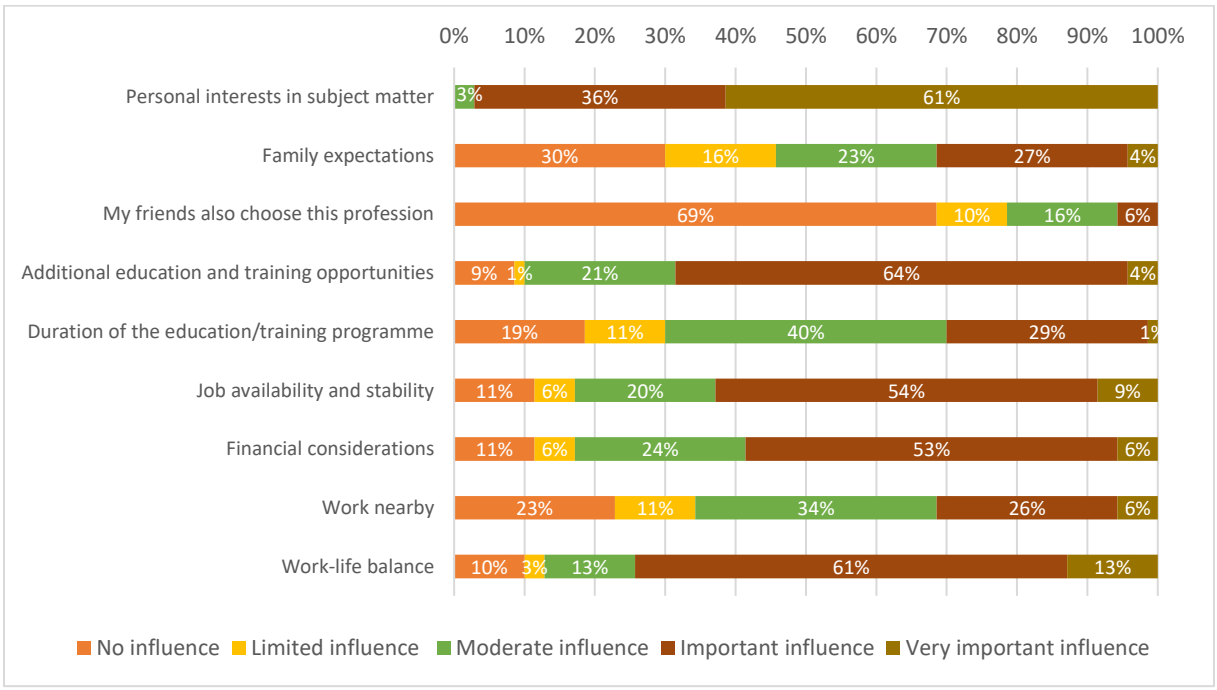


Figure 23: Factors influencing career choices of the students of other educational institutions

7.1.2 Information and motivation for forestry education

In the second part of the survey, the focus was also on the sources of information about forestry professions obtained before enrolling in an educational institution. Only 33 % of participants from other educational institutions indicated that they had received information about forestry education before choosing their educational program. As can be seen in Figure 24, there are notable differences between students from forestry educational institutions and those from other educational institutions.

Students from other educational institutions primarily received information about forestry professions during information days and career fairs (68 %) and through elementary, primary, or high schools (36 %). In contrast, girls and young women who chose to enrol in forestry education primarily obtained information from parents and relatives (49 %) and from the websites of forestry high schools, colleges, or faculties (35 %). Additionally, in both groups of the participants, the least information was obtained from sources such as TV, newspapers, and books/literature. Some participants from forestry educational institutions also stated that they received information directly from employees at forestry educational institutions. Briefly, the data shows clear differences in the sources of information influencing students' decision to study forestry compared to those choosing other fields, highlighting the significant role of familial impact.

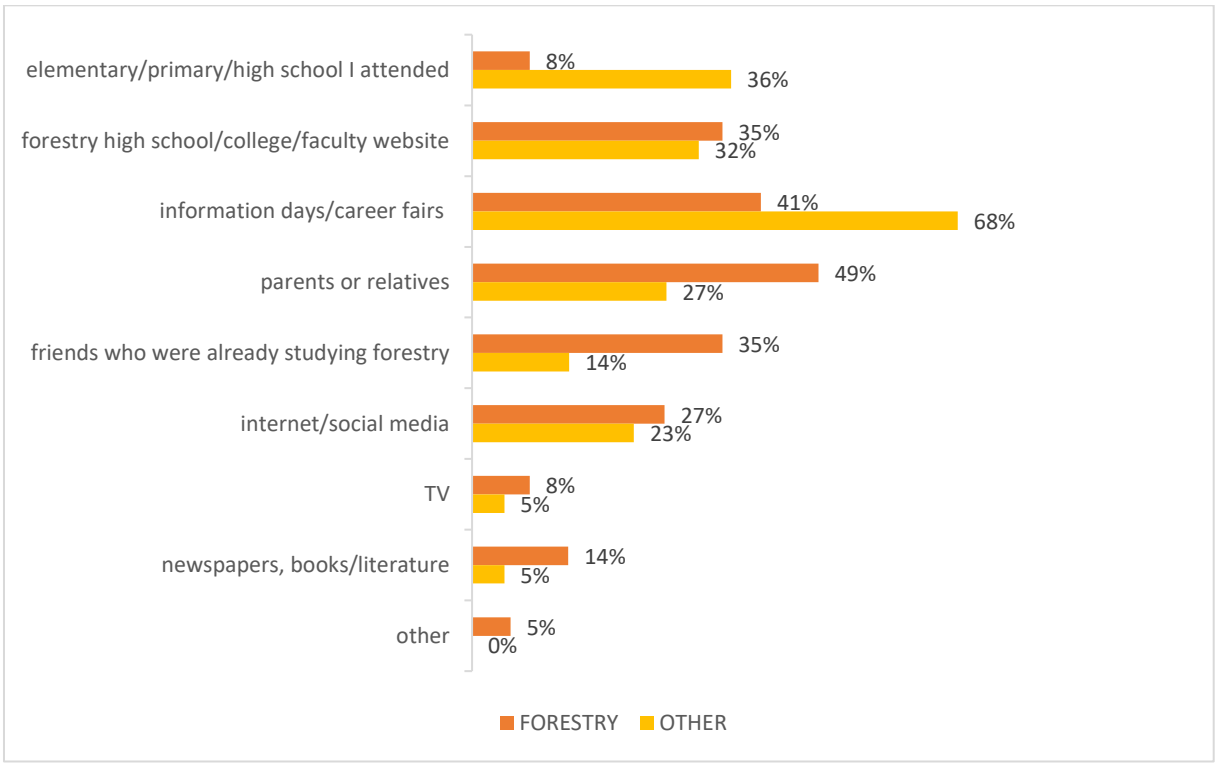


Figure 24: Information sources about forestry education and career

Furthermore, participants of forestry educational institutions were asked about the reasons that influenced their decision to enrol in forestry education. The results are shown in Table 5. The most important reason was the love and passion for nature and forest (84 %). This was followed by the

attractiveness of the education offered at the high school, college, or faculty, which influenced 59 % of respondents. The least important factors were the perceived difficulty of the program (3 %) and parental pressure (8 %). Additionally, some participants indicated that their decision to study forestry was made by chance. In summary, the main motivations for enrolling in forestry education are rooted in a passion for nature and the attractiveness of the educational programs offered, while external pressure or perceived difficulty of the program are less important.

Table 5: Reasons to enrol into forestry education

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	3	8 %
I came to high school/college/faculty with my friends/at their urging.	4	11 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	5	14 %
Parents/close relatives work in the forestry sector and have guided me into this field.	8	22 %
I heard that studying at this high school/college/faculty is not so difficult.	1	3 %
For economic reasons thinking of the possible financial benefits as an employee.	9	24 %
I was attracted by the way of the educational offer of the high school/college/faculty.	22	59 %
Out of love, passion for nature/forest.	31	84 %
Sustainable and ecologically oriented economic sector.	16	43 %
Awareness of climate problems.	13	35 %
The meaning of work - doing good.	20	54 %
I ended up studying forestry by accident/by chance.	5	14 %
Other	2	5 %
Number of respondents =n	37	

Part of the survey for students of forestry educational institutions also focused on the areas of interest that contributed to students' decision to study forestry. The results show that girls and young women are most interested in forest management (68 %), followed by environmental protection (59 %), and hunting and game management (49 %). In contrast, forest economics was the least important area, influencing only 5 % of students in their decision to enrol in a forestry high school, college, or faculty programs (Figure 25).

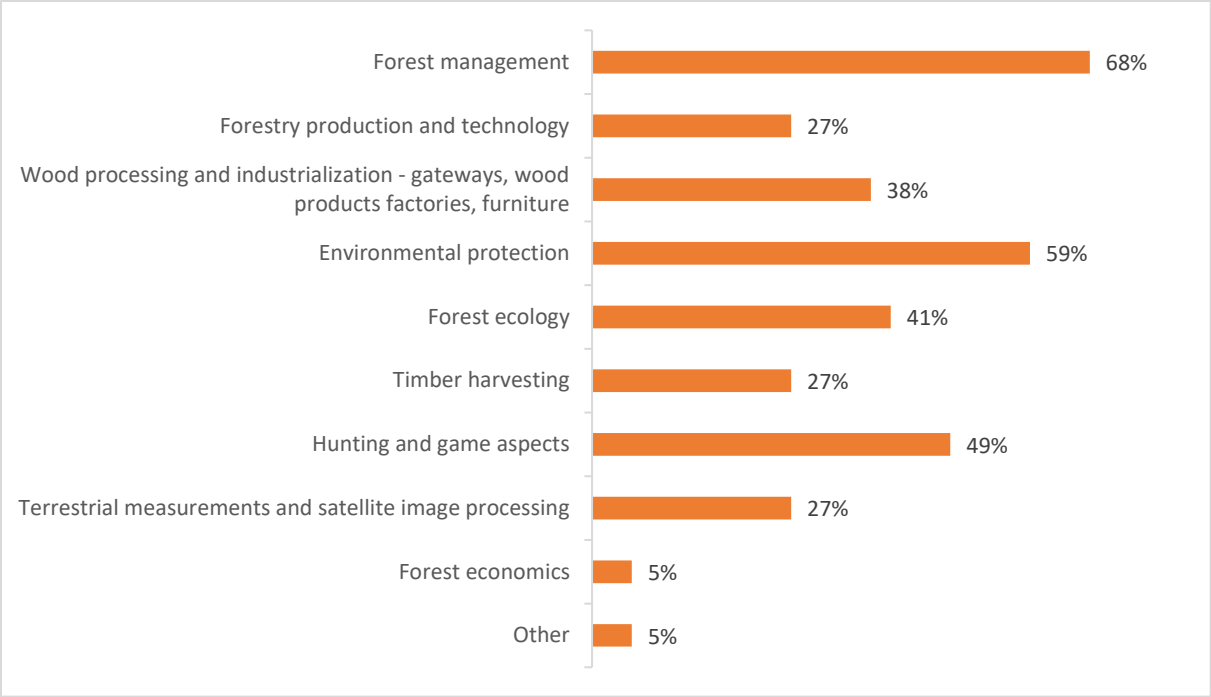


Figure 25: Areas of interest of students of forestry educational institutions

Participants of the survey from other educational institutions were asked if they had ever considered forestry as a career option. As shown in Figure 26, the majority (70 %) had not considered a career in forestry. The most common reasons for this are the perception that the field of forestry is not as broad as other fields, such as biology, that the location of forestry schools is too far from their homes; and the belief that the field of forestry does not match their personal ambitions or perceived opportunities for future employment.

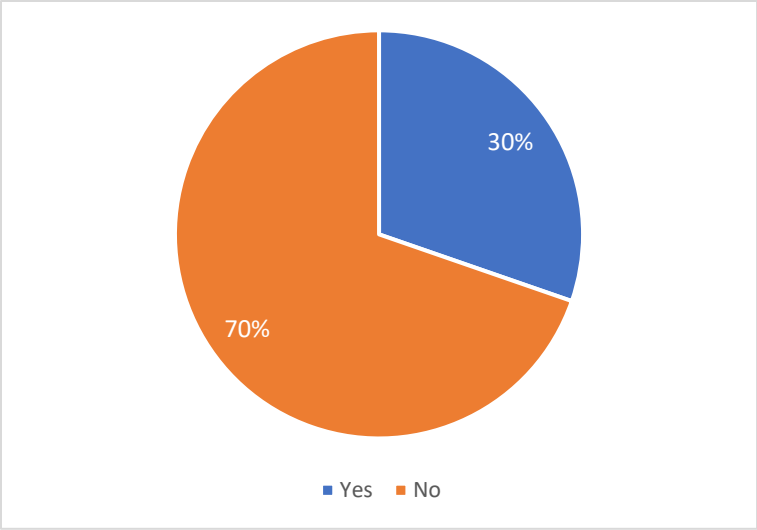


Figure 26: Consideration of forestry as a career option among students of other educational institutions

Furthermore, participants from other educational institutions were asked about their awareness of career opportunities in forestry. As shown in Figure 27, 85 % of these students have limited knowledge of forestry careers. Table 6 shoes the factors that would encourage them to consider studying forestry. These include access to informational material about forestry careers (76 %), participation in forestry-related workshops or field trips (66 %), guidance from career counsellors familiar with forestry professions (55 %), visibility of role models (especially women) in the forestry sector (55 %), opportunities for job shadowing or internships in forestry-related fields (48 %), and access to online platforms or databases showcasing forestry job opportunities and requirements (45 %). In summary, increasing awareness and providing hands-on experiences and resources are critical for attracting students from other educational backgrounds to forestry careers.

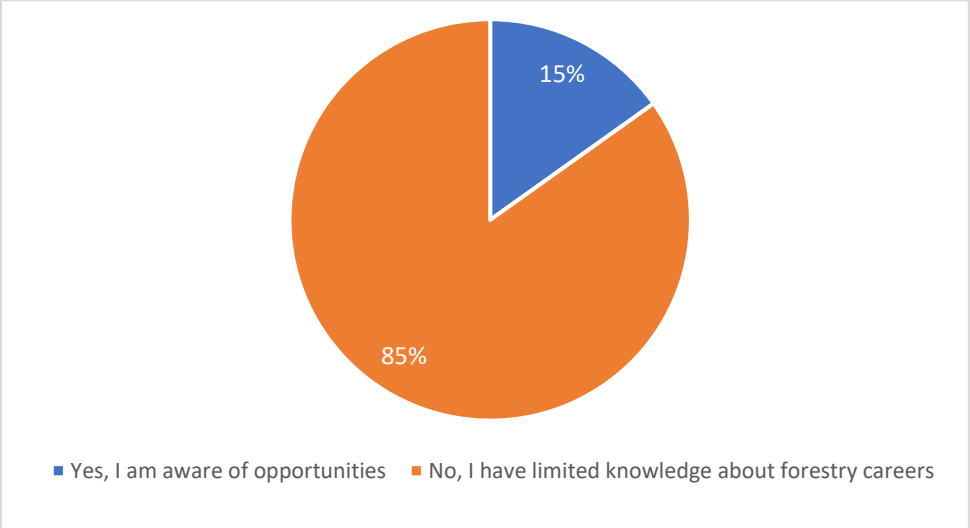


Figure 27: Awareness of career opportunities in forestry (students from other educational institutions)

Table 6: Reasons to consider enrolment into forestry educational institutions (students from other educational institutions)

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	47	76 %
Guidance from career counsellors familiar with forestry professions.	34	55 %
Opportunities for job shadowing or internships in forestry-related fields.	30	48 %
Networking events with professionals working in the forestry sector.	15	24 %
Forestry-related workshop or field trip.	41	66 %
Access to a mentor from the forestry sector.	11	18 %
Seeing more role models (especially women) in forestry.	34	55 %
Online platforms or databases showcasing forestry job opportunities and requirements.	28	45 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	6	10 %
Gamified learning modules and challenges related to forestry careers.	14	23 %
Information via social media.	25	40 %
Other	5	8 %
Number of respondents	62	

7.1.3 Interests and needs in forestry education and career

Participants in forestry education programs were also asked about the aspects that most appeal to them about their forestry education. As shown in Figure 28, the most engaging aspects are the practical activities (78 %) and the opportunity to interact with others who share the same interests (57 %). Additionally, students mentioned (among other) that engaging with hunting, e.g. through lectures or in the field, is also a compelling aspect of their forestry education.

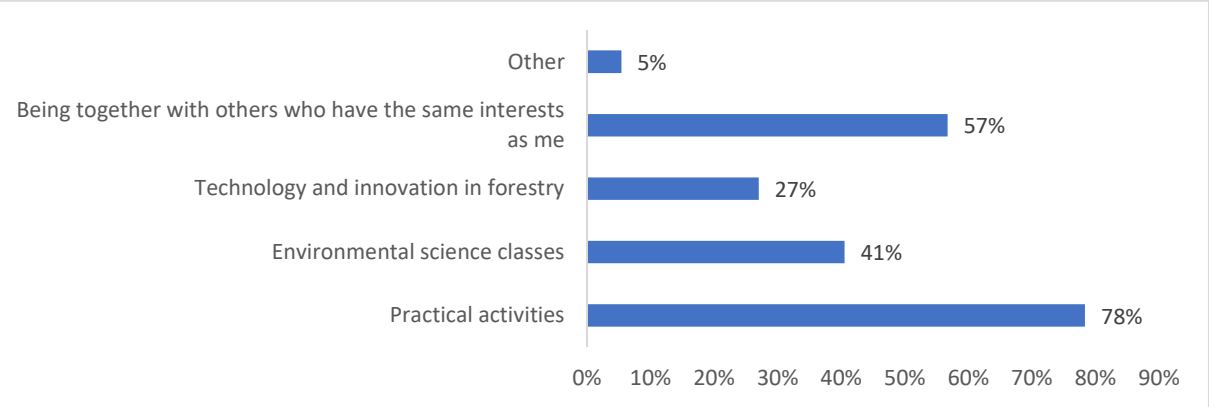


Figure 28: Engaging aspects of forestry education

The survey also focused on the innovative forestry practices or technologies that students from forestry educational institutions find most interesting. The results show that innovative approaches to wood production are the most interesting to students (57 %), followed by forest bioeconomy (49 %), forest wellness and forest-therapy tourism (41 %), and remote sensing and GIS (38 %). Other innovative forestry practices or technologies are considered less important, in particular AI in forest management (14 %). Interestingly, respondents also highlighted modern management of game and protected species as an area of interest.

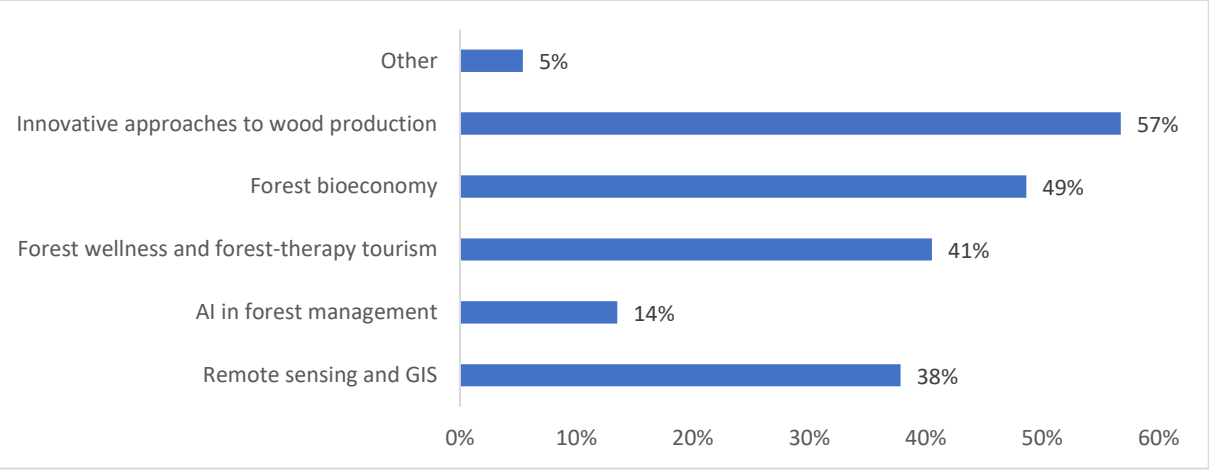


Figure 29: Innovative forestry practices

One of the survey questions for students at forestry educational institutions focused on identifying the support or resources that students felt would enhance their forestry education and career preparation. As shown in Figure 30, students expressed a strong desire for more hands-on field experience (78 %), increased guidance and mentorship from forestry professionals (61 %), and additional internship opportunities (56 %). Less important were networking opportunities (31 %), access to modern management tools (28 %), career counselling and job placement services (25 %), and access to modern harvesting technologies (22 %). In addition, participants emphasized the importance of tree protection as a critical component for enhancing their forestry education and career preparation. In summary, the results highlight that forestry students prefer hands-on experience and professional mentoring to better prepare them for their careers.

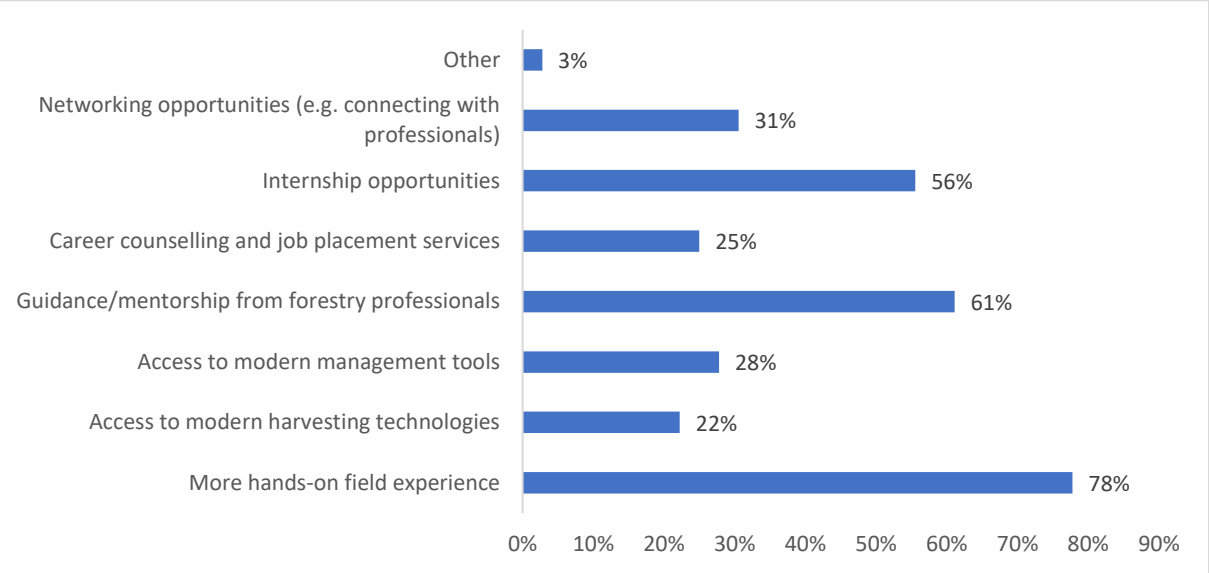


Figure 30: Factors for enrolment into forestry education and career preparation

The survey for students at other educational institutions focused on student contact with forestry-related activities or education in school or extracurricular programs. The results, shown in Figure 31, indicate that more than half of the participants have participated in forestry-related activities, such as tree planting events, field trips to forests or nature reserves, forest cleanup projects, and forest-inspired art projects.

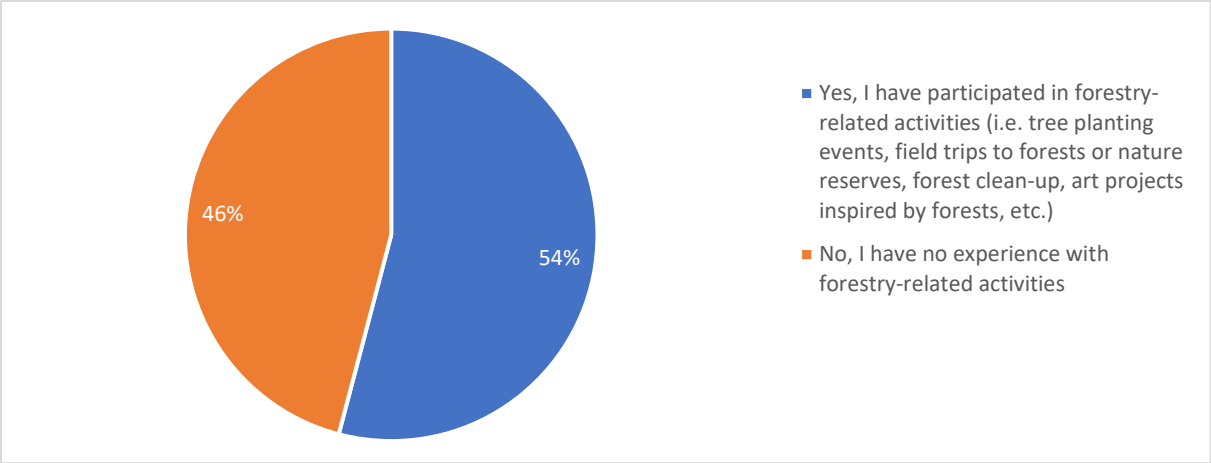


Figure 31: Exposure to forestry-related activities (students from other educational institutions)

7.1.4 Career paths and skills required for forestry career

Understanding career paths and developing relevant skills are essential elements in preparing for the future. Therefore, part of the survey focused on the confidence of students from forestry educational institutions in their readiness to enter the forestry sector after graduation. The results are promising (Figure 32), as the majority (47 %) of forestry students believe they will be prepared, and 42 % are not sure. Furthermore, the percentage of students who believe they will not be prepared is low (11 %).

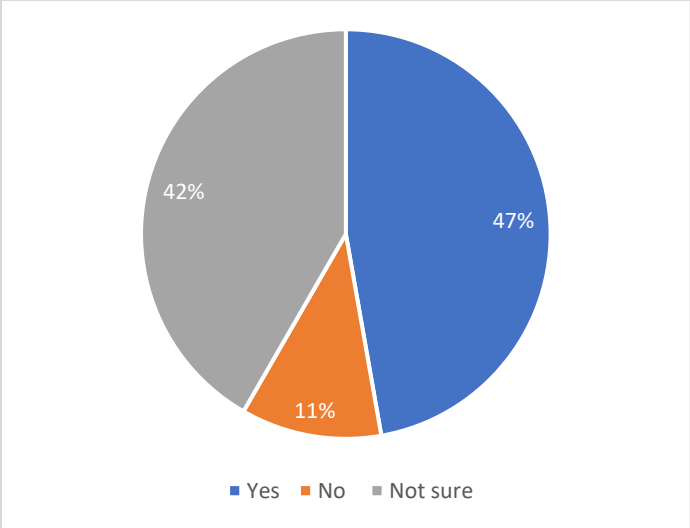


Figure 32: Confidence level regarding readiness to enter the professional life in the forestry sector (students of forestry educational institutions)

Following the question about preparedness to enter the forestry sector, participants were asked about their confidence in finding employment in this sector after graduation. As Figure 33 shows, the results regarding employment within the country appear promising, with over two-thirds (67 %) of forestry students expressing confidence in securing employment domestically upon

completion of their studies. However, the prospects of employment abroad are more complex. Only 22 % of forestry students believe that they will find employment abroad, while the majority (39 %) express only moderate confidence in this regard.

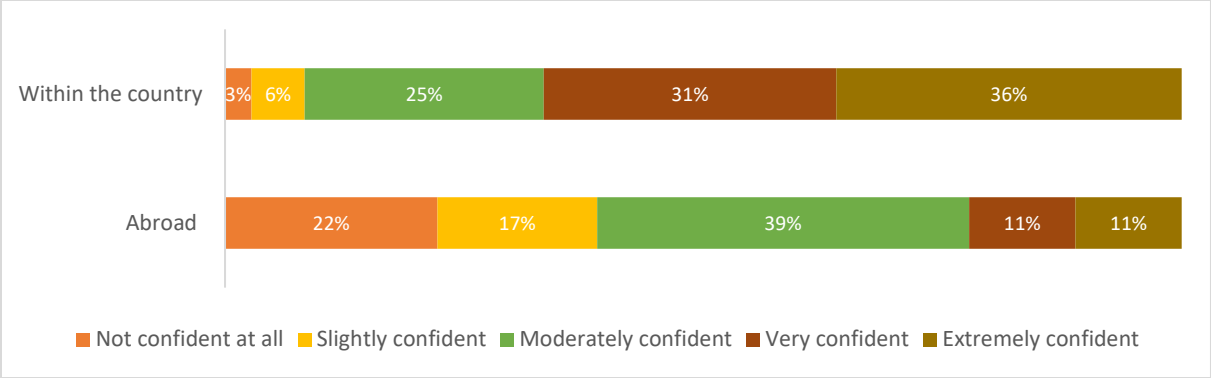


Figure 33: Confidence level regarding employment possibilities in the forestry sector (students of forestry educational institutions)

The subsequent question in the survey focused on the career paths of students enrolled in forestry educational institutions. The results shown in Figure 34, indicate a high level of student interest in the fields of forest management (63 %) and nature conservation (60 %). Sustainable forestry (40 %), research (34 %), and climate change protection and mitigation (31 %) also garnered moderate levels of interest. However, urban forestry (14 %), teaching and education (14 %), forest economics (11 %), and forest-related policy (6 %) are less attractive to forestry students as future career paths. In addition, respondents expressed interest in forestry production activities (e.g., logging and skidding, timber purchasing) and tasks related to hunting and game population regulation.

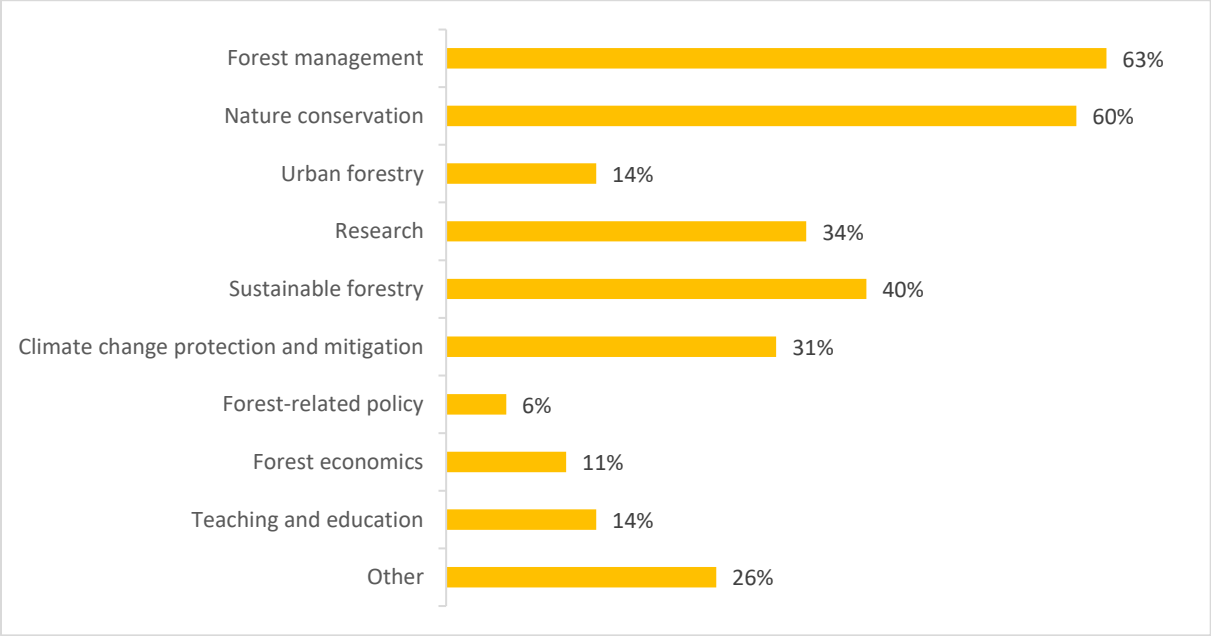


Figure 34: Projected career paths (students of forestry educational institutions)

The survey results indicate that participants from other educational institutions consider several factors to be crucial in making forestry a more attractive career option for them (Table 7). In particular, career paths involving the understanding, conservation, and management of valuable natural resources, such as protected area management, were deemed important by 70 % of respondents. In addition, 66 % of participants emphasized the importance of appropriate payment in making forestry careers attractive. Other important factors were the possibility to participate in international and national conservation activities focused on biodiversity conservation and forest protection (56 %). In contrast, factors such as improving the image of foresters (48 %), understanding the positive impact of forestry on climate change (46 %), and opportunity to work closely with local communities and contribute to rural development (39 %) were rated as moderately important. Personal interest was found important by 5 % of respondents (in the "other" category) as an influential factor in choosing forestry as a career.

Table 7: Factors increasing attractiveness of forestry as a career option (students of other educational institutions)

	Number	*Share*
Understanding that forestry can impact climate change positively	28	46 %
Better image of foresters	29	48 %
Appropriate payment	40	66 %
Opportunities to work closely with local communities, and contribute positively to rural development	24	39 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	34	56 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	43	70 %
Other	3	5 %
Number of respondents	61	

From Figure 35, it is evident that students who already have enrolled in forestry education are better informed about the skills and qualifications required for a forestry career compared to students from other educational institutions. However, the results are not promising, as only 32 % of participants from forestry educational institutions feel very or extremely well informed about these skills and qualifications. As emphasised at the beginning of the paragraph, the informativeness of students from other educational institutions is even lower, with 74 % of participants stated being uninformed or only slightly informed about the skills and qualifications for forestry career. This shows the importance of raising awareness and providing comprehensive information about forestry careers, as this knowledge could help to encourage more girls and young women to choose a career in forestry.

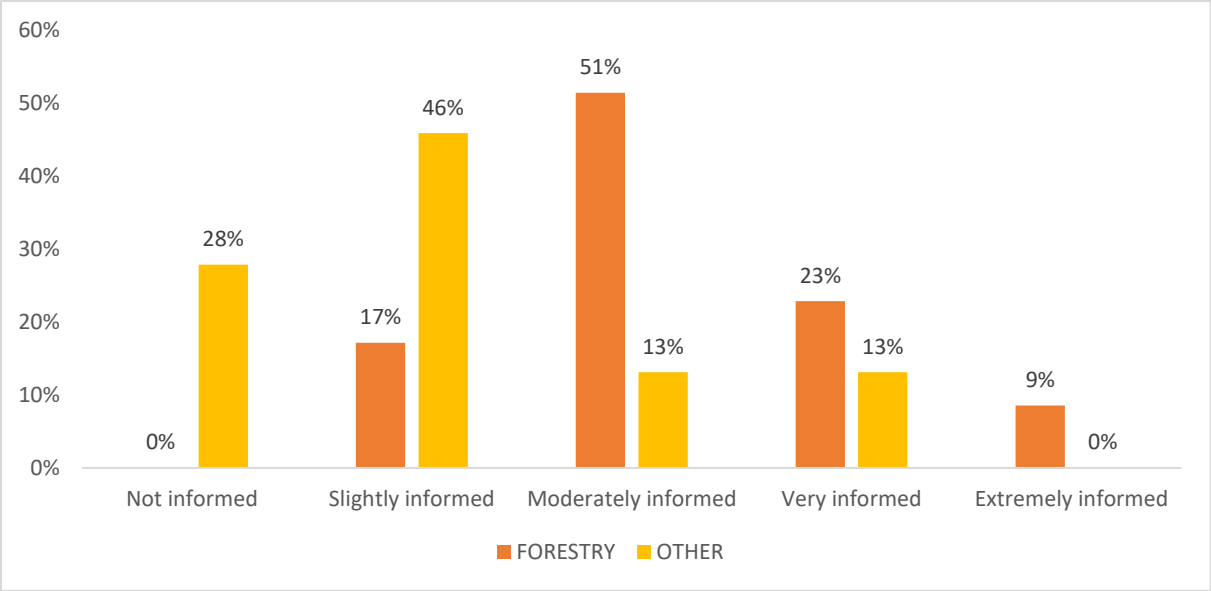


Figure 35: Awareness of skills and qualifications required for forestry career

In addition, the survey focused on the prospect of career advancement and future education, with only students from forestry educational institutions responding to this question. The results (Figure 36) show that participants consider career advancement and opportunities for future education to be crucial. Specifically, 83 % of participants consider career advancement to be important or very important, while an even higher percentage, 89 % of respondents, consider future education to be important or very important.

This underscores that students recognize of the importance of continued learning and professional development in forestry and are taking a proactive approach to ensure long-term success and growth in their careers.

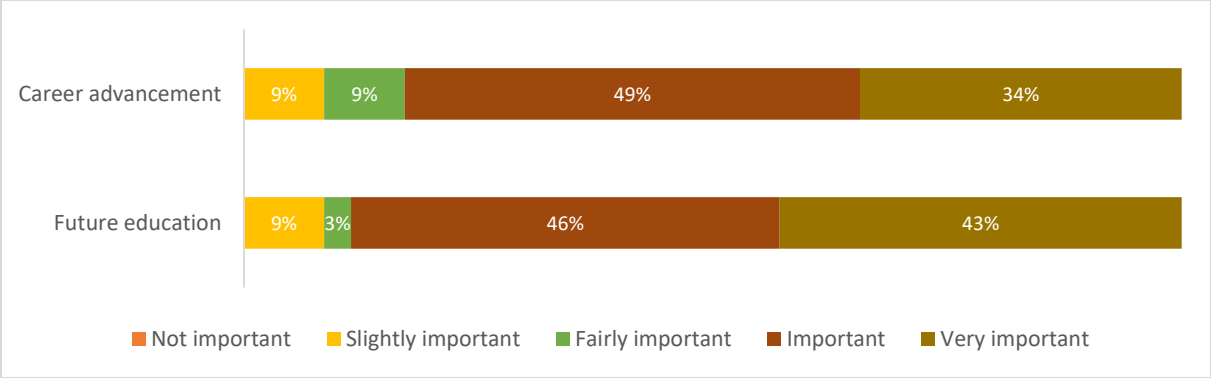


Figure 36: Importance of career advancement and future education (students of forestry educational institutions)

7.1.5 Perceptions and challenges of career in forestry

In the subsequent part, the survey focused on the misconceptions and stereotypes associated with a career in forestry. Figure 37 shows the combined responses of forestry students and students from other educational institutions. It shows the common misconceptions and stereotypes about forestry careers among the respondents' peers. The most commonly highlighted misconceptions include the belief that there are limited opportunities in forestry sector (68 %), that the work environment is inappropriate for women (65 %), that forestry is primarily hard physical labour (64 %) and low payment (52 %). In addition, there is a misconception that all foresters are lumberjacks (44 %) and that career growth in the forestry sector is limited (40 %). While other misconceptions, such as the idea of limited career growth and working in adverse weather conditions (32 %), are moderately recognized, certain misconceptions and stereotypes are less prevalent. Among other misconceptions and stereotypes, respondents stated that the forestry sector does not involve intellectual work.

These findings underscore the need for greater awareness and education to dispel misconceptions and stereotypes about forestry careers and create a more accurate understanding of the diverse opportunities in this field.

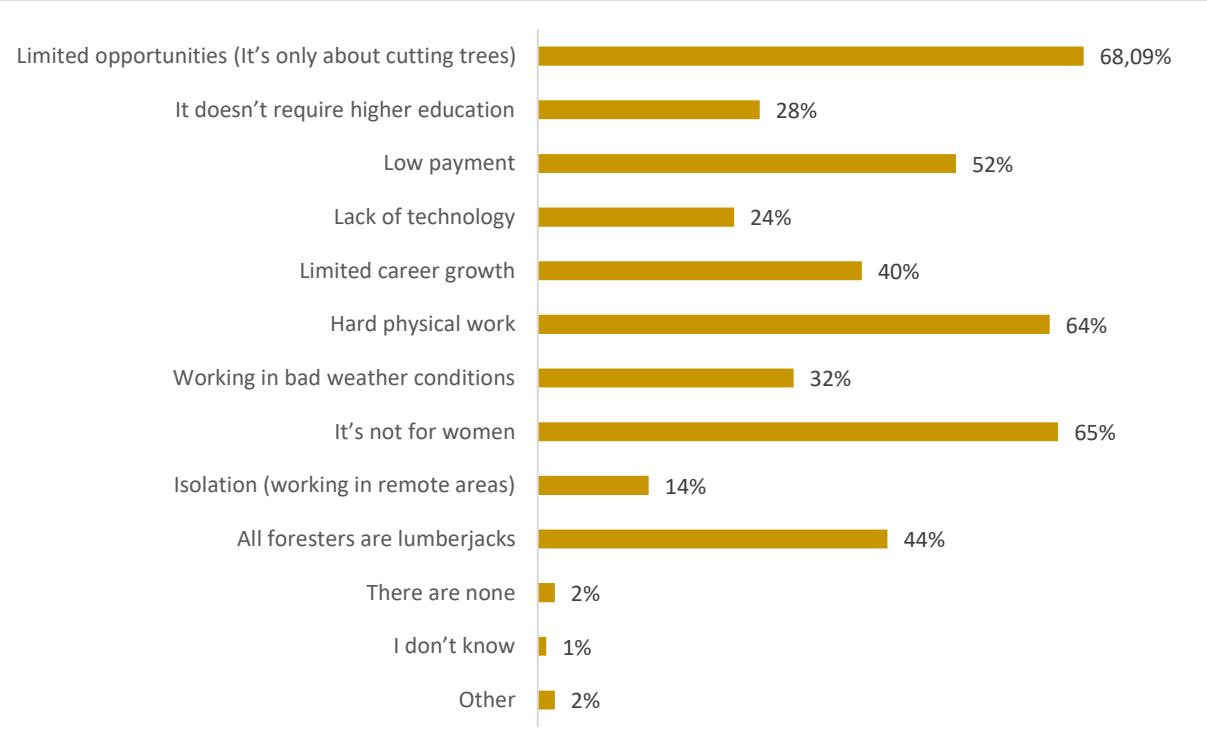


Figure 37: Perception of misconceptions and stereotypes about forestry careers

The survey also inquired about the main barriers preventing girls and young women from enrolling in forestry education, with responses gathered from both forestry and other educational institutions. The results, shown in Figure 38, highlight several common challenges identified by

participants in both groups. Gender stereotypes associated with forestry professions were widely acknowledged, with 80 % of participants from other educational institutions and 83 % of participants from forestry educational institutions identifying this barrier. Similarly, there was recognition of the underestimation of women's abilities and contributions in forestry (56 % - other, 69 % - forestry), along with a lack of information about forestry careers, which was recognized by 54 % of respondents from other educational institutions and 54 % from forestry educational institutions.

In addition, concerns about job safety and physical demands were emphasized by 75 % of respondents from other educational institutions. Interestingly, girls and young women who had already choose forestry career did not consider this barrier as significant, with only 29 % finding it important. Furthermore, both groups of participants highlighted the cultural or social norms discouraging women from forestry careers (54 % - other, 49 % - forestry) as important barriers to enrolment.

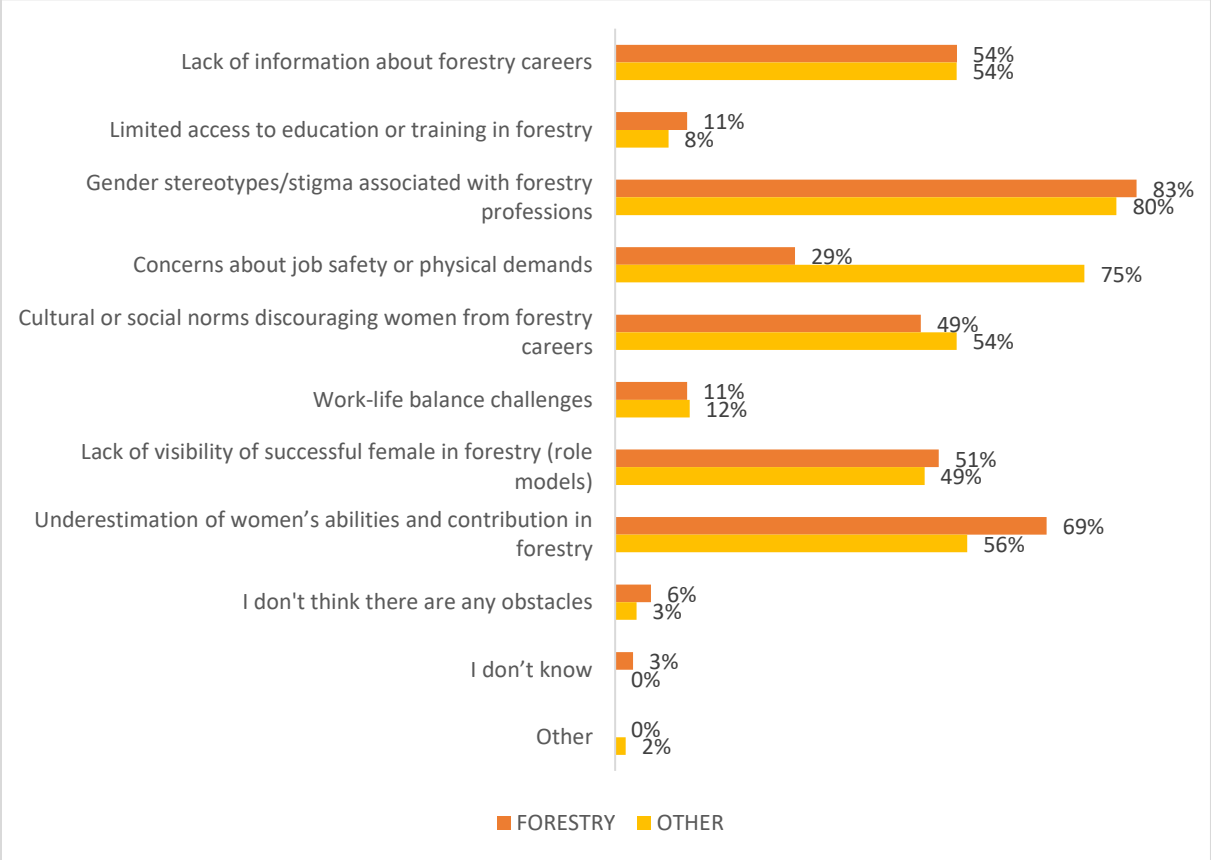


Figure 38: Perception of main barriers for girls and young women to enter the forestry sector

Part of the survey also looked at gender-specific challenges and biases encountered by students during their forestry education. The results showed that 69 % of the participants (students of forestry educational institutions) experienced such challenges or biases, while only 29 % did not. These challenges primarily revolved around assumptions such as women not being eligible for forestry, not being interested in technology, or not having enough strength.

Furthermore, the results showed that 46 % of students from forestry educational institutions were treated differently during their training or internship because of their gender. This differential treatment often manifested in various ways, including having their opinions overlooked, being asked different questions and evaluation criteria, and receiving generally negative comments from forest owners or other forestry professionals. However, one survey participant who experienced different treatment highlighted a positive aspect of being a girl or young woman in forestry, noting that she did not have to lift heavy objects.

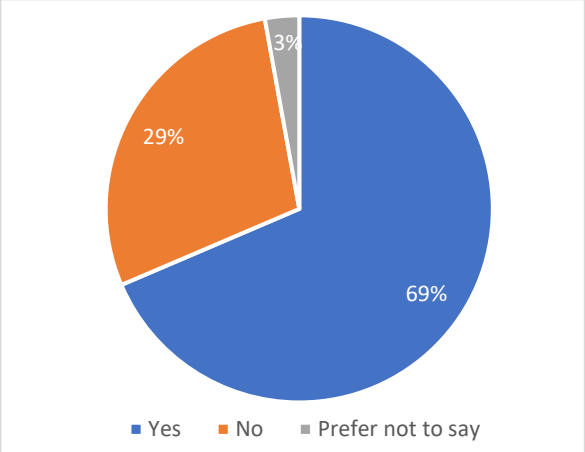


Figure 39: Gender-specific challenges or biases forestry education (students of forestry educational institutions)

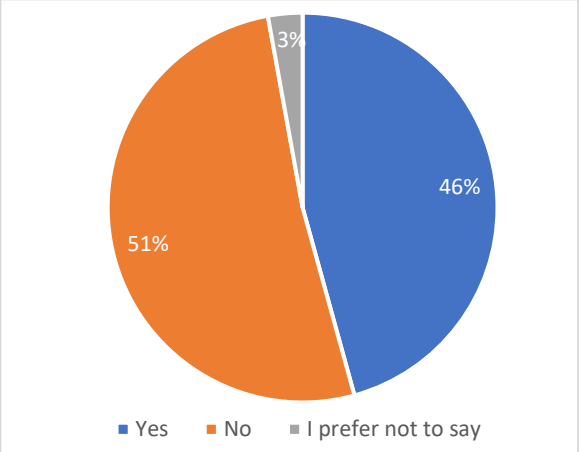


Figure 40: Different treating during your training/internship because of gender (students of forestry educational institutions)

In the final part of the survey, attention was directed towards the reactions of family and friends when participants decided to enrol in forestry education. The results showed a predominantly positive response from family and friends, with the majority expressing satisfaction. Surprisingly, none of the participants indicated that their family or friends were strongly dissatisfied, and only a small percentage (6 % respectively) expressed some form of dissatisfaction.

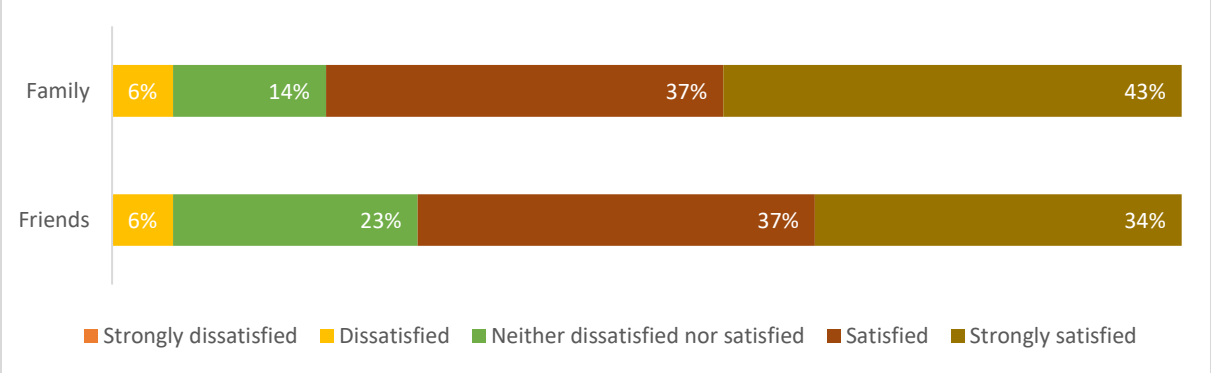


Figure 41: Reactions of family and friends to participants' interest in the forestry education (students of forestry educational institutions)

Finally, participants were asked about the perceptions of their community and social circle regarding their decision to enrol in forestry education. The results were encouraging and showed that the majority of participants had faced a positive opinion of their community and social circle (49 %). Furthermore, only a small proportion (5 %) reported encountering individuals who consider girls and young women unsuitable for a career in forestry.

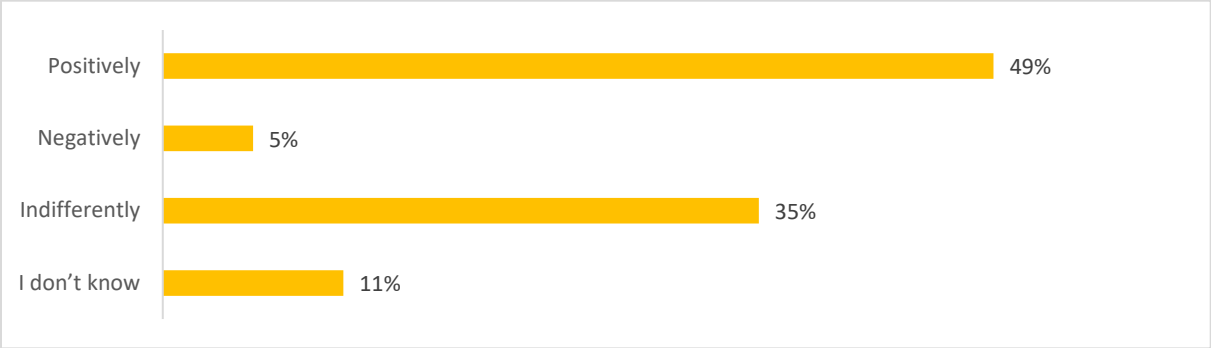


Figure 42: Perception of forestry careers in community and social circle

7.2 Country Report: Germany (Bavaria)

7.2.1 General background

We adapted the questionnaire to the Bavarian educational system, where we do not have forestry high schools but instead four types of general high schools which are called: "Mittelschule" (preparatory school for apprenticeship – lower/mid-level), "Realschule" (preparatory for apprenticeship – mid-/higher-level), "Gymnasium" (preparatory for enrolment at university) and "Waldorf/Montessori" Schools. We used the questionnaire for **"Others – Non-Forestry Schools"** to conduct the survey at general high schools in Bavaria. For the study we contacted 7 general high schools in Bavaria and 67 girls completed the questionnaires.

In Bavaria, forestry professions can be pursued in the secondary educational system with a university degree or an apprenticeship at one of the forestry training facilities. To conduct the survey at these educational institutions we used the questionnaire **"Forestry Schools"**. We addressed two universities and two forestry training facilities in Bavaria. 114 young women completed the questionnaire.

The average age of the high school participant was 15,2 years while the average age at the forestry educational schools was 24,2 years. Most girls and young women who took part in the study grew up in the rural area (see Figure 43). The largest share of the participants in the "forestry survey" pursues a university degree in forestry or a forestry related area and most participants in the "Other survey" attend the "Gymnasium" high school (see Figure 44).

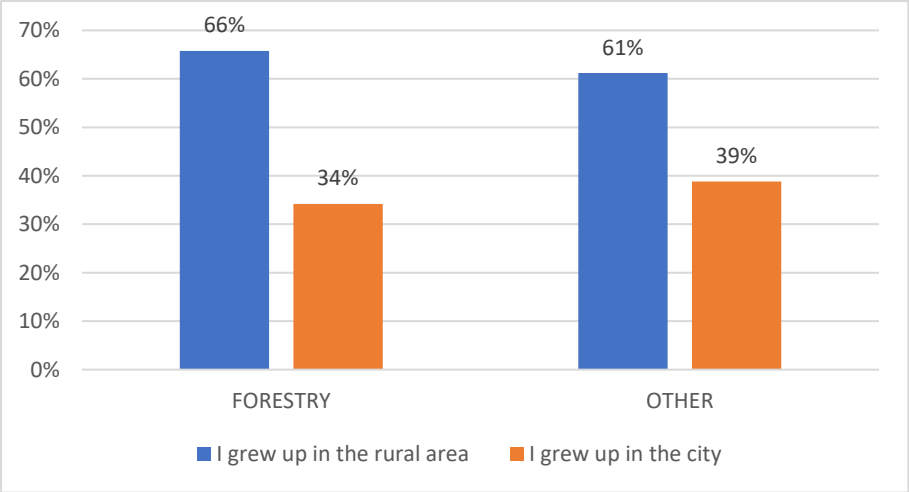


Figure 43: Origin of participants (n=181)

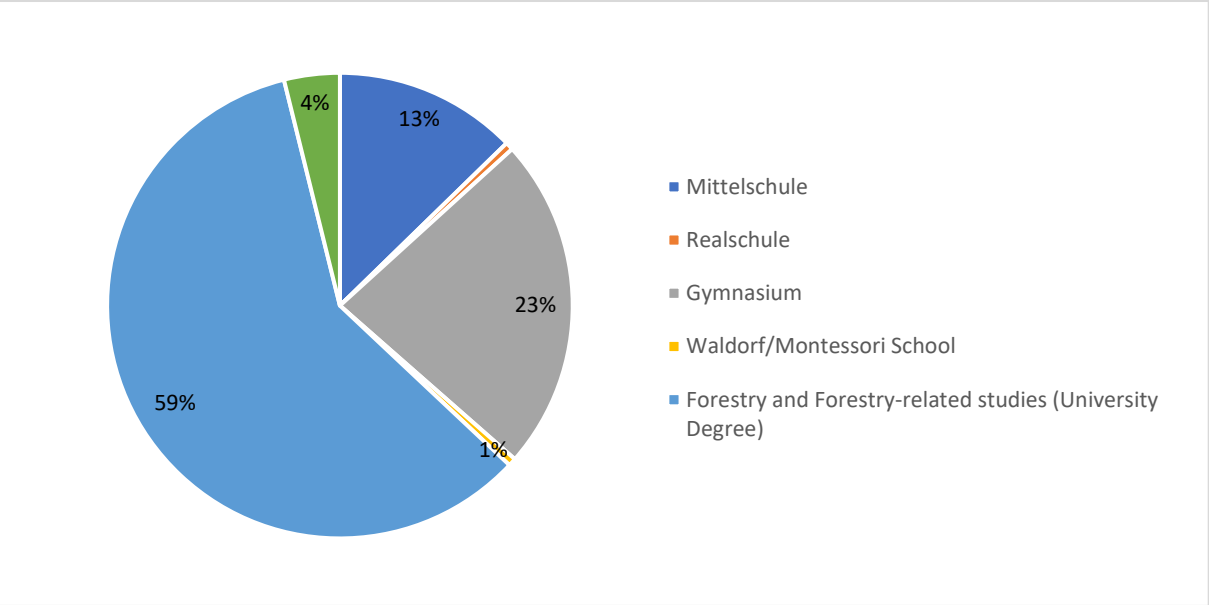


Figure 44: Schools of participants (n=181)

For most high school students "Personal interest in the subject matter" is the most important factor to choose a career followed by "job availability and stability" and "financial considerations" (see Figure 45). Work-life balance and proximity of the workplace are also important. Interestingly, family expectations and career choices of friends and peers are less important.

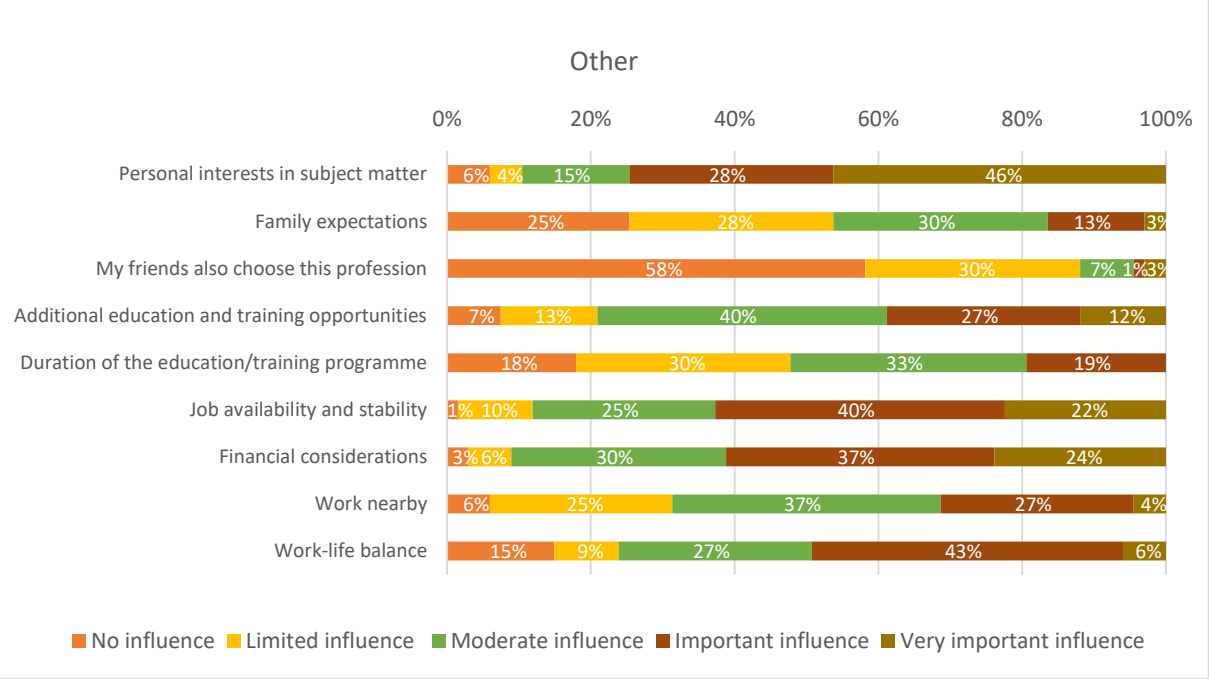


Figure 45: Factors influencing career choices for high school students (n=67)

The factors influencing their career choices for students of forestry educational institutions are similar to those of high school students. They have also selected "Personal interest in the subject matter" as the most important factor followed by "job availability and stability" and "work-life balance" (see Figure 46). Additional factors important for their career choices that students of forestry educational institutions mentioned are "to have a workplace in nature" and to pursue a career that allows to actively take part in nature protection and conservation. Opportunities to learn about careers in forestry like internships and voluntary services ("Voluntary Ecological Year (FÖJ)") are important for choosing a career along with interest in hunting and jobs where dogs are admitted at the workplace, which is a standard in the Bavarian forestry sector.

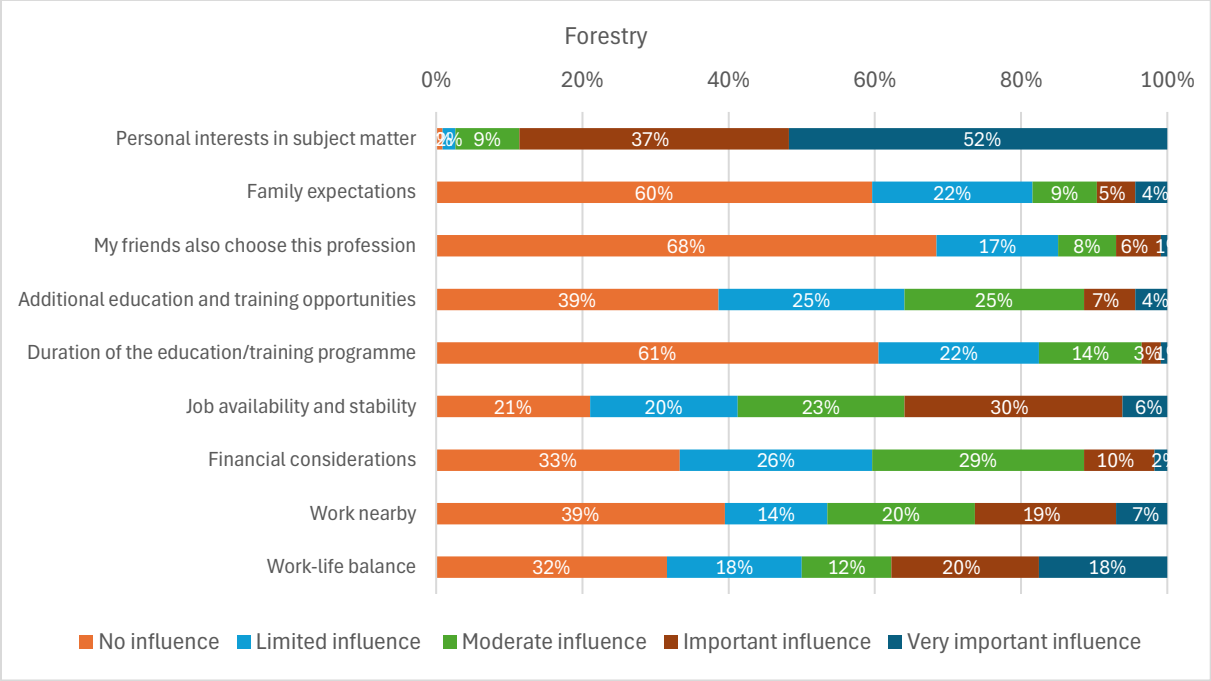


Figure 46: Factors influencing career choices for forestry students/trainees (n=114)

7.2.2 Information and motivation for forestry education

Only some of the high school students who completed the questionnaire have answered this question, which might have something to do with a lack of knowledge or interest about forestry among high school students. Those who are familiar with forestry professions have obtained information from their parents and relatives or friends studying forestry.

Most of the students of forestry educational institutions indicated that they obtained information about forest professions from the university/ forestry school website (57 %) and social media/internet (45 %). Other important sources of information are hands-on experiences during internships and voluntary services ("Voluntary Ecological Year (FÖJ)" and the "Federal Voluntary Service in Germany") (see Figure 47).

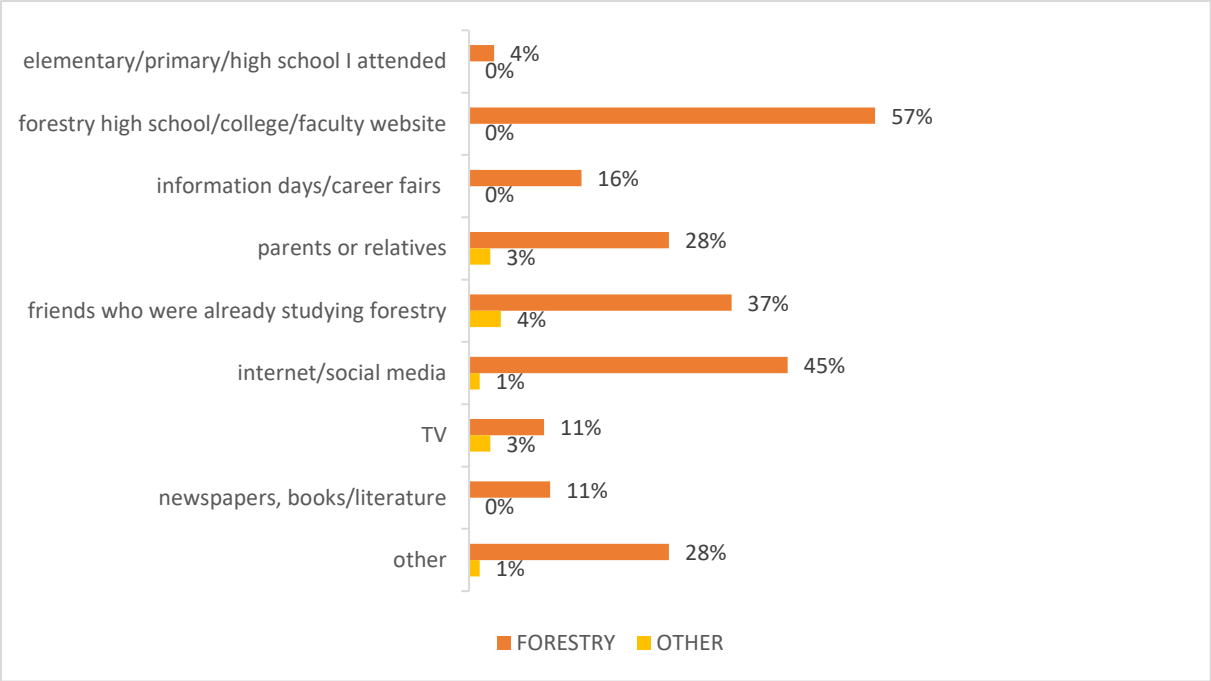


Figure 47: Information sources for forestry professions/fields of activity (n=181)

When asked about the main reasons to pursue higher education in forestry "love and passion for nature" is the most important reason that students mentioned, followed by idealistic principles of "doing good" and the awareness for climate problems (see Table 8). More than half of the female forestry students participating in the study have indicated that they choose forestry because they perceive the sector as sustainable and ecologically oriented.

Table 8: Reasons to pursue higher education in forestry for forestry students (n = 114)

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	8	7 %
I came to high school/college/faculty with my friends/at their urging.	3	3 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	9	8 %
Parents/close relatives work in the forestry sector and have guided me into this field.	9	8 %
I heard that studying at this high school/college/faculty is not so difficult.	6	5 %
For economic reasons thinking of the possible financial benefits as an employee.	7	6 %
I was attracted by the way of the educational offer of the high school/college/faculty.	50	44 %
Out of love, passion for nature/forest.	105	92 %
Sustainable and ecologically oriented economic sector.	59	52 %
Awareness of climate problems.	64	56 %
The meaning of work - doing good.	83	73 %
I ended up studying forestry by accident/by chance.	41	36 %
Other	N/A	

For the majority of the students of forestry educational institutions “forest ecology” is the most important area of interest that leads them to choose their faculty followed by “environmental protection” (see Figure 48). Moreover, several students have pointed out forest pedagogy and environmental education as their main areas of interest. Hunting and game aspects as well as forest management are of great interest for two thirds of the female students who participated in the study.

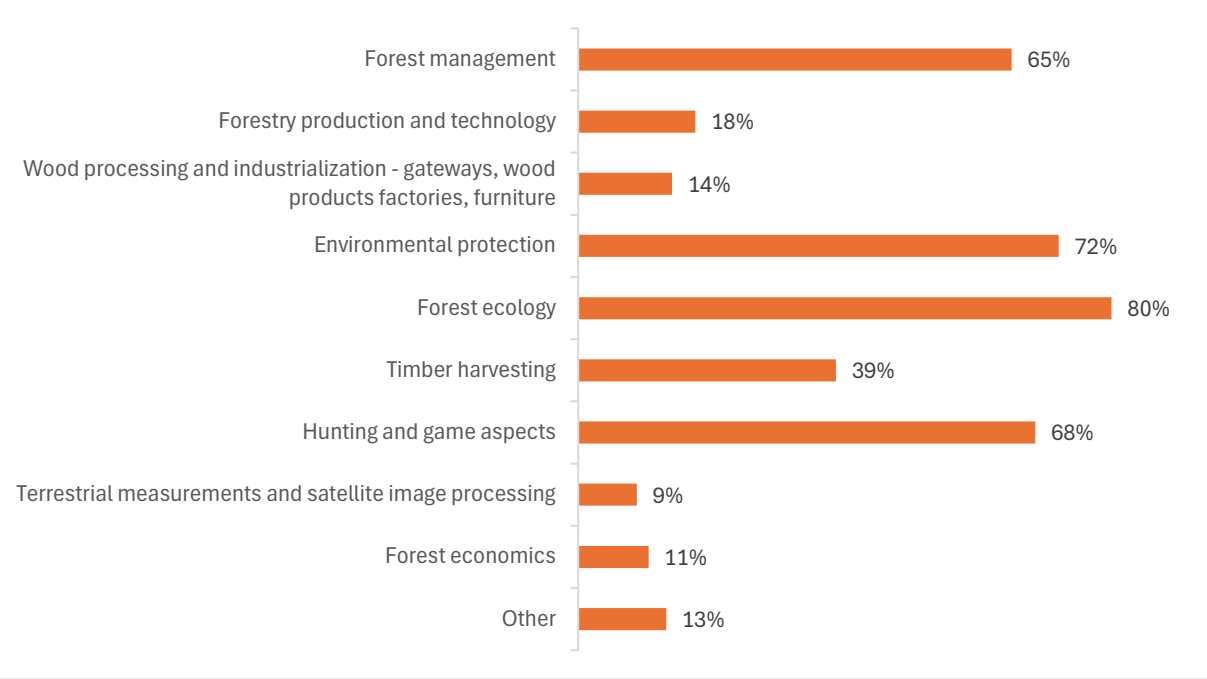


Figure 48: Areas of interest of students in forest educational facilities (n = 114)

93 % of high school students have never considered forestry as a career option and 90 % of them are not aware of the career opportunities available in the forestry sector (Figure 49 & 50). When asked what they would need in order to consider studying forestry most high school students (79 %) responded that access to informational materials about forestry careers (i.e. what forestry jobs involve) would be very important for them, followed by opportunities for job shadowing or internships in forestry-related fields (58 %) (see Table 2). Gaining insights via social media is valuable for 39 % whereas 30 % indicate that female role models in forestry could trigger interest.

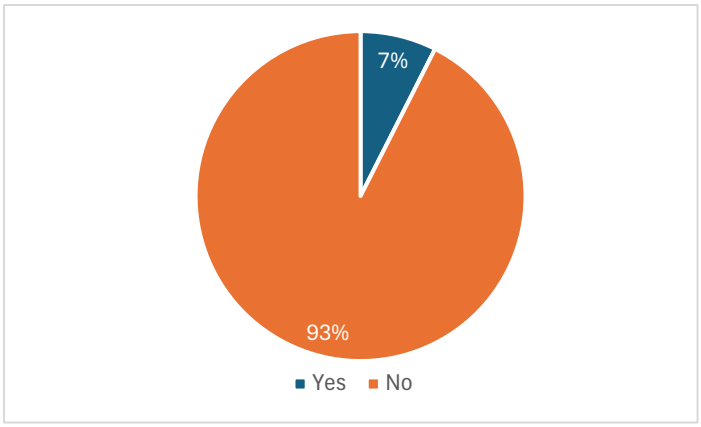


Figure 49: Forestry as a career option (n=67)

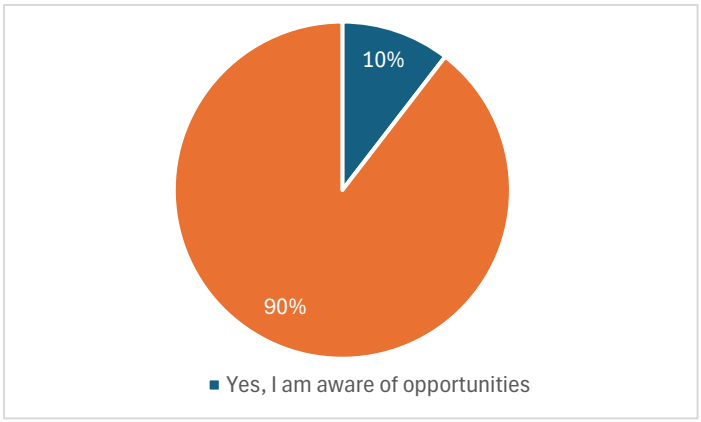


Figure 50: Awareness of career opportunities in forestry (n=67)

Table 9: Reasons to consider a higher education in forestry for high school students (n = 67)

	Number	Share
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	53	79 %
Guidance from career counsellors familiar with forestry professions.	30	45 %
Opportunities for job shadowing or internships in forestry-related fields.	39	58 %
Networking events with professionals working in the forestry sector.	14	21 %
Forestry-related workshop or field trip.	18	27 %
Access to a mentor from the forestry sector.	6	9 %
Seeing more role models (especially women) in forestry.	20	30 %
Online platforms or databases showcasing forestry job opportunities and requirements.	13	19 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	5	7 %
Gamified learning modules and challenges related to forestry careers.	7	10 %
Information via social media.	26	39 %
Other	0	0 %

7.2.3 Interests and needs in forestry education and career

According to the survey results forestry students find practical activities to be the most engaging aspect of their education program, followed by environmental sciences classes (see Figure 51). Some students also mention environmental education and forest pedagogy to be very interesting subjects related to their studies. When it comes to innovative forestry practices, they are mostly interested in learning more about forest wellness and forest therapy tourism (71 %) and innovative approaches to wood production (50 %) (see Figure 52).

The majority of forestry students (59 %) believe that guidance and mentorship from forestry professionals would enhance their forestry education and career preparation. Also, more hands-on field experience is named as an important measure to improve forestry education in Bavarian institutions (see Figure 53). Some students have pointed out a need for more classes about conservation and further possibilities for international exchange and networking with forestry students from other universities.

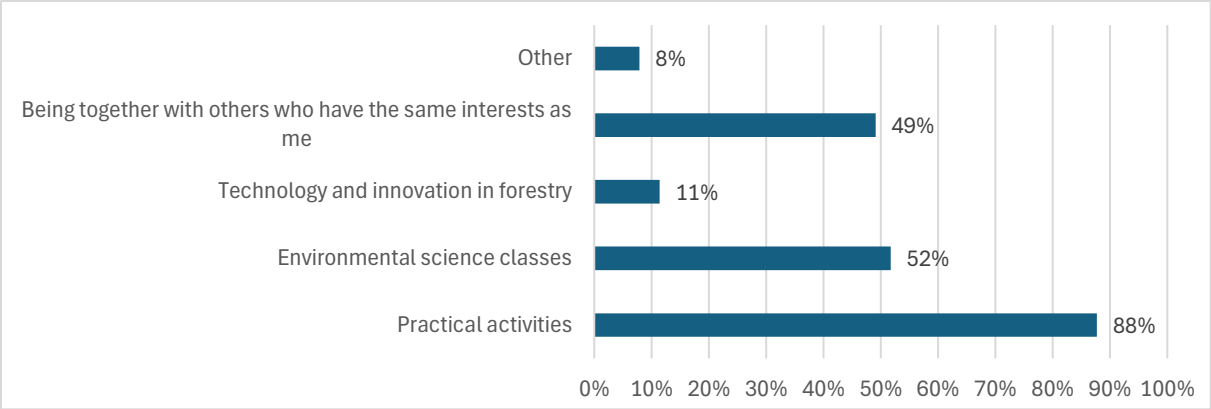


Figure 51: Engaging aspects of forestry education (n=114)

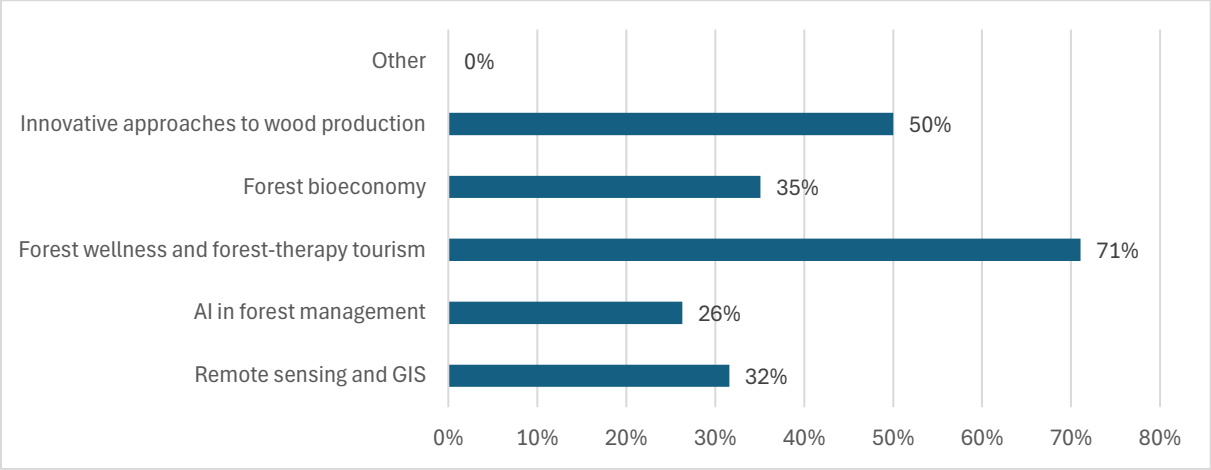


Figure 52: Innovative forestry practices (n=114)

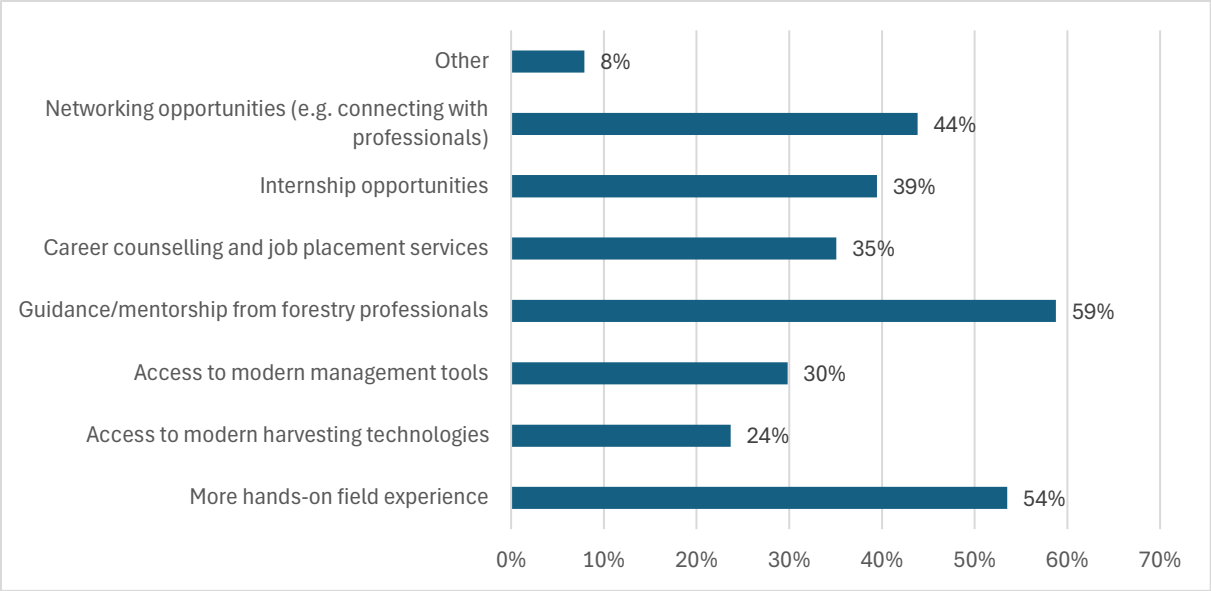


Figure 53: Factors for enhancement of forestry education and career preparation (n=114)

The large majority of high school students in Bavaria who participated in the questionnaire indicate they have no experience with forestry-related activities or education in school or extracurricular programs (see Figure 54). This is surprising since there is an obligatory forest topic, including a forest visit in the curriculum of the elementary school (3rd grade).

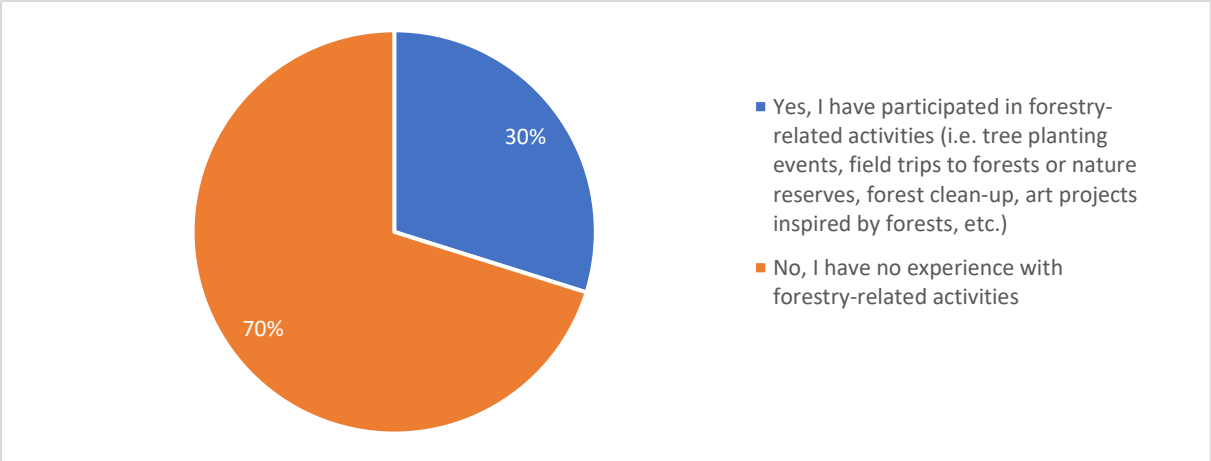


Figure 54: Exposure to forestry-related activities for high school students (n=67)

7.2.4 Career paths and skills required for forestry careers

The majority of forestry students is not sure about their preparedness to enter the forestry sector after their graduation (see Figure 55). Nonetheless, most students are very confident to find employment in the forestry sector in Germany and abroad (see Figure 56). Several students have pointed out that they feel insufficiently prepared to enter the forestry sector because their educational program is too theoretical and lacks practical experience.

With regard to the projected career path of forestry students, there is a clear preference for careers dealing with nature conservation (74 %), followed by careers in sustainable forestry and forest management (see Figure57). For both questions, a comparative perspective with their male student peers would be very interesting.

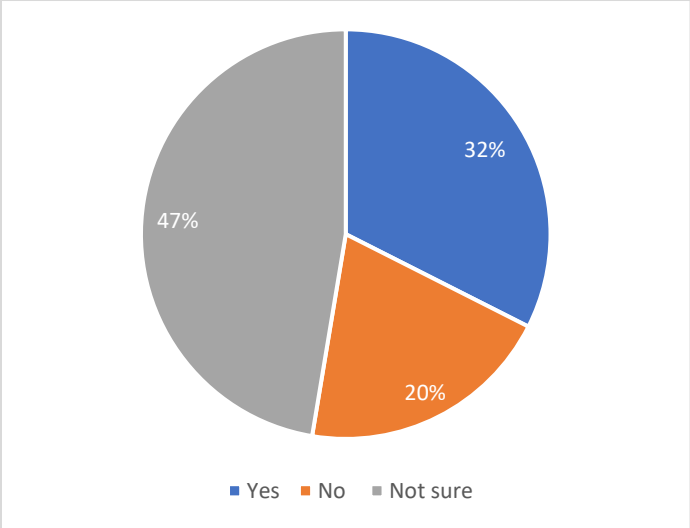


Figure 55: Confidence level of female forestry students regarding their readiness to enter the professional life in the forestry sector (n=114)

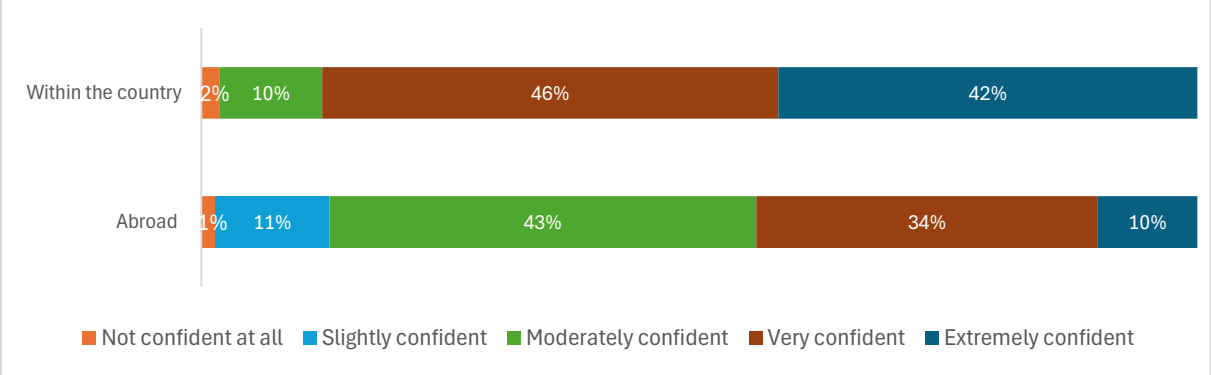


Figure 56: Confidence level of female forestry students regarding their employment possibilities in the forestry sector (n=114)

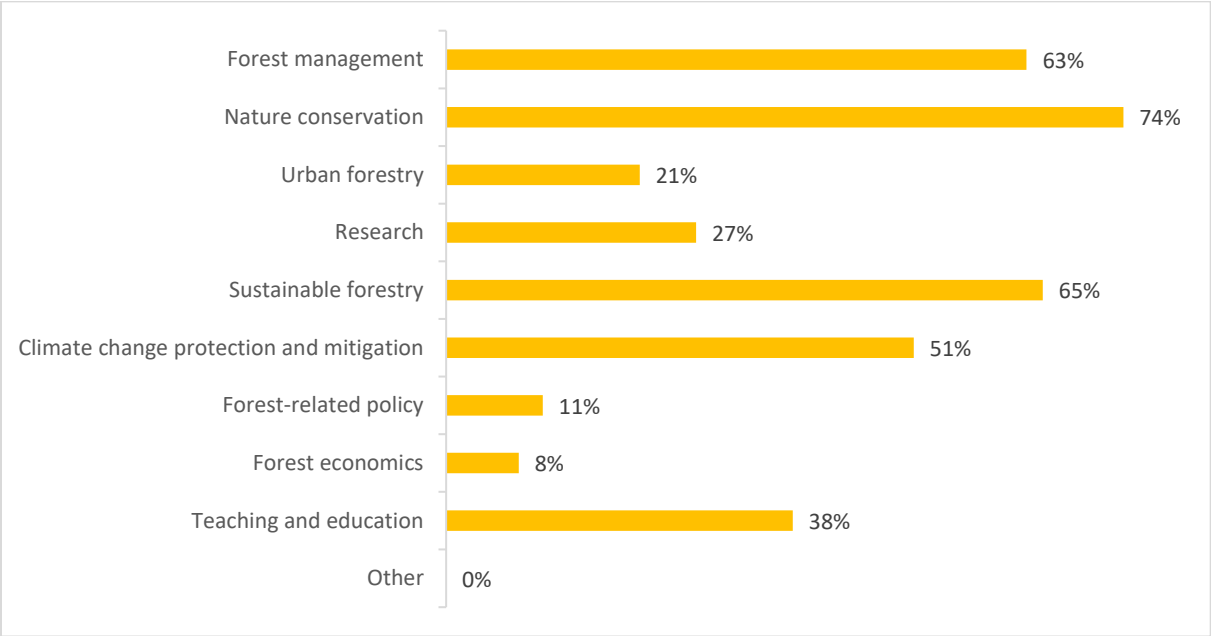


Figure 57: Projected career paths of forestry students (n=114)

The study explores which factors would increase the attractiveness of forestry professions for high school students. Our results indicate that an appropriate salary and the positive impact that forestry might have on the climate are the most important factors for high school students to consider a career in forestry (see Table 10). The perceived opportunity to make a difference for nature conservation is attractive for one out of two students.

Table 10: Factors increasing attractiveness of forestry as a career option for high school students (n=67)

	Number	*Share*
Understanding that forestry can impact climate change positively	39	58 %
Better image of foresters	8	12 %
Appropriate payment	49	73 %
Opportunities to work closely with local communities, and contribute positively to rural development	13	19 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	33	49 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	11	16 %
Other	4	6 %

The awareness level of forestry students vs. high school students regarding the skills and qualifications required for forestry careers is highly divergent. While most forestry student are very

informed about skills and qualifications required for forestry careers, the majority of high school seems to be completely uninformed (see Figure 58).

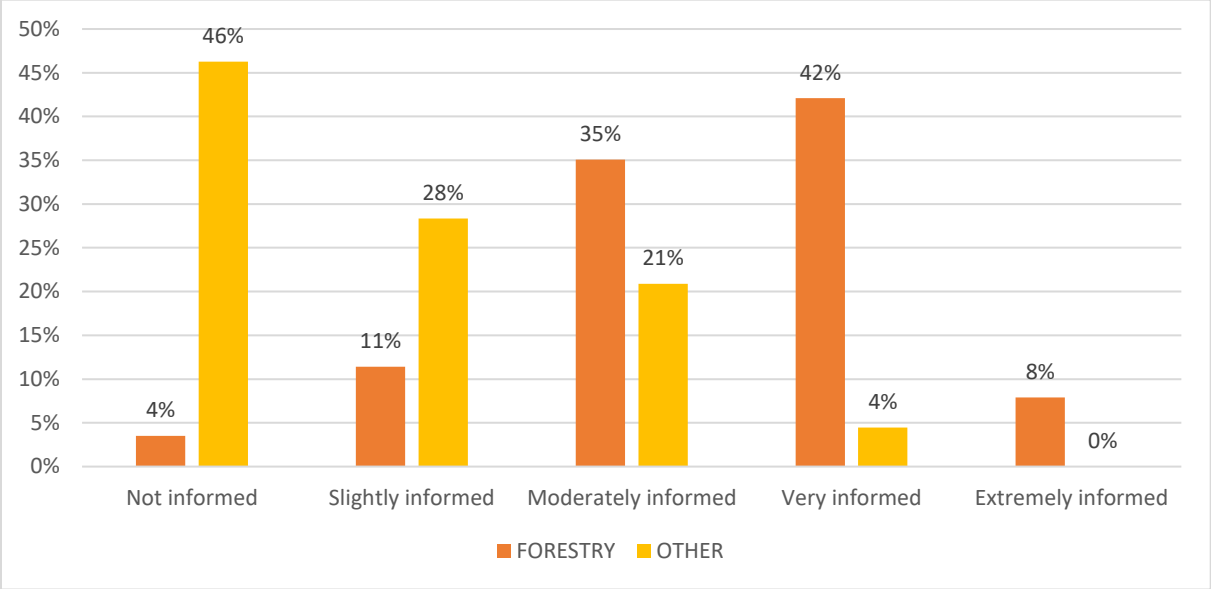


Figure 58: Awareness of skills and qualifications required for forestry careers (n = 181)

Most forestry students participating in the study consider the possibility for career advancement as fairly important or important, whereas the possibility for future education is pointed out as very important by 39 % of the respondents (see Figure 59).

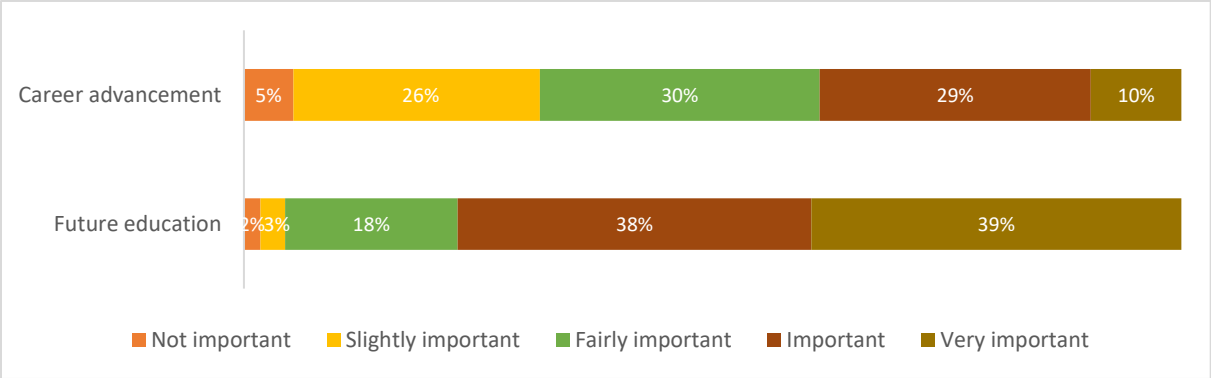


Figure 59: Importance of career advancement and future education to students of forest educational facilities (n=114)

7.2.5 Perceptions and challenges of career in forestry

High school and forestry students share the perception that the main misconception/stereotype about forestry careers is that the work is not for women. The second most widespread perception about forestry careers is that it is hard physical work (see Figure 60).

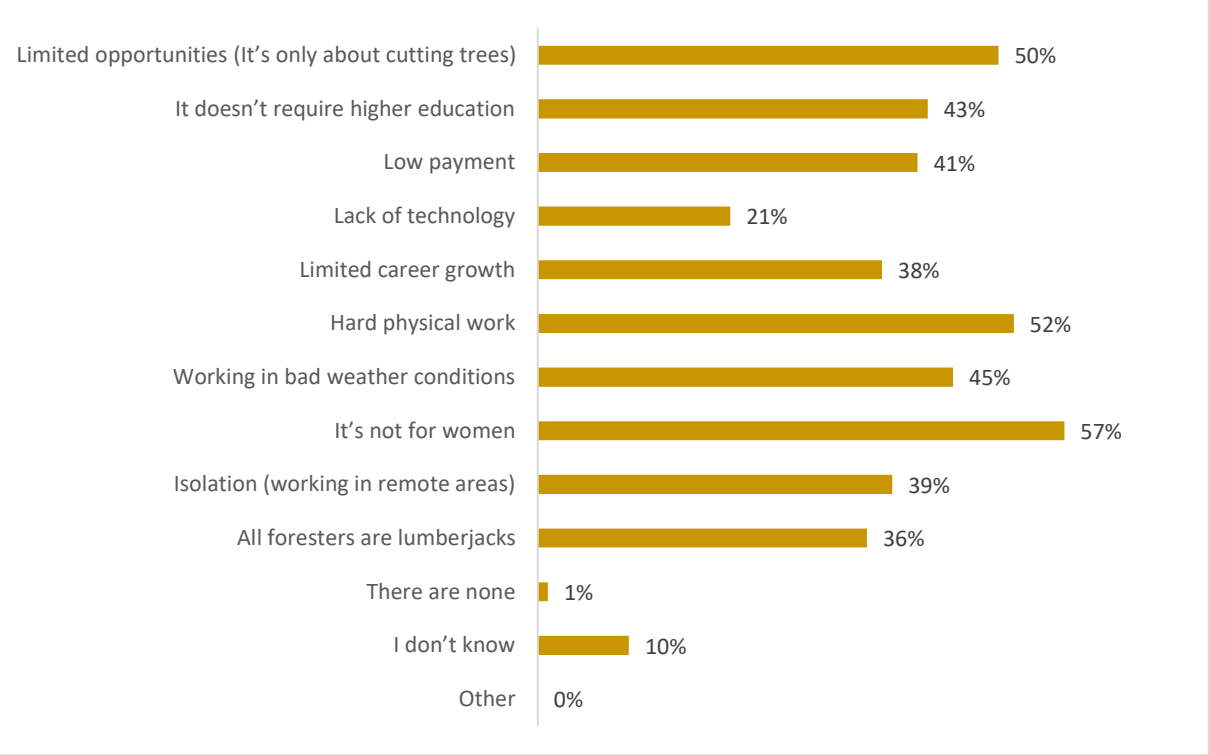


Figure 60: Perception of misconceptions/stereotypes about careers in forestry

The survey indicates that the main barriers which stop girls from studying in the forestry sector are gender stereotypes associated with forestry professions and a lack of visibility of female role models in the forestry sector (see Figure 61). Several female forestry students also mention sexism and a male-dominated working environment where women are not taken seriously as possible barriers for women to choose a career in forestry. Interestingly, those with some experience in the forest sector by means of their educational path seem to have a stronger awareness of gender-oriented barriers than the female students in the higher schools.

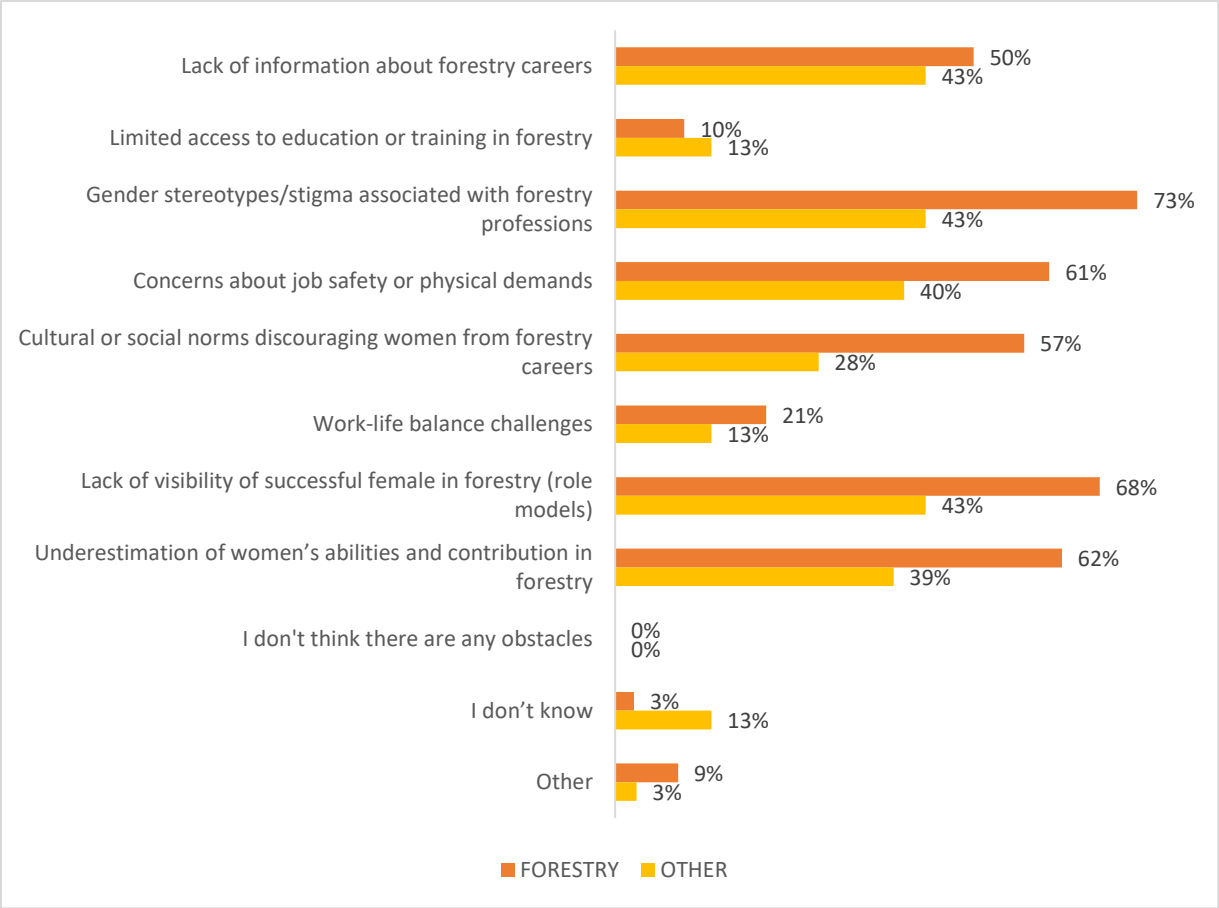


Figure 61: Perception of main barriers for girls and young women to enter the forestry sector (n=181)

Most forestry students indicate that they have encountered gender-specific challenges or biases during their forestry education or field experiences (see Figure 62). Similarly, 66 % of the respondents state that they perceived being treated differently during their training/internship because of their gender. Many of the female forestry students reveal that they have made experiences with sexist behaviour (e.g. inappropriate comments, physical advances, etc) and stress that they are not taken seriously by their male peers because they are seen as weak or not capable because of their gender ("I was asked if I could even hold a chainsaw as a woman."). Further gender-specific challenges include aspects of female hygiene like menstruation or going to the toilet, which are not respected or even ridiculed by instructors/supervisors during excursions or field work. One of the students pointed out a lack of flexibility in the forestry study programs (e.g. full-time mandatory internships) that make it very difficult for students with children to arrange their work-life balance. Several of the respondents indicate that they eventually get accepted by their male peers after they show what they are capable of in the physical forest work or at hunting activities.

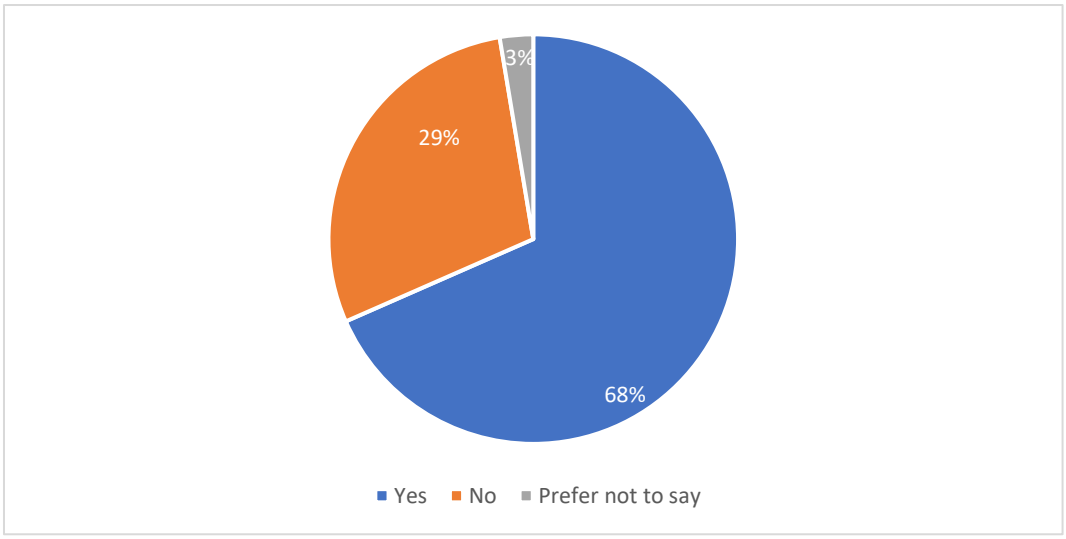


Figure 62: Experiences with gender-specific challenges or biases in forestry education or field experiences (n =114)

The study indicates that the reactions of family and friends to the decision of the young women showing interest in a forestry career was very positive (see Figure 63). Similarly, the perception of forestry careers among friends and peers (social circle) of high school and forestry students is also positive (see Figure 64).

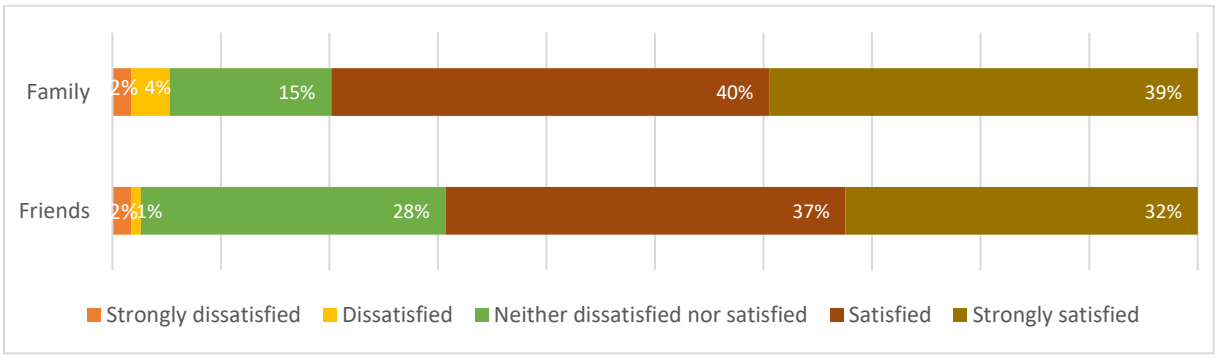


Figure 63: Reactions of family and friends to students´ interest in the forestry sector (n=114)

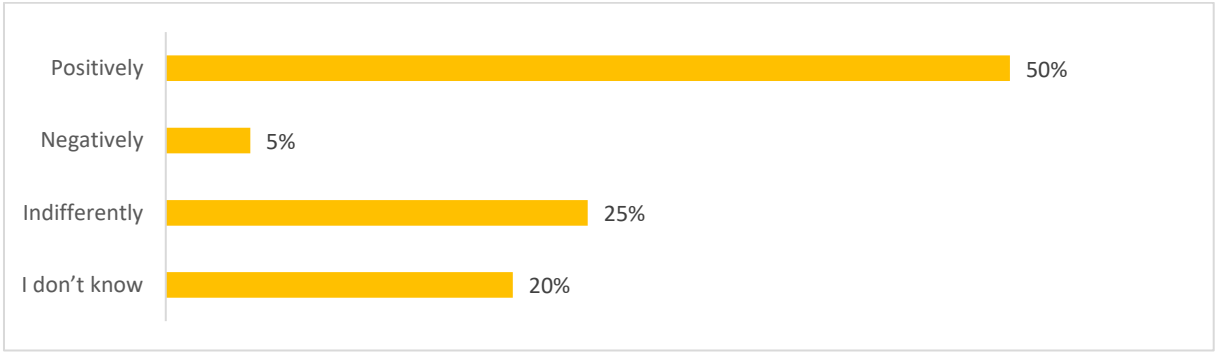


Figure 64: Perception of forestry careers in community/ social circle (n=181)

7.3 Country Report: Austria

7.3.1 General background

87 girls and young women from 3 non-forestry schools, 2 forestry schools and 1 forestry university were surveyed.

Of the 87 female respondents, 30 come from the forestry high schools, 7 from the forestry university Vienna and 50 from other high schools.

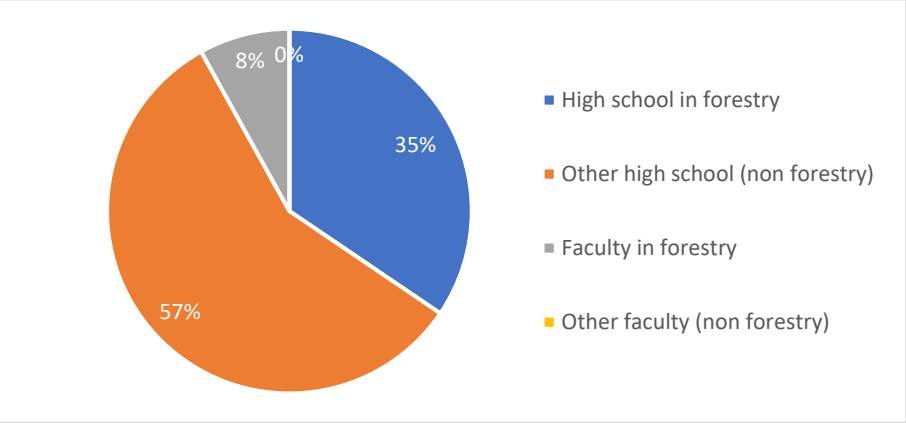


Figure 65: School attendance of the participants

Most respondents from high school were between 15 and 18 years, at university-students there is a wide range from 24 to 52 years.

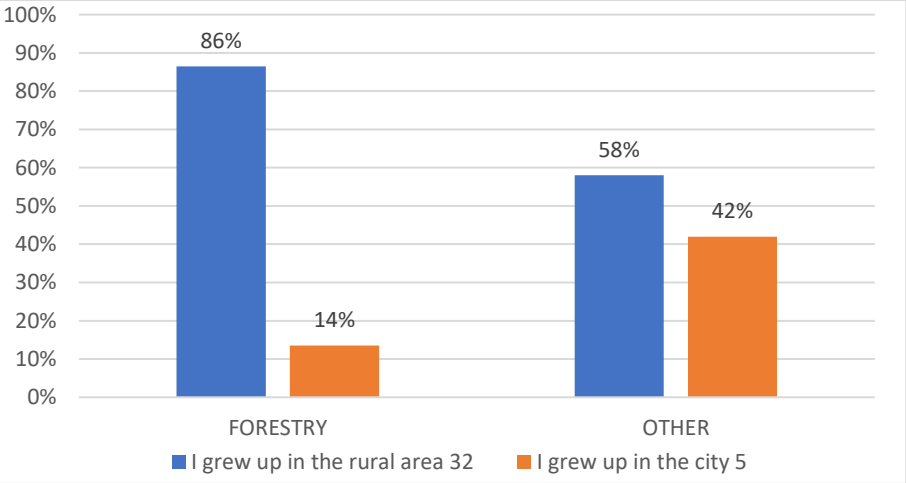


Figure 66: Origin of participants

Most of the students from forestry sector grew up in rural areas, the ratio is relatively balanced among female pupils from other schools.

89 % of respondents from the forestry sector see personal interest in subject matter as the most important factor in their choice of profession, followed by work-life balance (58 %), work nearby (53 %) and job availability and stability (48 %), financial considerations are rated with 43 % (very important & important).

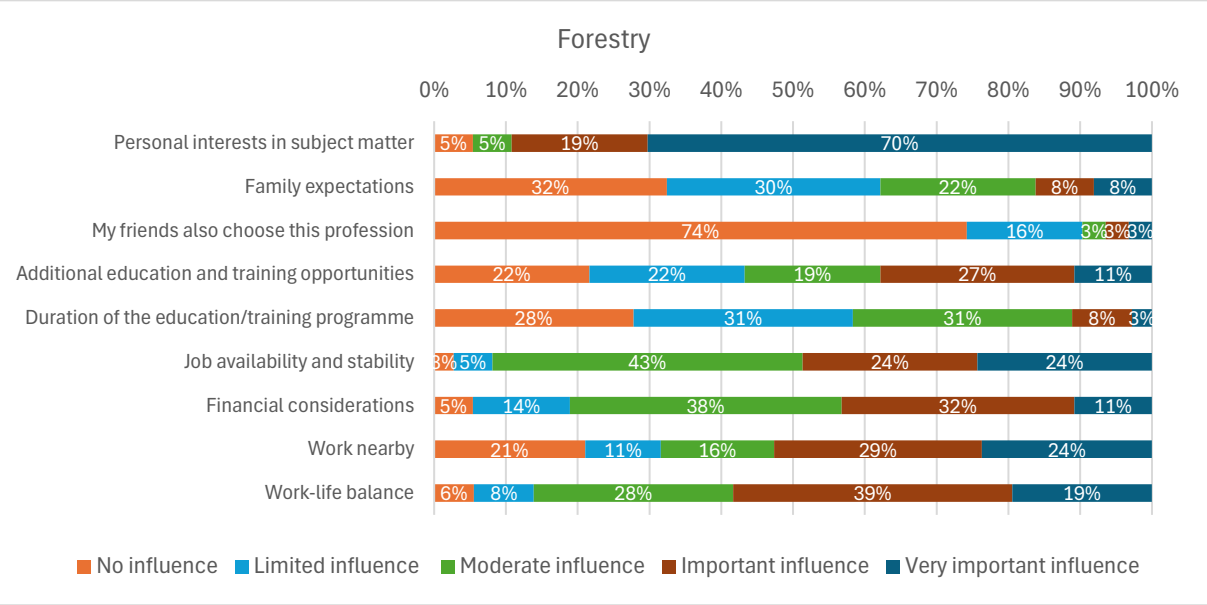


Figure 67: Factors influencing career choices of the students of forestry educational institutions

For non-forestry schools, job availability and stability were rated as the most important factor (74 %), followed by financial considerations (62 %) and personal interests in subject matter (52 %). Additional education and training opportunities are also relatively highly valued (49 %) (very important & important).

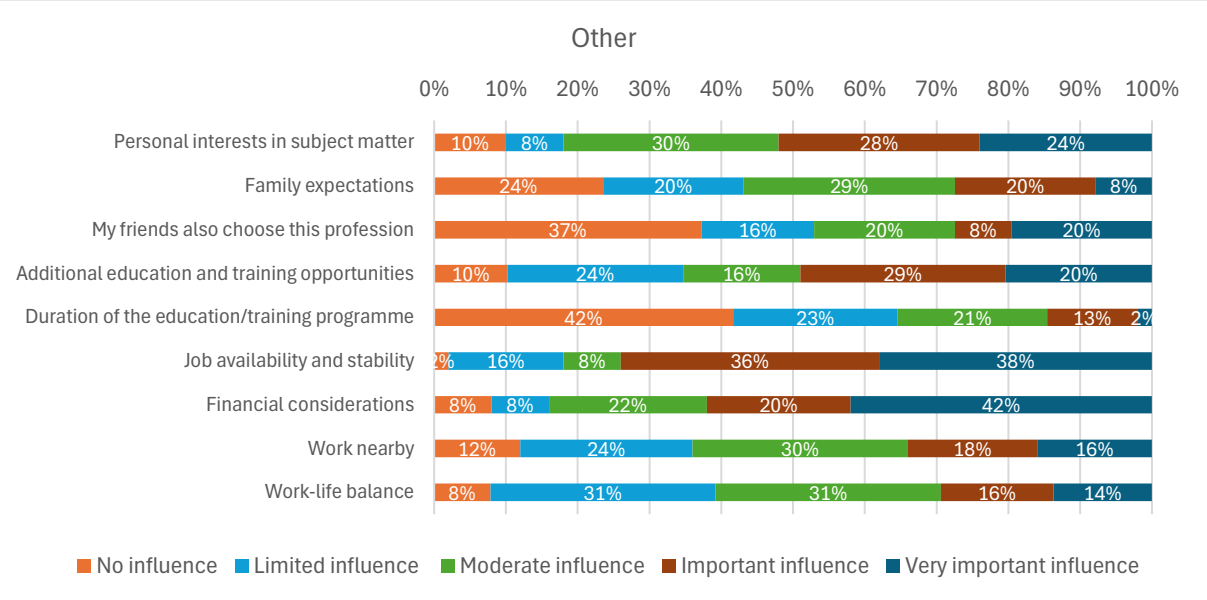


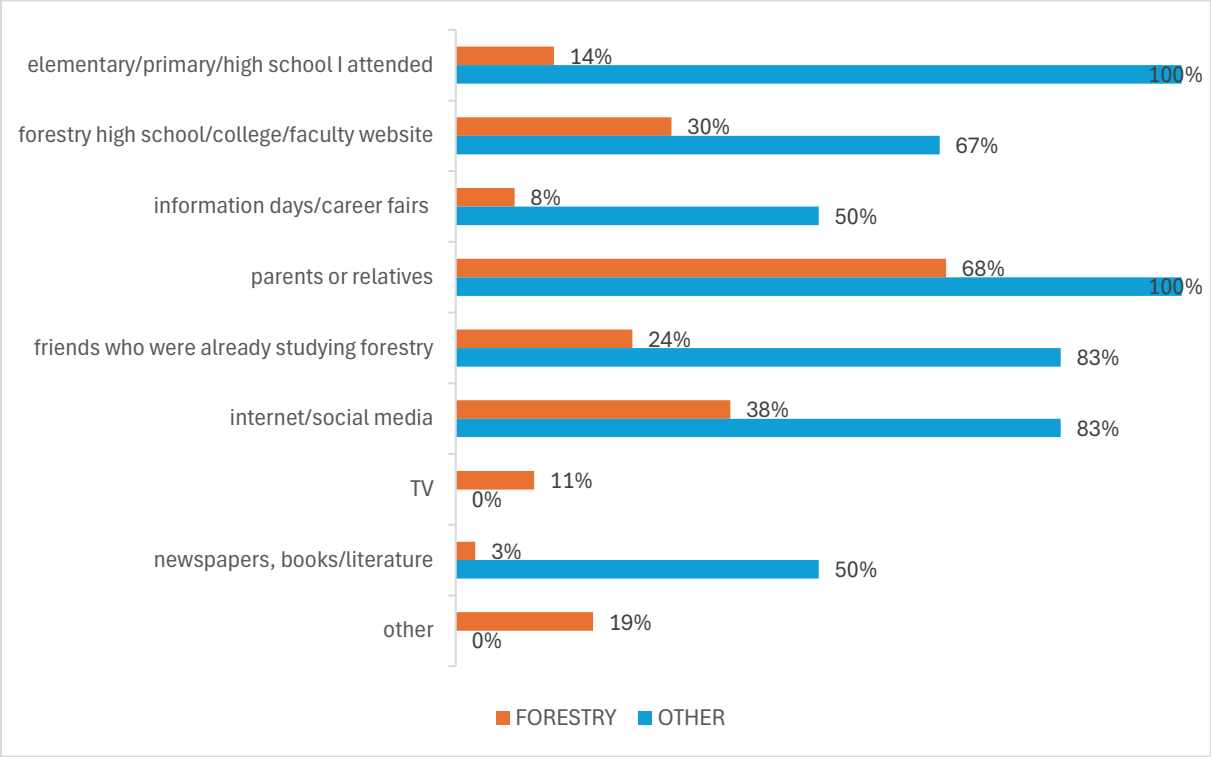
Figure 68: Factors influencing career choices of the students of other educational institutions

7.3.2 Information and motivation for forestry education

Only 13 % of the surveyed students from non-forestry schools received information about forests professions/fields of activity before starting their education.

Forestry students received information primarily from parents and relatives followed by internet and social media.

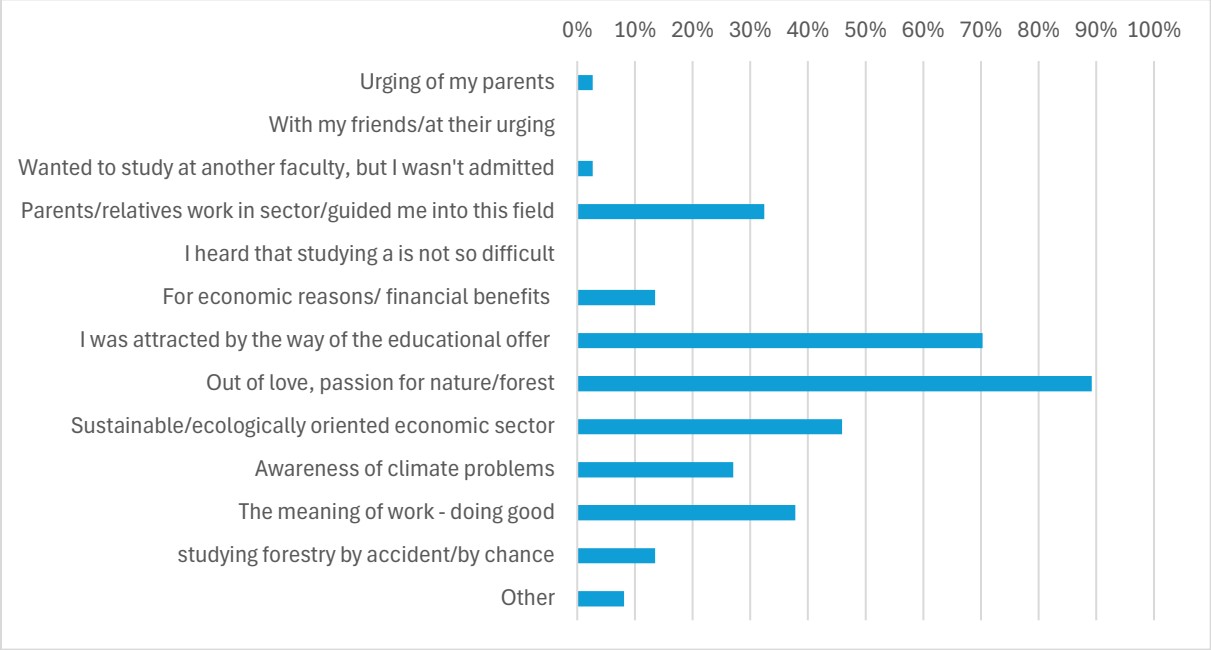
Figure 69: Obtain information about forestry professions



- ➔ Forester from my area, where I completed an internship
- ➔ Friends (3x)
- ➔ Self-interest, homepage, but generally a lot
- ➔ not at all
- ➔ From a forestry academic

Love of and passion for nature (89 %) and educational offer (70 %) are the main reasons that make higher forestry education attractive for the respondents.

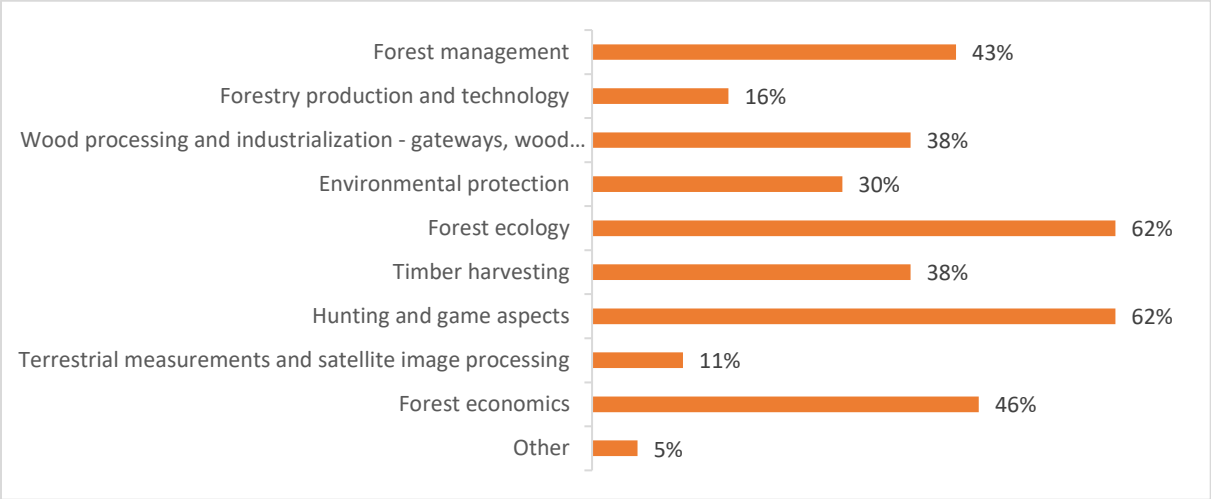
Figure 70: Reasons that influenced students' decisions to pursue higher education in forestry



- ➔ Because I want to be one of those who actually want to change something
- ➔ I'm only here because of agriculture
- ➔ The connection to my conservation studies - I wanted to understand both sides (conservation and management)

Forest ecology (62 %) and hunting and game aspects (62 %) are the areas of interest that contributed most to the choice of the students.

Figure 71: Areas of interest that contributed to students' choice of forestry education



- ➔ Interest in environmental policy
- ➔ General knowledge of ecology coupled with an understanding of long periods of time and relationships. On top of that, the inclusion of the economic perspective. I have not been able to discover the latter in any other study.

Only 8 % of respondents from non-forestry schools have ever considered forestry training as a career option, 24 % are aware of career opportunities in the forestry sector.

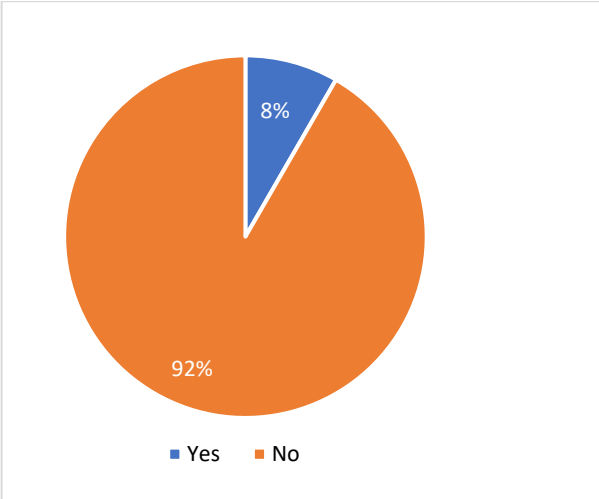


Figure 72: Forestry as a career option

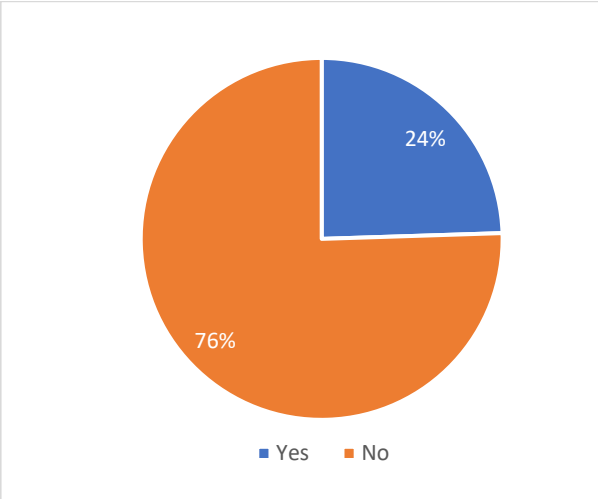


Figure 73: Awareness of career opportunities in the forestry sector for non-forestry students

Information via social media (50 %), seeing more (female) role models in forestry (38 %), forestry-related workshop or field trips (40 %) and opportunities for job shadowing or internships (36 %) as well as access to informational materials about forestry careers (38 %) could be door-openers to consider studying in forestry.

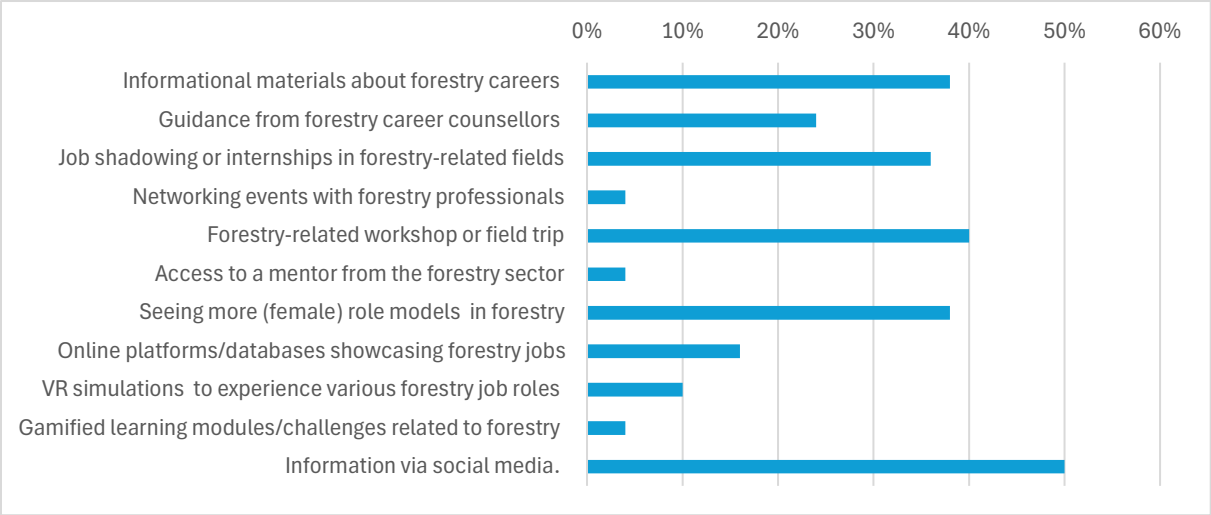
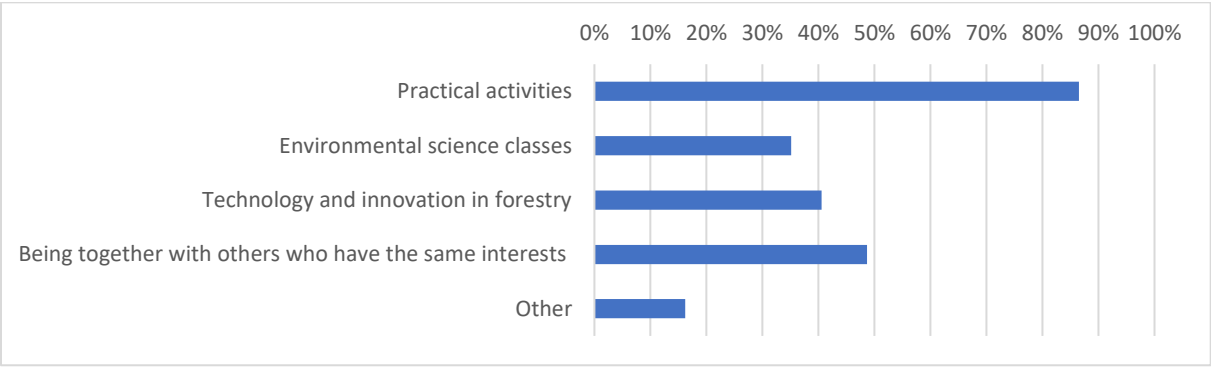


Figure 74: What helps to consider studying in forestry

7.3.3 Interests and needs in forestry education and career

Practical activities (86 %) followed by being together with others who have the same interests (49 %) are the aspects of forestry education that students find most engaging.

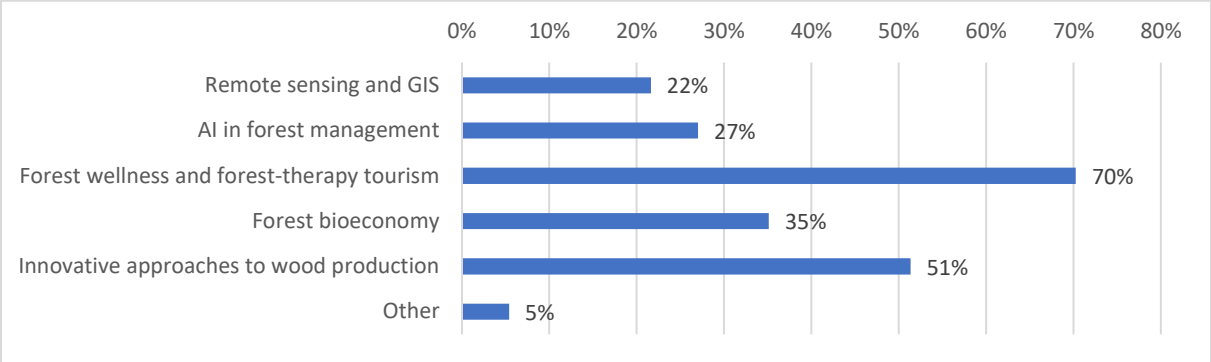
Figure 75: Most engaging aspects of forestry education



- Nothing at all
- Working with and in nature
- Discussions about caring for wildlife/forests
- Climate
- Management, forest policy
- Forestry pathology
- Forestry entomology
- Silviculture
- Intertwining practice, business and ecology

Forest wellness and forest-therapy tourism (70 %) and innovative approaches to wood production (51 %) are innovative approaches and technologies which are highlighted by the students.

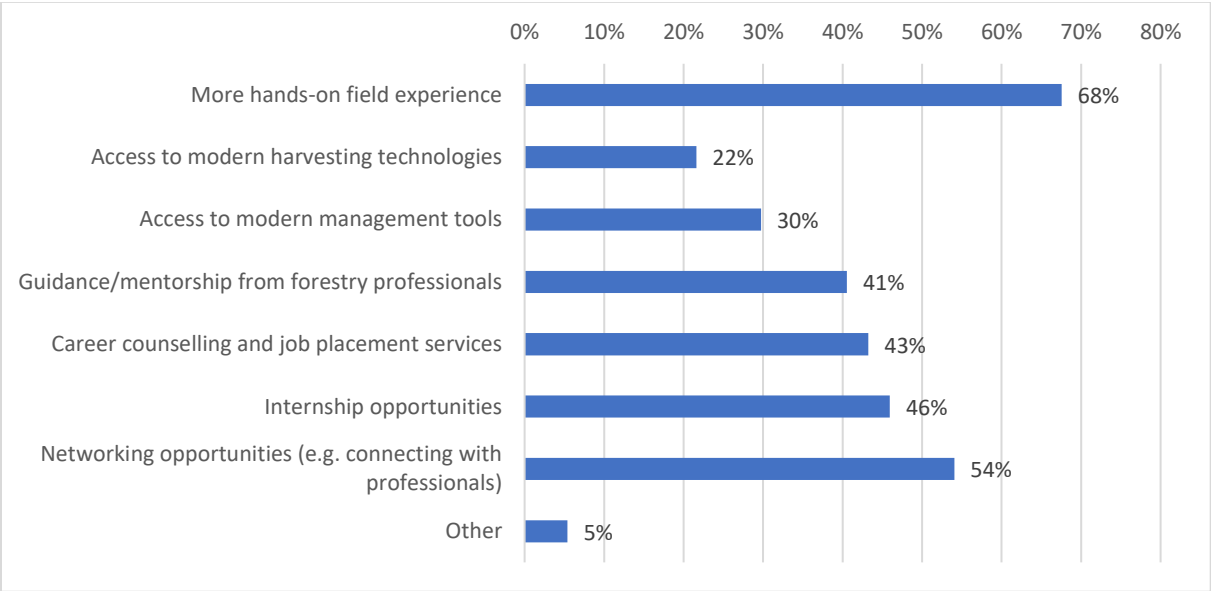
Figure 76: Innovative forestry practices or technologies that students are interested in



- ➔ Business management, forest policy
- ➔ Forestry in climate change
- ➔ I am grateful for the many subject areas covered by the course. I would like to continue my personal education in the subject area of "Forest and Health and Forest Bathing".

68 % of the students point out that more hands-on field experience would enhance forestry education as well as networking opportunities (54 %).

Figure 77: Support or resources that enhance forestry education and career preparation



- ➔ Visits to companies
- ➔ Contact with people from the sector (e.g. foresters)
- ➔ Careers advice for specialist areas outside the core area of forestry. Where do all our professionals go? What can we learn from them? Also to learn from female graduates how to combine career and family in the area or what is not possible.

48 % of non-forestry students state that they have already taken part in forestry activities.

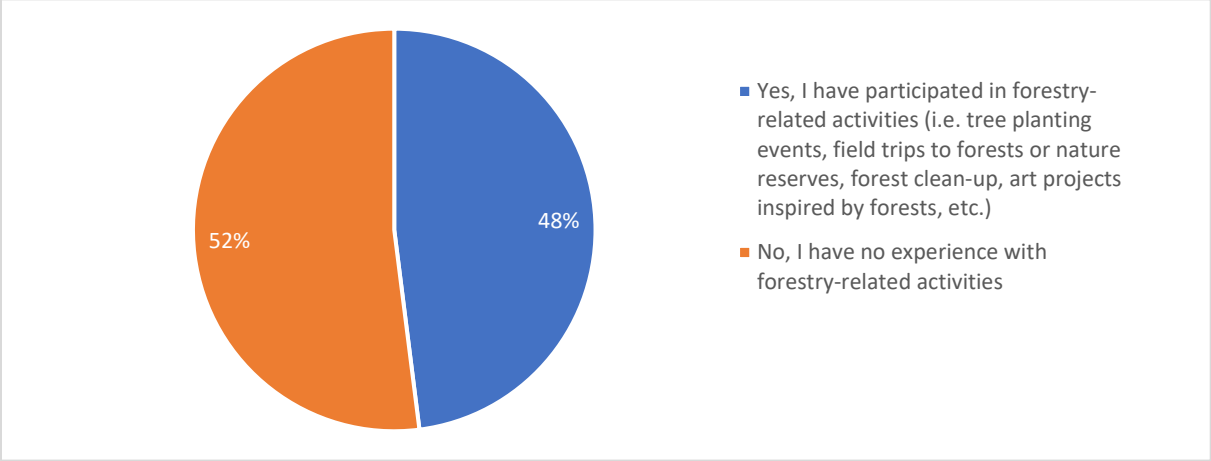
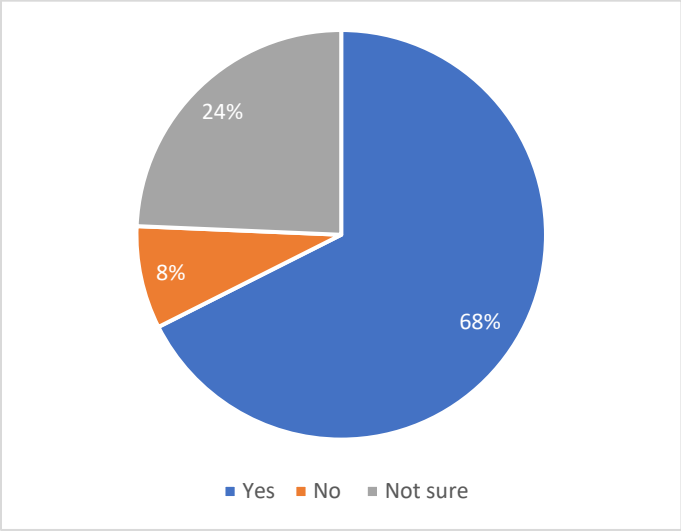


Figure 78: Exposure to forestry-related activities or education in school or extracurricular programs of non-forestry students

7.3.4 Career paths and skills required for forestry career

A high proportion of respondents (68 %) feel that they are well prepared for a career in forestry after completing their education.

Figure 79: Preparedness to enter the forestry sector after graduation



YES:

- ➔ Because we learn a lot about it, both practically and in theory
- ➔ Because we learn it very well at school
- ➔ Because it was explained to us well
- ➔ The best way to learn about forestry on the farm

- Because you learn a lot & also see how to do things properly
- A lot of practice, but also theory
- Because we have very good teachers who explain everything very precisely and you understand everything
- Because we learn a lot in practice but also in class
- Because I don't think you learn as much about forestry anywhere else as you do at this school.
- Good reputation of the school, information from friends who have completed the school
- You learn a lot and you learn well. The teachers are very competent and teach you a lot.
- Because you have a lot of practice...
- Because you learn from experts
- Because there are competent teachers at the school who explain the material so that you understand it.
- Good learning opportunities, teachers, learning techniques, ...
- Because most of them do their best and teach us everything and encourage us to form our own opinions
- Because I want to stay at university and specialize in this direction
- Thanks to the wide range of courses covering numerous subject areas, I feel that I am well prepared for the forestry industry. Before I start my career, I would like to brainstorm which activities are planned for me in the relevant profession and how I can prepare myself.

NOT SURE:

- Generally good training, but with room for improvement
- Let's see what happens.
- I haven't done 5 years yet, so I can't judge that
- Depending on the field of work and hierarchical positions in the company/enterprise/organization

NO:

- No interest
- Because most of the content is taught mainly in theory and therefore the subject areas are
- difficult to remember.
- Because a lot is only learned for tests in order to get a good grade, the rest disappears again
- Too little practical relevance
- I don't think the course prepares you well for your future career
- Because it's still a closed men's club where being different is unwelcome. You simply have to know a lot of things that you can only find out from others, and you are denied that if you don't belong in the eyes of others. You only learn these things if you belong, and at BOKU that means you have to have attended the HTL forestry college beforehand, you come from a background that is firmly established in the forestry world. If I had been aware of this before I started my studies, I would probably have chosen a different degree program, because in my opinion, this fixed closed-mindedness and rejection of change through otherness is unprofessional.

Students are really confident to find a job after finishing their education within the country (74 %), they are not convinced regarding their opportunities abroad.

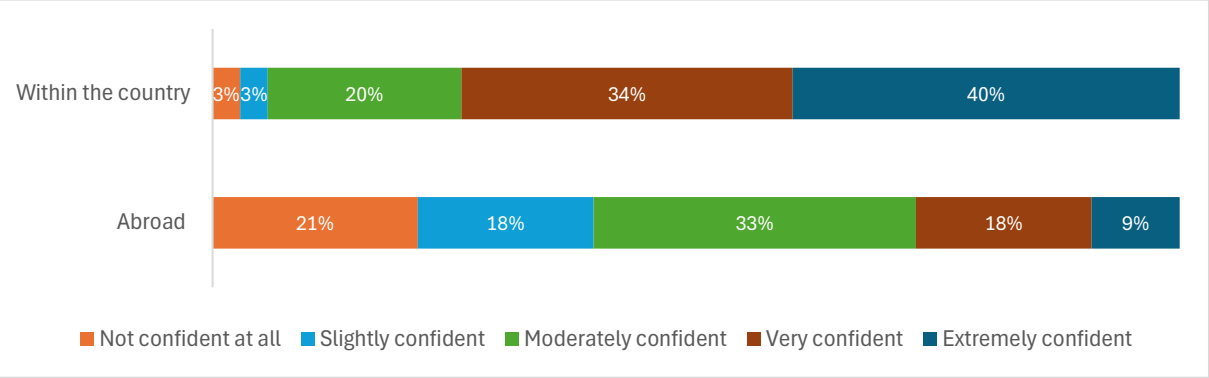
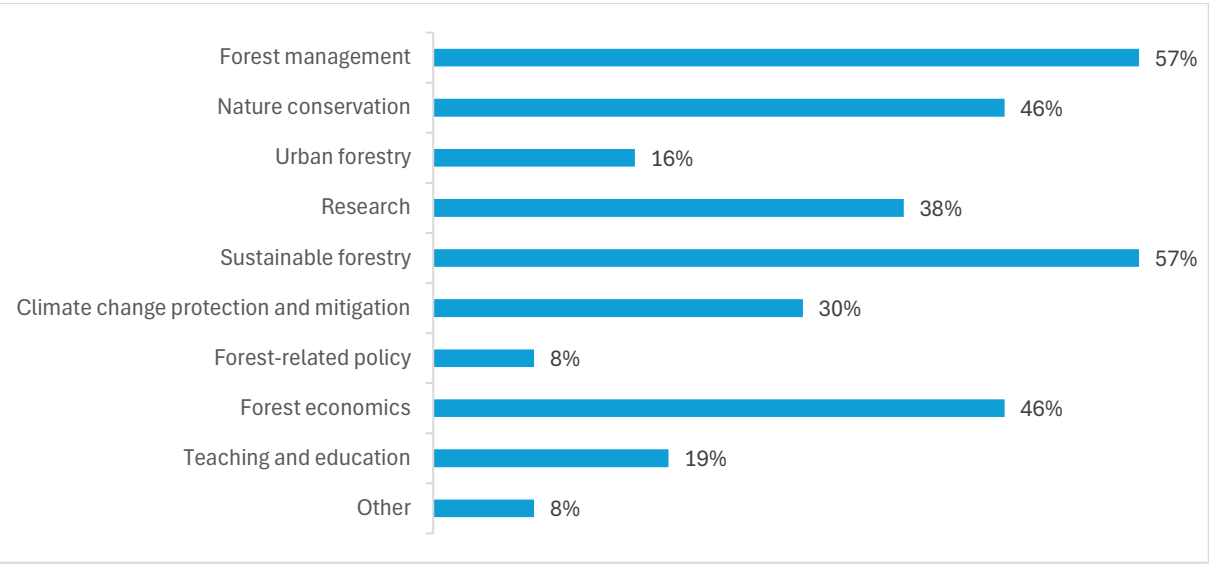


Figure 80: Confidence about finding employment in the forestry sector after graduation

After completing their education, a high proportion of students see themselves working in the fields of forest management (57 %) and sustainable forestry (57 %), followed by nature conservation (46 %) and forest economics (46 %).

Figure 81: Considered career paths within the forestry sector



- ➔ Hunting areas
- ➔ Torrent and avalanche control
- ➔ Wind power plant construction

Appropriate payment (60 %) and understanding that forestry can impact climate change positively (36 %) can be boosters to make the forestry sector more attractive for non-forestry students.

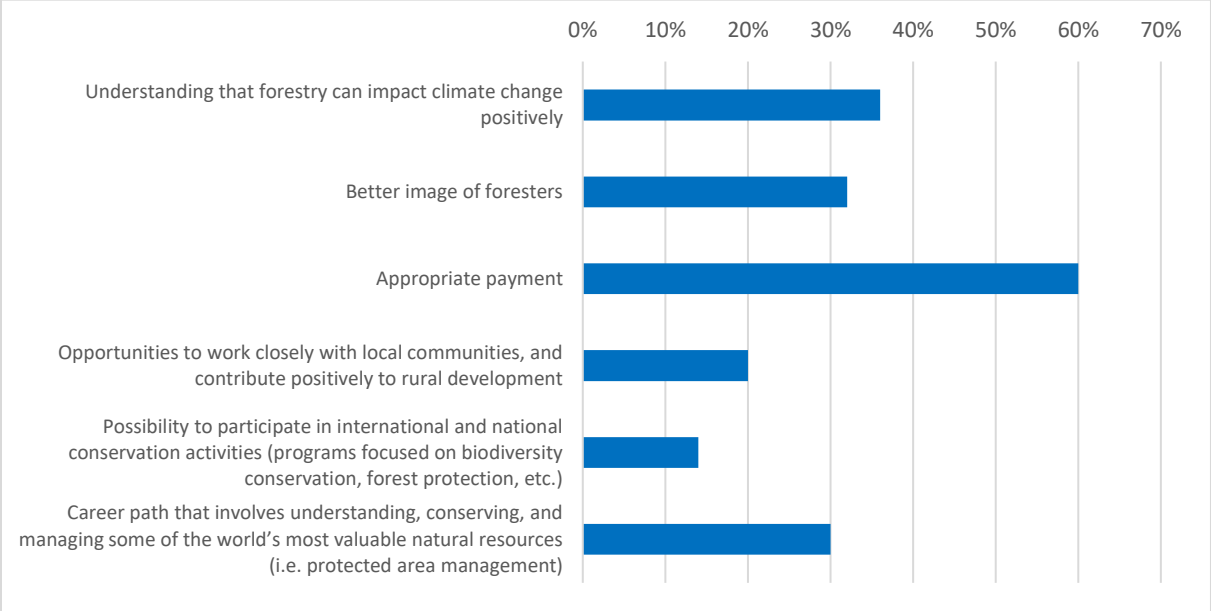


Figure 82: Factors that make forestry a more attractive career option for non-forestry students

More than half of the students from the forestry sector feel only moderately to slightly informed about the skills and qualifications required for forestry professions. Students from non-forestry schools perform even worse here, only 30 % are moderately informed.

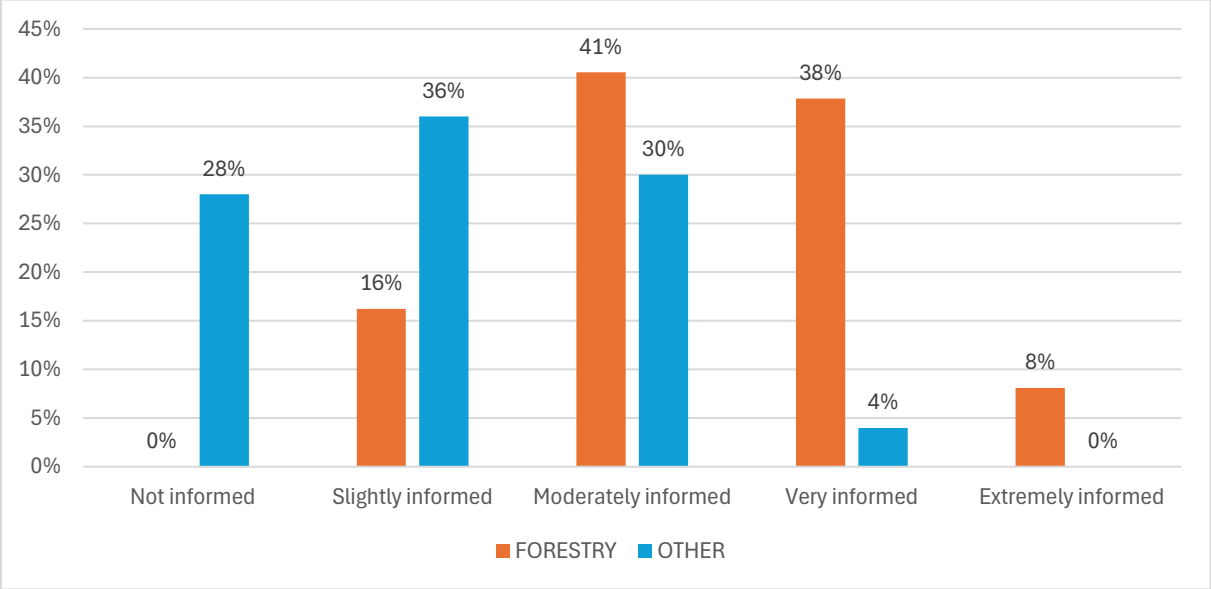


Figure 83: Awareness of skills and qualifications required for forestry careers

Career advancement (82 %) and future education (92 %) are very important for students in forestry.

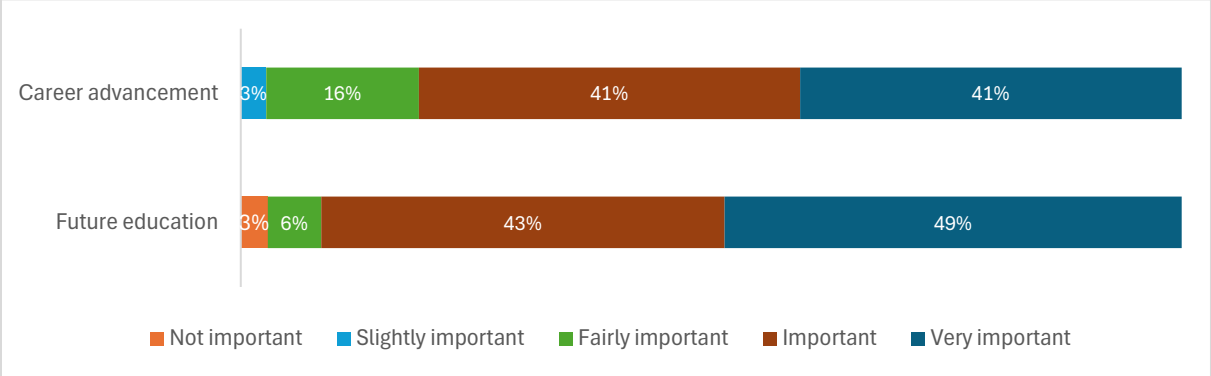
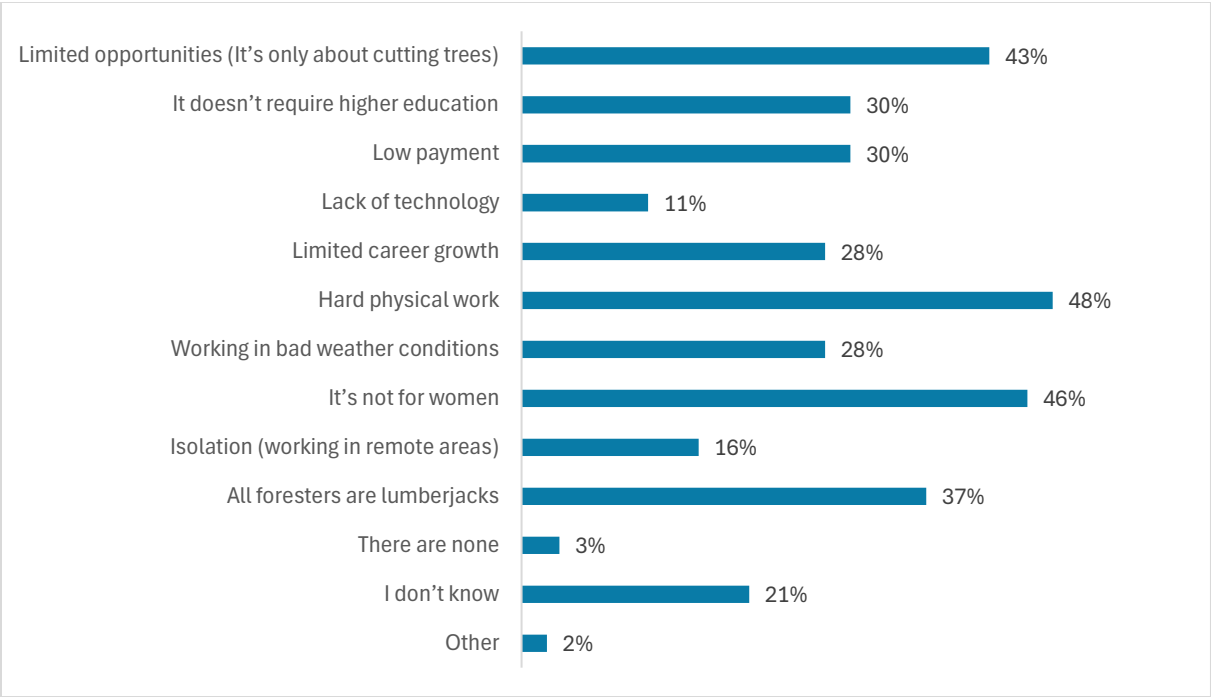


Figure 84: Importance of career advancement and future education

7.3.5 Perceptions and challenges of career in forestry

All respondents see the forestry sector as having strong male connotations, which is also reflected in the assessment of prejudices and stereotypes. 48 % of respondents mention hard physical work, followed by "It's not for women" (46 %). Very limited opportunities in terms of activities are also mentioned to a high degree (43 %).

Figure 85: Perceptions of misconceptions/stereotypes about careers in forestry



- ➔ The forestry students only keep to themselves. There is no cooperation and commitment in the course or outside any other student activities
- ➔ Conservative sector, old structures
- ➔ I think the preconception of "limited opportunities (it's only about cutting down trees)" can be common among some. However, posts on websites and social media offer an insight into how broad the forestry industry is.

70 % of forestry students surveyed see gender stereotypes/stigma associated with forestry professions as the main obstacle to accessing forestry education, followed by underestimation of women's abilities and contribution in forestry (57 %) and concerns about job safety or physical demands (54 %). Students from non-forestry schools also cite attributions and prejudices as the main obstacle, followed by a lack of information about forestry careers and limited access to education or training in forestry.

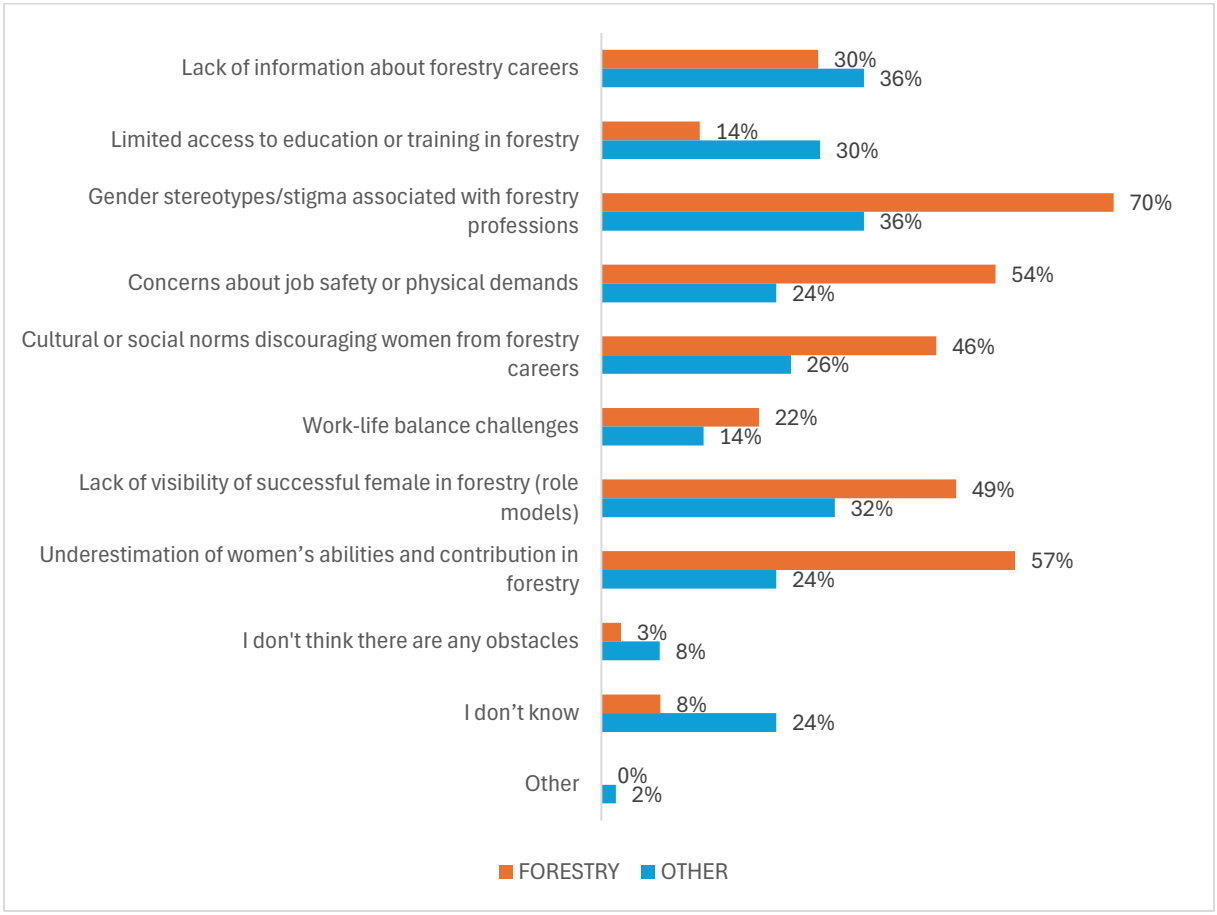
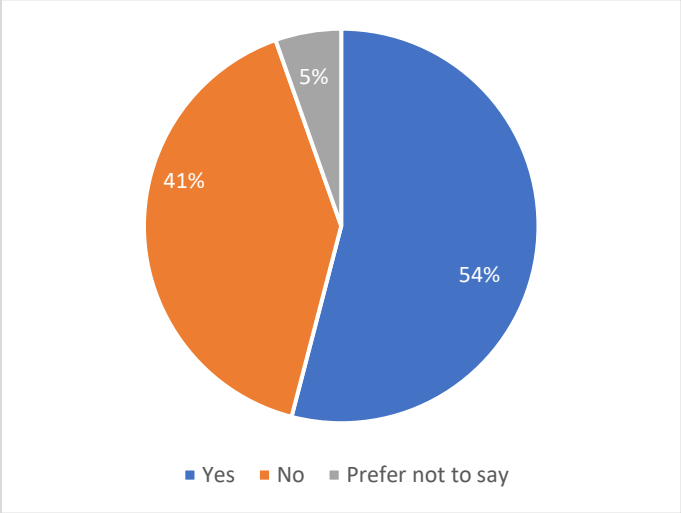


Figure 86: Main barriers to study in the forestry sector

54 % of the forestry students stated that they had been confronted with gender-specific challenges or biases in forestry education or field experiences.

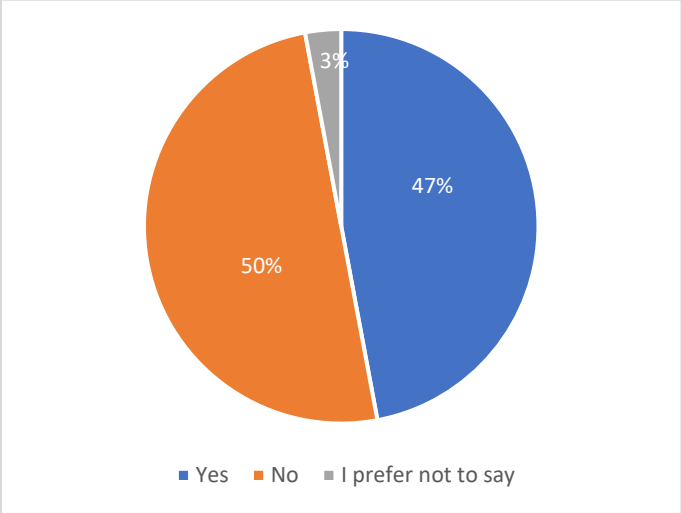
Figure 87: Gender-specific challenges or biases in forestry education or field experiences



- This is not for girls
- Women don't belong in the forest
- Having less (alleged) strength and endurance as a woman than men
- preferring to let the man do the “harder” work
- is certainly normal in a dominant boys' school (puberty also plays a role)
- I'm not allowed to make any mistakes because otherwise it's “It's obvious, she's a girl.”
- Sometimes people don't trust us to do things.
- Teachers have told me that, as a woman, I have no place in the sector
- Snide comments from teachers about my level of knowledge (“It's obvious that you don't know that as a woman.”)
- The main challenge for me is the culture of discussion: most of my fellow students are socialized as men. There are few women on the forestry teaching staff. This sometimes creates a conversation dynamic that I find stressful, such as interrupting each other, having to prove yourself, etc. It often inhibited me from asking “stupid” questions and getting more actively involved.
- I have to prove myself first, whereas my male colleagues are believed when they say they can do something.
- Coming from a misogynistic sector (with work experience), I was surprised at how rigid the attitude of old and young male foresters is. I experienced a professor with whom you had to think carefully about what you wore as a woman because he was assaultive in a way that was noticeable to you and your colleagues, but didn't go just far enough for you to really do anything about it. What's more, you're constantly dealing with young male foresters at university who can't put aside the old ways of thinking they've been exposed to. So you constantly have to prove yourself and are not taken seriously from the outset. This makes it very difficult to gain a foothold. However, the latter depends very much on the age group, and I know of classes in which women didn't have such a hard time because there were modern-thinking men among them.

A slightly lower percentage of women were treated differently during a training/internship because they were female (47 %), half of the respondents did not feel treated differently here.

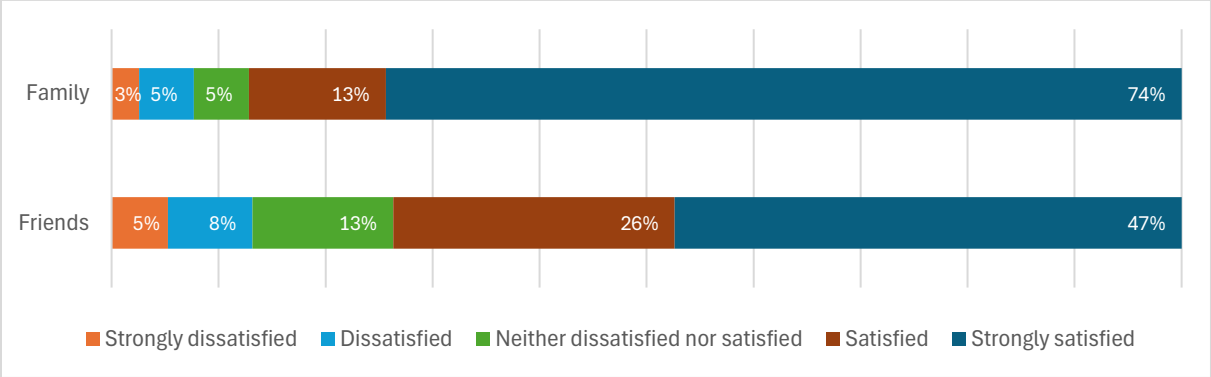
Figure 88: Different treating during a training/internship because of gender



- Was underestimated, given other tasks like the boys
- No, quite the opposite, I was sometimes treated better than the boys
- Yes, but not necessarily negatively
- Sawmill internship underestimated, too few activities for girls
- Not taken seriously in meetings, but if a colleague expressed exactly the same idea/comment/criticism, it was included
- Difficult for me to answer. Indirectly yes, but directly no.
- I was offered to do "lighter" work or to carry my tools.
- During the internship - at the beginning nobody knew how to categorize me

Girls and young women experience a high level of satisfaction, both within the family (87 %) and among friends (73 %), for attending a forestry education.

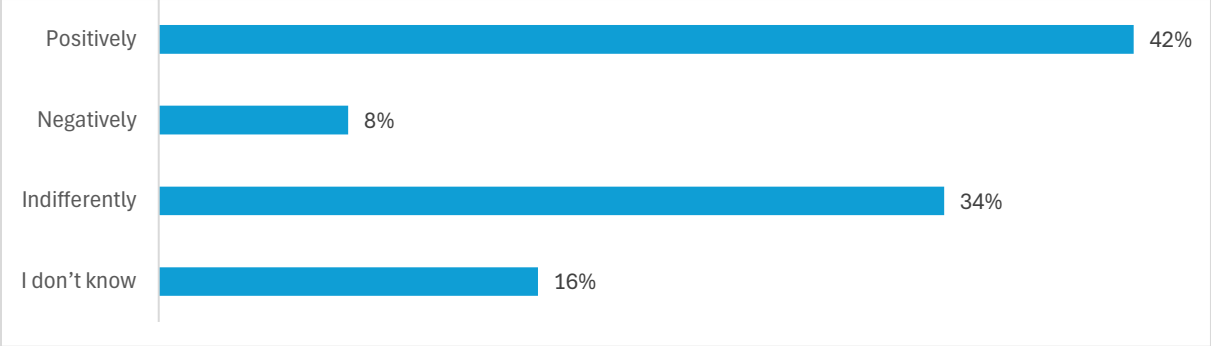
Figure 89: Reaction of family and friends regarding interest in entering forestry education



- They were all delighted
- My parents fully support me
- I lost my circle of friends at home - my family, especially my father, were proud
- My family and friends are very proud that I am doing this apprenticeship and are very supportive
- My friends wanted me to stay at my old school + I think they just can't imagine what it would be like
- Fullest support
- Parents/friends support me in everything
- More surprise than negative... But I've often been asked if I'm sure about it...

42 % of respondents from forestry training and non-forestry schools state that forestry careers are perceived positively within their community or social environment.

Figure 90: Perceptions of how forestry careers are perceived within community or social environment



- I think that if people know about the many areas in which forestry assumes social responsibility (environment, climate, property protection, site protection forests...), it is perceived quite positively.

Respondents also provided additional insights about their education and career paths that were not previously addressed, as follow:

FORESTRY

- I am looking forward to further education
- I hope the job will make me happy
- I wish myself a great future career and hope for a good working relationship!
- No, but have a nice day/evening
- I think it's important to talk to each other about the challenges in the sector. It has always helped me a lot to know other women in the university context who are/were struggling with similar problems and to give them space. In my opinion, the likelihood of "turning off" somewhere else on the education path and not ending up in traditional forestry is quite high.
- I studied at Boku, but after forestry school I opted for wood technology. I'm now a PhD student and want to stay in research, so I'm not sure how helpful this questionnaire is...
- This is the best thing I could ever do

NON-FORESTRY

- ➔ It's not for me
- ➔ No, I'm not interested because I'm not a farmer
- ➔ Just doesn't suit me, plus I'm interested in other things
- ➔ Much more information should be passed on to young people
- ➔ I think it's important and also a very beautiful profession that is close to nature, but for many people it's beyond their intellectual scope because they have no connection to nature

7.4 Country Report: Ukraine

7.4.1 General background

In close cooperation between the Ukrainian project partners: Ukrainian National Forestry University (UNFU) and NGO FORZA, the questionnaires were translated and placed in Google Forms for open circulation, which lasted from 19 April to 15 May. We targeted the main universities that train both foresters and other professionals related to the forest sector (environmental protection, biology, geography, forest economics, wood processing technologies, etc.), namely UNFU and subordinate colleges (Zakarpattya forest technical professional college, Forest Technical College in Lviv); Uzhhorod National University; National University of Bioresources and Life Sciences (Kyiv), Vasyl Stefanyk Prykarpattya National University (Ivano-Frankivsk), National University "Chernihiv Polytechnics", Lutsk National Technical University, State Biotechnological University, National University of Water Management and Nature Resources Use, Sumy National Agrarian University, Uman' National University of Gardening, Kharkiv National Technical University of Agriculture named after Petro Vasylenko, Cherkasy State Technological University.

Official letters inviting female students to participate in the survey were sent out to the above-mentioned universities.

A total of 158 questionnaires completed by female students were collected.

For female forest students, the most influential factors in career choice are: personal interest in the subject matter (over 50 % important and very important), additional education and training opportunities (45 % IM and VIM), job availability and stability (40 % of IM and VIM), and financial considerations (40 %), of them first and latter two are the three factors that had the highest share of being very important.

The factors most frequently selected in the 'no influence' category are friends (69 %), length of education (45 %) and family expectations (36 %), work-life balance (34 %) and working nearby (32 %).

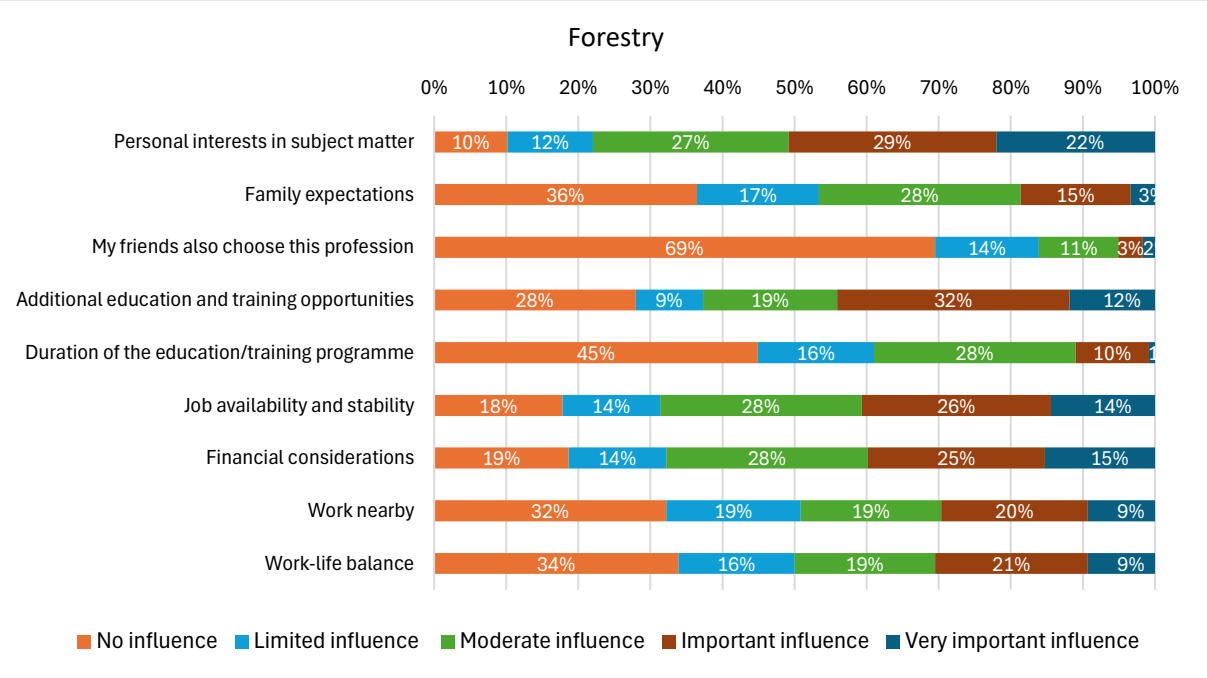


Figure 91: Factors influencing career choices of the students of forestry educational institutions

For the female students, that study Other, than forestry professions, the most influential factors for career selection were partly different from the choice of the forestry students: the personal interest of subject matter (48 % important and very important), and the same share for the job availability and stability, both of them are also selected the most as having "Very important influence".

Friends (78 %), length of education (50 %), and working nearby (45 %) were the most frequently selected factors in the 'no influence' category.

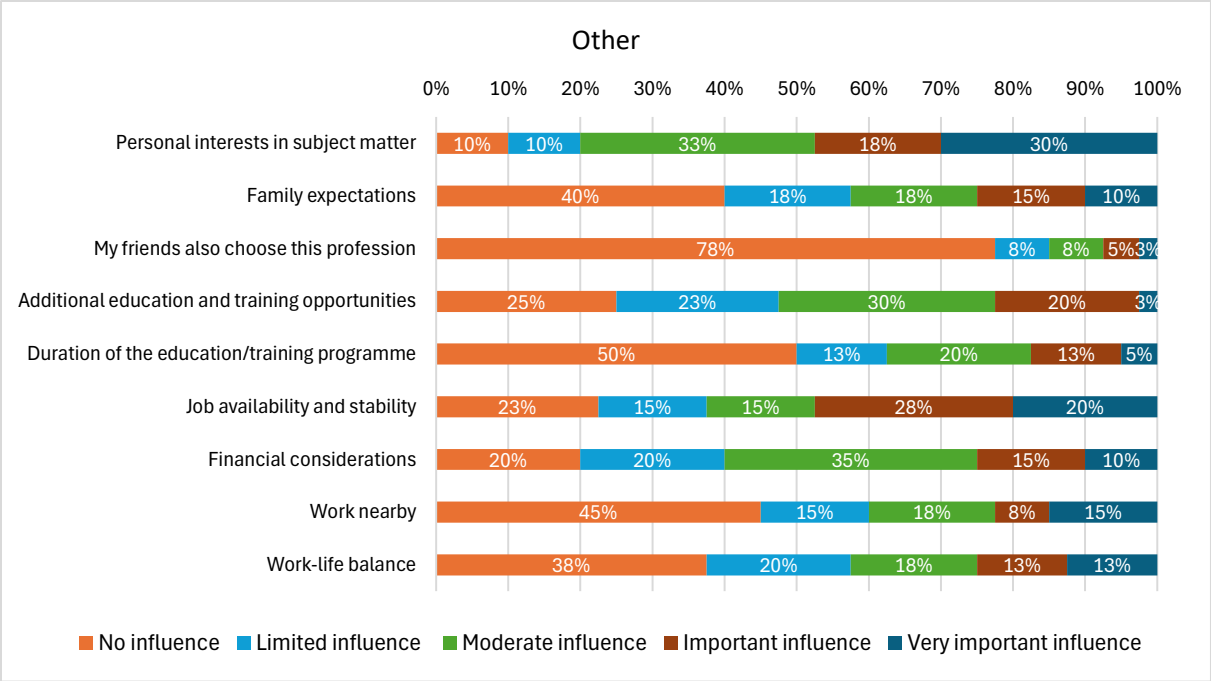


Figure 92: Factors influencing career choices of the students of other educational institutions

7.4.2 Information and motivation for forestry education

The top three sources of information about future forestry studies among forestry students were: internet and social media (58 %), parents and relatives (51 %), forestry school/college/faculty website (35 %).

For those female students, who eventually have chosen other than forestry professions, the leading sources of information about forestry studies were: internet and social media (53 %), elementary/primary/high school respondent attended (47 %), with an equal share of 33 % for the: parents or relatives; friends; information days/career fairs.

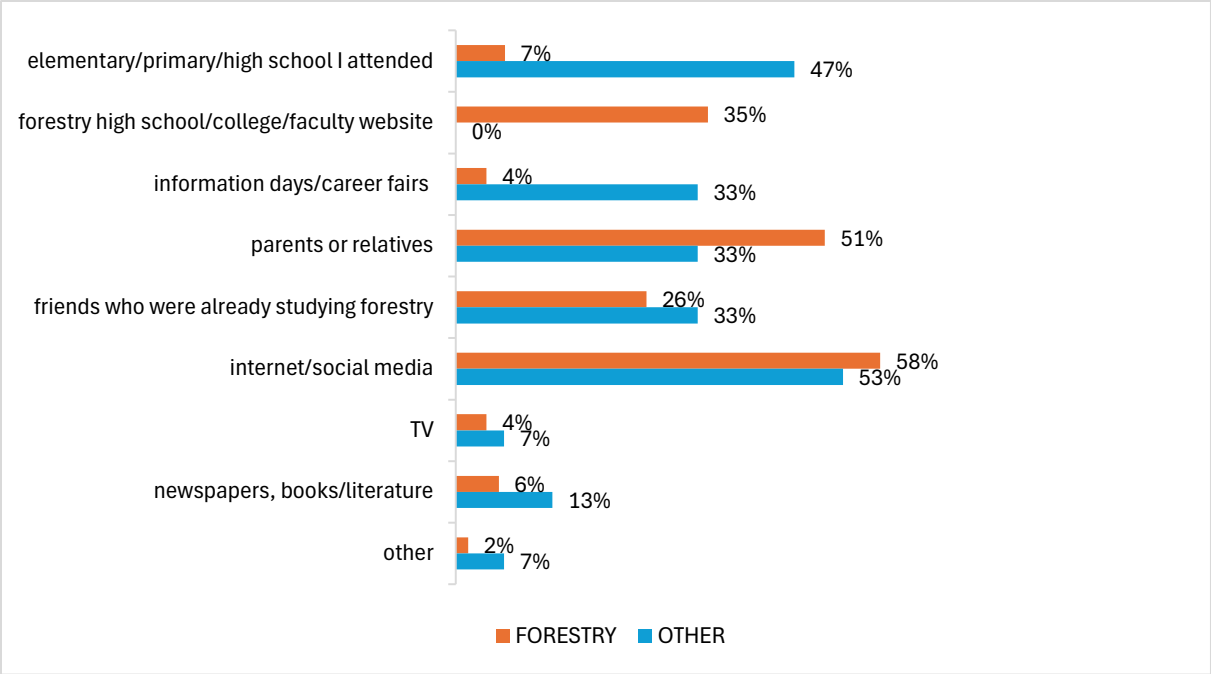


Figure 93: Information sources about forestry education and career

For female forestry students, the most contributing factors to the profession choice were selected "out of love, passion to the nature/forest", with a 20 % share, and "by accident", with a 14 % share (if to add here another selected reason "wanted to study in another school but was not admitted", with 5 % share, this will make 19 % share of "accidental choice"), while the least selected/least contributing factors were "friends", 3 % and "sustainable and ecologically oriented economic sector", with 4 % share.

Table 11: Reasons to enrol into forestry education

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	7	6 %
I came to high school/college/faculty with my friends/at their urging.	3	3 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	6	5 %
Parents/close relatives work in the forestry sector and have guided me into this field.	10	8 %
I heard that studying at this high school/college/faculty is not so difficult.	11	9 %
For economic reasons thinking of the possible financial benefits as an employee.	10	8 %
I was attracted by the way of the educational offer of the high school/college/faculty.	10	8 %
Out of love, and passion for nature/forest.	24	20 %
Sustainable and ecologically oriented economic sector.	5	4 %
Awareness of climate problems.	7	6 %
The meaning of work - doing good.	9	8 %
I ended up studying forestry by accident/by chance.	14	12 %
Other	2	2 %
Total	118	100 %

The areas of interest that contributed to the female student's choice of forestry profession the most, were: forest management (41 %), forest ecology (42 %), and environmental protection (39 %).

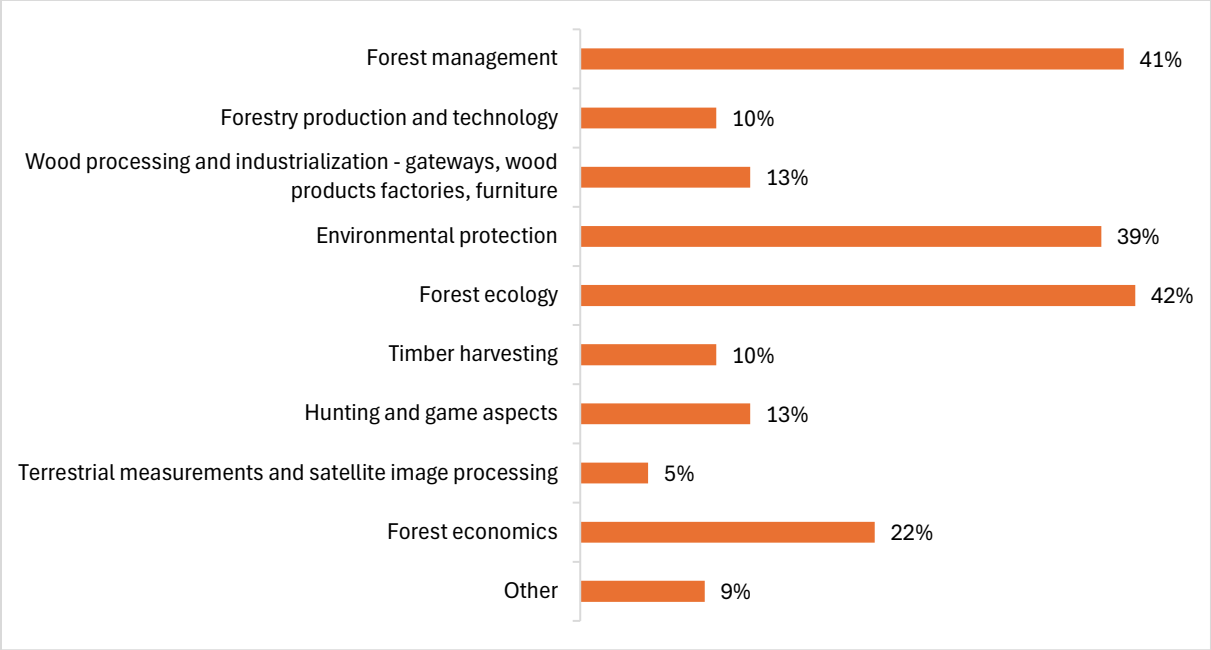


Figure 94: Areas of interest of students of forestry educational institutions

43 % of the female students who had chosen careers other than forestry had considered forestry as a subject of choice, while the remaining 57 % hadn't.

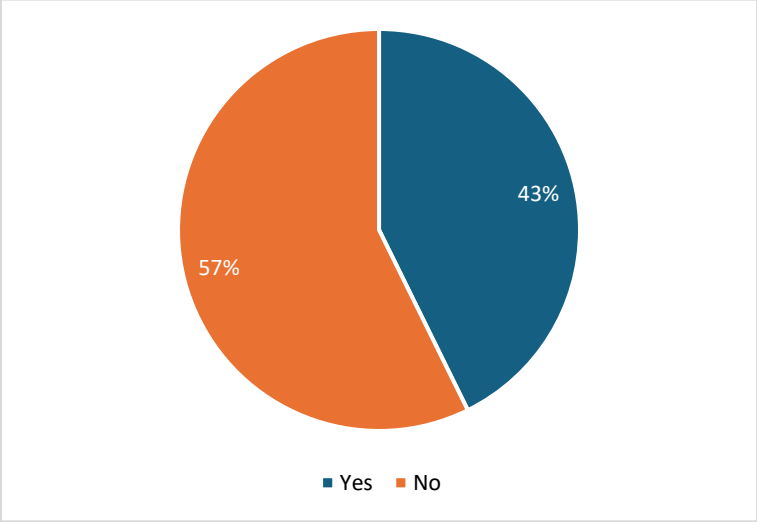


Figure 95: Consideration of forestry as a career option among students of other educational institutions

50 % of non-forestry students are aware of the career opportunities available in the forestry sector and 68 % of respondents would welcome access to information material on forestry careers before making a study/career choice, 50 % of respondents would like to see role models (especially

women), 45 % would like access to a forestry mentor, 43 % equally would also like to see a forestry-related workshop or field trip and opportunities for job shadowing or internships in forestry-related fields as activities that would help them make a decision.

Table 12: Reasons to consider enrolment into forestry educational institutions (students from other educational institutions)

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	27	68 %
Guidance from career counselors familiar with forestry professions.	9	23 %
Opportunities for job shadowing or internships in forestry-related fields.	17	43 %
Networking events with professionals working in the forestry sector.	11	28 %
Forestry-related workshop or field trip.	17	43 %
Access to a mentor from the forestry sector.	18	45 %
Seeing more role models (especially women) in forestry.	20	50 %
Online platforms or databases showcasing forestry job opportunities and requirements.	14	35 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	12	30 %
Gamified learning modules and challenges related to forestry careers.	6	15 %
Information via social media.	11	28 %
Other	1	3 %
Number of respondents =n	40	

7.4.3 Interests and needs in forestry education and career

Most of the female students of forestry find practical activities as the most interesting, with 66 % of selection share. The other aspects are shown in the graph below.

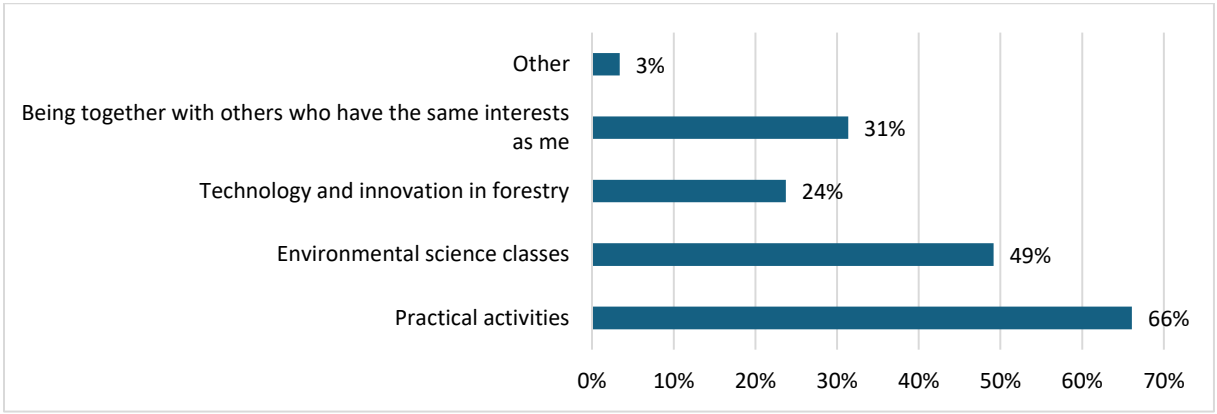


Figure 96: Engaging aspects of forestry education

The students are the most interested in innovative forestry practices or technologies, such as Forest wellness and forest-therapy tourism (54 %) and AI in forest management (46 %).

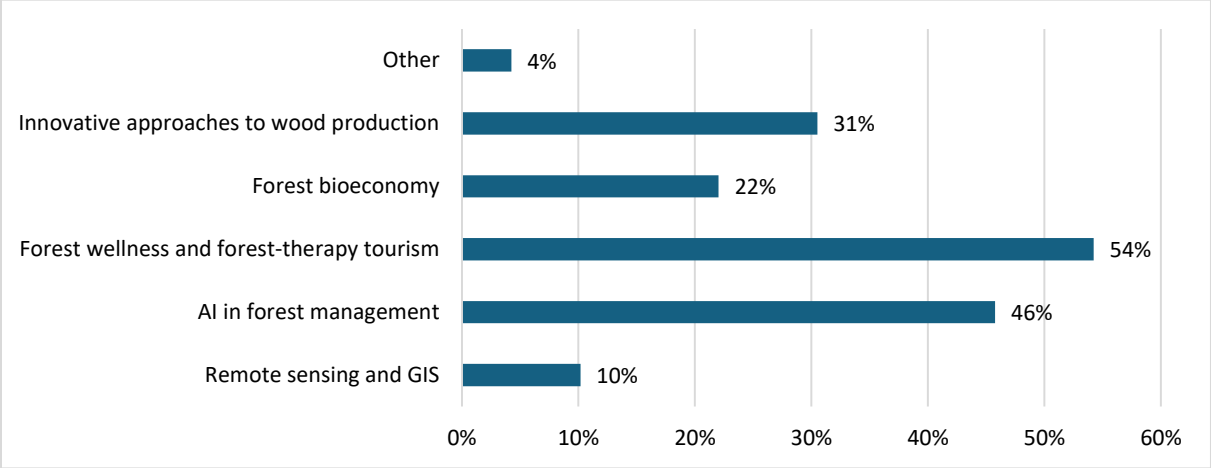


Figure 97: Innovative forestry practices

Female students of forestry have defined the following supportive activities for their education and career advancement: internship opportunities (55 %), more hands-on field experience (52 %), access to modern forest management tools (42 %), and guidance or mentorship from forestry professional (41 %).

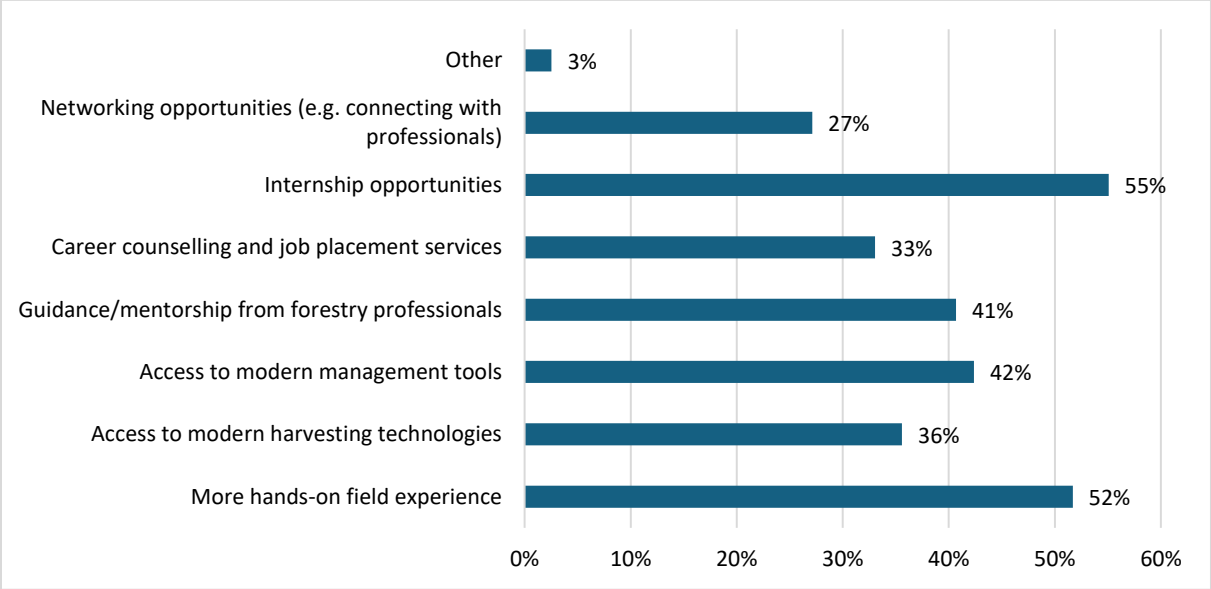


Figure 98: Factors for enrolment into forestry education and career preparation

73 % of the non-forestry students were participating in forestry-related activities or education in school extracurricular programs (i.e. tree planting events, field trips to forests or nature reserves, forest clean-up, art projects inspired by forests, etc.)

7.4.4 Career paths and skills required for forestry career

A bit over one-third (36 %) of the female forestry students are confident in their professional preparedness when they enter the forestry positions labour market, while over half (56 %) are not sure they will be well-prepared for the labour market after they finish studies. 8 % are not confident at all.

Confidence level in finding employment varies significantly between the domestic and foreign labour markets. Within the country, 37 % of respondents are confident to very confident they will find an employment, while in the case of employment abroad only 11 % are confident to very confident, which is three times less than in the case of the domestic situation.

The situation is exactly the opposite with a lack of confidence: while 11 % of respondents are not at all confident at home, 32 % are not at all confident when it comes to employment abroad.

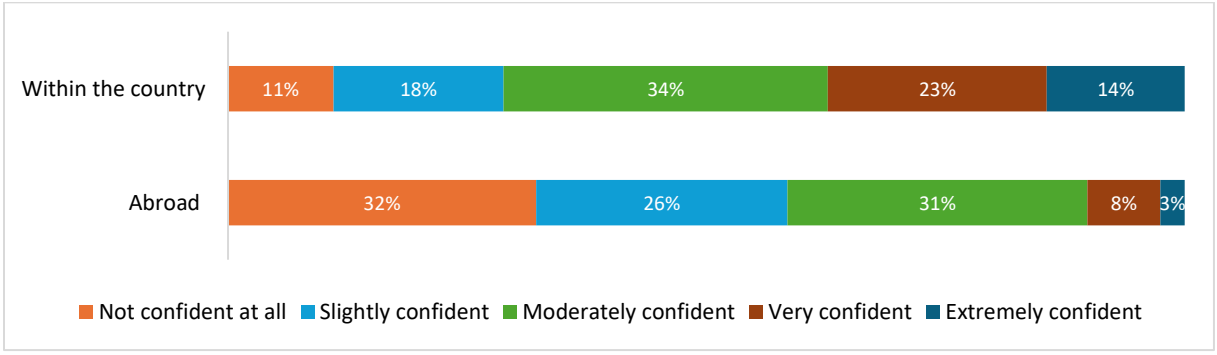


Figure 99: Confidence level regarding employment possibilities in the forestry sector (students of forestry educational institutions)

Absolutely in line with the choice of interests, that impacted the selection of the education topic, the top three topics for the career path of forestry students include: Forest management, a choice of 43 % of respondents; Nature conservation (36 %) and Forest economics (31 %).

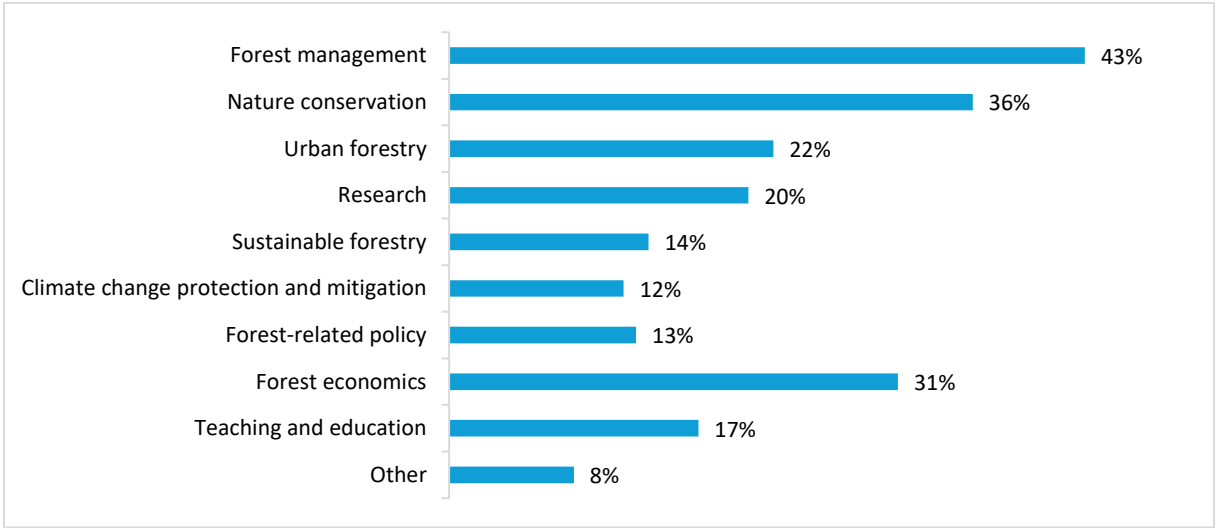


Figure 100: Projected career paths (students of forestry educational institutions)

It is interesting to note that the lowest proportions of respondents selected climate change (12 %), forest policy (13 %), and sustainable forest management (14 %) as a career path, which is logical as these are not common topics of interest and are also more niche career paths for forestry students.

For a very large share of non-forestry students, forestry as a career option would become more attractive if it were properly paid (73 % of respondents), as would a situation where forestry was a career path, that involved understanding, conserving, and managing some of the world's most valuable natural resources (60 %). Over half of the respondents (53 % for both cases) would also appreciate the situation, where there was an understanding that forestry can have a positive impact on climate change as well as possibility to participate in international and national conservation activities.

A better image of foresters and opportunities to work closely with local communities and contribute positively to rural development would also be welcomed by 35 % and 30 % of respondents respectively.

Table 13: Factors increasing attractiveness of forestry as a career option (students of other educational institutions)

	Number	*Share*
Understanding that forestry can impact climate change positively	21	53 %
Better image of foresters	14	35 %
Appropriate payment	29	73 %
Opportunities to work closely with local communities, and contribute positively to rural development	12	30 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	21	53 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	24	60 %
Other	1	3 %
Number of respondents =n	40	

It is important to note, that forestry and non-forestry students are equally (67 % and 68 % respectively) slightly to moderately informed about skills and competencies needed for forestry career, while extremes, such as very informed to extremely informed differ: 29 % for forestry students to 13 % non-forestry students, as well as the option of not being informed: 4 % of forestry students compared to 23 % of non-forestry students.

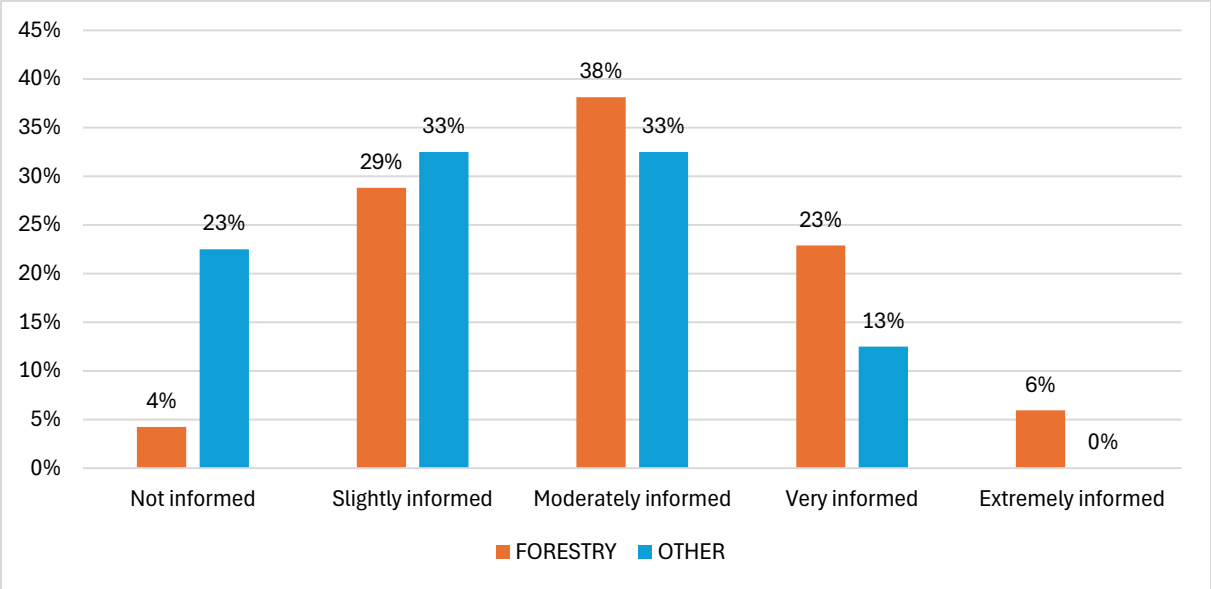


Figure 101: Awareness of skills and qualifications required for forestry career

It is also interesting to find out that career advancement is very important for the highest proportion of female forestry students, and together with the next option makes up almost 70 % of the girls who responded to this question. The situation is slightly different for future education, where 20 % of respondents consider it as very important and 28 % as important, which makes up close to 50 % of respondents.

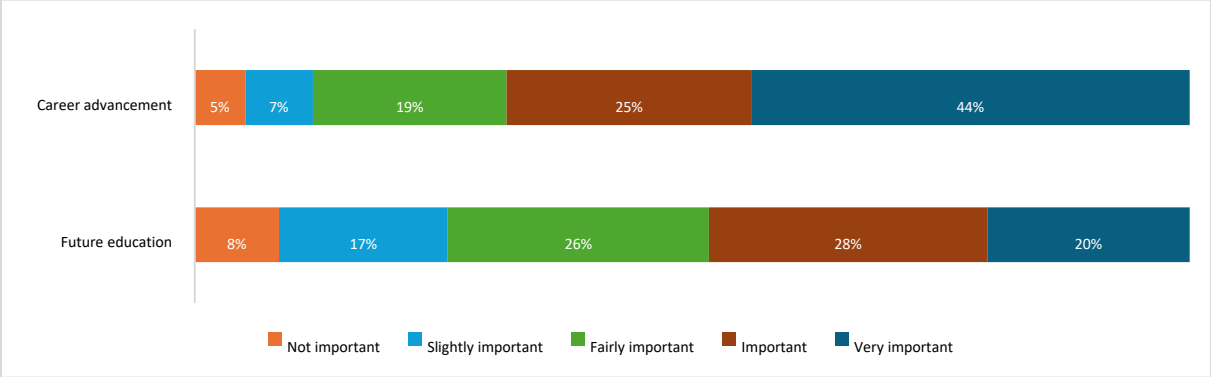


Figure 102: Importance of career advancement and future education

7.4.5 Perceptions and challenges of career in forestry

Although two different groups of respondents have reported different misconceptions, they are close in meaning: namely, forestry students selected the most (i) it's not for women (61 %) and (ii) all foresters are lumberjacks (52 %) and non-forestry students have mentioned the most (i) hard physical work (55 %), (ii) it is not for women (50 %) and (iii) limited opportunities (cutting trees), (50

%). Generalized answers are displayed below with the highest selection of misconceptions that forestry work is not for women (58 % for both groups of respondents consolidated).

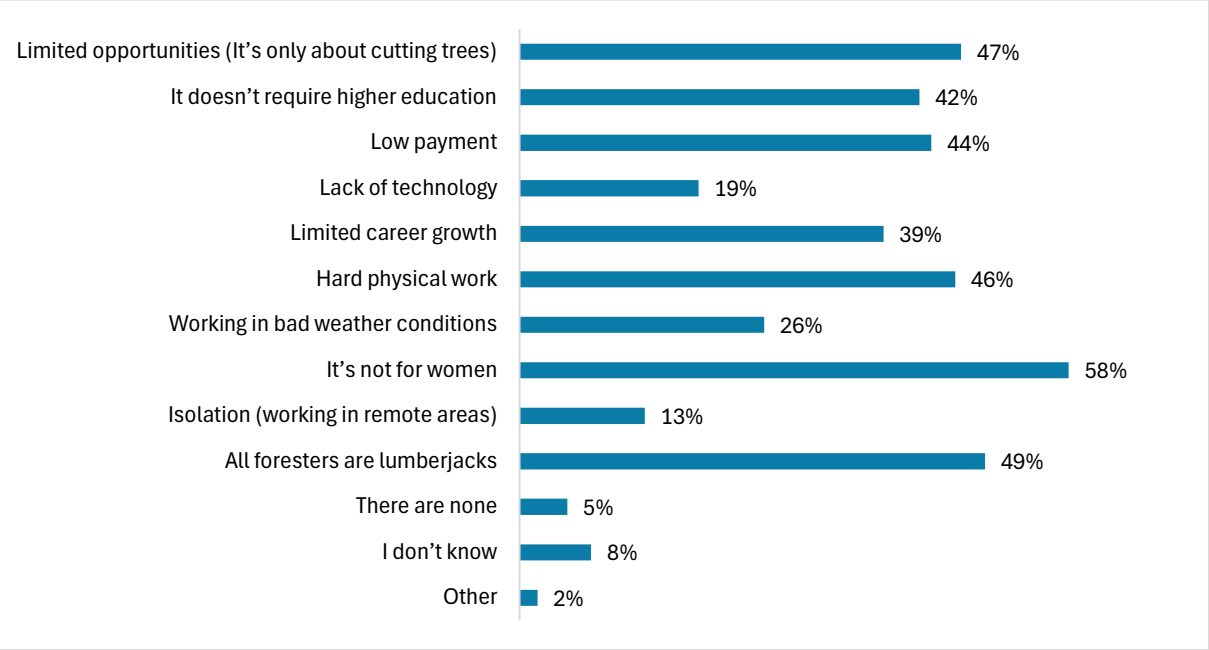


Figure 103: Perception of misconceptions and stereotypes about forestry careers

Regarding perception of the main barriers for the girls to study in forestry, both groups (forestry and non-forestry students) selected the same three top barriers, with slight differences in the share of selection: gender stereotypes/stigma associated with forestry professions (59 and 55 % accordingly); underestimation of women's abilities and contribution in forestry (53 and 35 % of respondents in forestry and non-forestry group accordingly); concerns about job safety and physical demands (36 and 35 % accordingly).

All the results on the barriers considerations by both groups of respondents are shown in the graph below.

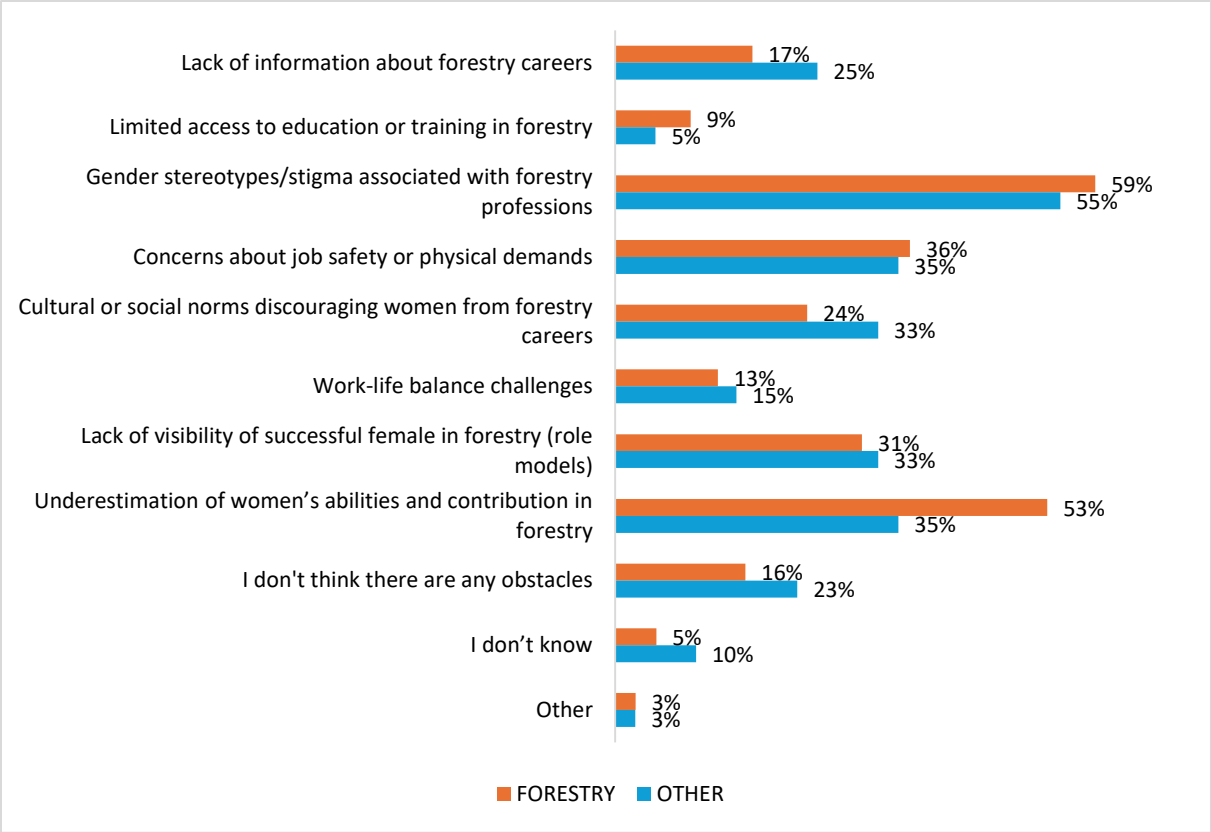


Figure 104: Perception of main barriers for girls and young women to enter the forestry sector

It is interesting to find out that answers to the similar questions above slightly differ, which also could be a sign of the stigmatic topic with the high level of hidden reaction. If we consider "prefer not to say" as a hidden "yes", we will have quite a high number of responses in both questions – 40 % and 43 % respectively.

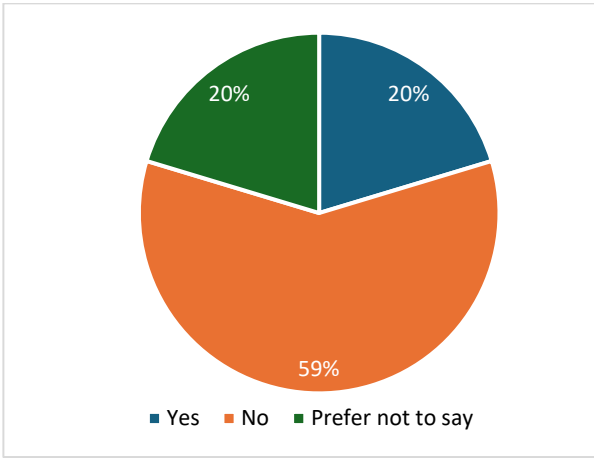


Figure 105: Gender-specific challenges or biases in forestry education (students of forestry educational institutions)

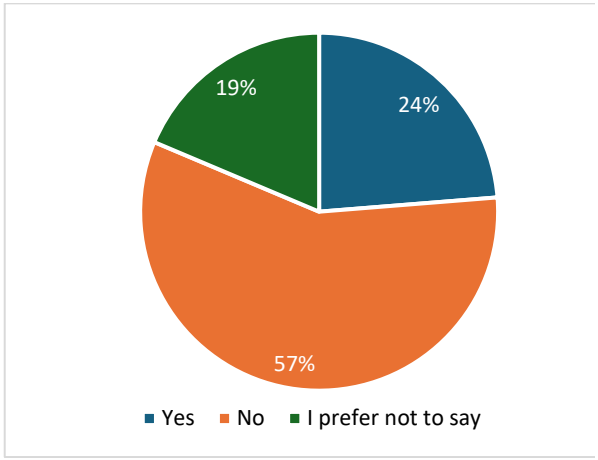


Figure 106: Different treating during training/internship because of gender (students of forestry educational institutions)

Subjective assessment of the reaction of family and friends shows that family was more often positively reacting to respondents decision of entering forestry school than friends (27 % to 14 % respectively), but at the same time the difference in negative reaction is also almost twice stronger within family (5 %) than friends (3 %). A significant difference is also in neutral reaction (47 % of friends to 26 % of family) along with almost the same result of satisfaction (37 % of the family to 31 % of friends).

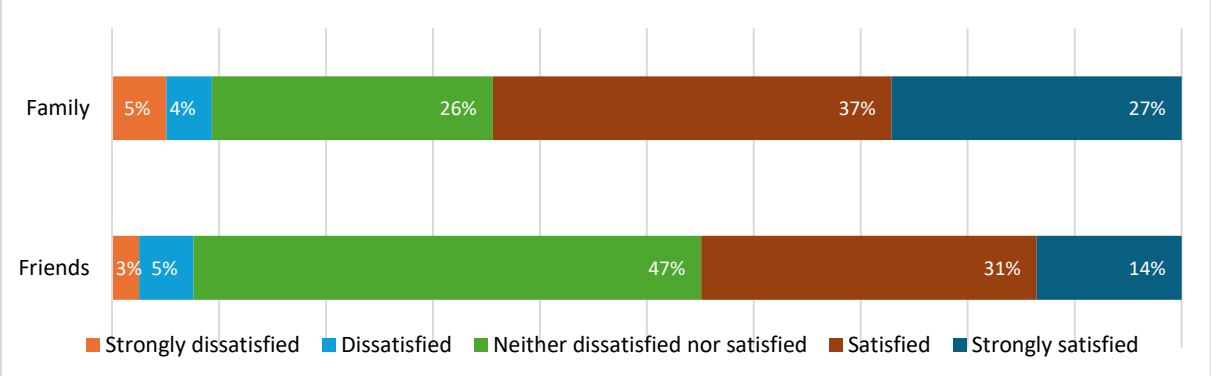


Figure 107: Reactions of family and friends to participants' interest in the forestry education (students of forestry educational institutions)

As per students' responses, community in general positively perceives foresters (49 %), with some neutral perception (27 %) to a very low level of negative perception (3 %). However, quite a large amount of respondents were not sure/didn't know what to answer to this question.

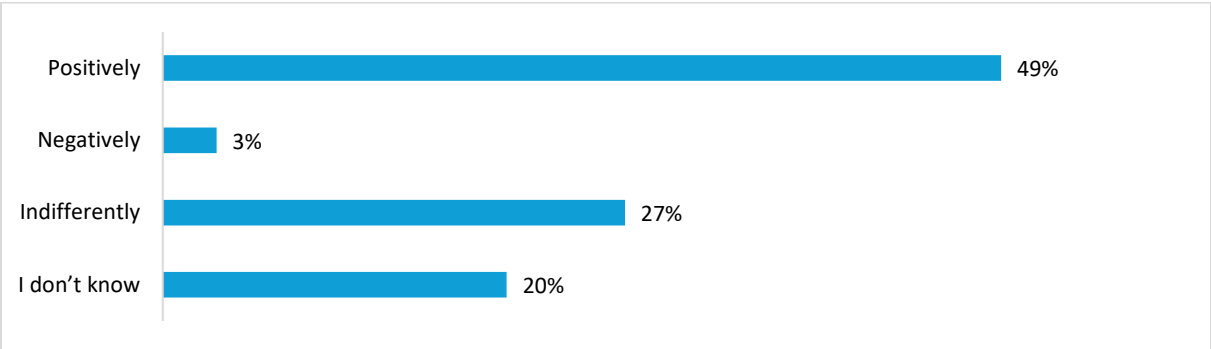


Figure 108: Perception of forestry careers in community and social circle

7.5 Country Report: Bosnia and Herzegovina

7.5.1 General background

Two distinct questionnaires, designed for two target groups (forestry and non-forestry/other students), were distributed online via the SurveyMonkey platform, launched on the 10th of May 2024 and closed on the 30th of May 2024. A certain number of questionnaires were also printed and distributed in hard copy form, with responses later entered into the database.

The survey targeted various faculties and schools across BiH. Invitations to participate were sent to various institutions, grouped into forestry-related and other categories. This extensive outreach aimed to capture a comprehensive understanding of perceptions and awareness of forestry education among a diverse student population.

Forestry-related institutions: The invitations have been extended to 4 faculties and 14 high schools specializing in the field of forestry.

Other Institutions: The invitations have been extended to a wide range of other faculties and high schools, including those specializing in economics, law, engineering, agriculture, medicine, humanities, social sciences, and technical education. These institutions encompass over 70 faculties and high schools across various cities, ensuring broad geographic and disciplinary coverage.

For forestry faculties and schools, 71 questionnaires were collected/completed, while for non-forestry/other faculties and schools, 274 questionnaires were collected/completed. The **response rate** cannot be calculated as the survey was conducted online, and the total population is unknown. Additionally, the response rate varies from question to question, as participants could skip questions. Furthermore, some respondents lost interest and abandoned the survey, but even these partially completed questionnaires were included in the analysis.

The survey conducted among forestry faculty and school respondents revealed a **gender distribution** of 98.59 % female (N=70), 0.00 % male (N=0), and 1.41 % preferring not to disclose their gender (N=1). The survey conducted among respondents from non-forestry/other faculties and schools revealed a gender distribution of 85.04 % female (N=233), 14.23 % male (N=39), and 0.73 % preferring not to disclose their gender (N=2).

The comparative analysis between the forestry and non-forestry/other faculties and schools survey respondents reveals notable differences in **age demographics**. The average age of respondents from forestry faculties and schools is approximately 21.7 years, with ages ranging from 15 to 37 years, whereas the average age of respondents from non-forestry/other faculty and schools is significantly lower at 18.1 years, with ages ranging from 15 to 35 years. This disparity in age distribution indicates that respondents from forestry faculties and schools tend to be older on average compared to their non-forestry counterparts (there was a higher representation of high school students in this sample). Additionally, the forestry school respondents showed a slightly broader age range, which may suggest a more diverse set of experiences and perspectives within this cohort.

The survey data comparing the **place of origin** between forestry and non-forestry/other respondents reveals significant differences. Among the forestry school respondents, 45 % (N=28) reported growing up in rural areas, while 55 % (N=34) grew up in urban areas. In contrast, among non-forestry school respondents, only 14 % (N=22) grew up in rural areas, whereas a substantial 86 % (N=130) reported an urban upbringing. This disparity highlights a notable trend: forestry school respondents are more likely to have origins from rural areas compared to their non-forestry counterparts, who predominantly come from urban backgrounds. The graphical representation of this data will further elucidate these differences, providing a clear visual comparison of the place of origin for both groups.

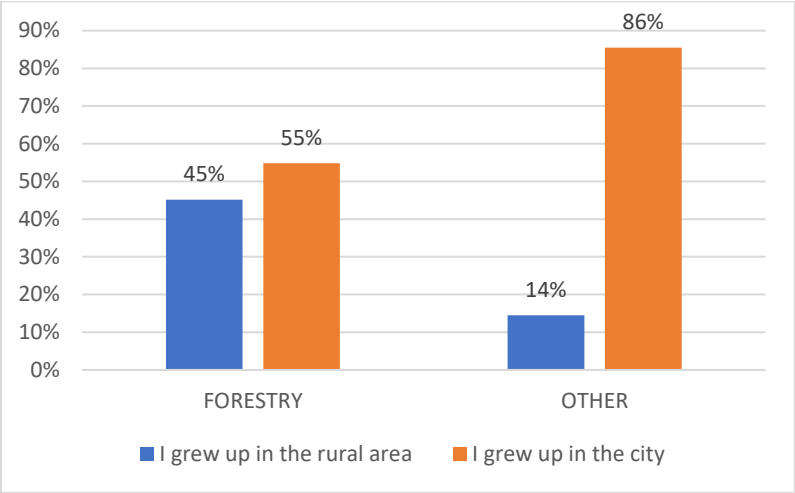


Figure 109: Origin of participants (n=214)

There are distinct differences in **educational backgrounds (school attending)** between forestry and non-forestry respondents. Among forestry school participants, 8 % (N=5) are attending a high school in forestry, and 92 % (N=57) are enrolled in a faculty in forestry. In contrast, non-forestry respondents show a completely different educational pattern: 84.87 % (N=129) of them attended other high schools unrelated to forestry, and 15.13 % (N=23) are studying at non-forestry faculties. In general, among forestry faculties and schools' respondents, 26 % (N=15) attended a forestry high school, while 12 % (N=7) studied at high schools in related fields. A majority of 61 % (N=35) did not attend a forestry-related high school. In contrast, the non-forestry/other faculties and schools respondents showed a different trend, with only 1 % (N=1) having attended a forestry high school and 4 % (N=6) having studied in related fields. The vast majority, 95 % (N=144), did not attend a forestry-related high school. Graphic presentation shows results for both target groups.

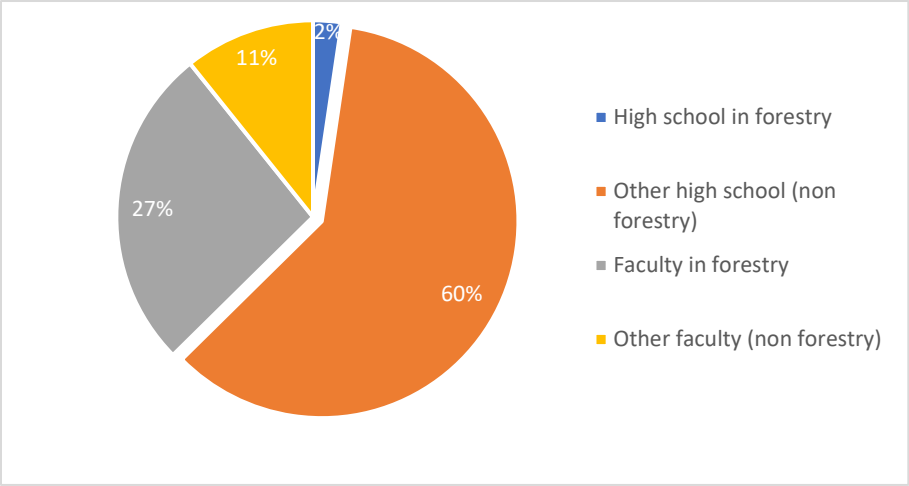


Figure 110: Schools attendance of participants (n=214)

The survey data for forestry respondents reveals the factors influencing their choice of profession. Personal interest in the subject matter is a significant motivator, with 58 % of respondents indicating it as an important or very important influence. Additional education and training opportunities are important or very important for 34 % of respondents. Job availability and stability are critical, with 77 % of respondents rating it as moderate to very important. Financial considerations are important, with 78 % indicating moderate to very important influence. Work-life balance is highly valued, with 67 % rating it as moderate to important.

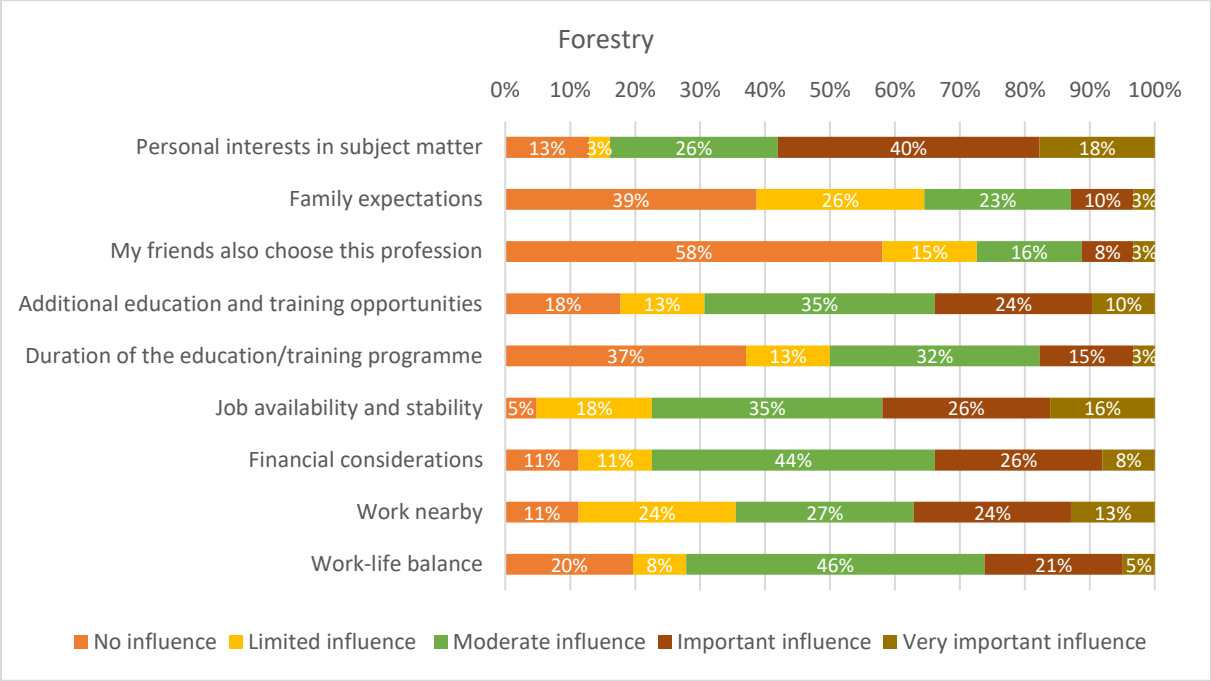


Figure 111: Factors influencing career choices for forestry respondents (N=62)

The survey data for non-forestry respondents reveals varied influences on their career choices as follows. Personal interest in the subject matter is a significant factor, with 55 % of

respondents indicating it as an important or very important influence. Additional education and training opportunities are quite influential for 80 % of respondents, who rated it as moderate to very important. Job availability and stability are critical, with 74 % of respondents rating it as moderate to very important. Financial considerations are important, with 72 % indicating moderate to very important influence. Work-life balance is also highly valued, with 65 % rating it as moderate to important.

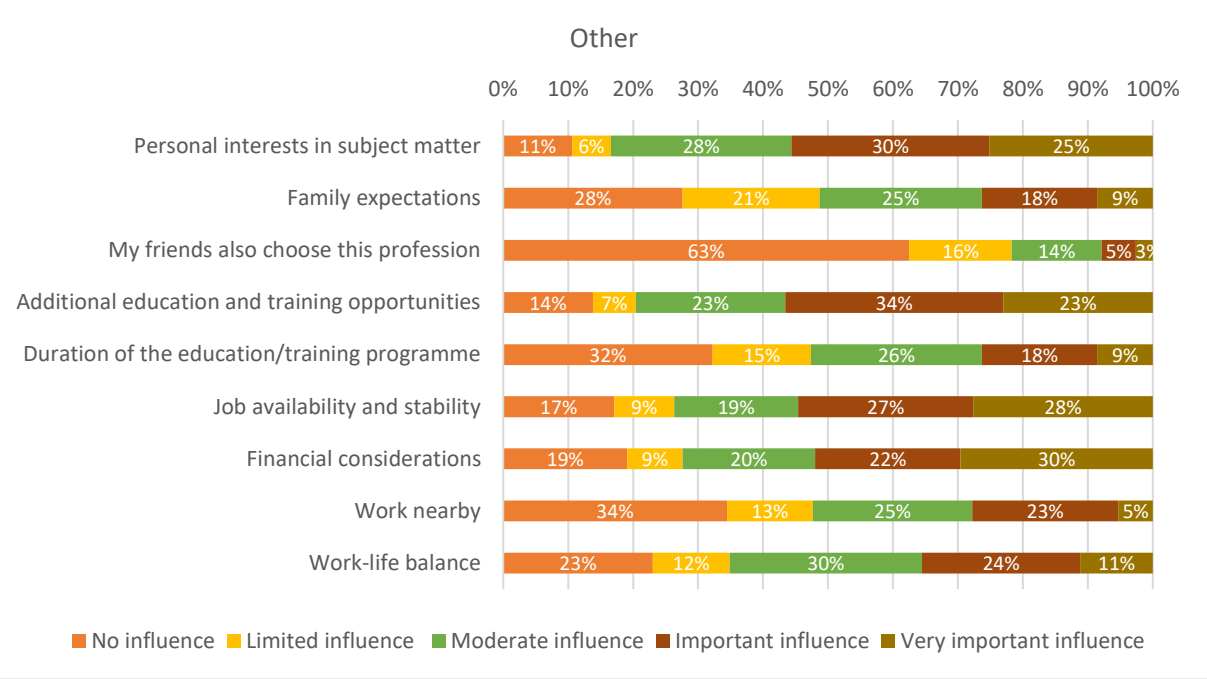


Figure 112: Factors influencing career choices for other respondents (N=62)

The comparative analysis for both target groups reveals that personal interest in the subject matter is a significant motivator for both forestry and non-forestry respondents, with 58 % of forestry and 55 % of non-forestry respondents indicating it as an important or very important influence. Job stability is also a critical factor for both groups, with 77 % of forestry and 74 % of non-forestry respondents rating it as moderate to very important. Financial considerations are similarly influential, with 78 % of forestry and 72 % of non-forestry respondents marking it as moderate to very important.

7.5.2 Information and motivation for forestry education

The survey data indicates the **sources of information about forestry professions obtained before starting their studies** by respondents from forestry and non-forestry backgrounds. For forestry respondents, the most influential sources were parents or relatives (44 %, N=23), friends who were already studying forestry (44 %, N=23), and internet/social media (40 %, N=21). Elementary/primary/high school attended (19 %, N=10) and forestry high school/college/faculty website (23 %, N=12) were also noted. Information days/career fairs (13 %, N=7), TV (4 %, N=2), newspapers/books/literature (2 %, N=1), and other sources (6 %, N=3) were less significant.

In contrast, non-forestry respondents primarily relied on the elementary/primary/high school they attended (40 %, N=6), internet/social media (33 %, N=5), and TV (27 %, N=4). Other notable sources included forestry high school/college/faculty website (20 %, N=3), parents or relatives (13 %, N=2), and information days/career fairs (13 %, N=2). Newspapers/books/literature (13 %, N=2), friends who were already studying forestry (7 %, N=1), and other sources (7 %, N=1) were mentioned to a lesser extent.

Only some of the high school students who completed the questionnaire answered this question (259 of total 274 skipped the question), which might be due to a lack of interest or knowledge about forestry among high school students. A graphical representation of this data visually illustrates the differences in sources of information between forestry and non-forestry respondents.

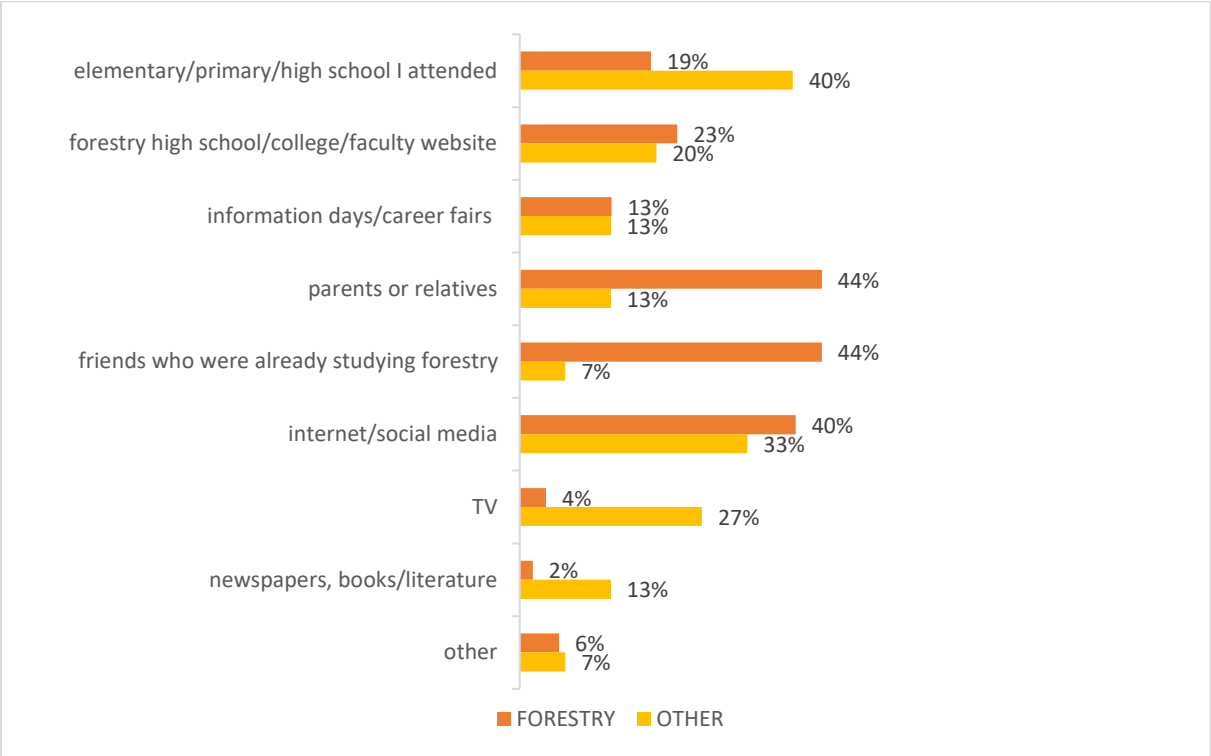


Figure 113: Sources of obtained information about forestry professions before starting their studies (N=52, N=15, respectively)

The comparative analysis highlights that non-forestry respondents tend to rely more on social media, schools attended, and traditional media like TV, whereas forestry respondents are more influenced by personal networks, such as parents and friends already in the field, and social media.

The survey data reveals several **factors influencing the decision of students to pursue higher education in forestry**:

- Love and passion for nature/forest: The most significant reason, cited by 33 % (N=17) of respondents.
- Parents/close relatives in the forestry sector: Influenced 13 % (N=7) of respondents.
- Sustainable and ecologically oriented economic sector: Also influenced 13 % (N=7) of respondents.
- Accidental/chance decision: Reported by 12 % (N=6) of respondents.
- Meaning of work - doing good: Important for 10 % (N=5) of respondents.
- Friends' influence: A factor for 6 % (N=3) of respondents, along with economic reasons (6 %, N=3).
- Attraction to educational offerings: Cited by 4 % (N=2) of respondents.
- Difficulty level of studies: Perceived as an influencing factor by 2 % (N=1) of respondents.
- Inability to get admitted elsewhere: Also reported by 2 % (N=1) of respondents.
- Parental urging: Interestingly, none of the respondents (0 %) cited parental urging as a reason for choosing forestry.

No respondents selected "Other" or indicated awareness of climate problems as a contributing factor.

Table 14: Reasons to pursue higher education in forestry for forestry students (N = 52)

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	0	0 %
I came to high school/college/faculty with my friends/at their urging.	3	6 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	1	2 %
Parents/close relatives work in the forestry sector and have guided me into this field.	7	13 %
I heard that studying at this high school/college/faculty is not so difficult.	1	2 %
For economic reasons thinking of the possible financial benefits as an employee.	3	6 %
I was attracted by the way of the educational offer of the high school/college/faculty.	2	4 %
Out of love, passion for nature/forest.	17	33 %
Sustainable and ecologically oriented economic sector.	7	13 %
Awareness of climate problems.	0	0 %
The meaning of work - doing good.	5	10 %
I ended up studying forestry by accident/by chance.	6	12 %
Other	0	0 %

The **primary areas of interest influencing students' decisions to pursue forestry education** are environmental protection and forest ecology, with 69 % and 48 % of respondents citing these factors, respectively. Forest management also plays a significant role, influencing 38 % of the students. Interests in wood processing and industrialization, as well as forestry production and technology, are notable for 25 % and 23 % of respondents, respectively. Additionally, forest economics is a contributing factor for 23 % of students. Other areas such as terrestrial measurements and satellite image processing, hunting and game aspects, and timber harvesting have a smaller yet meaningful impact on students' choices. The "Other" category included

responses such as ecological policy, the perception that these professions will be necessary in the future due to climate change, and forest communications. The diverse range of interests underscores the multifaceted appeal of forestry education, with environmental and ecological concerns being the predominant motivations. A graphical representation will further illustrate these key areas of interest in the report.

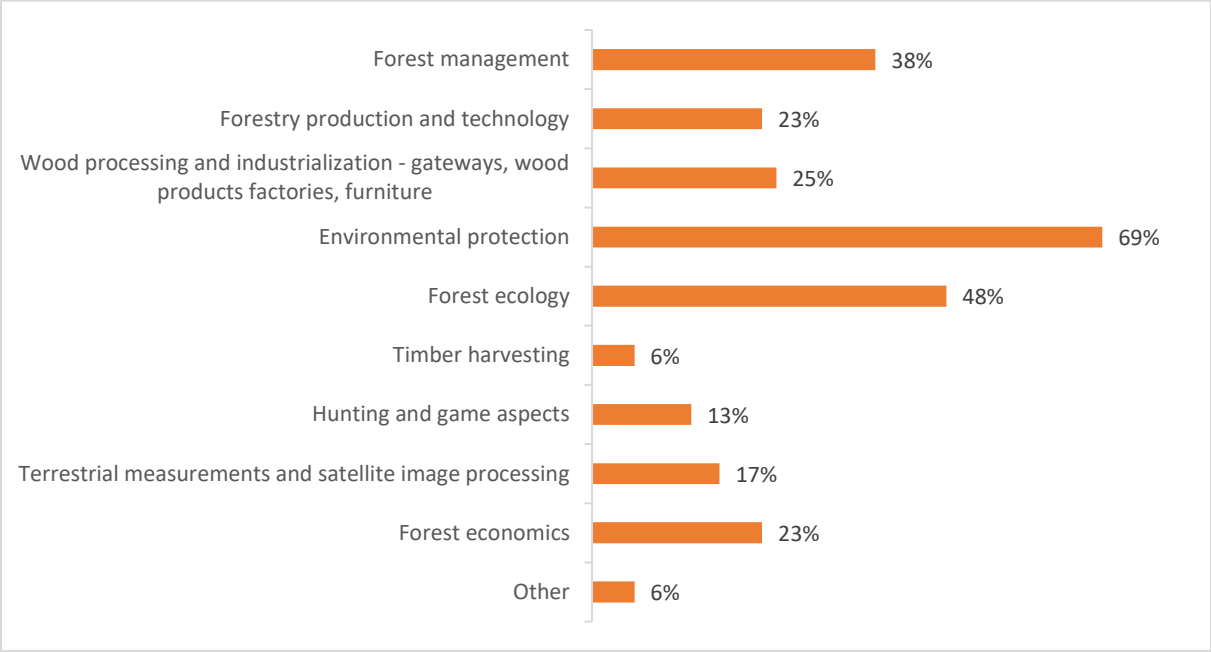


Figure 114: Primary areas of interest influencing students' decisions to pursue forestry education (N=52)

Only 12 % (N=16) of non-forestry respondents had ever **considered forestry as a career option**, while a substantial 88 % (N=121) had not. Respondents who had considered forestry but did not choose it mentioned reasons such as not being admitted to a forestry program or finding other fields more appealing or better aligned with their interests. Respondents who never considered forestry as a career option often cited a lack of awareness or interest in the field, perception of better opportunities in other careers, or no exposure to forestry-related information during their formative years.

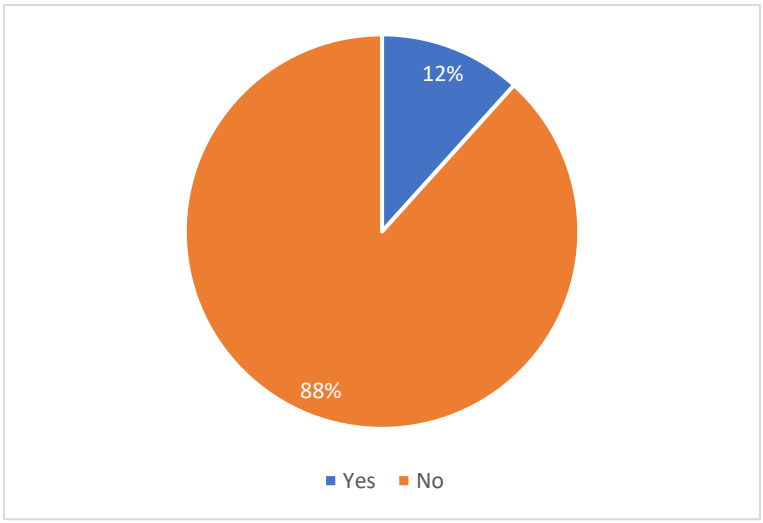


Figure 115: *Consideration of forestry as a career option (N=137)*

The survey data reveals a **significant lack of awareness about career opportunities in the forestry sector among non-forestry respondents**. Only 20 % (N=21) of respondents indicated that they are aware of the opportunities available, while a substantial 80 % (N=82) reported having limited knowledge about forestry careers.

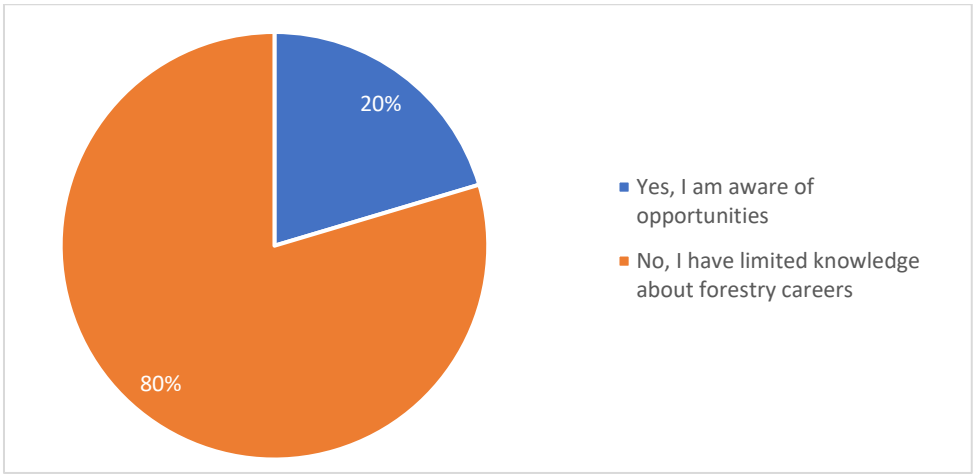


Figure 116: Awareness about career opportunities in the forestry (N=103)

To encourage consideration of forestry studies, respondents highlighted the importance of access to detailed informational materials (46 %), guidance from career counsellors familiar with forestry professions (39 %), and information via social media (40 %). Additionally, forestry-related workshops or field trips (35 %), and opportunities for job shadowing or internships in forestry-related fields (33 %) were also deemed beneficial. Other factors include networking events with professionals in the forestry sector (19 %), access to mentors (14 %), seeing more role models in forestry (24 %), and online platforms showcasing forestry job opportunities (20 %). Virtual reality simulations and gamified learning modules each garnered interest from 13 % of respondents. The "Other" category included specific responses such as "I don't know", "I am not interested",

"Nothing". This data underscores the need for targeted outreach and educational resources to increase awareness and interest in forestry careers among non-forestry students.

Table 15: Reasons to consider a higher education in forestry for high school students (n = 103)

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	47	46 %
Guidance from career counsellors familiar with forestry professions.	40	39 %
Opportunities for job shadowing or internships in forestry-related fields.	34	33 %
Networking events with professionals working in the forestry sector.	20	19 %
Forestry-related workshop or field trip.	36	35 %
Access to a mentor from the forestry sector.	14	14 %
Seeing more role models (especially women) in forestry.	25	24 %
Online platforms or databases showcasing forestry job opportunities and requirements.	21	20 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	13	13 %
Gamified learning modules and challenges related to forestry careers.	13	13 %
Information via social media.	41	40 %
Other	5	5 %

7.5.3 Interests and needs in forestry education and career

The most **engaging aspect of forestry education** for students is practical activities, with 77 % (N=40) of respondents indicating this preference. Environmental science classes are also highly valued, engaging 40 % (N=21) of the students. Social aspects play a significant role, as 37 % (N=19) of respondents find being together with others who share the same interests to be engaging. Technology and innovation in forestry captivate 19 % (N=10) of the students. Additionally, 10 % (N=5) of respondents mentioned other aspects they find engaging, which include creativity, sustainable development, non-timber products, forestry policy and economics, and accounting-related topics.

These findings underscore the importance of hands-on learning and the social environment in forestry education. Practical activities and environmental science classes stand out as key elements that attract and retain student interest. A graphical representation visually illustrates these engaging aspects.

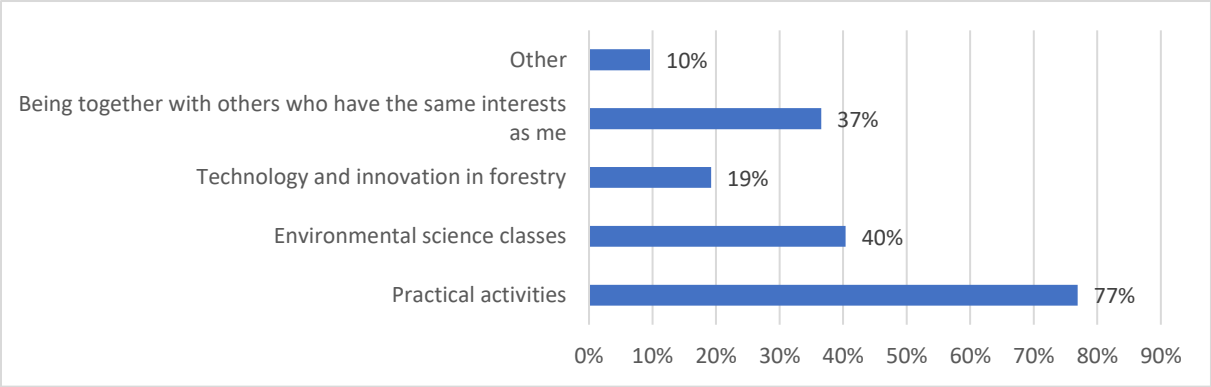


Figure 117: Engaging aspect of forestry education (N=52)

Students are highly interested in **learning more about** various innovative forestry practices and technologies. The most popular areas of interest are remote sensing and GIS (38 %, N=20) and forest wellness and forest-therapy tourism (38 %, N=20). Innovative approaches to wood production also attract significant interest, with 37 % (N=19) of respondents eager to learn more. Additionally, AI in forest management and forest bioeconomy are of interest to 25 % (N=13) of students each. Other areas of interest, mentioned by 8 % (N=4) of respondents, were not specified in detail.

These findings highlight the importance of integrating advanced technologies and novel practices into forestry education to meet the evolving interests and aspirations of students. Graphical representation visually illustrates these preferences and further emphasize the areas where students are seeking more knowledge and engagement.

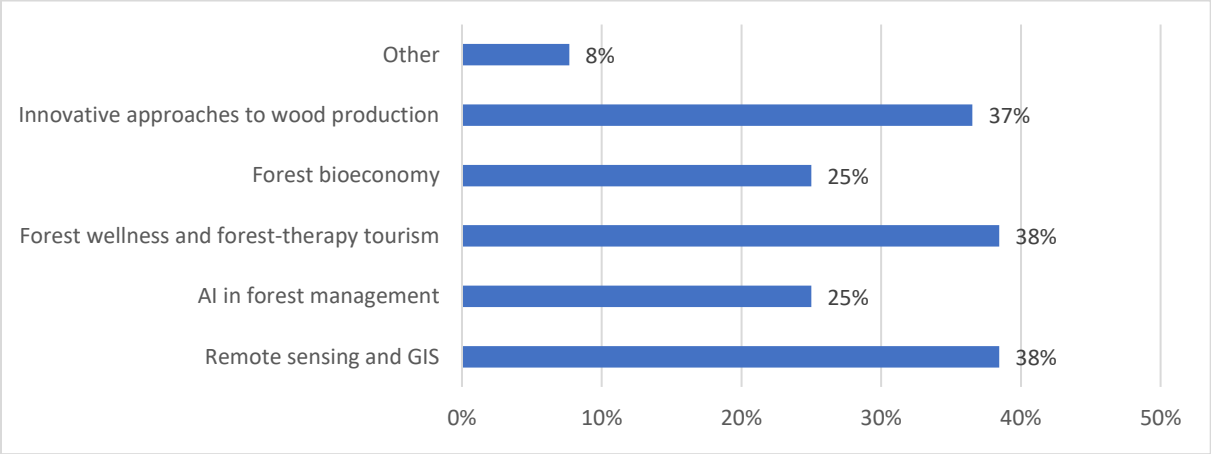


Figure 118: Innovative forestry practices (N=52)

Students believe several **key resources and forms of support would significantly enhance their forestry education and career preparation**. The most sought-after resource is more hands-on field experience, highlighted by 81 % (N=42) of respondents. Career counselling and job placement services are also highly valued, with 44 % (N=23) indicating their importance. Guidance and mentorship from forestry professionals, along with internship opportunities and networking

opportunities (e.g., connecting with professionals), are each considered beneficial by 42 % (N=22) of students. Access to modern management tools is desired by 29 % (N=15), while access to modern harvesting technologies is important to 12 % (N=6) of respondents. In the "Other" category, respondents mentioned interests in project design, forestry pedagogy, forestry policy, and the application of technologies in ecosystem research and monitoring, with an emphasis on plants.

These findings underscore the necessity of practical experience, professional guidance, and career services in forestry education. Integrating these elements into the curriculum can better prepare students for their future careers in forestry. Graphical representation illustrates these preferences and highlight the areas where students feel they need the most support.

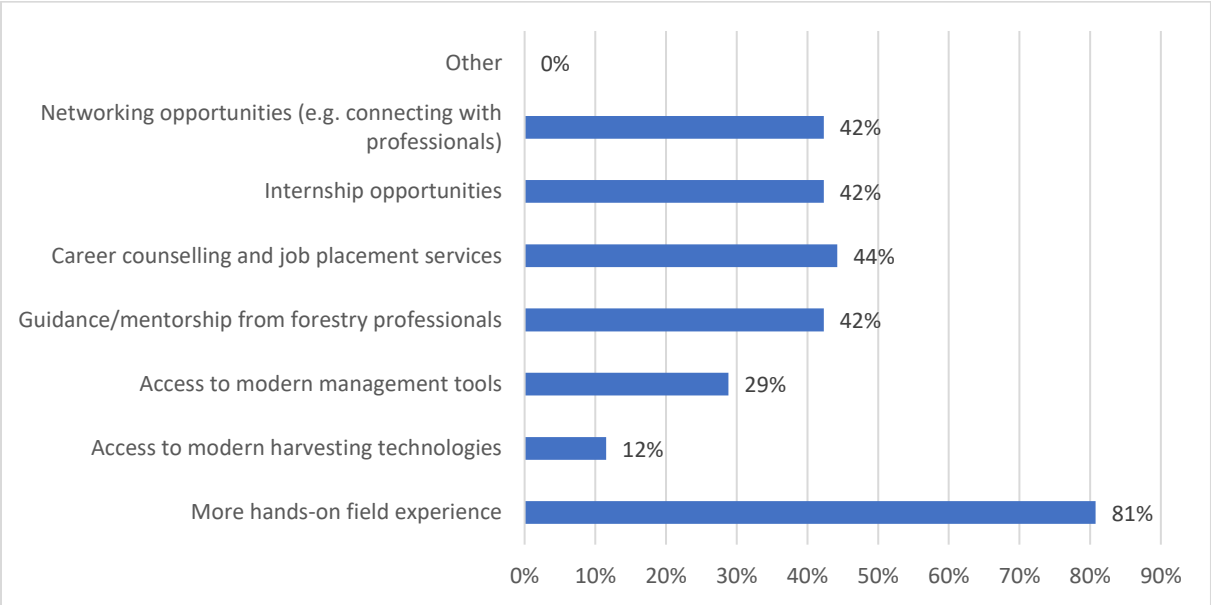


Figure 119: Factors for enhancement of forestry education and career preparation (N=52)

The survey data shows that among non-forestry students, 39 % (N=40) have had some **exposure to forestry-related activities or education** through school or extracurricular programs. These activities include tree planting events, field trips to forests or nature reserves, forest clean-ups, and art projects inspired by forests. However, a majority of 61 % (N=63) reported having no experience with forestry-related activities. This highlights a significant gap in forestry exposure among non-forestry students, suggesting a potential area for increased educational outreach and engagement.

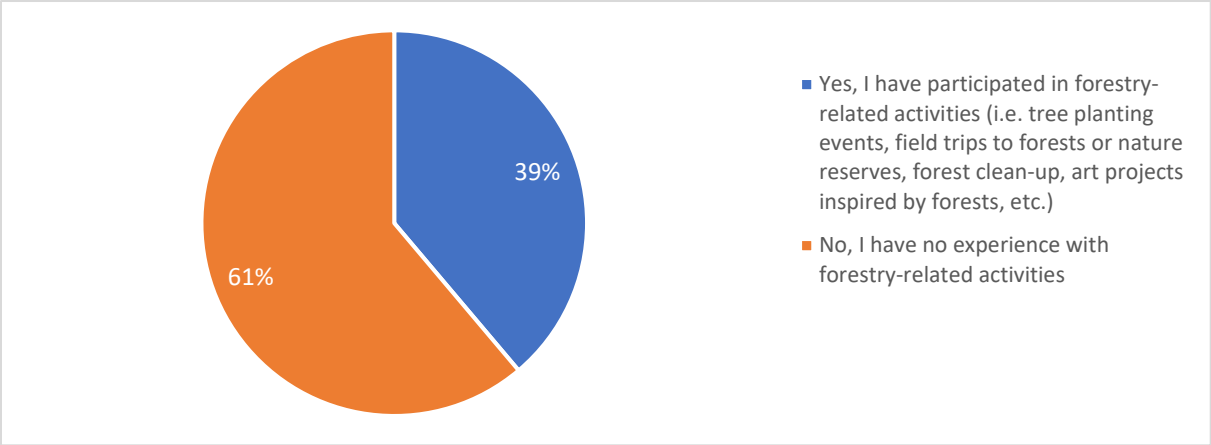


Figure 120: Exposure to forestry-related activities for high school students (N=103)

7.5.4 Career paths and skills required for forestry career

The survey data indicates varying **levels of confidence among forestry students regarding their preparedness to enter the forestry sector after graduation**. Specifically, 38 % (N=20) of respondents feel confident, 8 % (N=4) do not feel prepared, and a significant 54 % (N=28) are unsure. The reasons provided by those who feel prepared highlight the quality of education, practical experience, and knowledgeable professors as key factors. On the other hand, respondents who do not feel prepared or are unsure cite a lack of practical experience, insufficient exposure to the field, and a need for more hands-on learning opportunities as primary concerns. This feedback suggests a potential gap between theoretical knowledge and practical application in the current forestry education system, underscoring the need for enhanced practical training and fieldwork integration.

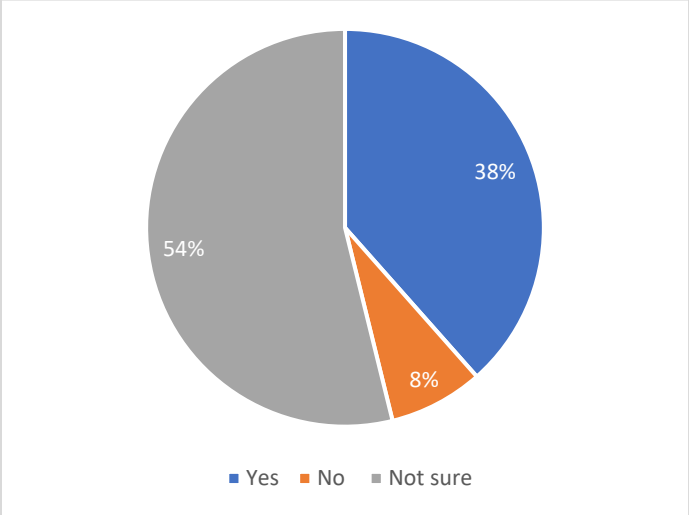


Figure 121: Confidence level of female forestry students regarding their readiness to enter the professional life in the forestry sector (N=52)

There is a spectrum of **confidence levels among forestry students regarding their prospects for employment within the forestry sector after graduation**. Within the country, 10 % (N=5) of students reported not feeling confident at all about finding employment, while 27 % (N=14) were slightly confident, 37 % (N=19) were moderately confident, 23 % (N=12) were very confident, and 4 % (N=2) were extremely confident. For employment opportunities abroad, 17 % (N=9) were not confident at all, 13 % (N=7) were slightly confident, 38 % (N=20) were moderately confident, 17 % (N=9) were very confident, and 13 % (N=7) were extremely confident. This indicates that students generally feel more confident about finding employment abroad compared to within the country. These findings highlight the varying degrees of optimism among students and suggest that while there is a reasonable level of confidence, a notable proportion remains uncertain or less optimistic about their employment prospects, particularly within the domestic market.

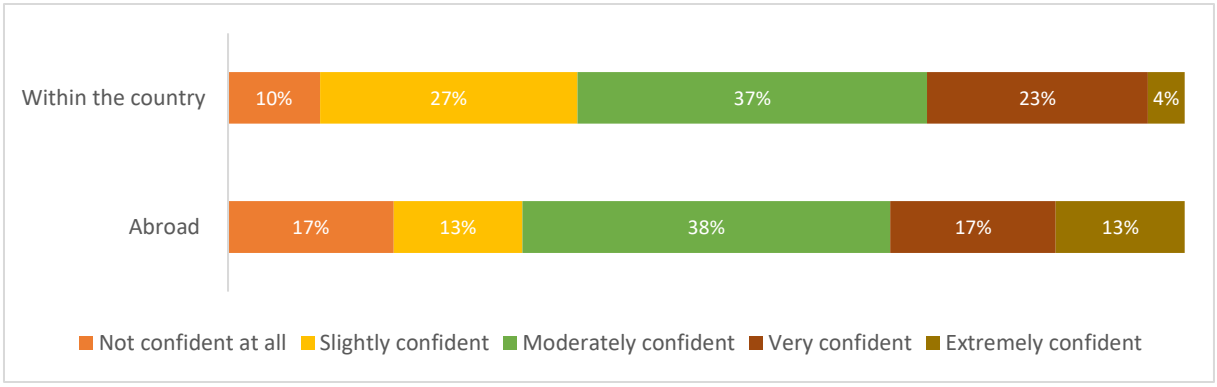


Figure 122: Confidence level of female forestry students regarding their employment possibilities in the forestry sector (N=52)

Students are considering a variety of **career paths** within the forestry sector. The most popular choices include nature conservation, with 63 % (N=33) of respondents indicating interest, and forest management, which attracts 44 % (N=23) of the students. Other significant areas of interest include urban forestry (33 %, N=17), research (27 %, N=14), forest-related policy, and teaching and education are considered by 23 % (N=12) of respondents. Additionally, 12 % (N=6) of respondents have other specific interests such as landscape architecture, forestry pedagogy, and forest exploitation. This diverse range of interests highlights the multifaceted nature of forestry education and the varied career opportunities it presents.

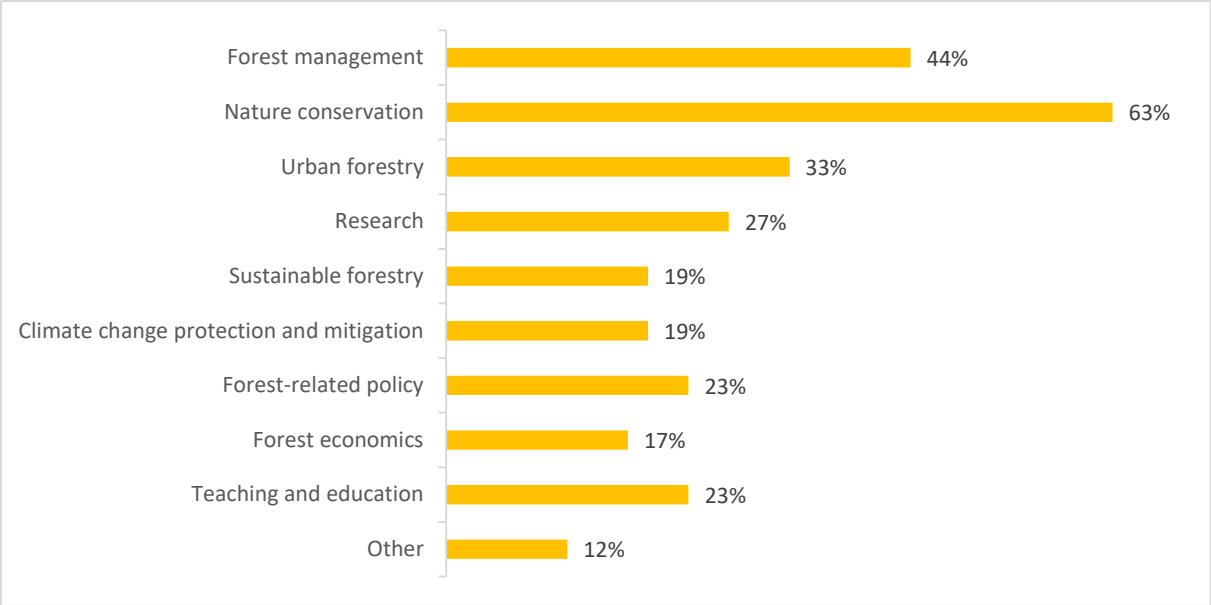


Figure 123: Projected career paths of forestry students (N=52)

The non-forestry respondents identify several **factors that could make forestry a more attractive career option**. A significant proportion, 51 % (N=53), emphasized the need for appropriate payment as a key motivator. Additionally, 40 % (N=41) pointed out the importance of improving the image of foresters, while 37 % (N=38) valued the possibility of participating in international and national conservation activities. Understanding that forestry can positively impact climate change was important to 34 % (N=35) of respondents, and 35 % (N=36) appreciated the career path that involves managing valuable natural resources. Opportunities to work closely with local communities and contribute to rural development were noted by 17 % (N=18), highlighting the social aspects of the profession. A small percentage (4 %, N=4) had other specific factors in mind. These insights suggest that enhancing financial incentives, professional image, and engagement in conservation activities could significantly attract more individuals to the forestry sector.

Table 16: Factors increasing attractiveness of forestry as a career option for high school students (n=103)

	Number	*Share*
Understanding that forestry can impact climate change positively	35	34 %
Better image of foresters	41	40 %
Appropriate payment	53	51 %
Opportunities to work closely with local communities, and contribute positively to rural development	18	17 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	38	37 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	36	35 %
Other	4	4 %

There is a notable difference in the **awareness levels about the skills and qualifications required for forestry careers** between forestry and non-forestry respondents. Among forestry students, 38 % (N=20) reported being moderately informed, with an equal share of 25 % (N=13) feeling very informed or slightly informed. A small fraction, 4 % (N=2), indicated being extremely informed, and only 8 % (N=4) were not informed at all. Conversely, a significant portion of non-forestry respondents, 42 % (N=43), felt not informed, while 34 % (N=35) were slightly informed. Only 19 % (N=20) of non-forestry respondents were moderately informed, with very few feeling very informed (4 %, N=4) or extremely informed (1 %, N=1). This disparity highlights the need for enhanced communication and educational initiatives to better inform non-forestry students about the requirements and opportunities in the forestry sector.

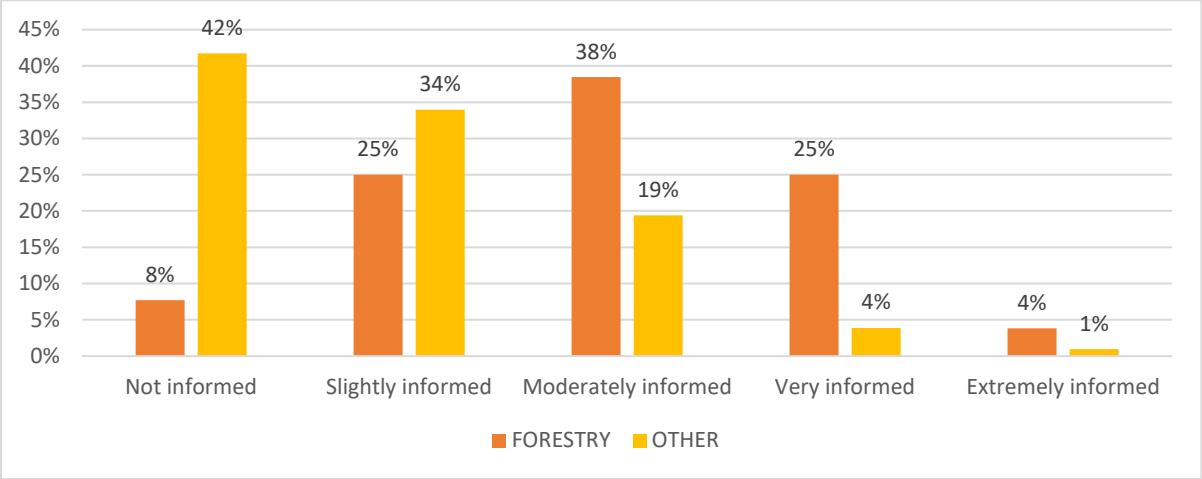


Figure 124: Awareness of skills and qualifications required for forestry careers (N=52, N=103, respectively

Career advancement and future education are highly significant to forestry students. For career advancement, 54 % (N=28) of respondents deemed it important, with an additional 42 % (N=22) considering it very important. Notably, no respondents rated it as not important or slightly important, and only 4 % (N=2) considered it fairly important. Similarly, future education is considered crucial, with 50 % (N=26) marking it as important and 37 % (N=19) as very important. Again, no respondents felt it was not important or slightly important, though 13 % (N=7) rated it as fairly important. This underscores the high value students place on both career progression and continued learning opportunities in their field.

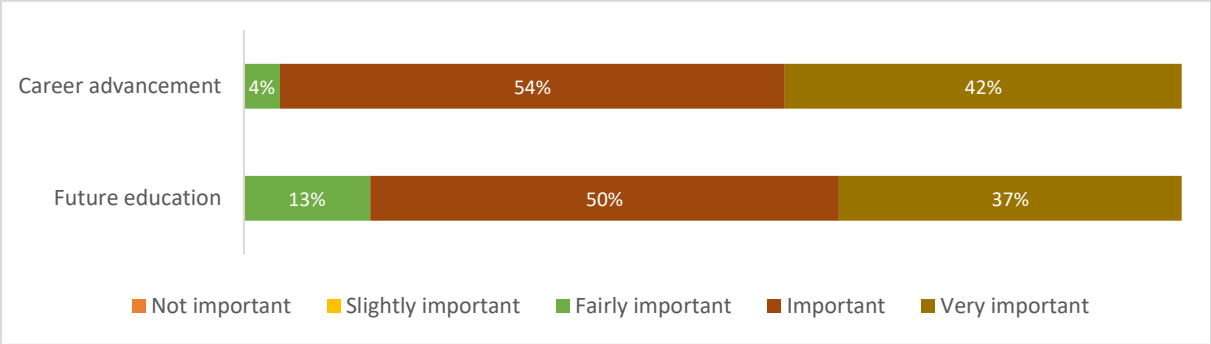


Figure 125: Importance of career advancement and future education to students of forest educational facilities (n=52)

7.5.5 Perceptions and challenges of career in forestry

The survey results reveal that both forestry and non-forestry students share similar views on the **biggest misconceptions and stereotypes about careers in forestry**. The most prevalent misconception, identified by 60 % (N=93) of all respondents, is that forestry is only about cutting trees, indicating a perceived limitation in career opportunities. Another significant misconception, highlighted by 50 % (N=78) of respondents, is that forestry is not a suitable career for women. Additionally, 48 % (N=74) believe that forestry careers are associated with low payment, and 45 % (N=69) think that these careers do not require higher education. Hard physical work is seen as a notable stereotype by 44 % (N=68) of respondents.

Other misconceptions include limited career growth (28 %, N=44), a lack of technology (19 %, N=29), and isolation due to working in remote areas (15 %, N=23). Some respondents also believe that all foresters are lumberjacks (26 %, N=40) and that working in forestry involves difficult weather conditions (15 %, N=24). A small percentage, 14 % (N=22), admitted they did not know what the misconceptions were, while 3 % (N=5) selected "other" without further elaboration. This data suggests a need for broader awareness and education about the diverse opportunities and requirements in forestry careers.

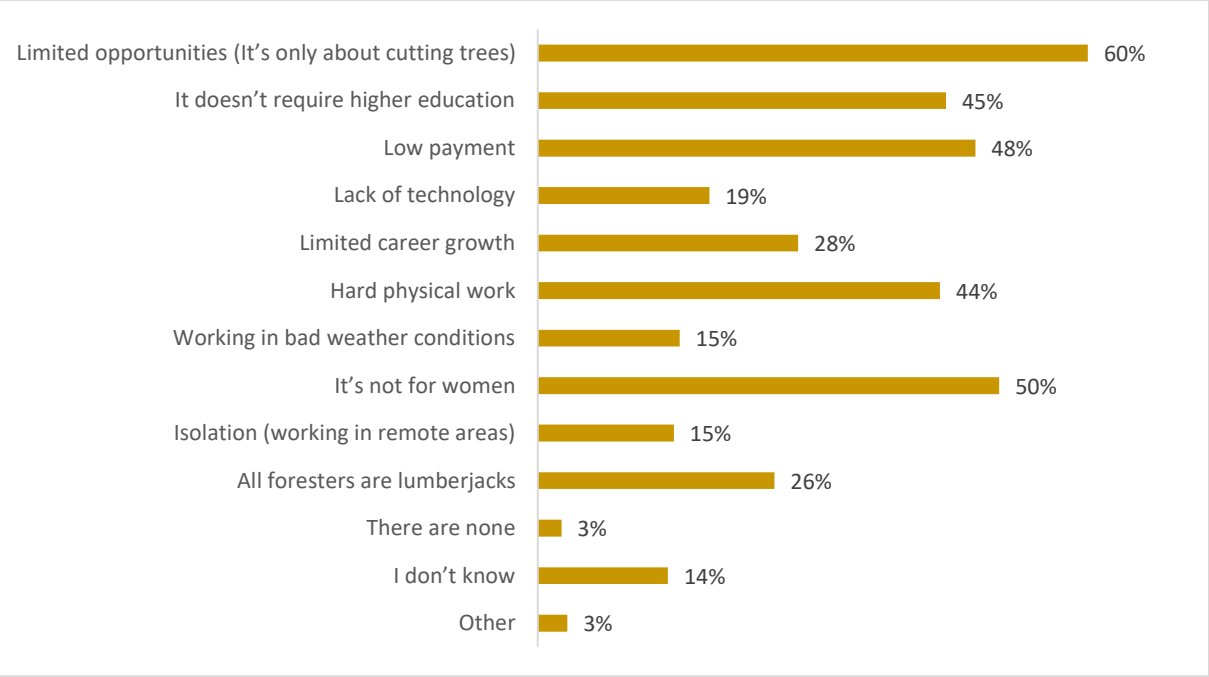


Figure 126: Perception of misconceptions/stereotypes about careers in forestry (N=155 in total)

The survey data reveals several **key barriers that students perceive as hindrances for girls studying in the forestry sector**. A significant proportion of both forestry and non-forestry respondents highlighted gender stereotypes and stigma associated with forestry professions, with 48 % (N=25) of forestry respondents and 54 % (N=56) of non-forestry respondents identifying this as a major barrier. Similarly, the lack of visibility of successful women in forestry roles was noted by 54 % (N=28) of forestry respondents and 40 % (N=41) of non-forestry respondents. Concerns

about job safety or physical demands were mentioned by 29 % (N=15) of forestry respondents and 40 % (N=41) of non-forestry respondents. Cultural or social norms discouraging women from forestry careers were perceived as a barrier by 50 % (N=26) of forestry respondents and 32 % (N=33) of non-forestry respondents. Furthermore, 52 % (N=27) of forestry students and 32 % (N=33) of non-forestry students felt that women's abilities and contributions in forestry are underestimated. Lack of information about forestry careers was a significant concern for both groups, with 58 % (N=30) of forestry and 49 % (N=50) of non-forestry respondents citing it. Other barriers included limited access to education or training, work-life balance challenges, and other miscellaneous reasons such as fear of reactions from male colleagues and unequal pay. A small portion of respondents, 10 % (N=5) from forestry and 4 % (N=4) from non-forestry backgrounds, believed there were no obstacles, while 14 % (N=14) of non-forestry respondents were unsure.

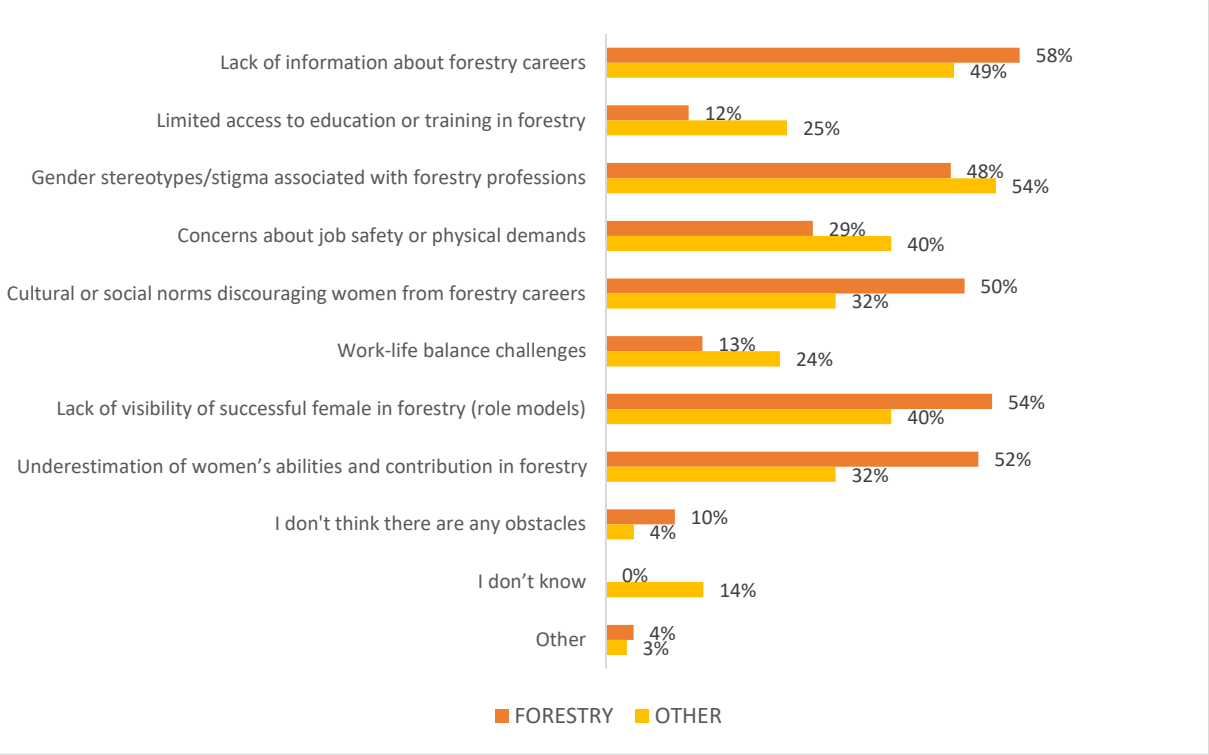


Figure 127: Perception of main barriers for girls and young women to enter the forestry sector (N=155)

Every third female forestry student (33 %, N=17) has encountered **gender-specific challenges or biases** during her education or field experiences. A larger portion, 62 % (N=32), reported not experiencing such challenges, while 6 % (N=3) preferred not to disclose their experiences.

Qualitative responses reveal various instances of gender-specific biases. Some students shared experiences of being questioned about their choice to work in forestry, facing scepticism about their capabilities, and enduring derogatory comments and behavior from peers and colleagues. For example, comments such as "Why did a girl choose to be a lumberjack?" and "How can a woman be a lumberjack?" were mentioned. Others reported facing preconceptions about women's roles and abilities in the forestry sector, as well as experiencing efforts to undermine their contributions. These experiences highlight the ongoing challenges that female forestry students face, which can impact their educational journey and career aspirations in this field.

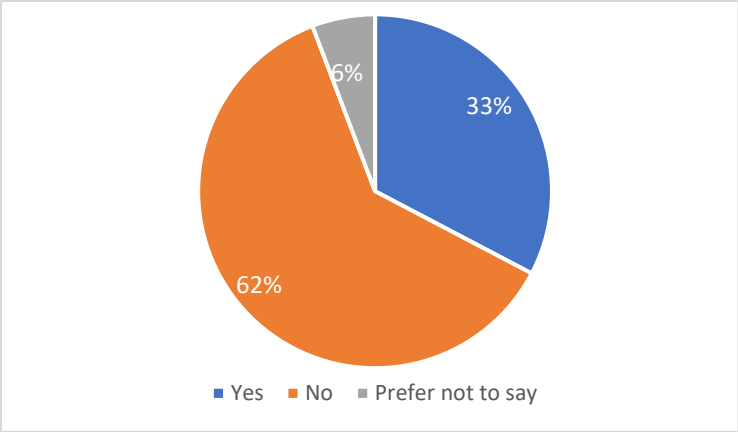


Figure 128: Experiences with gender-specific challenges or biases in forestry education or field experiences (N =52)

According to the data, 21 % of respondents (N=11) indicated that they **have been treated differently during their training or internships because they are women**, while 71 % (N=37) reported no such experiences, and 8 % (N=4) preferred not to say. The narratives shared by those who experienced gender-based discrimination highlight issues such as being discouraged from certain tasks because of perceived physical weakness, condescending and sexist attitudes, and the subtle yet pervasive nature of discriminatory comments.

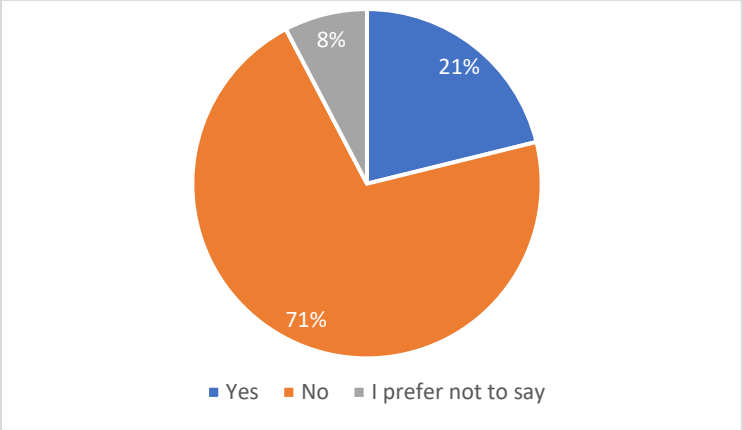


Figure 129: Being treated differently during training or internships because of gender (N =52)

The survey results reveal mixed **reactions from students' family and friends** when they expressed interest in entering forestry education. Among family members, 6 % were strongly dissatisfied, 4 % dissatisfied, 15 % neither dissatisfied nor satisfied, 52 % satisfied, and 23 % strongly satisfied. In contrast, friends exhibited more varied responses: none were strongly dissatisfied, 13 % were dissatisfied, 40 % were neutral, 33 % were satisfied, and 13 % were strongly satisfied.

Qualitative responses provide further context. Some students reported positive support from their families, who were aware of their commitment to forestry education. However, friends often reacted with scepticism or humour, questioning the students' choices and making comments about the perceived nature of forestry work. One respondent mentioned their family's satisfaction knowing forestry was the only option, while friends joked about buying firewood from them.

Another shared that their father refused to discuss the decision, friends were shocked, and neighbours asked if they would become a lumberjack. These anecdotes highlight the societal misconceptions and gender biases that can influence perceptions of forestry as a career choice.

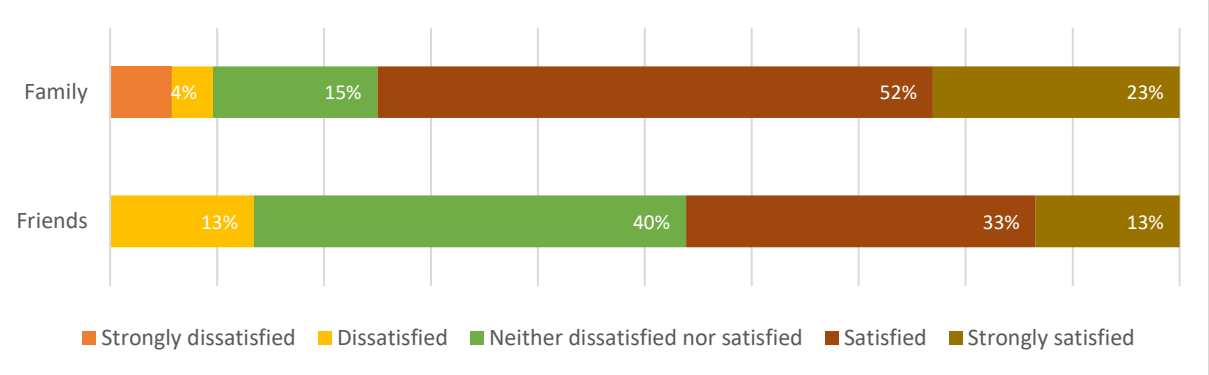


Figure 130: Reactions of family and friends to students´ interest in the forestry sector (n=52))

The survey results on **how forestry careers are perceived within the community or social circles of students** reveal a predominantly indifferent attitude. Specifically, 40 % (N=62) of the respondents indicated indifference towards forestry careers. Additionally, 32 % (N=49) of respondents were unsure about the perception of forestry careers in their communities. Only a small fraction, 8 % (N=13), viewed forestry careers positively, while 20 % (N=31) perceived them negatively.

The open-ended responses highlight a lack of awareness and misconceptions. For example, one respondent mentioned the need to support female colleagues in forestry, while another pointed out that certain subjects are only taught by specific professors. Others noted that forestry is not just about logging but also involves the protection of ecosystems and overall environmental conservation. These insights suggest a need for better education and awareness about the diverse roles and importance of forestry careers within the community.

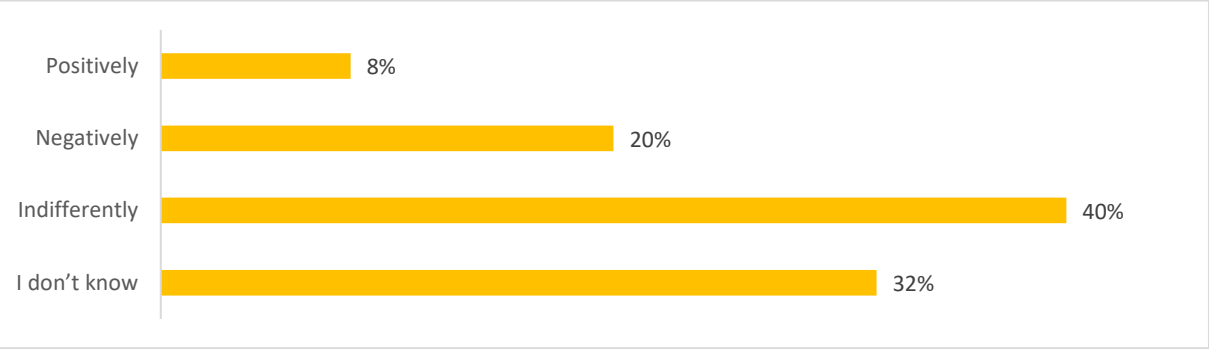


Figure 131: Perception of forestry careers in community/social circle (n=181)

7.6 Country Report: Serbia

7.6.1 General background

In Serbia, data collection was carried out using an online survey via the Google Forms platform. This method enabled the efficient collection of responses from a large number of participants in a relatively short period. The questionnaire was completed between April 23, 2024 and April 30, 2024.

Respondents were contacted with the assistance of:

- Teaching staff from the Faculty of Forestry and other faculties,
- Teaching staff from secondary schools,
- Educators in the dormitory for female secondary school students.

This approach ensured access to various groups of participants, covering a broader population and allowing the collection of different data relevant to the research.

- According to the instructions of the Fem2Forests project, the respondents were:
- Female students from secondary forestry schools (grades I-IV);
- Female undergraduate students at the Faculty of Forestry (years I-IV);
- Female students from other secondary schools (grades I-IV);
- Female undergraduate students at other faculties (years I-IV).

A total of 105 respondents participated in the study, divided into two main groups:

1) 57 female forestry students (secondary schools and faculty);
2) 48 female students from other secondary schools and faculties.

Participation in the study was voluntarily and respondents were assured anonymity in line with good research practice. This ensured that the identity of the participants was protected, which fostered an environment of trust and encouraged honest and open responses.

Participant demographics

The majority of respondents (35 %) attend a high school focused on forestry. About 1/4 (22 %) of respondents attend a high school that does not specialize in forestry. About 1/5 of the respondents (19 %) have studied forestry at the faculty level. In addition, about 1/4 of the respondents (24 %) have a background in non-forestry faculties.

Only 8 % of the participants from the Faculty of Forestry attended a forestry high school. None of them studied at high school in a related field. None of the participants from other faculties (non-forestry) attended a forestry secondary school.

The age data shows a clear pattern in which the high school respondents, both forestry and non-forestry, are predominantly in their late teens, while the faculty respondents, regardless of

specialization, are generally in their early twenties. This distribution is consistent with the educational levels of high school and university.

Table 17: Age (by education background)

	N	Minimum	Maximum	Mean	Std. Deviation
High school in forestry	37	15	21	17.35	1.184
Faculty of Forestry	20	19	24	21.25	1.618
Other high school (non-forestry)	23	16	19	17.61	0.722
Other faculty (non-forestry)	25	19	25	20.36	1.823

The results of the survey show an interesting difference in terms of place of origin between individuals in forestry careers and those in other professions (Figure 131).

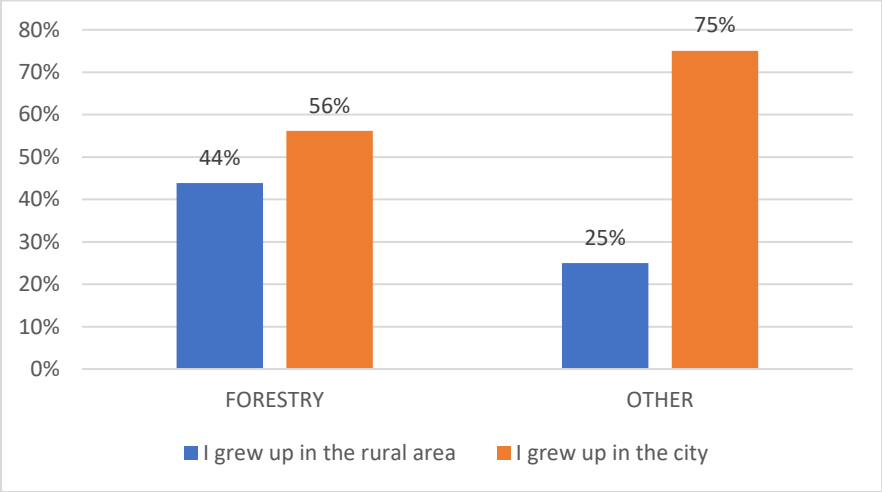


Figure 132: Place of origin

Of the respondents in forestry, 44 % grew up in rural areas, which is significantly higher compared to the 25 % of respondents in other fields who grew up in rural areas. This suggests that a rural background may play an important role in the decision to pursue a career in forestry. On the other hand, 56 % of forestry respondents grew up in the city, while more than 75 % of other respondents were city-raised. Although the majority of forestry professionals also come from urban areas, this proportion is lower compared to other areas. This suggests that while urban origins are an important contributor to the forestry profession, those from rural backgrounds are more inclined to go into forestry compared to other professions.

The survey results provide a detailed insight into the factors that influence respondents' decision to pursue a career in forestry.

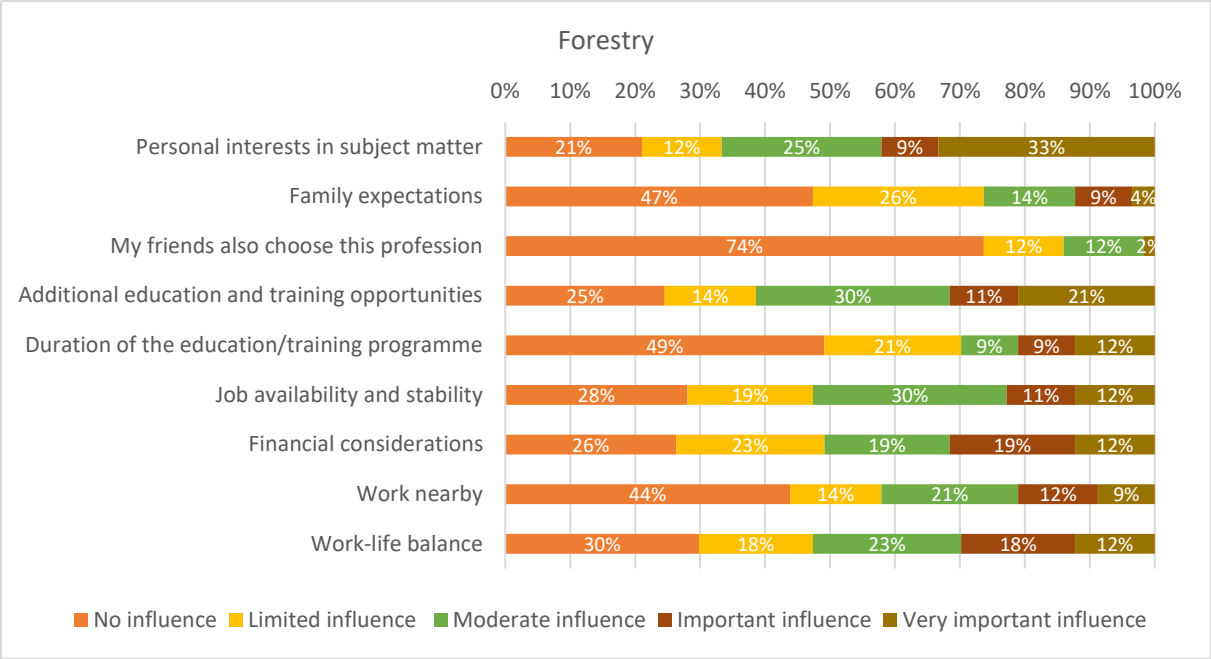


Figure 133: How did the following factors influence your career choices? (forestry)

Overall, the results indicate that personal interests and job availability/stability are among the most important influencing factors for many respondents. In contrast, friends' choices and family expectations generally have less influence on the decision to pursue a career in forestry.

The results of the survey shed light on the factors that drive respondents to pursue a career outside of forestry and the degree of influence each factor has.

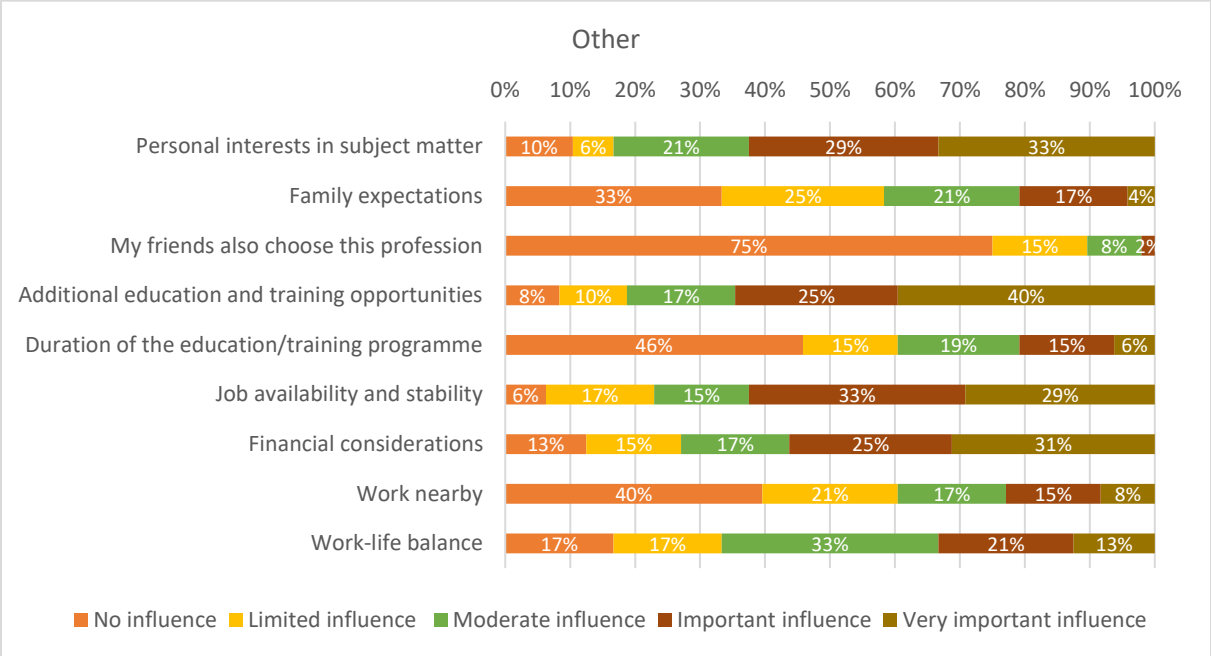


Figure 134: How did the following factors influence your career choices? (other)

In summary, personal interest in the subject matter and additional education and training opportunities are the most important influencing factors for respondents in non-forestry careers. Job availability and stability as well as financial considerations also play a decisive role. The career choice of friends and family expectations generally have less influence.

While both forestry and non-forestry respondents place a high value on personal interests and job stability, non-forestry respondents additionally emphasize the importance of education/training opportunities and financial considerations. In contrast, the influence of friends and family is equally low in both groups.

7.6.2 Information and motivation for forestry education

The research results show clear differences in the way forestry and other students gather information about forestry as a profession (Figure 135).

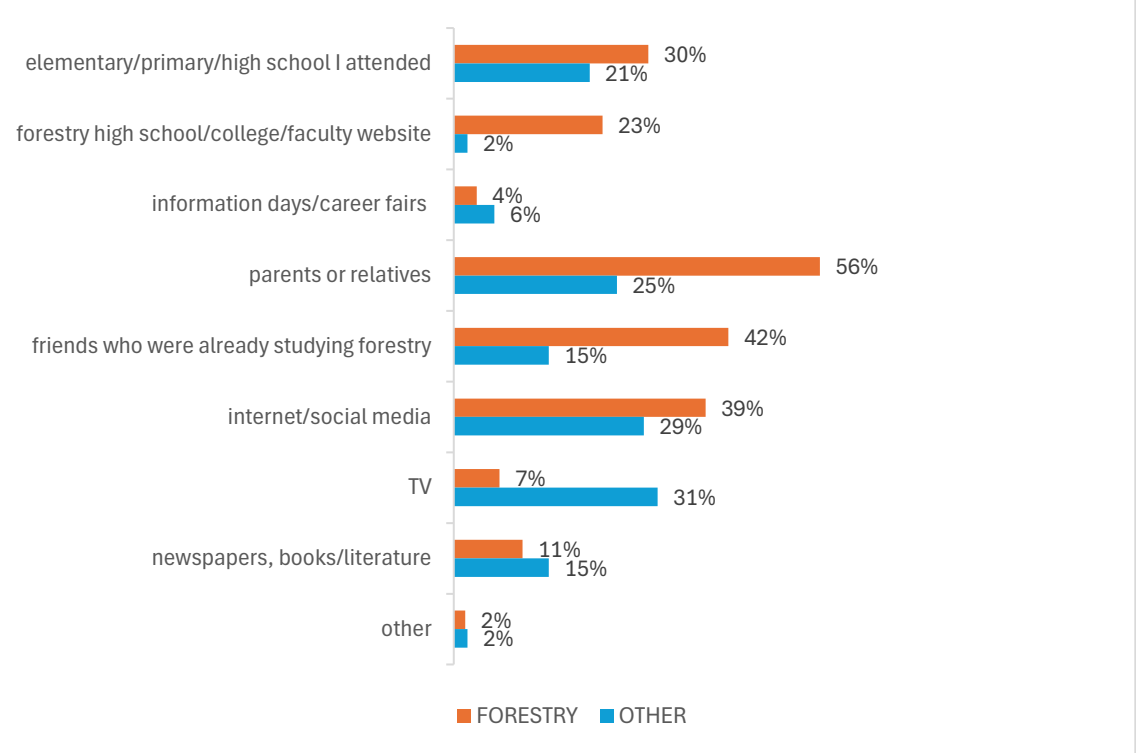


Figure 135: Primary sources of information on forest professions/fields of activity

A majority (56 %) of forestry students cited parents or relatives as their main source of information, suggesting that family background plays a crucial role in directing students toward forestry. Friends already studying forestry were also influential (42 %), indicating the importance of peer networks in sharing relevant information and experiences. The internet/social media was mentioned by 39 % of respondents, highlighting its importance in disseminating information. Most students from other disciplines named television (31 %) and the internet/social media (29 %) as the most important sources of information.

The survey examined various reasons that contribute to the decision to pursue higher or secondary education in forestry (Table 18).

Table 18: Key motivations for pursuing higher education in forestry

	Number	*Share*
I chose to study at the forestry high school/college/faculty at the urging of my parents.	7	12 %
I came to high school/college/faculty with my friends/at their urging.	2	4 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	8	14 %
Parents/close relatives work in the forestry sector and have guided me into this field.	11	19 %
I heard that studying at this high school/college/faculty is not so difficult.	14	25 %
For economic reasons thinking of the possible financial benefits as an employee.	7	12 %
I was attracted by the way of the educational offer of the high school/college/faculty.	15	26 %
Out of love, passion for nature/forest.	29	51 %
Sustainable and ecologically oriented economic sector.	7	12 %
Awareness of climate problems.	13	23 %
The meaning of work - doing good.	18	32 %
I ended up studying forestry by accident/by chance.	8	14 %
Other	2	4 %
Number of respondents =n	57	

The decision to study forestry is influenced by a variety of factors ranging from family guidance and personal passion to academic attractiveness and social awareness. Around half of respondents (51 %) cited love and passion for nature and the forest as their main motivation for pursuing forestry education. Almost 1/3 (32 %) of respondents emphasized the importance of meaningful work and saw forestry as a way to have a positive impact on the environment and society.

The reasons for choosing an education in forestry are diverse and reflect a broad spectrum of interests (Figure 136). The results show that environmental protection (58 %) and forest ecology (39 %) are of most interest to students wishing to study forestry. However, a significant number of respondents are also driven by practical aspects such as forest management (21 %) and timber harvesting (21 %).

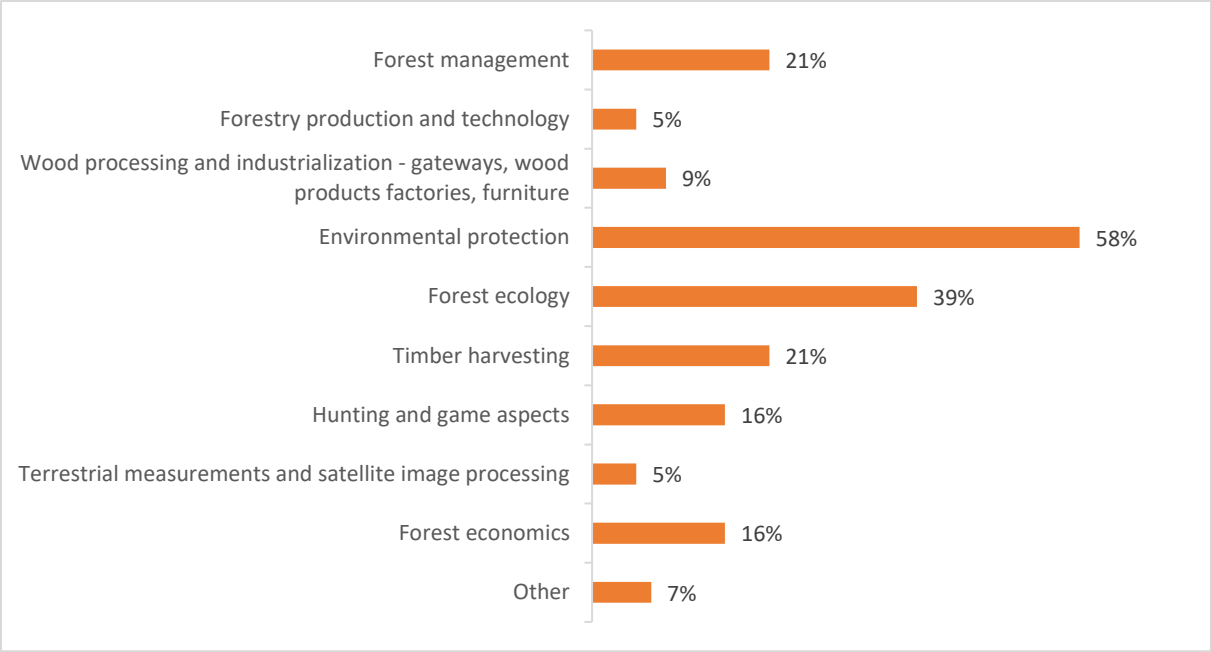


Figure 136: Influential areas of interest in choosing forestry education paths

The fact that 92 % of respondents had not initially considered forestry as a career option indicates a possible lack of awareness and exposure to the field. Only 8 % of respondents had considered forestry as a career option before their current education. Those who have not considered forestry as a profession often say: 'I have other interests", "I did not know what opportunities there were in this field", "I did not know it existed", and similar.

Only 17 % of respondents stated that they were aware of career opportunities in the forestry sector. A remarkable 83 % of respondents admitted that they knew little about career opportunities in forestry.

The survey examines what potential students would like to have in order to consider a career in forestry (19).

Half of the respondents expressed a desire for access to detailed information material on forestry careers. For 42 % of respondents, opportunities for job shadowing or internships in forestry-related fields would be valuable. The same number of respondents would appreciate online platforms or databases presenting forestry job opportunities and requirements. The importance of seeing more role models, especially women, in forestry were emphasized by 40 %. Around 1/3 (35 %) of respondents would appreciate guidance from career counselors familiar with forestry careers. A quarter of respondents would like to take part in workshops or excursions on the subject of forestry.

Table 19: Desired resources and knowledge when considering a forestry education

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	24	50 %
Guidance from career counsellors familiar with forestry professions.	17	35 %
Opportunities for job shadowing or internships in forestry-related fields.	20	42 %
Networking events with professionals working in the forestry sector.	8	17 %
Forestry-related workshop or field trip.	12	25 %
Access to a mentor from the forestry sector.	10	21 %
Seeing more role models (especially women) in forestry.	19	40 %
Online platforms or databases showcasing forestry job opportunities and	20	42 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	8	17 %
Gamified learning modules and challenges related to forestry careers.	5	10 %
Information via social media.	19	40 %
Other	3	6 %
Number of respondents =n	48	

7.6.3 Interests and needs in forestry education and career

Research results highlight the multiple aspects of forestry education, including practical experiences, academic coursework, social interactions, and exposure to technological advances (Figure 137).

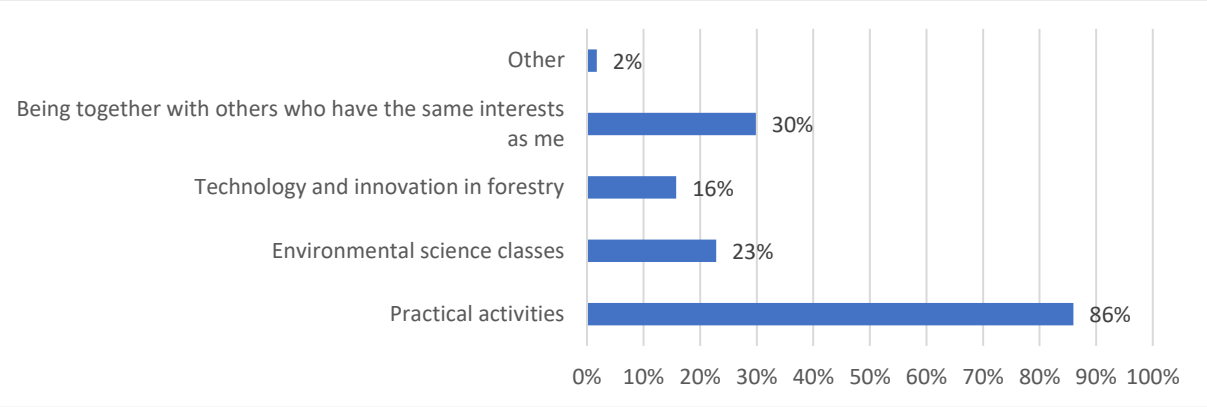


Figure 137: The most engaging aspects of forestry education

The majority (86 %) of respondents consider practical activities to be the most interesting aspect of their forestry education. A significant portion (30 %) of respondents find the companionship and shared interests among peers to be stimulating.

Respondents show diverse interests in various innovative forestry practices and technologies (Figure 138).

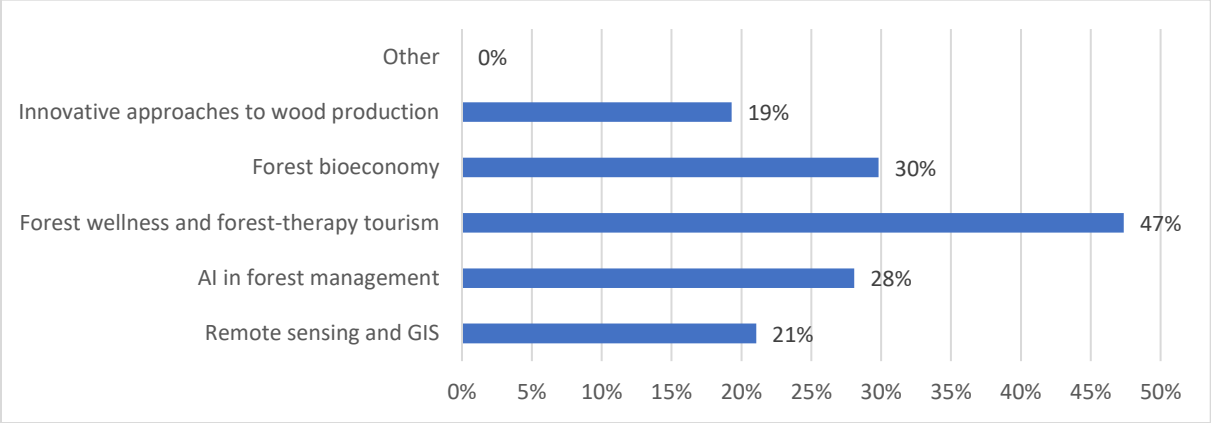


Figure 138: The most interesting innovative forestry practices and technologies

The most popular area, with 47 % of respondents interested, is the integration of health and wellness with forestry through therapeutic and recreational activities in forest ecosystems. The forest bioeconomy shows a strong interest (30 %) of respondents in sustainable economic activities derived from forest resources. AI in forestry (28 %) reflects a strong interest of respondents in the use of AI to improve forest management practices, including monitoring, planning and decision-making.

There are several key areas where respondents feel that additional support and resources would improve their forestry education and career preparation (Table 20).

The most requested support, identified as important by 70 % of respondents, underlines the value of practical learning experiences in the field to bridge the gap between theoretical knowledge and practical application. In second place are career counselling and job placement, considered necessary by 42 % of respondents. Internships are seen by 37 % of respondents as crucial for gaining relevant work experience, building professional networks and improving employability in the forestry sector.

Table 20: Support and resources to improve forestry education and career preparation

	Number	*Share*
More hands-on field experience	40	70 %
Access to modern harvesting technologies	13	23 %
Access to modern management tools	15	26 %
Guidance/mentorship from forestry professionals	18	32 %
Career counselling and job placement services	24	42 %
Internship opportunities	21	37 %
Networking opportunities (e.g. connecting with professionals)	17	30 %
Other	0	0 %
Number of respondents =n	57	

Most non-forestry students (73 %) have no experience with forestry activities. However, 27 % have participated in forestry activities (e.g. tree planting events, field trips to forests or nature reserves, forest clean-ups, art projects inspired by forests, etc.).

7.6.4 Career paths and skills required for forestry career

The results of the survey show a mixed feeling among forestry students regarding their preparedness to enter the forestry sector after completing their studies. Out of 57 respondents, 30 % feel confident, 11 % express doubts and a clear majority of 60 % are not sure of their readiness. One of the secondary school forestry students explains why she feels well prepared for the forestry sector after completing her studies: "Because of all the projects I was involved in, my own interest, the practice and the teaching". On the other hand, one of the forestry students is unsure whether she is ready to enter the forestry sector. She says: "I am not sure, but I do not think so. We are learning a lot in theory, and although we are going into practice, no one has offered us the opportunity to do an internship in a company and perform some of the basic tasks we will face in our future jobs".

The survey data shows a spectrum of confidence among forestry students regarding their prospects of employment in the forestry sector, both at home and abroad (Figure 139).

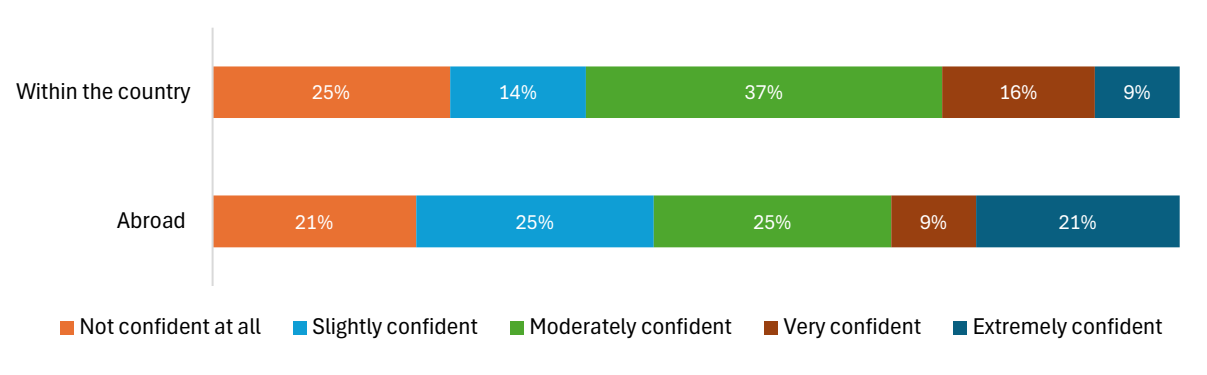


Figure 139: Confidence in employment prospects in forestry after graduation

The survey results regarding employment abroad in the forestry sector indicate a significant degree of uncertainty among forestry students. A considerable proportion expressed low confidence (21 % are not at all confident), while a significant proportion expressed moderate confidence (25 %) or high confidence (9 %) and 21 % expressed extreme confidence in their ability to find employment abroad in the forestry sector.

The survey results show a diverse spectrum of career aspirations among forestry students (Figure 140).

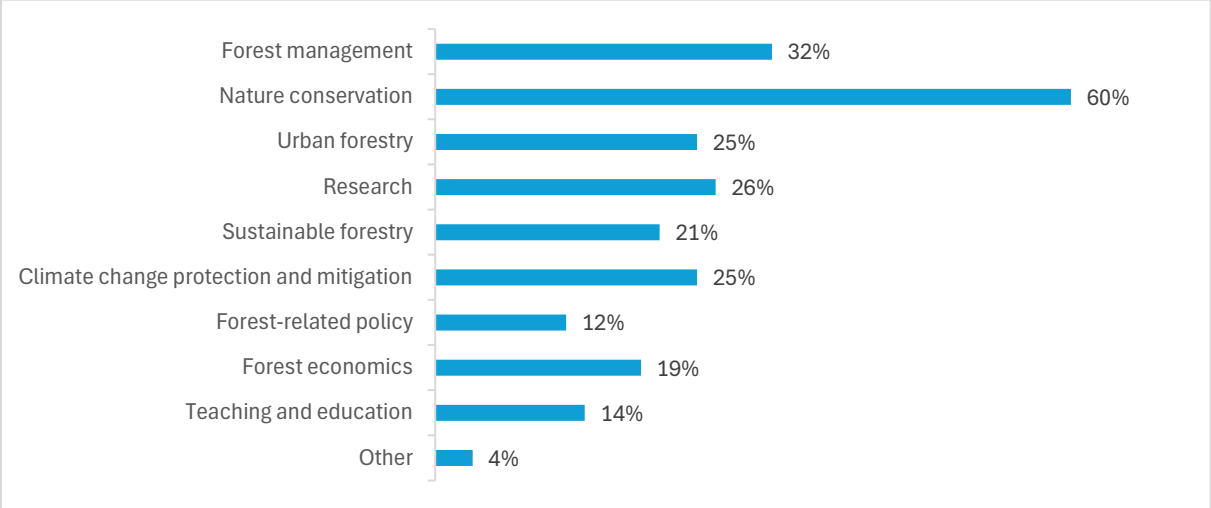


Figure 140: Career paths considered among forestry students

The majority of respondents (60 %) expressed an interest in nature conservation. Other popular career fields include forest management (32 %), research (26 %), climate change protection and mitigation (25 %), urban forestry (25 %) and sustainable forestry (21 %), highlighting the importance of considering forests in urban landscapes and the growing emphasis on sustainable forest management practices. The areas of forest policy (12 %), forest economics (19 %) and teaching and education (14 %) received comparatively little interest but are nevertheless important aspects of the forestry sector. Overall, these results suggest that forestry students in Serbia are motivated by a wide range of career opportunities within the sector, reflecting a holistic approach to forestry that encompasses ecological, economic and social dimensions.

The survey results provide valuable insights into the factors that could increase the attractiveness of forestry as a career choice among respondents (Table 21).

Table 21: Factors that influence the attractiveness of a career in forestry

	Number	*Share*
Understanding that forestry can impact climate change positively	18	38 %
Better image of foresters	20	42 %
Appropriate payment	32	67 %
Opportunities to work closely with local communities, and contribute positively to rural development	9	19 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	18	38 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	19	40 %
Other	1	2 %
Number of respondents =n	48	

The importance of adequate pay, highlighted by 67 % of respondents, also underlines the importance of financial stability. Improving the image of foresters was emphasized by 42 % of respondents. They called for a better public perception of foresters and expressed a desire for more recognition and appreciation for the importance and contribution of the profession. The survey also shows a strong interest in environmental impact and conservation efforts. A significant proportion of respondents emphasized the importance of understanding the forest industry's involvement in conservation efforts (38 %) and positive impact on climate change (38 %). Additionally, 40 % of respondents indicated an interest in career paths that involve understanding, conserving and managing valuable natural resources, highlighting a desire for work that embraces conservation and stewardship principles.

The results of the survey shed light on the level of awareness among respondents regarding the skills and qualifications required for forestry professions (Figure 141).

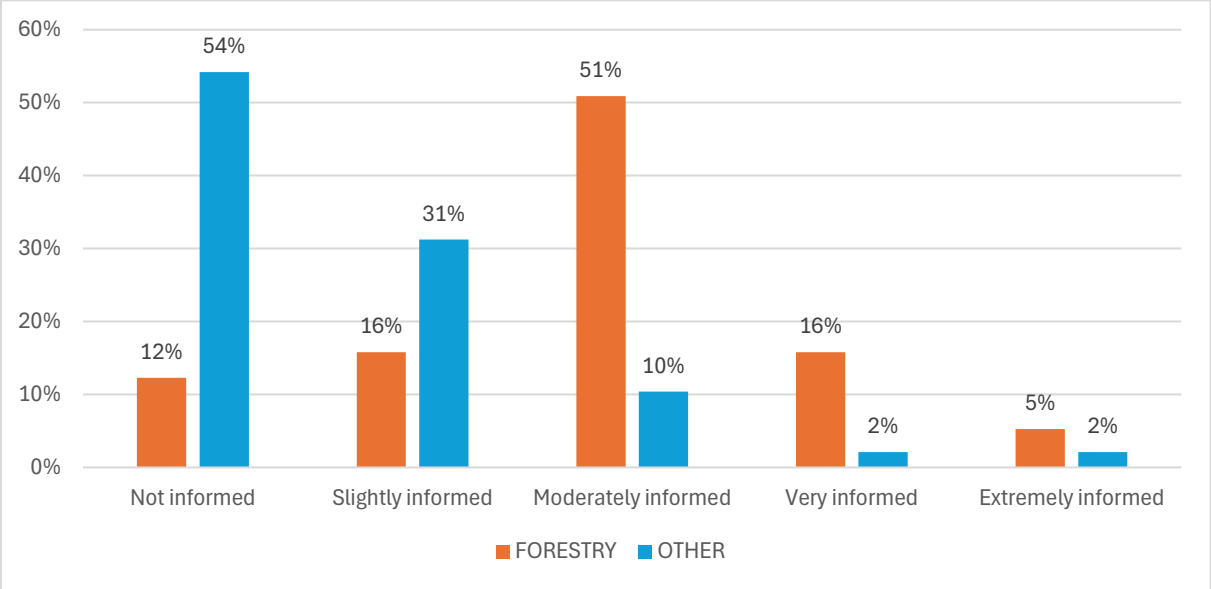


Figure 141: Understanding skills and qualifications for forestry professions

The results reveal a concerning disparity between forestry and other fields. The majority of forestry students (51 %) feel moderately informed about the skills and qualifications required for forestry careers. On the other hand, a significant proportion of other students (54 %) indicated that they did not feel informed about the skills and qualifications required for careers in forestry. Only 4 % of them felt very informed or extremely informed. Furthermore, only 1/5 (21 %) of forestry students believe that they are very informed or extremely informed about the skills and qualifications required for forestry careers.

A clear majority (58 %) of non-forestry students considered career advancement important and emphasized its importance to their career aspirations and professional development. An equally substantial 25 % considered career advancement to be fairly important (Figure 142).

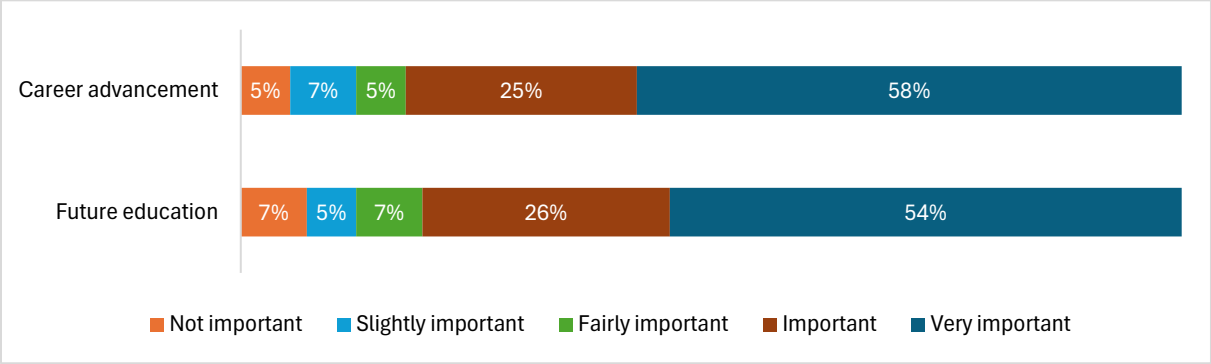


Figure 142: Importance of career advancement and further training in forestry

Most non-forestry students (54 %) rated future education as very important, highlighting a strong desire for continuous learning and skills development. Similar to career advancement, a significant proportion (26 %) considered future education to be fairly important.

7.6.5 Perceptions and challenges of career in forestry

Based on the survey results, the biggest misconceptions and stereotypes about forestry careers among peers include limited perception of opportunities, misconceptions about education, gender stereotypes, etc. (Figure 143).

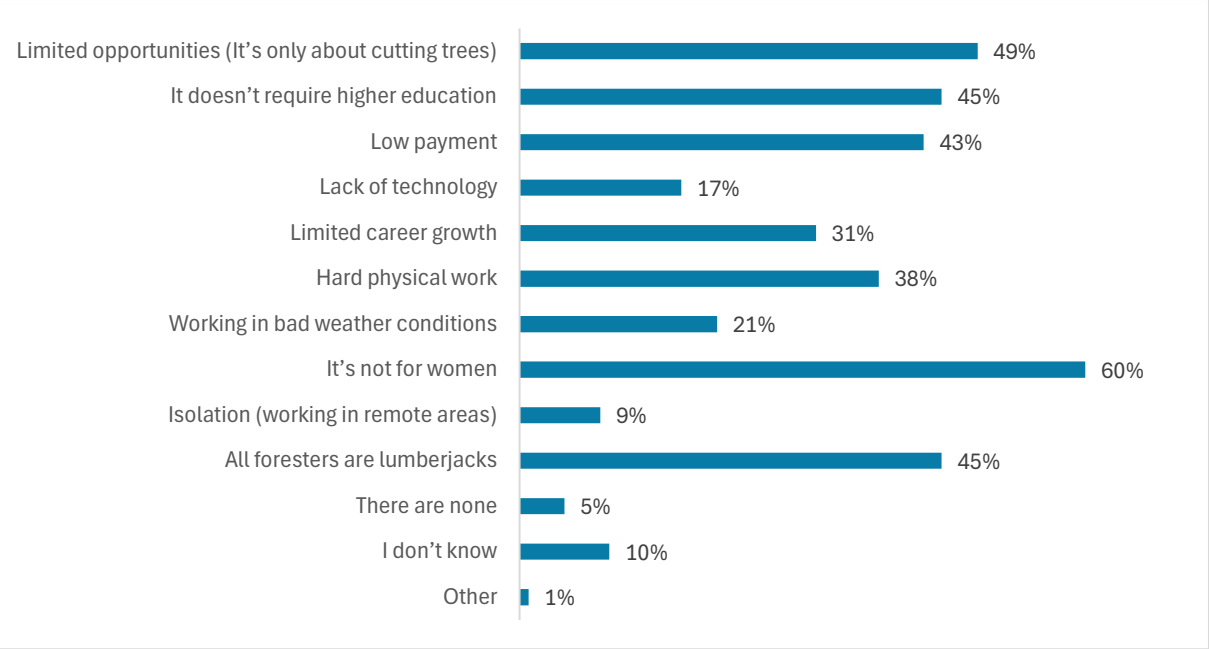


Figure 143: The biggest misconceptions/stereotypes about careers in forestry

Almost half (49 %) of respondents believe that their peers think that opportunities in forestry are limited and mainly involve cutting down trees. This simplistic view ignores the multiple roles within forestry, such as conservation, ecosystem management and sustainable forestry practices. Another key misconception held by 45 % of respondents is that their peers believe a career in forestry does not require higher education. This is a critical misconception, as many positions in forestry require specialized knowledge and training, often obtained through higher education in forestry or environmental science. Almost half (45 %) of respondents say that their peers think that all foresters are involved in manual logging activities. A remarkable 60 % of respondents say that one of the biggest stereotypes among their peers is that forestry is not for women.

The results of the survey show that several main barriers prevent girls from pursuing a degree and career in forestry (Figure 144).

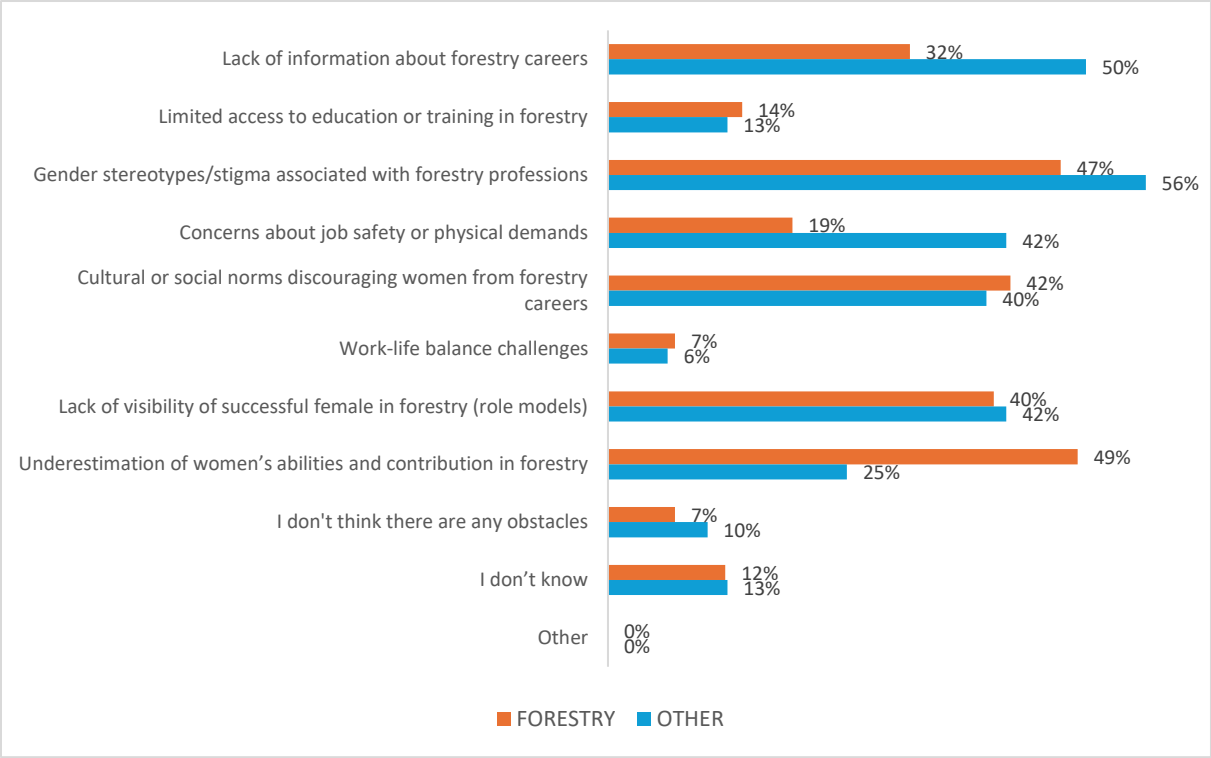


Figure 144: The main barriers for girls to study in the forestry sector

A significant number of respondents (32 % from the forestry group and 50 % from the other groups) feel that there is a lack of information about forestry careers. This suggests that many girls are not aware of the wide range of opportunities in this field. As well, gender stereotypes and stigmatization are a major obstacle, since 47 % of respondents from the forestry group and 56 % of other respondents mentioned this problem. Another important obstacle is related to concerns about workplace safety and physical demands, which were cited by 19 % of forestry respondents and 42 % of others. Cultural and social norms that discourage women from pursuing forestry careers are cited by 42 % of forestry respondents and 40 % of others. The lack of visible female role models in forestry is seen as a barrier by 40 % of forestry respondents and 42 % of other respondents. A significant barrier cited by 49 % of forestry respondents and 25 % of others is the underestimation of the skills and contributions of women in forestry.

A significant proportion of forestry students have not been confronted with gender-specific challenges or prejudices, with 51 % answering "no" to this question. However, it is also important to note that 33 % stated that they had experienced such challenges or biases, and 16 % preferred not to specify. This suggests that while some have faced issues, this is not a common experience among forestry students in Serbia.

The majority (63 %) of participants stated that they had not experienced different treatment based on their gender. In contrast, 25 % of respondents reported that they were treated differently because of their gender. This suggests that there are gender challenges and biases in the field of forestry that affect a significant proportion of students in Serbia. However, it is also worth noting that 12 % of respondents preferred not to disclose their experiences. This shows a certain level of sensitivity or discomfort around the topic.

The reactions of family and friends to the decision to undertake forestry education reflect a range of feelings, as the survey results show. In terms of family reactions, 32 % said they were satisfied and 40 % said they were strongly satisfied, indicating that a significant majority of respondents experienced support and positive reactions from their families to their decision (Figure 145).

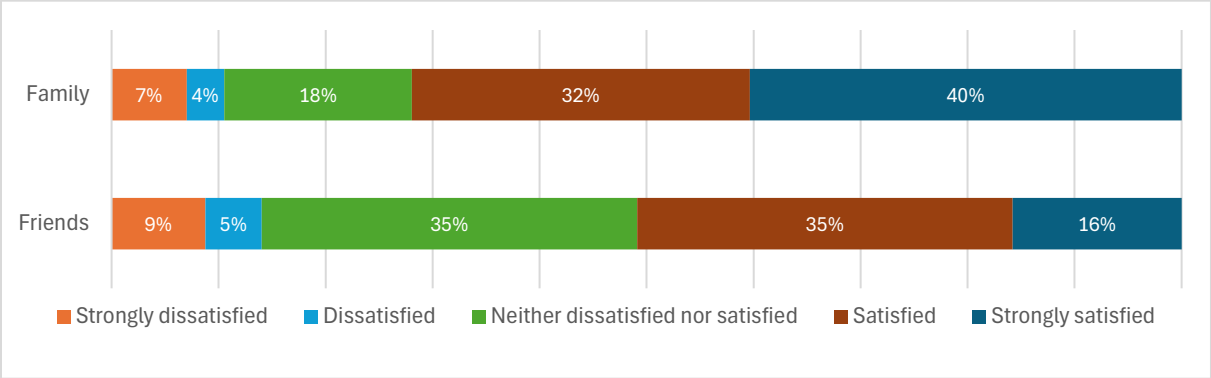


Figure 145: The reaction of family and friends to the decision to pursue a career in forestry

As for the reactions of friends, the same number (35 %) were neither dissatisfied nor satisfied and expressed satisfaction. In addition, 16 % said they were strongly satisfied. While some of the respondents received mixed reactions from their friends about their decision to pursue a forestry education, a significant number of them received supportive or positive feedback from their social circle.

Based on the survey results on the perception of forestry careers within the community or social circle, 27 % of respondents believe that this profession has a positive reputation, suggesting that a significant proportion of the population recognizes the value and importance of forestry work (Figure 146).

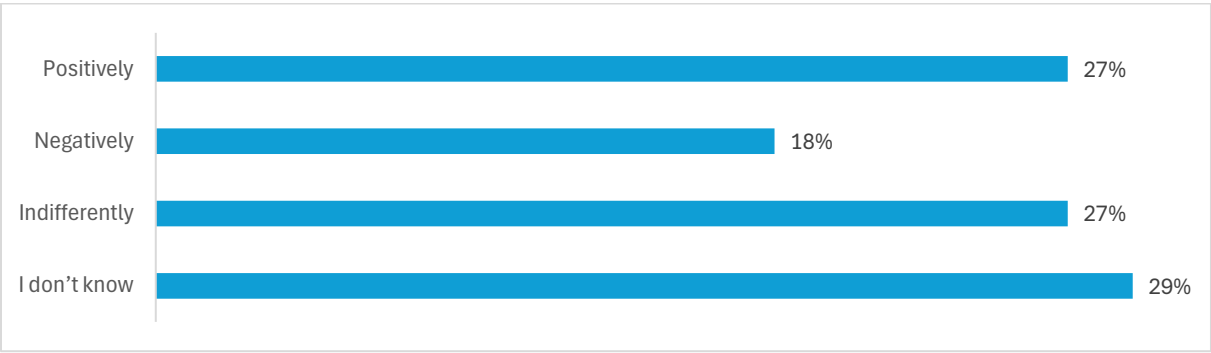


Figure 146: How do you think forestry careers are perceived within your community or social circle?

Conversely, 18 % of respondents believe that the forestry profession is perceived negatively, indicating concerns or misconceptions about the sector. A further 27 % believe that forestry careers are perceived indifferently in their community or social circle, i.e. neither positively nor negatively, which could indicate a lack of strong opinions or knowledge about forestry professions. Finally, 29 % of respondents are not sure how the forestry profession is perceived in their community or social circle, indicating a high level of unfamiliarity or a lack of information about

forestry careers. These mixed perceptions highlight the need to raise awareness of the benefits and opportunities of the forestry sector.

7.7 Country Report: Romania

7.7.1 General background

In Romania there are few high schools with forestry departments, and over the time due to labour market requirements the high schools have diversified its profiles and specializations, in addition to forestry, with classes in: environmental protection, economic activities, tourism and food, administration in high school and car mechanic and waiter in professional education. One of the colleges has gained national recognition for its exceptional performance in youth exchanges, training, networking, and strategic partnerships. Since 2015, the Bucovina Forestry College has been under the management of Alina Elena Cuciurean, a female engineer. Under her leadership, the college has significantly improved its networking and achieved notable success in forestry competitions. Another school with forestry background is the Brănești School of Forestry which was founded in 1893 through "High Royal Decree" making it the first forestry school in the Kingdom of Romania. The college's objective is to educate students with the goal of producing skilled professionals known as „Foresters of the 21st century."

A comprehensive list was compiled to identify schools and institutions having a background in forestry. This list includes a network of forestry schools organized by county. The list included 43 schools that were specifically selected based on the presence of the word "forestry" in their school name. Through this process, a total of 10 high schools/colleges were found. Additionally, five faculties were identified that specialize in forestry, environment protection, and cadastre. All educational institutions are distributed over 13 counties (Table 22).

Table 22: List of the education institutions with forestry background

No. Crt.	Institution/College/Faculty	County
1	Bucovina Forestry College	Suceava
2	Forestry Faculty from Suceava	Suceava
3	Forestry Faculty and Forestry Explotation	Brașov
4	Forestry Faculty from Suceava – 1st year Master in Management	Suceava
5	Forestry Faculty from Suceava – 1st year in Conservation	Suceava
6	Forestry Faculty and Cadastre from Cluj Napoca	Cluj Napoca
7	Faculty of Agriculture - Forestry Department Bucharest	București
8	Faculty of Environment Protection - Oradea	Oradea
9	Faculty of Engineering and Applied Technologies - Department of Forestry	Timișoara
10	Branesti Forestry College	Ilfov
11	Transilvania High School from Năsăud	Bistrița Năsăud
12	Gurghiu High School	Mureș
13	Dr. Nicolae Rucareanu Forestry Technological High School	Brașov
14	Forestry Technological High School	Râmnicu Vâlcea
15	Forestry Technological High School Cîmpeni	Alba
16	Emil Racoviță Theoretical High School	Baia Mare
17	King Mihai I High School, Curtea de Argeș	Argeș
18	Technological High School of Forestry and Agriculture "Green House"	Timișoara

In the case of school with non-forestry background the approach used was at macro level. A selection of counties was made from each of the eight development regions in Romania (Table 23).

1. North-East Development Region (Bucovina and Moldova regions);
2. South-East Development Region (Dobrogea, and parts from Moldova and Muntenia regions);
3. South Development Region (Muntenia);
4. South-West Development Region (Oltenia);
5. Western Development Region (Banat, and parts from Crișana and Transilvania regions);
6. North-West Development Region (Maramureș, and parts from Crișana and Transilvania regions);
7. Central Development Region (Transilvania);
8. Bucharest – Ilfov Development Region (Muntenia region).

Table 23: List of the education institutions with non-forestry background

Institution/College/Faculty	**County**	**Development**
Colegiul National Horea, Closca si Crisan	Alba	Central
Colegiul National ”Vlaicu Vodă”	Argeș	South
Colegiul National Constantin Carabella	Dâmbovița	South
Colegiul National Gheorghe Vranceanu	Bacau	North-East
Colegiul National Vasile Lucaciu Baia Mare	Baia Mare	North-West
Colegiul National Gheorghe Sincai	Baia Mare	North-West
Colegiul National Avram Iancu	Bihor	North-West
Colegiul National Liviu Rebreanu	Bistrita Nasaud	North-West
Colegiul National Mihai Eminescu Botosani	Botosani	North-East
Colegiul National A.T. Laurian	Botosani	North-East
Colegiul National Andrei Saguna Brasov	Brasov	Central
Colegiul National Unirea Brasov	Brasov	Central
Colegiul National Dr. Ioan Mesota	Brasov	Central
Colegiul National I.L. Caragiale	Bucuresti	Bucharest-Ilfov
Liceul Teoretic National	Bucuresti	Bucharest-Ilfov
Colegiul National Mihai Eminescu	Bucuresti	Bucharest-Ilfov
Colegiul National Ion Neculce	Bucuresti	Bucharest-Ilfov
Colegiul National Matei Basarab	Bucuresti	Bucharest-Ilfov
Colegiul National Mihai Viteazul	Bucuresti	Bucharest-Ilfov
Colegiul National Iulia Hasdeu	Bucuresti	Bucharest-Ilfov
Colegiul Național ”Bogdan Petriceicu Hașdeu	Buzău	South-East
Colegiul National Al. I. Cuza Focșani	Vrancea	South-East
Colegiul National Costache Negri	Galați	South-East
Colegiul National Emil Racovita	Cluj Napoca	North-West
Colegiul National Geroge Cosbuc	Cluj Napoca	North-West
Colegiul National Gheorghe Sincai	Cluj Napoca	North-West
Colegiul Național Carol I	Craiova	South-West
Colegiul National Fratii Buzesti	Craiova, Dolj	South-West
Colegiul National Vasile Alecsandri	Iasi	North-East
Colegiul National Costache Negruzzi	Iasi	North-East
Colegiul National Iasi	Iasi	North-East
Colegiului Național ”Emanuil Gojdu”	Oradea	North-West

Colegiul National Onisifor Ghibu	Oradea	North-West
Colegiul National Petru Rares Neamt	Piatra Neamt	North-East
Colegiul National Pedagogic Gheorghe Asachi	Piatra Neamt	North-East
Colegiul Național ”Calistrat Hogaș” Școală Europeană	Piatra Neamt	North-East
Colegiul National ”I.L. Caragiale” Ploiesti	Prahova	South
Colegiul National Mihai Eminescu Satu Mare	Satu Mare	North-West
Colegiul Național ”Gheorghe Lazăr” Sibiu	Sibiu	Central
Colegiul Național ”Samuel von Brukenthal” Sibiu	Sibiu	Central
Colegiul National Stefan cel Mare Suceava	Suceava	North-East
Colegiul National Petru Rares Suceava	Suceava	North-East
Colegiul National Mihai Eminescu Suceava	Suceava	North-East
Colegiul de Arta Ciprian Porumbescu Suceava	Suceava	North-East
Colegiul National Eudoxiu Hurmuzachi Radauti	Suceava	North-East
Colegiul Tehnic Mihai Bacescu Falticeni	Suceava	North-East
Colegiul National Nicu Gane Falticeni	Suceava	North-East
Colegiul National Banatean	Timisoara	Western
Colegiul National Pedagogic Carmen Sylva	Timisoara	Western
University Stefan cel Mare Suceava – other faculties	Suceava	North-East

Participant demographics

The objective of the questionnaire was to ascertain the gender of the participants. Based on the gender question, 95.8 % of respondents were identified as female, with only three male individual beginning to complete the questionnaire. Out of the total, 69 % of individuals are from institutions that have a background in forestry, while 31 % are from institutions without a forestry background.

Regarding the age of participants from the Forestry Faculty, the majority of respondents fall within the age range of 21-30 years old, accounting for 33.33 % of the total respondents with a background in forestry. When comparing the age range of 15-20 years old in the Forestry College, it accounts for 26.9 % of the total participants. The average age is 28 in the case of Forestry Faculty, whereas for the college it is 25. For individuals without any prior knowledge or experience in forestry, the typical age range for institutional education is between 15 - 20 years old, accounting for 59.4 % of the population. The average age in this group is 18 years old.

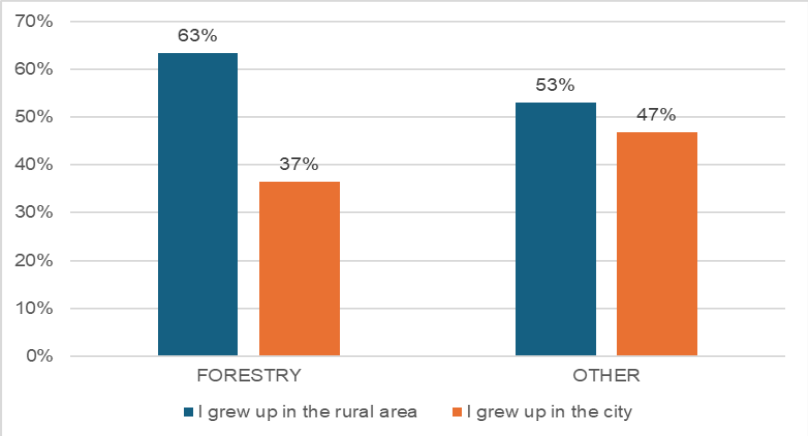


Figure 147: Place of origin

Regarding the place of origin, the distribution is approximately identical in both scenarios, however the students predominantly come from rural areas (figure 147). Individuals with a background in forestry typically originate from rural areas due to their proximity to forests. As a result, they possess a greater understanding and awareness of forest-related matters compared to those from metropolitan areas. Those with a forestry background, comprising 69 % of the attendees, provide excellent coverage for the institution. Another portion consists of 18 % from different high schools, while 13 % comes from other faculties (figure 148). Moreover, 25 % of participants from faculties of forestry studied at Forestry high school, 6 % percent of participants studied at high school in related field, and 19 % percent of participants from other faculties (non-forestry) studied at forestry high school.

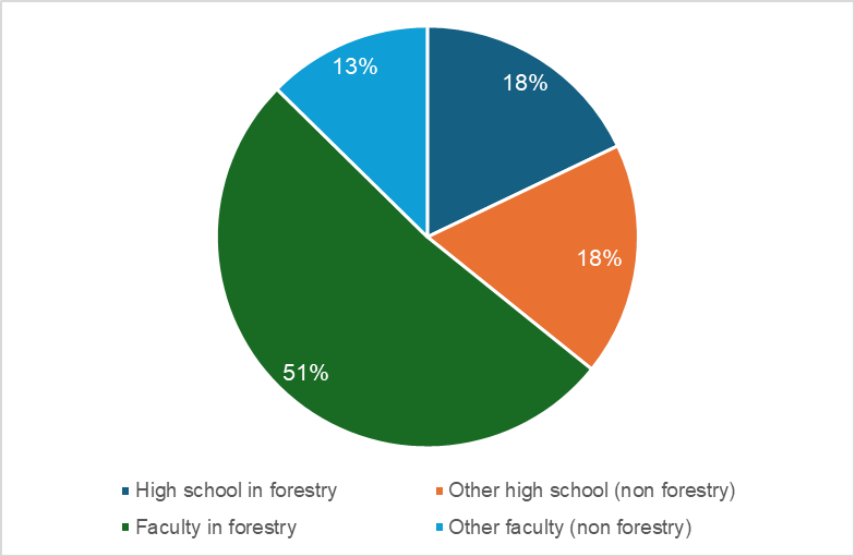


Figure 148: School that students attend

Assessing the impact of specific factors on the career choices of respondents, the scenario is as follows (figure 149): among students with a background in forestry, 78 % are certain that their choice of profession is not influenced by their friends' decisions. Instead, their decision is mostly driven by personal interests, which has a significant impact on their choice (88 %). Furthermore, they chose to pursue the study of forestry primarily due to financial considerations, with 67 % of respondents indicating that this factor had a moderate to significant impact on their decision. The decision was also motivated by the desire for a better work-life balance, with 71 % of individuals citing this as a motivation. Undoubtedly, career chances hold great significance for them, accounting for 46 % of their priorities. Family expectations is not one of the primary reasons (54 %) for choosing this job. For students who are studying subjects other than forestry, the influence of certain factors on the job choices of the respondents is as outlined below: 88 % of respondents stated that they selected their field of work education based on personal interests. In both cases, employment availability and stability, financial considerations held equal weight in their decision-making process. Furthermore, work-life balance is also highly significant, with a 72 % importance rating. However, their decisions are not influenced by their friends, as indicated by a 78 % majority.

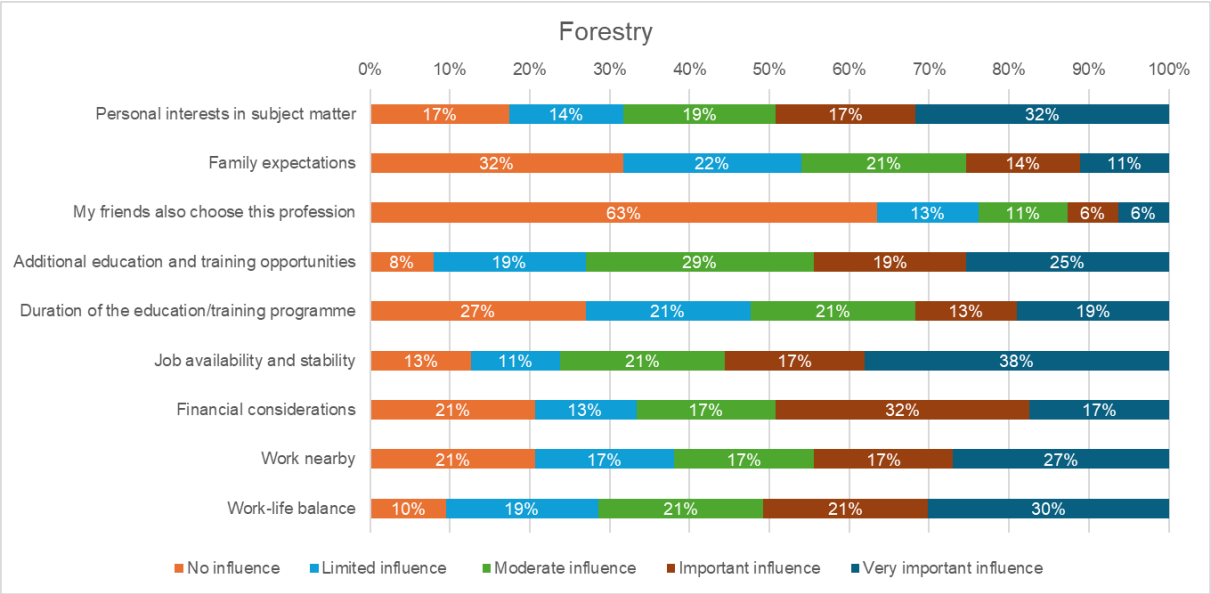


Figure 149: Factors that influence the career option for institutions with forestry background

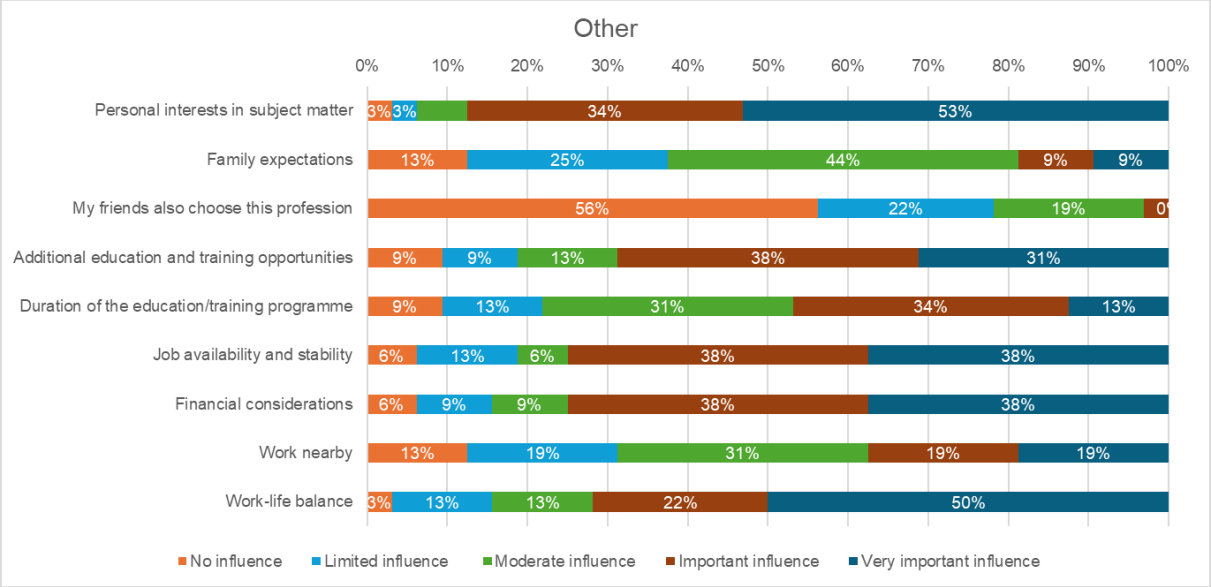


Figure 150: Factors that influence the career option for institutions with non-forestry background

7.7.2 Information and motivation for forestry education

The respondents with a background in forestry primarily acquired knowledge about forestry occupations from their parents and relatives (44 %), followed by forestry high school/college/faculty websites (40 %), acquaintances who had already studied forestry (40 %), and the internet or social media (30 %). Out of the respondents from education institutions without a forestry background, 78 % of them indicated that they did not consider pursuing a career in forestry. The reasons for their reluctance to pursue a forestry college or faculty are primarily due to a lack of passion for the profession, a general disinterest in this area of study, or the perception that it is particularly challenging for women to secure employment in the forestry sector.

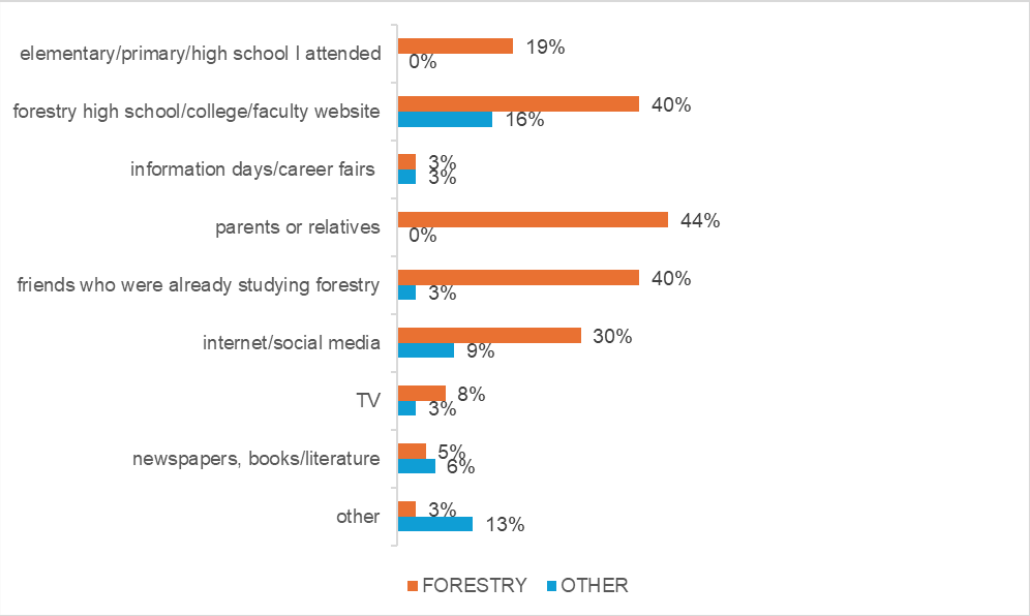


Figure 151: Information availability about forests professions/fields of activity

Respondents who considered pursuing a college or faculty education in forestry but ultimately did not do so, cited reasons such as the significant distance between their residence and the high school, discouragement from relatives who deemed it a challenging endeavour, or the discovery of a broader breadth of knowledge in a related profession.

Table 24: Reasons to pursue higher education/study in forestry

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	5	8 %
I came to high school/college/faculty with my friends/at their urging.	1	2 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	8	13 %
Parents/close relatives work in the forestry sector and have guided me into this field.	5	8 %
I heard that studying at this high school/college/faculty is not so difficult.	0	0 %
For economic reasons thinking of the possible financial benefits as an employee.	4	6 %
I was attracted by the way of the educational offer of the high school/college/faculty.	6	10 %
Out of love, passion for nature/forest.	22	35 %
Sustainable and ecologically oriented economic sector.	1	2 %
Awareness of climate problems.	0	0 %
The meaning of work - doing good.	3	5 %
I ended up studying forestry by accident/by chance.	6	10 %
Other	5	3 %
Number of respondents =n	63	

The primary motivation for pursuing further education was a heartfelt decision driven by a deep enthusiasm for nature or the forest, accounting for 35 % of the respondents (table 3). Naturally, there are also unpleasant instances where individuals find themselves studying forestry unintentionally or due to being rejected from other academic departments. Furthermore, there are those who opted to pursue forestry at the urging of their parents or friends.

Approximately 78 % of the respondents did not view forestry as a viable career option due to a lack of passion for the field, a lack of consideration for this career path, perceiving it more as a hobby than a legitimate job, a lack of personal interest in the field, or simply finding forestry uninteresting (figure 152). On the contrary, respondents who considered forestry as a potential vocation did not immediately consider pursuing a career in the forestry field, either due to their own perception that it is predominantly a man labour job or because their relatives influenced them to believe so.

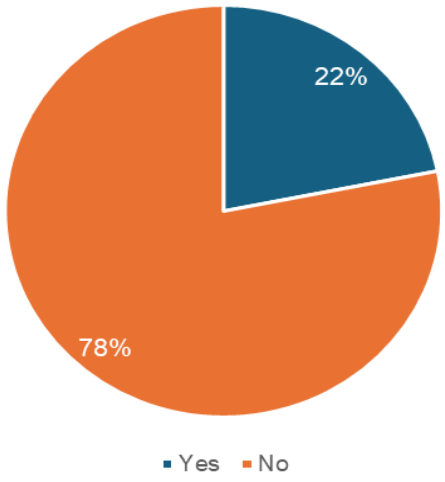


Figure 152: Respondents' perception about forestry as a career option

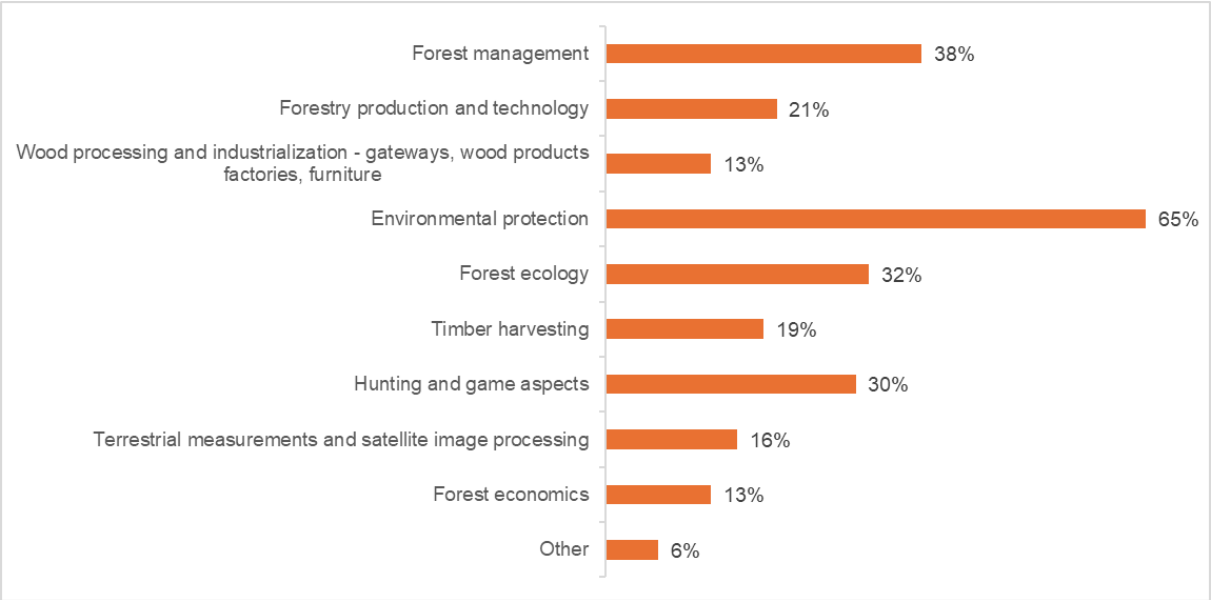


Figure 153: Areas of interest that contributed to the choice of the high school/college/faculty of forestry

The figure 153 illustrates that the primary focus while selecting studies in forestry is environmental preservation and forest ecology. While students may find themes connected to economics less captivating, but there is a growing interest in knowing more about forest management and game aspects. Despite the rapid advancement of technology, young students do not find satellite image processing or terrestrial measurements particularly captivating. Furthermore, a few of them mentioned additional fields of interest, such as forest policies and forest restoration.

According to figure 154, most respondents who do not have a background in forestry are unaware of the opportunities that exist in the forestry sector. This could be due to either the respondents' failure to consider pursuing a forestry degree or a lack of awareness campaigns conducted by forestry faculties. The precise reason is not specified.

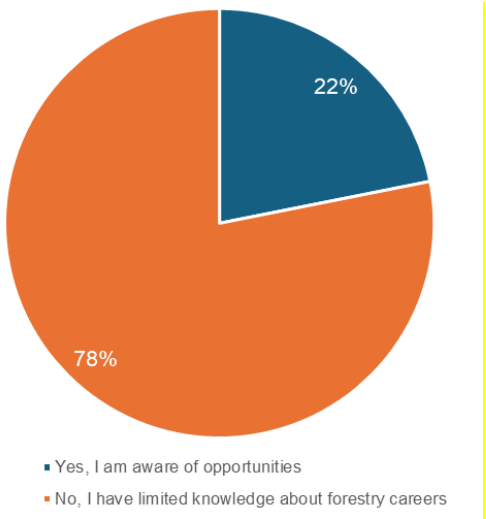


Figure 154: Career opportunities available in the forestry sector

The subsequent inquiry is to determine which alternative is seen more suitable for individuals who wants to pursue studies in forestry. There are three options that have an equal degree of agreement. Specifically, 56 % of the respondents expressed the need for more access to instructional material concerning forestry occupations, 56 % expressed the need for more forestry-related workshops or field trips, and 56 % expressed the need for more examples featuring women as role models. Undoubtedly, they articulated their requirements for assistance from career counsellors well-versed in forestry occupations and possibilities for job shadowing or internships.

Table 25: What would you appreciate to have/know to consider studying in forestry?

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	18	56 %
Guidance from career counsellors familiar with forestry professions.	15	47 %
Opportunities for job shadowing or internships in forestry-related fields.	13	41 %
Networking events with professionals working in the forestry sector.	7	22 %
Forestry-related workshop or field trip.	18	56 %
Access to a mentor from the forestry sector.	8	25 %
Seeing more role models (especially women) in forestry.	18	56 %
Online platforms or databases showcasing forestry job opportunities and requirements.	11	34 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	9	28 %
Gamified learning modules and challenges related to forestry careers.	8	25 %
Information via social media.	11	34 %
Other	1	4 %
Number of respondents =n	32	

7.7.3 Interests and needs in forestry education and career

As anticipated, students found practical activities to be more engaging (figure 155), with 86 % of them considering this feature to be more appealing. The remaining three options are somewhat similar in terms of agreement, with the second option, which focuses on technology and innovation in forestry, being the most appealing to them. Despite expressing a strong interest in technology and innovation in prior questions, they do not find remote sensing instruments particularly intriguing, as indicated by figure 156. It is rather astonishing that they are highly drawn to forests that possess cultural value, such as those that promote forest wellness and forest therapy. Currently, cultural forests that offer recreational activities are gaining popularity among teenagers and young adults.

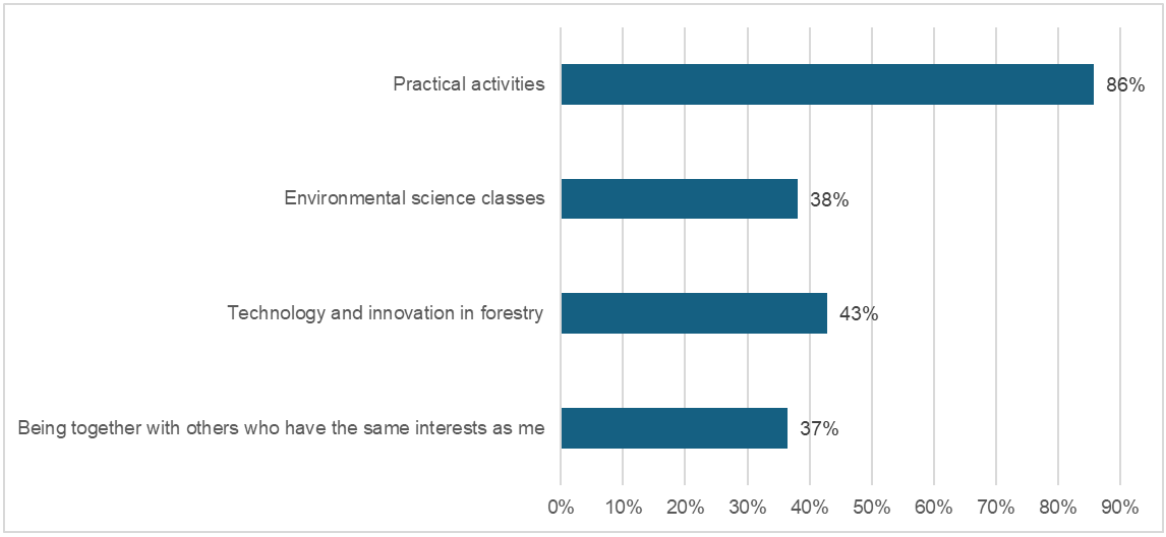


Figure 155: Aspects of forestry education that students find most engaging

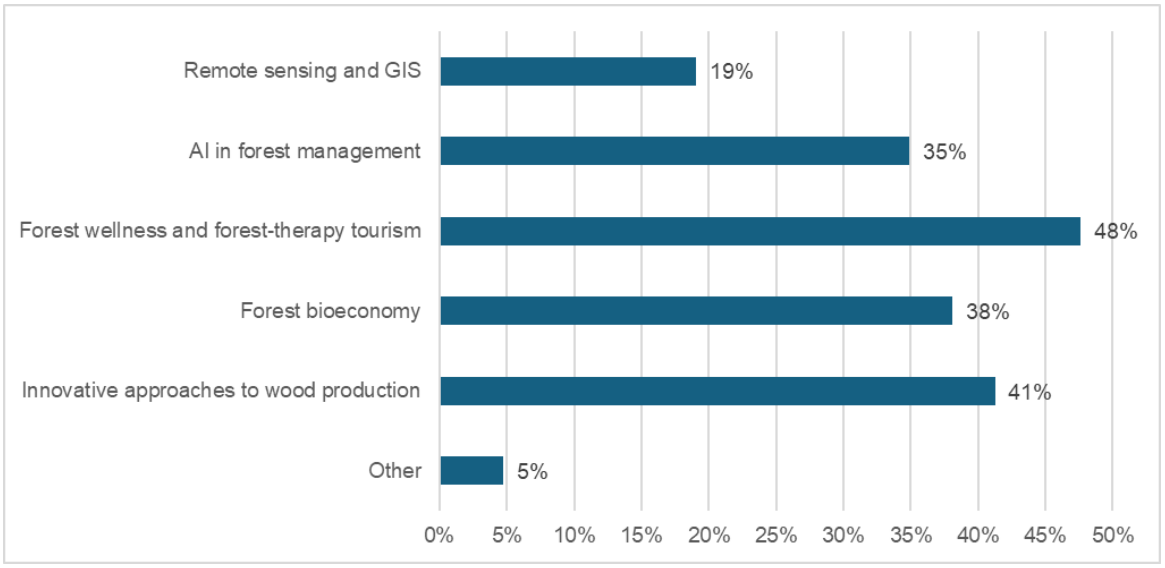


Figure 156: Innovative forestry practices or technologies that are more interested in learning more about

Respondents stated their interest in learning more about innovative approaches to wood production and forest bioeconomy, which are additional forestry techniques. The bioeconomy in Romania presents a significant opportunity for economic development and sustainability, particularly in the agricultural and forest-based sectors. Furthermore, the forest sector in Romania has the potential to drive a sustainable circular-bioeconomy transition, necessitating investments in infrastructure, education, and workforce development (Giurcă et al., 2022). The bioeconomy concept, utilizing renewable biological resources for food, materials, and energy, is seen as a key innovation driver for Romania's economic activities, emphasizing environmental protection and sustainable agricultural practices. Romania's position among Central and Eastern European countries in terms of bioeconomy indicators is unique, with the potential to learn from other countries in the region to further develop its bioeconomy strategy (Bălan and Cismas 2022).

The majority of respondents voiced their perspectives regarding the resources and assistance required to improve forestry education. As depicted in Figure 157, they stated a desire for increased hands-on field experience, which aligns with their preference for practical activities, as shown in Figure 155. Additionally, they desire assistance or mentorship from experts in the field of forestry, as well as a greater emphasis on networking possibilities.

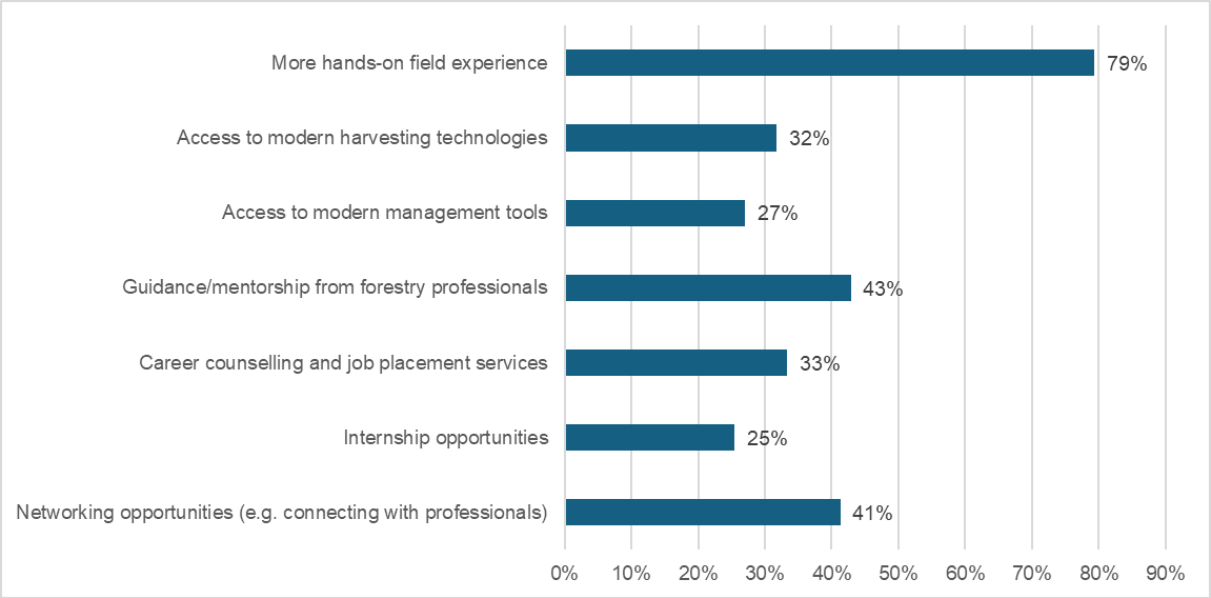


Figure 157: Support or resources that could enhance forestry education and career preparation

The balance is rather equitable in terms of the involvement of non-forestry students in forestry-related activities or education. However, 53 % of them have actively participated in activities such as planting and volunteering for forest clean-up efforts (figure 158).

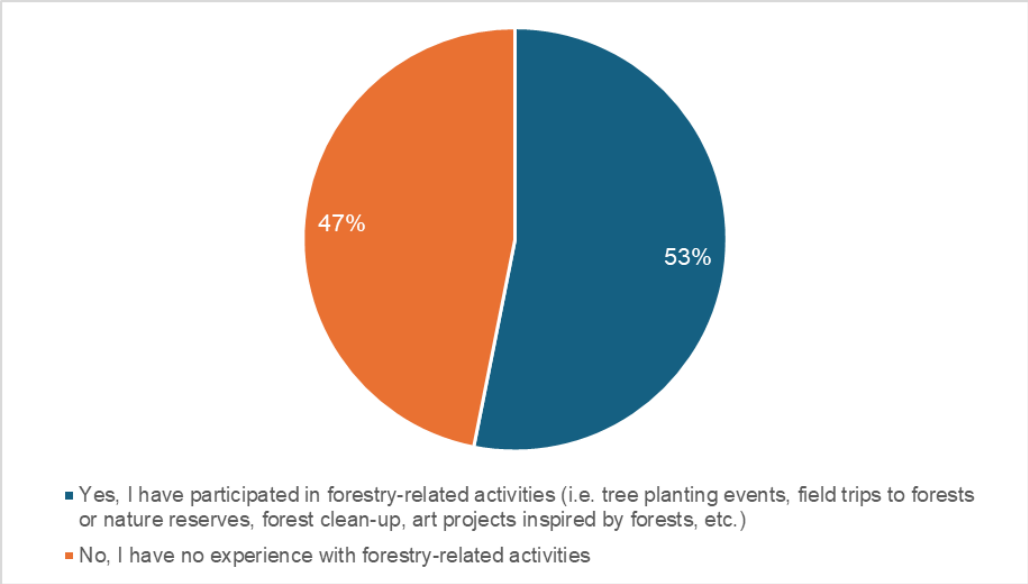


Figure 158: Exposure to forestry-related activities or education in school or extracurricular programs

7.7.4 Career paths and skills required for forestry career

Over 50 % of the present students possess the readiness to enter the forestry sector and pursue a career in this domain. Surprisingly, nearly 40 % of individuals are uncertain about their level of preparedness to enter the forestry sector after completing their education. Of this group, 19 % are students now enrolled in forestry colleges, while 15.8 % are high school students pursuing studies in forestry. Those who have expressed their agreement have also offered justifications for their choice, of which 28 supplied explanations. Their reasons are well justified, including their thorough preparation during their studies, challenges in finding a job due to their lack of work experience.

Furthermore, the majority of respondents expressed that the forestry faculty possesses a comprehensive and robust knowledge base that effectively equips students for their prospective careers. Additionally, their passion for their field of study and the valuable knowledge gained through practical activities contribute to their personal growth before entering the forestry sector. Conversely, those who indicated that they are not ready to enter the forestry sector cited two main reasons. Firstly, they believe that certain jobs within the sector are predominantly occupied by men, making it more challenging for them to secure employment. Secondly, they feel that their studies require a greater emphasis on practical activities, which they perceive as a barrier to their preparedness.

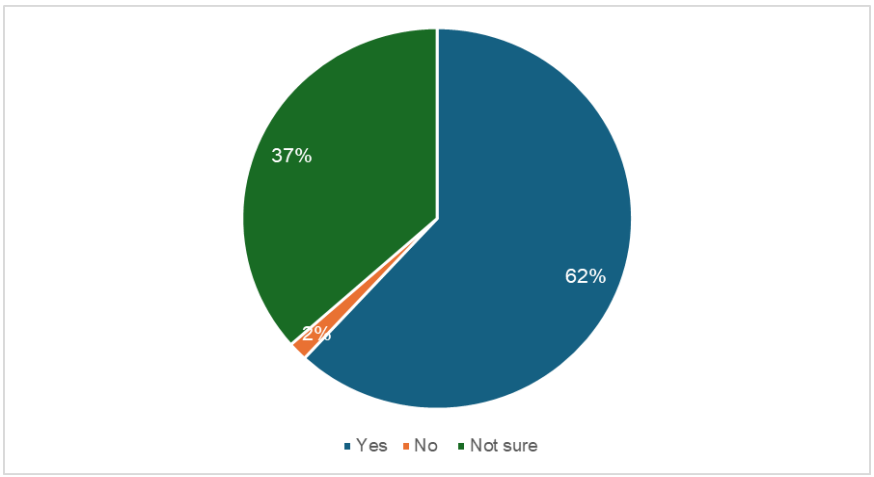


Figure 159: The level of preparedness to enter the forestry sector after graduation

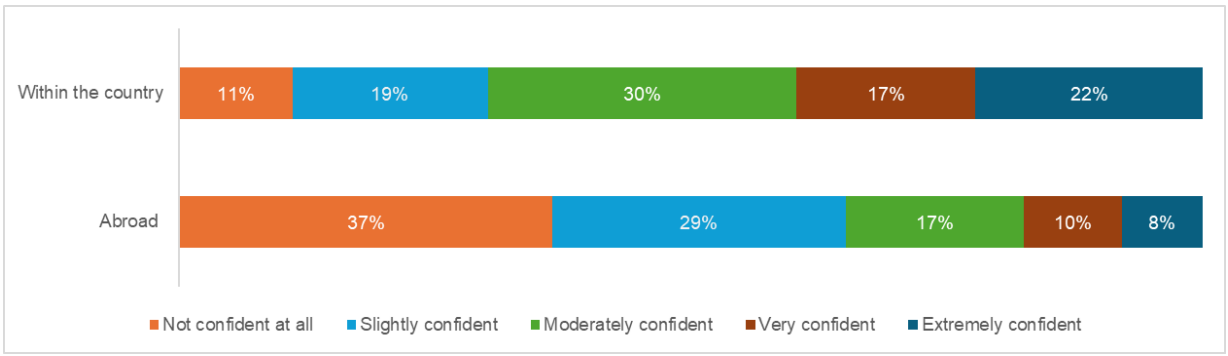


Figure 160: The level of confidence about finding employment in the forestry sector after graduation

When asked about their confidence in finding a job within the country, only 39 % expressed belief that they will secure a position in forestry sector. Meanwhile, 30 % offered a more moderate opinion. Securing employment overseas presents greater challenges, and a significant majority of students, 66 %, hold the belief that opportunities to find work in another country are limited (figure 160).

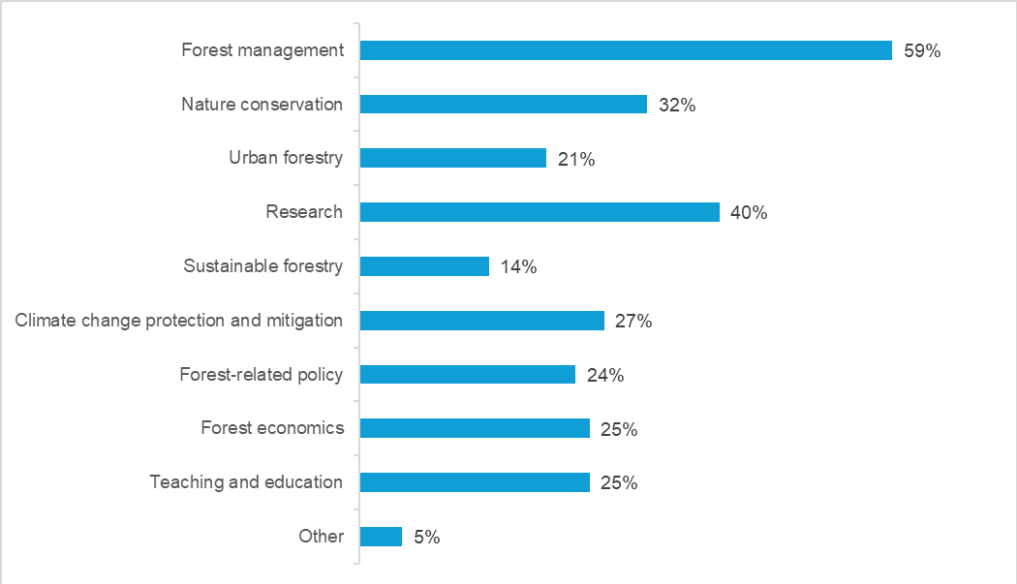


Figure 161: Career paths

Based on Figure 161, the majority of students (59 %) are interested in pursuing a career in forest management, while 32 % and 14 % are interested in environmental protection and sustainability, respectively. They find the topic of forest economics and policies uninteresting. Urban forestry is gaining increased attention as a new area of focus in the field of forestry. It is an integrated concept that encompasses the management of trees and forest resources in and around community ecosystems. Urban forestry aims to provide society with various benefits, including psychological, sociological, aesthetic, economic, and environmental advantages derived from trees. Consequently, 21 % of respondents expressed their desire for a career trajectory in this field.

When asked what would make forestry a more attractive career option for students with no background in forestry, they answered that an appropriate payment could be one of the reason (69 %). Another potential career path for those that don't study forestry is to specialize in understanding, conserving, and managing valuable natural resources, such as protected areas. It is important to note that forestry can also have a positive impact on climate change. Interestingly, both options are equally favoured, with 63 % of respondents expressing this opinion.

Table 26: The attractiveness of a career in forestry sector

	Number	*Share*
Understanding that forestry can impact climate change positively	20	63 %
Better image of foresters	12	38 %
Appropriate payment	22	69 %
Opportunities to work closely with local communities, and contribute positively to rural development	14	44 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	15	47 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	20	63 %
Other	0	0 %
Number of respondents =n	32	

In both scenarios, the students were queried about their level of knowledge of the competencies and credentials required for a profession in forestry. As anticipated, students without a background in forestry had either little or no knowledge about the skills and certifications required in the field, accounting for a total of 81 %. Just 6 % of individuals possess knowledge regarding these prerequisites. However, it is quite astonishing that there are relatively few students with forestry knowledge who are well informed about the skills and qualifications required for a forestry career. The majority of them claimed to possess a moderate level of knowledge of the skills and qualifications required.

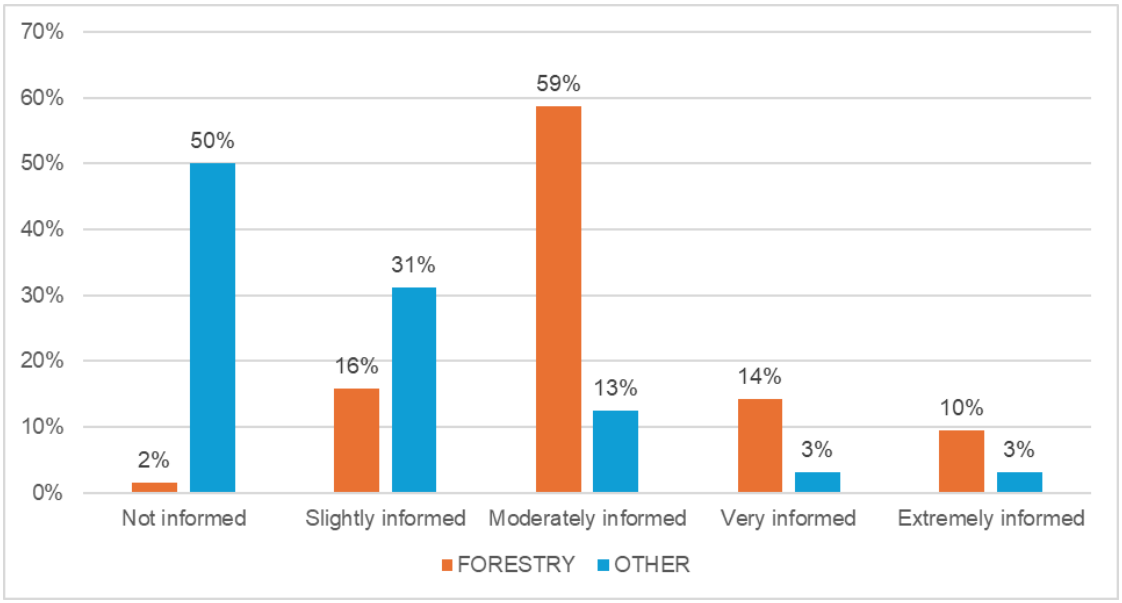


Figure 162: The level of knowledge about the skills and qualifications for a forestry career

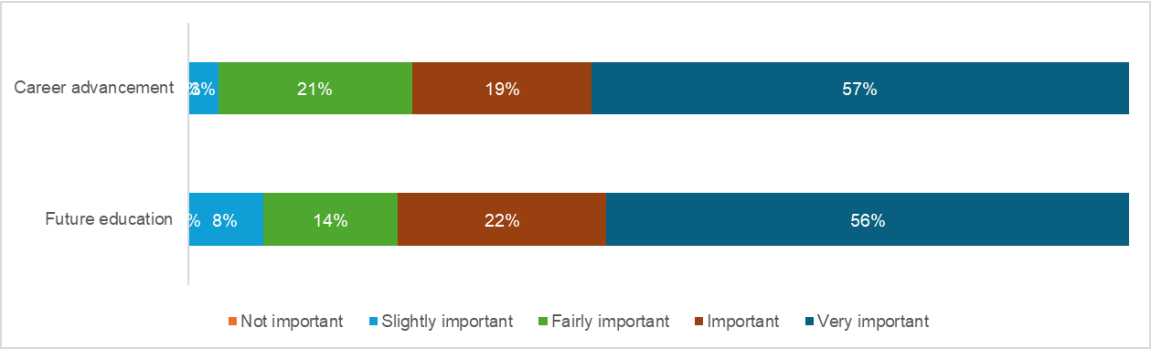


Figure 163: The importance of the professional progress and future education

The prospect of career advancement and future education for students is a critical area of focus in today's rapidly evolving job market and educational landscape. Universities are increasingly emphasizing the development of employability skills to bridge the gap between employer expectations and graduate readiness. The figure 163 illustrates the significance of professional progress and future education for students. Both options are considered highly important or vital to them.

7.7.5 Perceptions and challenges of career in forestry

Misconceptions and stereotypes about careers in forestry are prevalent across various aspects. One major misconception is the persistent masculine image of the forest sector, leading to the underrepresentation of women in the field

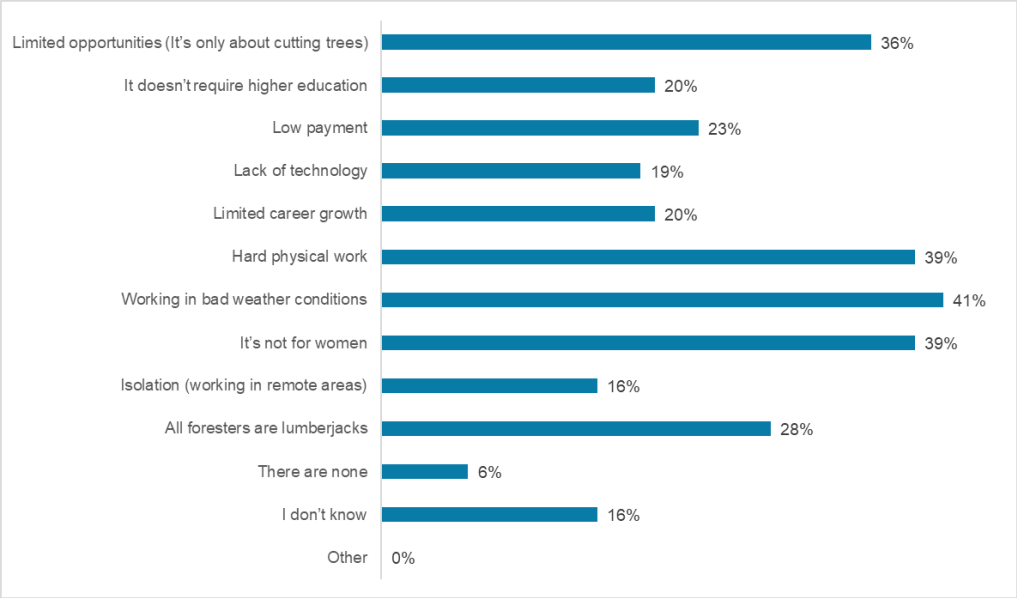


Figure 164: The biggest misconceptions/stereotypes about careers in forestry among peers

Many misconceptions exist about a career in forestry (figure 164), with the majority (39 %) being related to the physically demanding nature of the profession. Additionally, there are biases suggesting that forestry is not a suitable profession for women, and the idea that working in unfavourable weather conditions is also prevalent, accounting for 41 % of the misunderstandings. Approximately 36 % of the respondents believe that opportunities in the forestry sector are insufficient. Additionally, the students hold the belief that there is a lack of interest among students in pursuing further study in forestry due to inadequate compensation and restricted opportunities for career advancement.

Barriers for girls to study in the forestry sector include the lack of representation of successful female in forestry as role models, underestimation of women's abilities and contribution in forestry, concerns about job safety and gender stereotypes associated with forestry professions.

According to figure 165, it is necessary to make efforts to attract young women to the forestry sector. This should primarily involve changing the industry's image, addressing gender issues such as underestimation of abilities and stereotypes, and emphasizing the importance of women in the forestry sector for their role in sustainable development and forest management. Promoting gender equity, diversity, and inclusion in forestry is essential not only for empowering women but also for enhancing results for forest ecosystems and the societal values they offer.

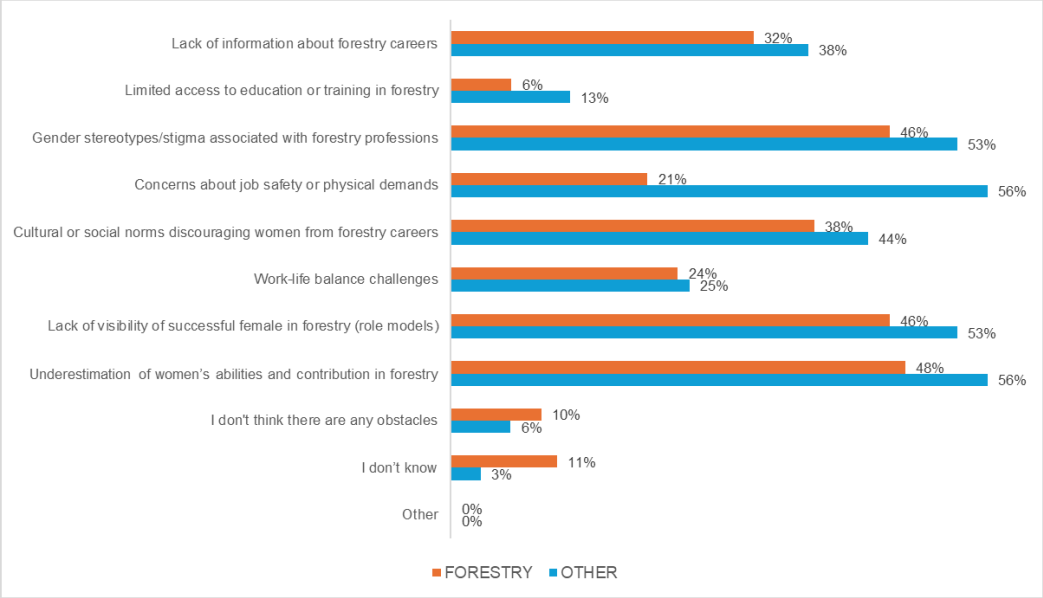


Figure 165: The main barriers for girls to study in the forestry sector

Both figures 166 and 167 depict identical findings on the problems encountered during field experiences or forestry education. More than 60 % of respondents reported no negative experiences, but some respondents did face certain challenges. One respondent expressed that she was disheartened by their acquaintances due to the perception that this particular profession would be highly demanding and arduous for her, primarily because of her gender. They believed that she would encounter numerous barriers along her professional journey. Although the forestry profession may not be as widely recognized as those of doctors, lawyers, policemen, or veterinarians, another responder was discouraged by her parents and lacked their support during her studies due to their scepticism about getting employment in this sector. Nevertheless, she

maintained a positive outlook and ultimately developed a deep affection for it. Furthermore, in both scenarios, there are also responders who are unwilling to provide any responses regarding these inquiries.

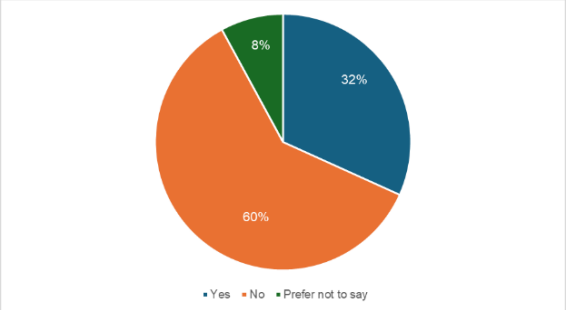


Figure 166: Specific challenges or biases in your forestry education or field experiences as a woman

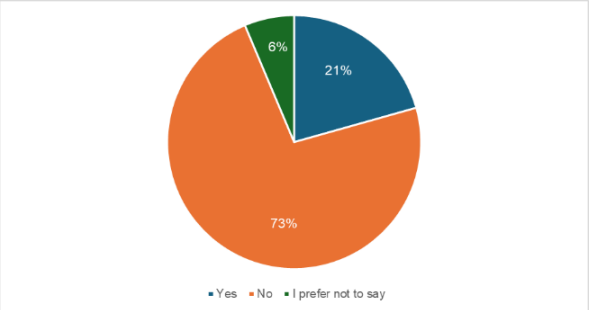


Figure 167: Have you ever been treated differently during any training/internship because you are a girl/woman?

The level of satisfaction among family and friends over the pursuit of a career in forestry is perceived as predominantly good. There was only a small number of respondents who expressed negative views on pursuing an education in forestry.

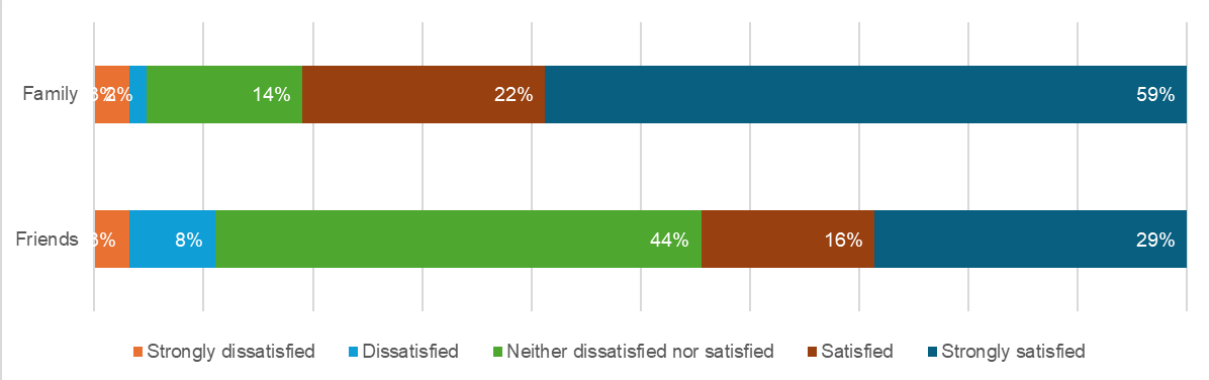


Figure 168: The level of satisfaction within the family and friends about pursuing a forestry education

Forestry occupations are subject to varying perceptions among different social groups and communities, with only 42 % holding a good view of the field. The unfavourable perception of forestry within social circles may be attributed to cultural prejudices, social dynamics, and inadequate compensation.

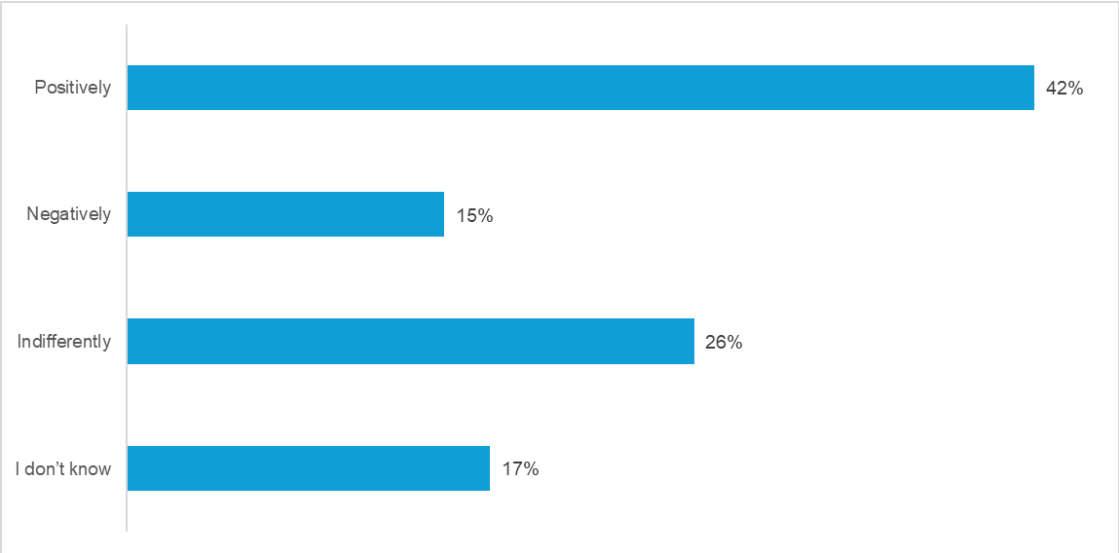


Figure 169: The image of forestry within social circles

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7.8 Country Report: Czech Republic

The following chapter presents data from both questionnaires. The data were gathered anonymously through SurveyMonkey online platform (both questionnaires). The first response was received on May, 2nd. Since the data were still coming, we prolonged the deadline for obtaining data; the last response by *forestry* student was obtained on 31st May, the last for *other* students on June, 1st. This chapter presents also data from incomplete questionnaires.

7.8.1 General background

In total, 325 Czech university female students were targeted by central mass email at the Faculty of Forestry and Wood Sciences, Czech University of Life Sciences Prague. Only students from forestry-related study programs were targeted (wood-processing students were excluded). In addition to that, non-forestry (Czech) female students were targeted at the Faculty of Tropical AgriSciences, Czech University of Life Sciences Prague. All forestry high schools and vocational schools in the Czech Republic, that provide exclusively forestry education and those high schools that provide forestry-related education (9 in total) were contacted and asked to distribute the questionnaires among their female students in their respective organizations. More respondents/responses were obtained thanks to the snowball method.

Participant demographics

The questionnaires were promoted as questionnaires that should be filled only by women. The first question on gender was responded by 1 men. Only 1 respondent stated that does not want to state the gender.

The youngest respondent was 15 years old, the oldest 49 years old (which might be a student of a distant study program).

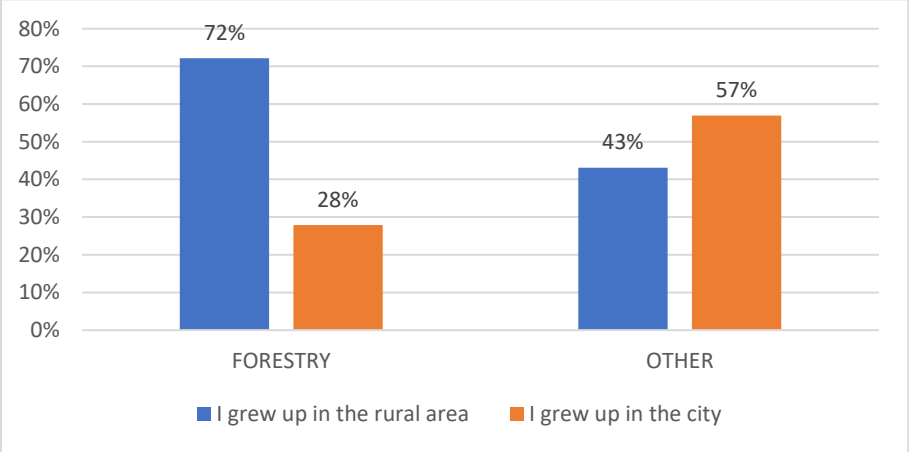

Figure 170: Place of origin

Interestingly, rural areas as place where students grew up, prevailed among forestry students.

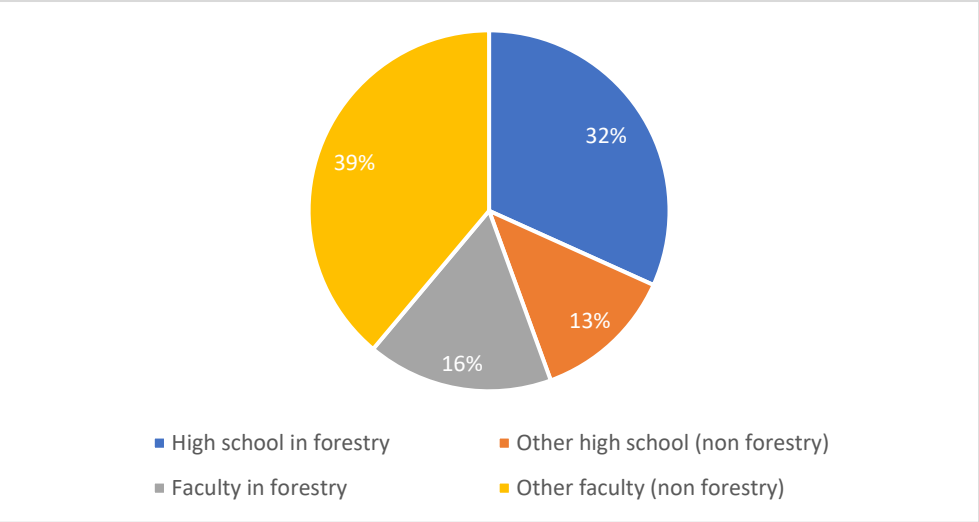

Figure 171: School that students attend

High school in forestry was chosen approximately by one third of the respondents. 16 % chose faculty of forestry, which, in Czech conditions mean only one of two possibilities (Faculty of Forestry and Wood Sciences, Czech University of Life Sciences Prague and Faculty of Forestry and Wood Technology, Mendel University in Brno).

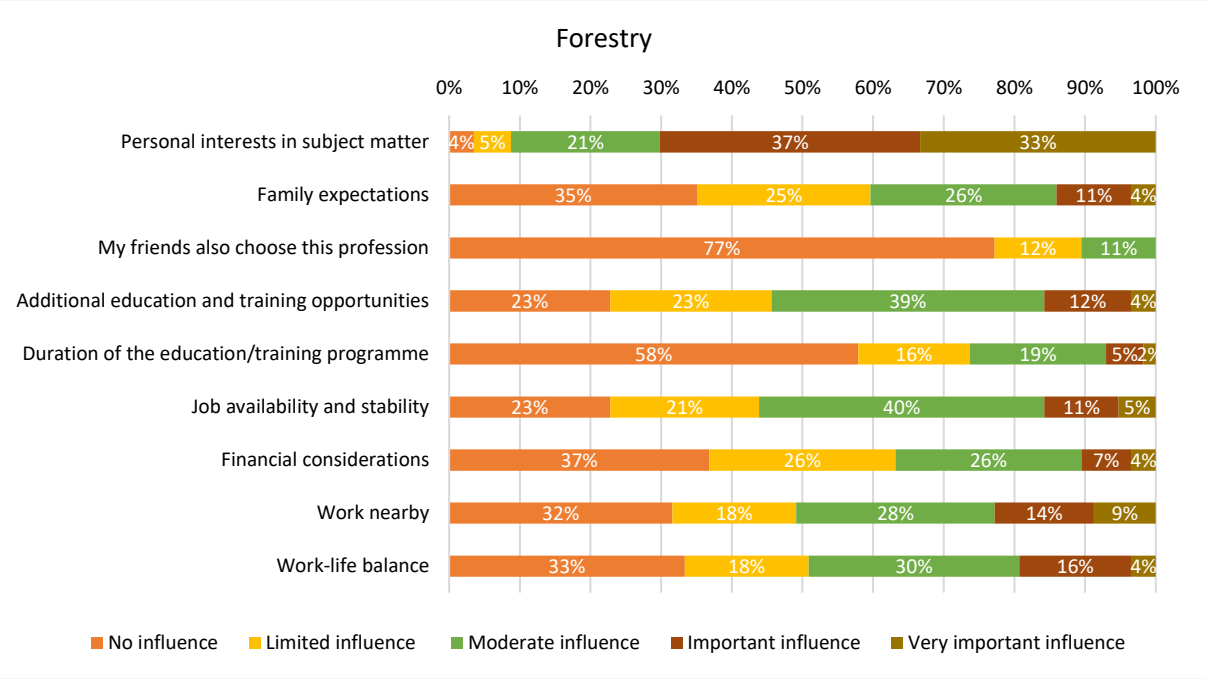

Figure 172: How did the following factors influence your career choices?

Personal interest had a very important impact on answers, while one the other hand, there was very low impact of the same social group (friends that chose the same profession). Same results were observed among non-forestry students, but with less occurrence.

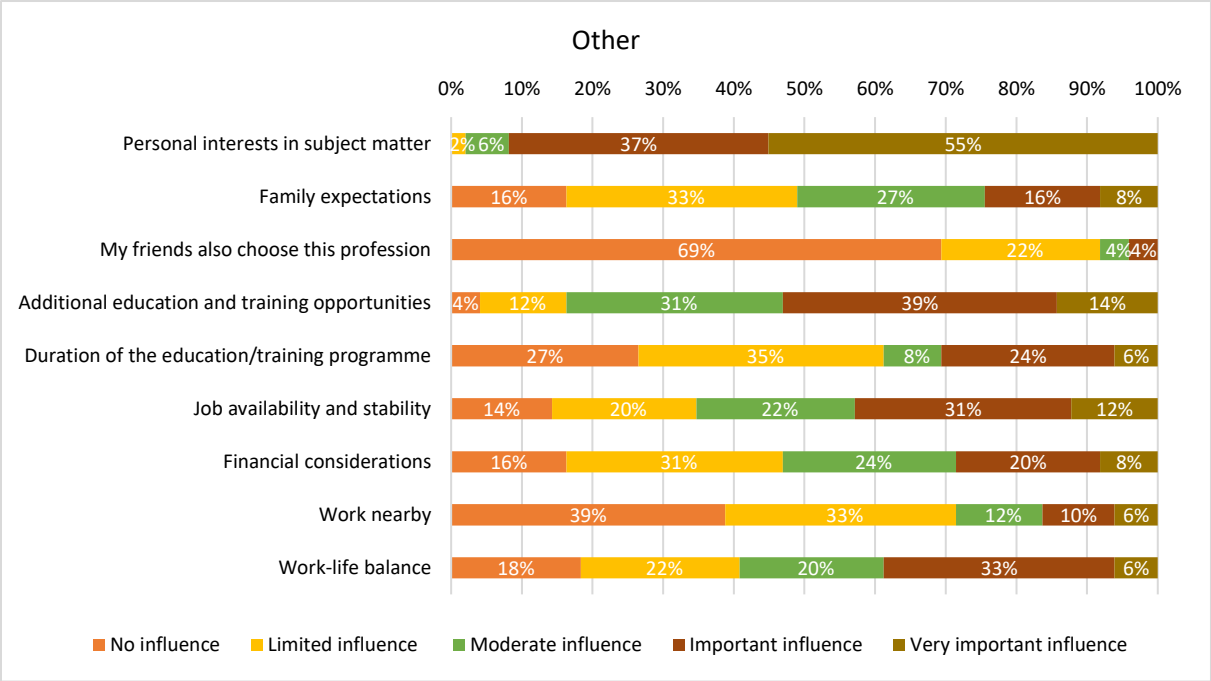

Figure 173: How did the following factors influence your career choices?

7.8.2 Information and motivation for forestry education

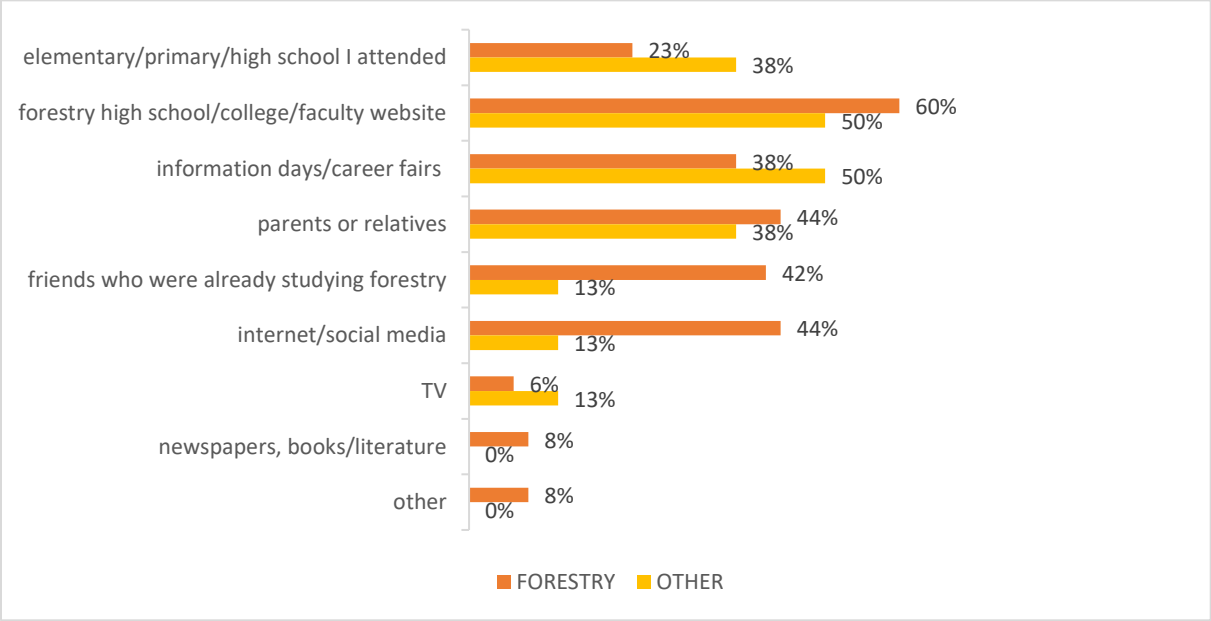

Figure 174: Before you started studying, from where did you find out most information about forests professions/fields of activity? (multiple answers)

The most used information source was website of the respective institution. There was a big difference between internet and social media, where forestry students find this source as relevant, however other student used it rarely. The primary education played a bigger role among non-forestry students.

Table 27: Which of the following reasons contributed to the choice to pursue higher education/study in forestry?

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	2	4 %
I came to high school/college/faculty with my friends/at their urging.	1	2 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	1	2 %
Parents/close relatives work in the forestry sector and have guided me into this field.	8	16 %
I heard that studying at this high school/college/faculty is not so difficult.	0	0 %
For economic reasons thinking of the possible financial benefits as an employee.	1	2 %
I was attracted by the way of the educational offer of the high school/college/faculty.	1	2 %
Out of love, passion for nature/forest.	24	47 %
Sustainable and ecologically oriented economic sector.	1	2 %
Awareness of climate problems.	0	0 %
The meaning of work - doing good.	5	10 %
I ended up studying forestry by accident/by chance.	5	10 %
Other	2	4 %

The “other” responses were as follows: already working in the field of forestry (probably a distant-student) and falconry as a close subject of interest.

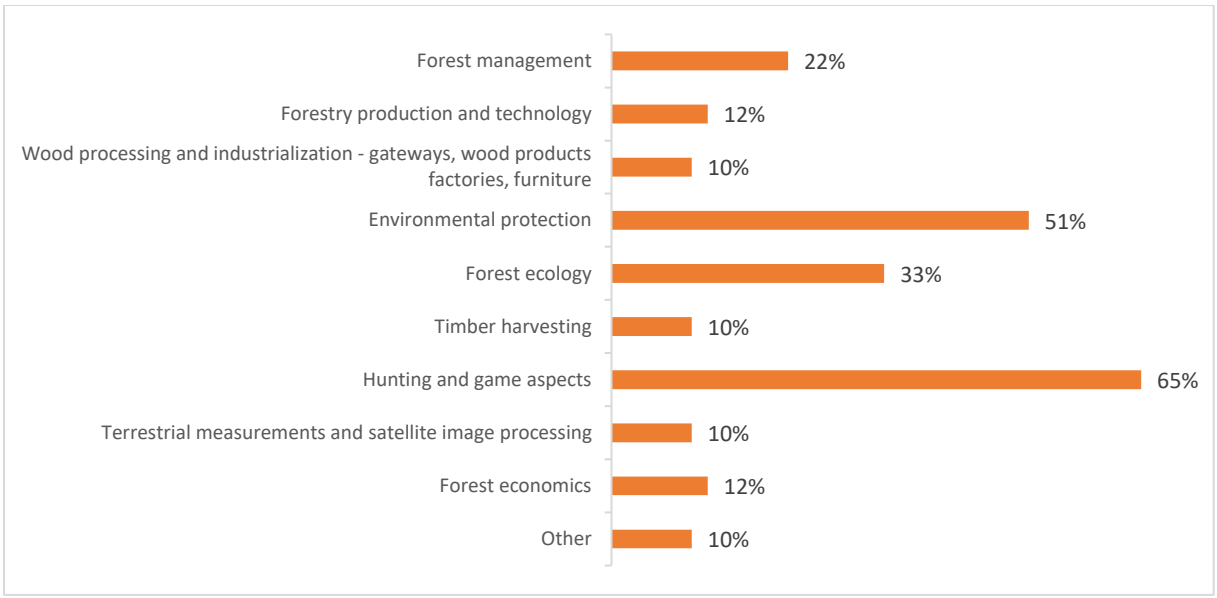

Figure 175: Which of the following areas of interest contributed to the choice of the high school/college/faculty of Forestry?

The most-often responses were hunting and environmental protection.

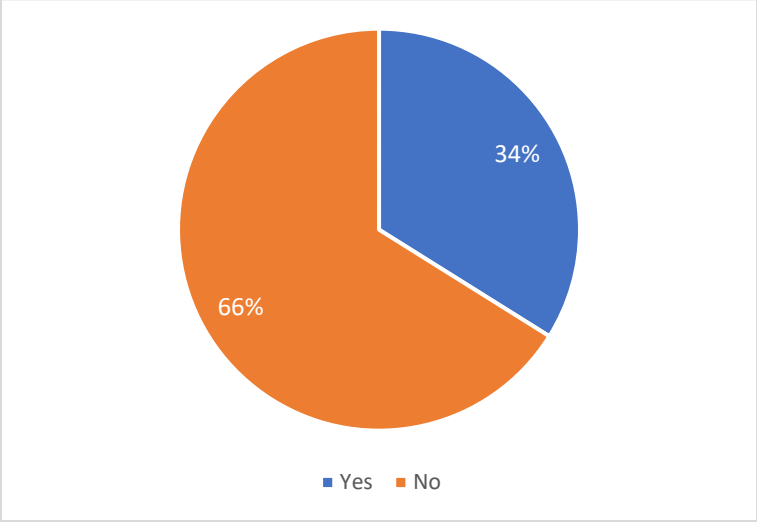

Figure 176: Had you ever considered forestry as a career option?

Table 28: Other - Are you aware of the career opportunities available in the forestry sector?

	Number	*Share*
Yes, I am aware of opportunities	9	60 %
No, I have limited knowledge about forestry careers	6	40 %
Total	15	100 %

Table 29: Other - What would you appreciate to have/know to consider studying in forestry?

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	29	76 %
Guidance from career counsellors familiar with forestry professions.	12	32 %
Opportunities for job shadowing or internships in forestry-related fields.	19	50 %
Networking events with professionals working in the forestry sector.	13	34 %
Forestry-related workshop or field trip.	21	55 %
Access to a mentor from the forestry sector.	8	21 %
Seeing more role models (especially women) in forestry.	17	45 %
Online platforms or databases showcasing forestry job opportunities and	17	45 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	4	11 %
Gamified learning modules and challenges related to forestry careers.	3	8 %
Information via social media.	15	39 %
Other	1	3 %
Number of respondents =n	38	

Considering the information that would be needed before forestry career, the access to information about forestry careers would be helpful. That is in line with experience gathered from Information Days at the faculty, if students from non-forestry high schools come to see the campus and are not fully sure about what to expect after successful completion of bachelor's and master's degree studies. More experience in the field and job shadowing would be helpful too.

7.8.3 Interests and needs in forestry education and career

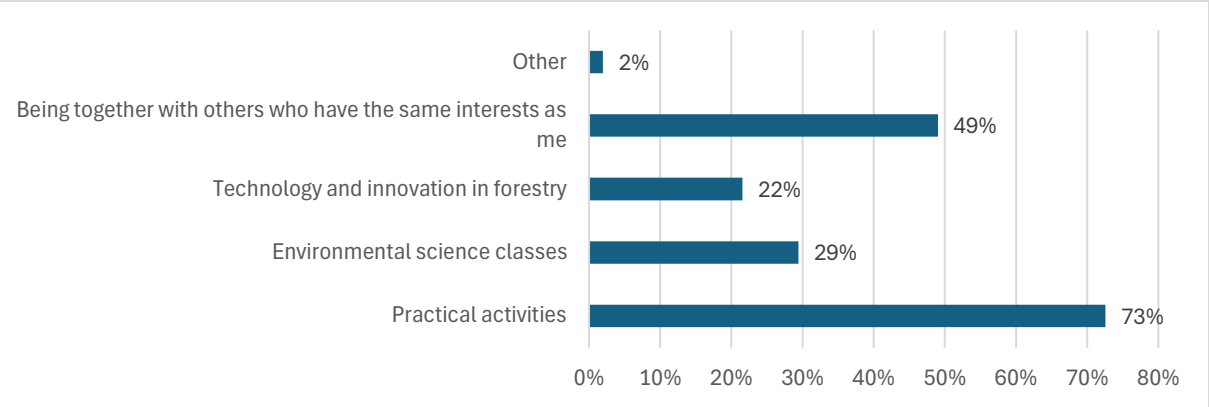

Figure 177: Which aspects of your forestry education do you find most engaging? (multiple answers)

Based on the responses, one can see that ecosystem services, in particular connection of social and environmental aspect was evaluated highly.

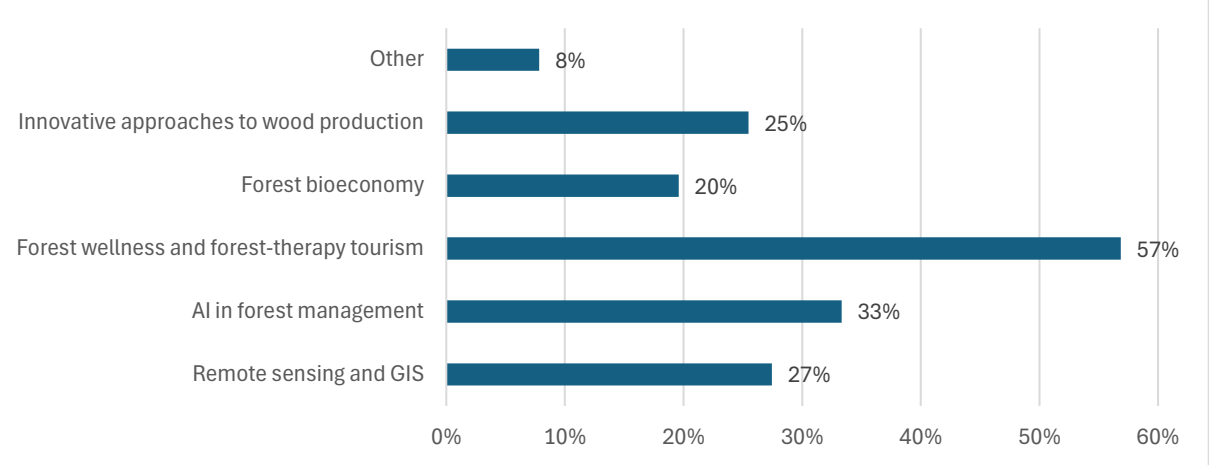

Figure 178: What innovative forestry practices or technologies are you most interested in learning more about? multiple answers)

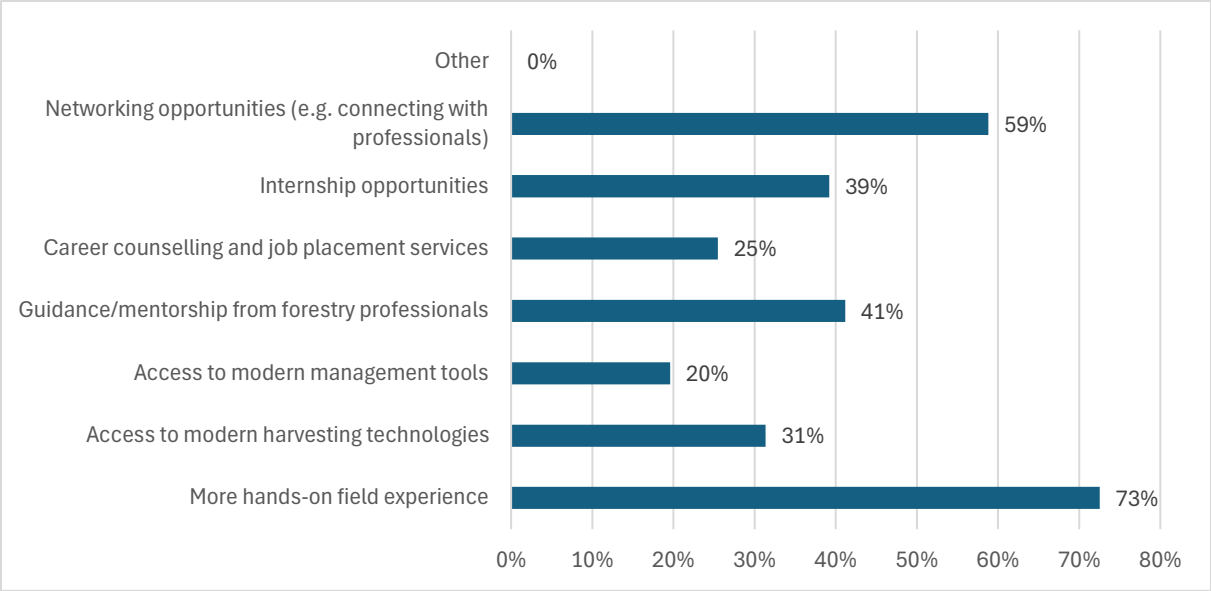

Figure 179: What support or resources would enhance your forestry education and career preparation?

Results from this question are in line with the question what would be appreciated more to get, so forestry and non-forestry students both look for more practical experience and cooperation with professionals.

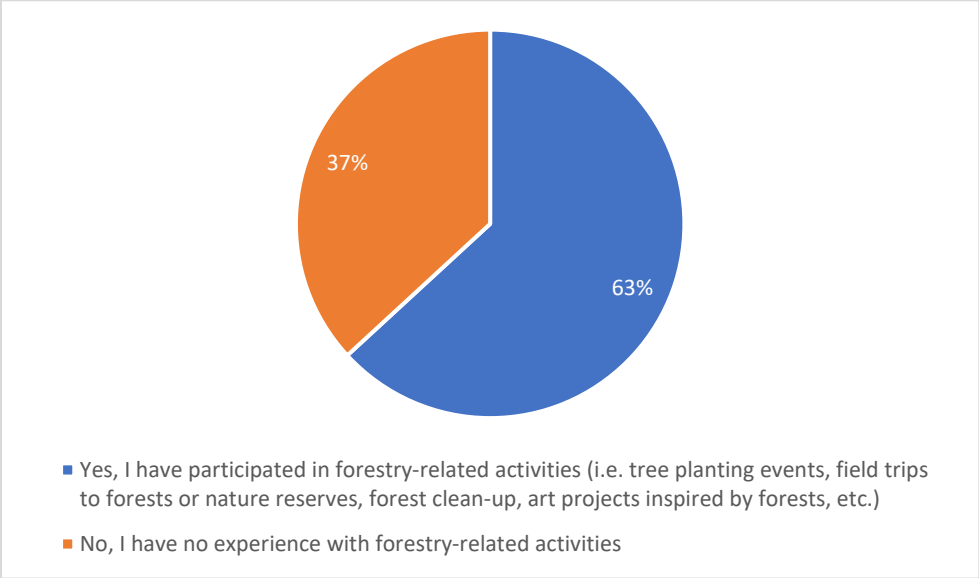

Figure 180: Have you had any exposure to forestry-related activities or education in school or extracurricular programs?

Positively speaking, non-forestry students have already experienced forestry-related activities (63 %).

7.8.4 Career paths and skills required for forestry career

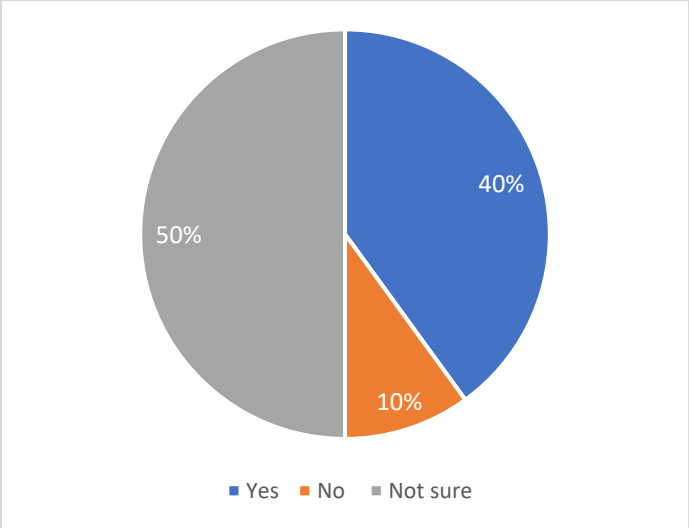

Figure 181: Preparation to enter the forestry sector

Only 40 % are persuaded to be prepared to enter the forestry sector after completion of studies, half of the respondents is unsure. On the other hand, only 10 % are feeling not prepared to enter the forestry sector.

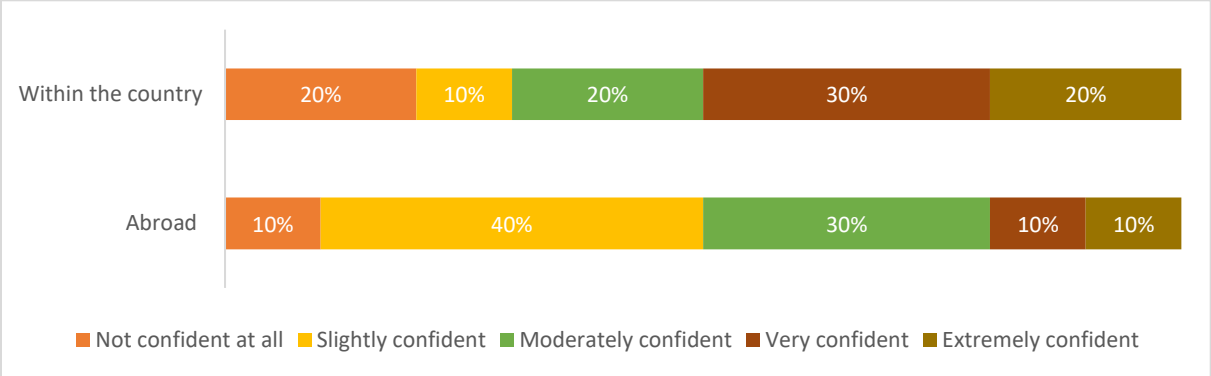

Figure 182: How confident do you feel about finding employment in the forestry sector after graduation?

Although respondents were not sure about their feelings about preparation to enter the forestry sector, they are more confident about finding a job. The confidence is higher in domestic conditions, where almost 70 % of respondents are at least moderately confident about finding a job.

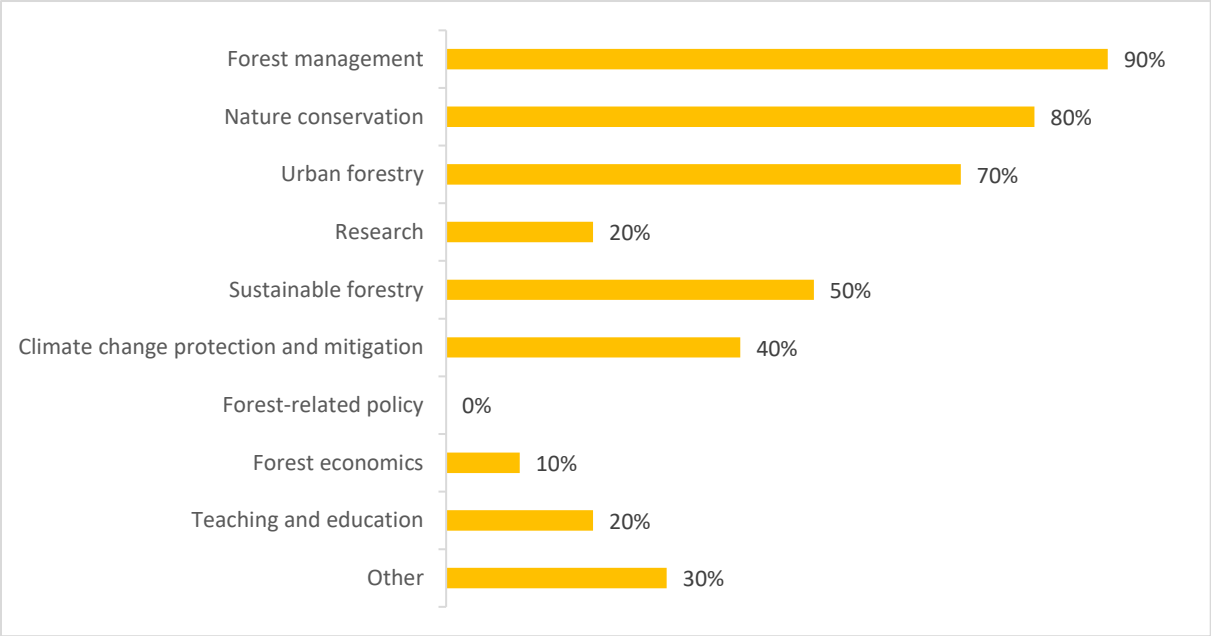

Figure 183: Career paths considerations

The most responses related to "classical" disciplines, forest management, but also nature conservation. Surprisingly, not many responses were chosen for forest- related policy, research, teaching and economics. This is interesting while the topic of forestry-related policy is very high at the current European policy agenda.

Table 30: What would make forestry a more attractive career option for you?

	Number	*Share*
Understanding that forestry can impact climate change positively	26	68 %
Better image of foresters	20	53 %
Appropriate payment	30	79 %
Opportunities to work closely with local communities, and contribute positively to rural development	14	37 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	26	68 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	26	68 %
Other	0	0 %
Number of respondents =n	38	

Based on the responses, it can be concluded that financial evaluation of work is of utmost importance, but conservation and climate change are perceived as important topics connected to forestry.

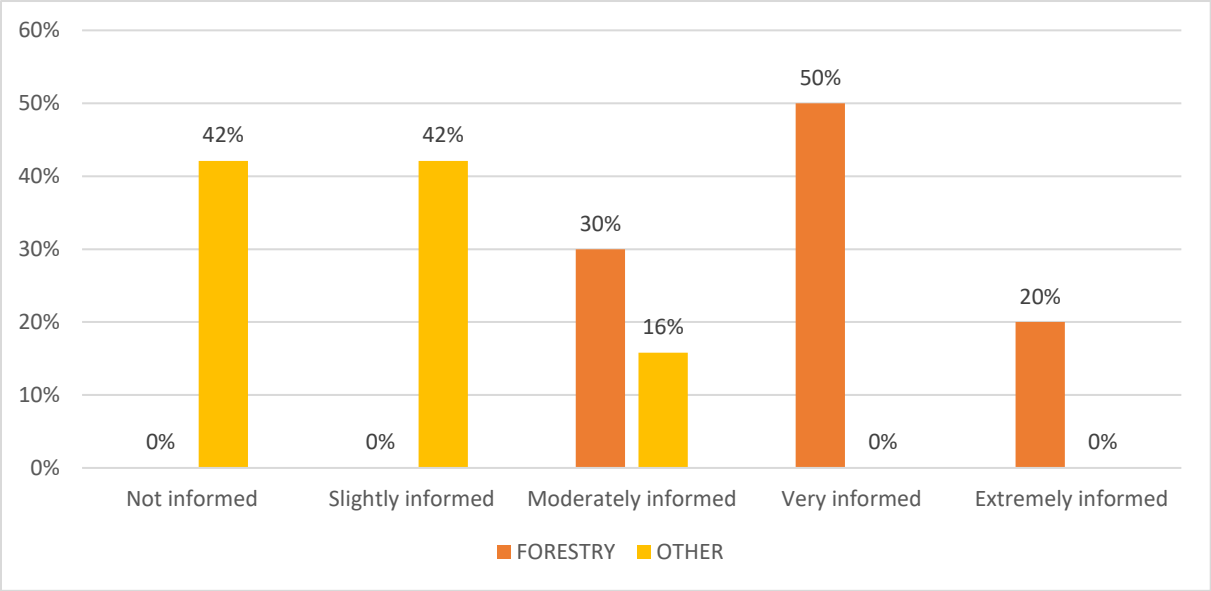

Figure 184: Awareness, skills and qualification required perceived by respondents

Unsurprisingly, forestry students are informed about qualification needed for forestry jobs, non-forestry students are at maximum only moderately informed, but rather not or slightly informed.

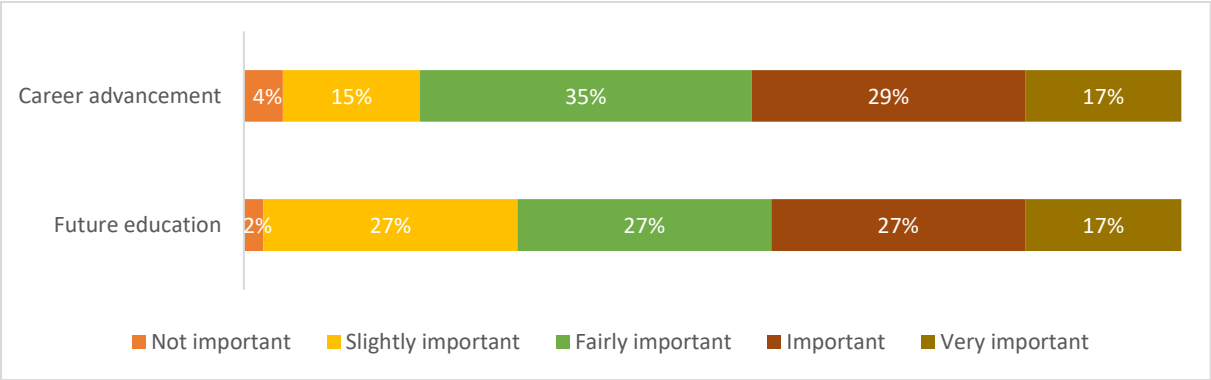

Figure 185: Importance of prospect of career advancement and future education

7.8.5 Perceptions and challenges of career in forestry

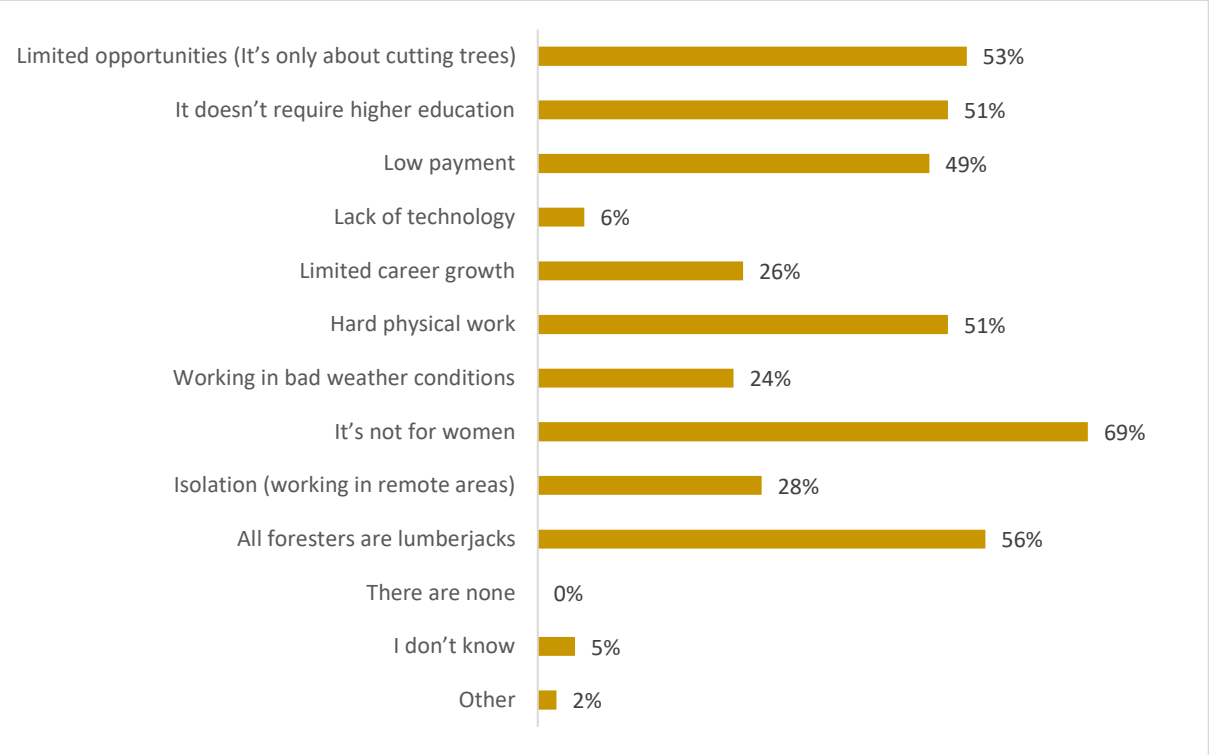

Figure 186: What do you believe are the biggest misconceptions/stereotypes about careers in forestry among your peers?

The biggest misconception is that forestry is not for women, followed by limited perceptions of what forestry includes, it is a hard work and low-paid work.

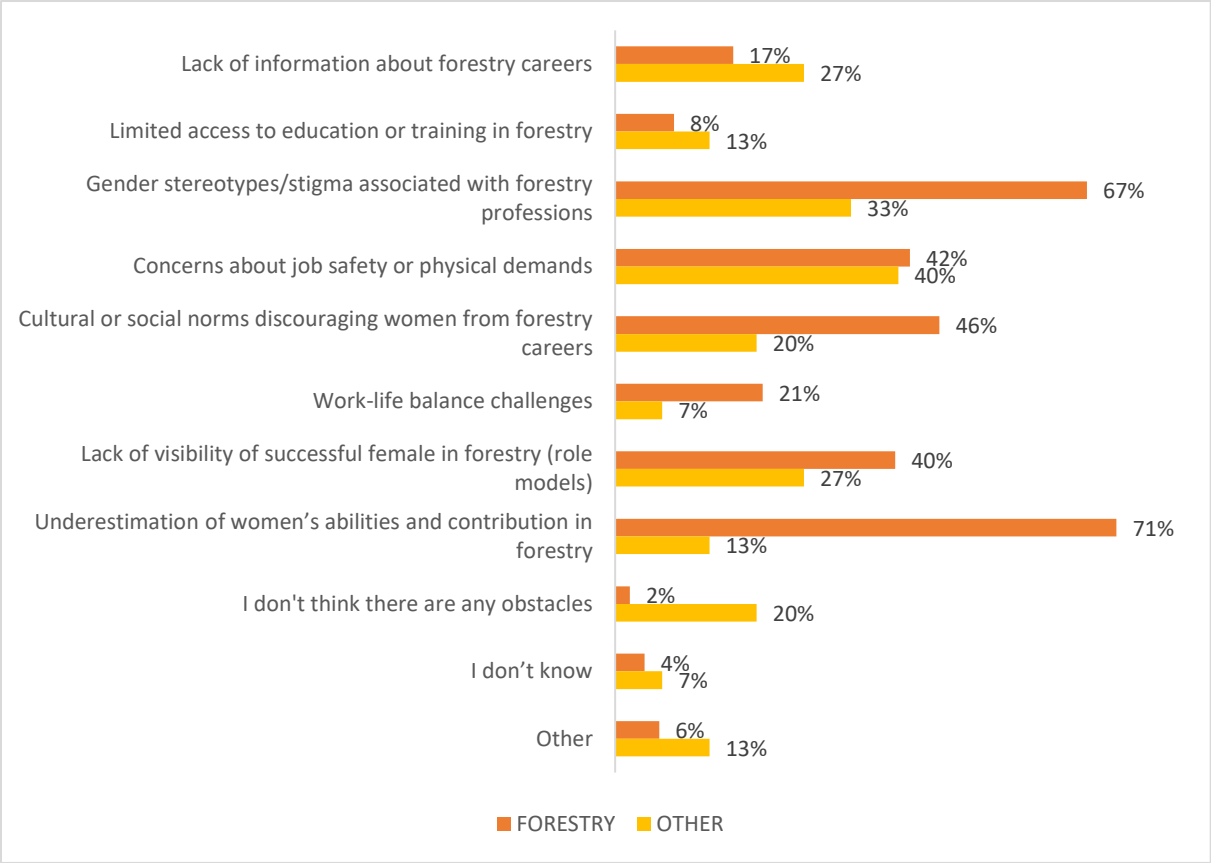

Figure 187: What do you perceive as the main barriers for girls to study in the forestry sector?

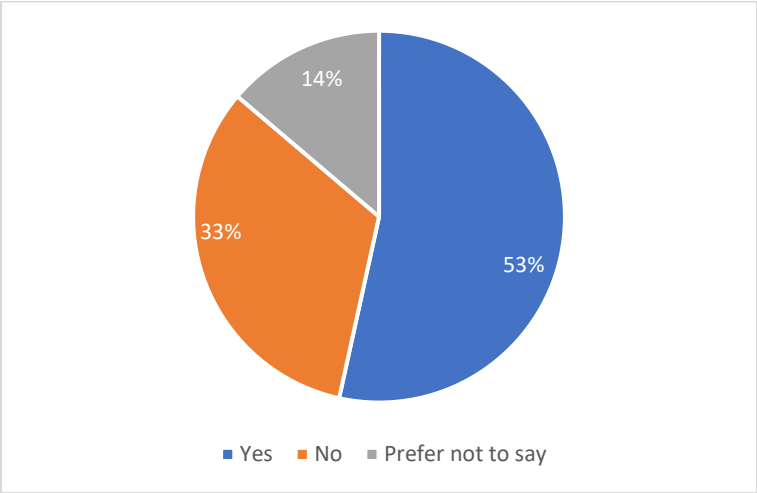

Figure 188: Have you come across any gender-specific challenges or biases in your forestry education or field experiences?

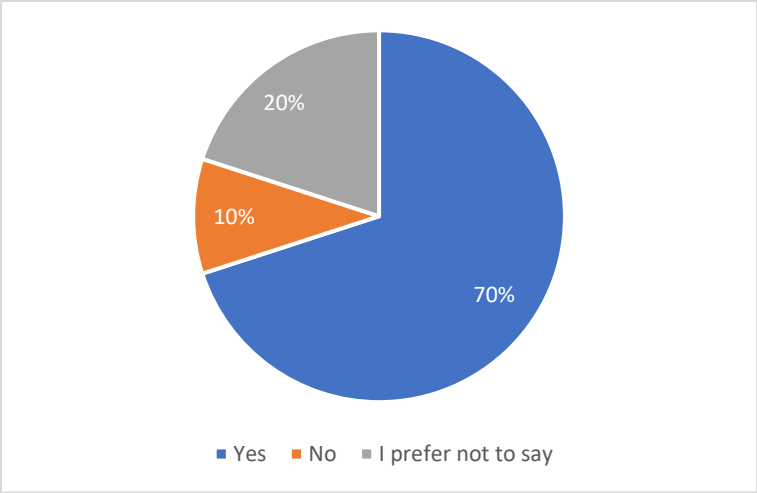

Figure 189: Have you ever been treated differently during your training/internship etc. because you are a girl/woman?

Sadly speaking, there are still responses that show that women/girls are either facing gender biases or are facing unequal treatment because of the gender.

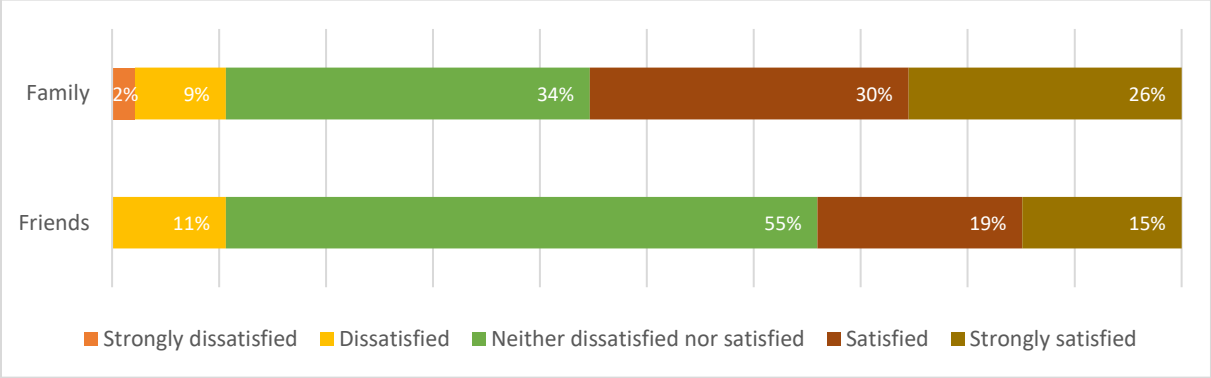

Figure 190: How did your family and friends reacted when you told them that you want to enter forestry high school/college/faculty?

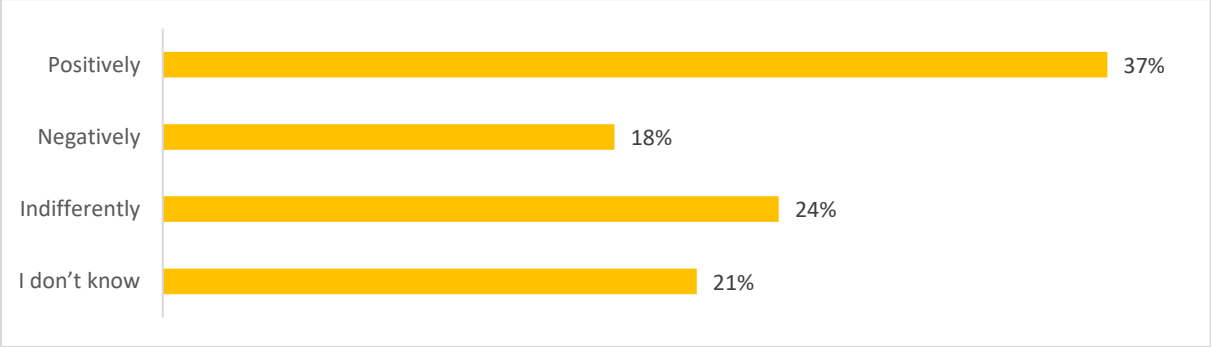

Figure 191: How do you think forestry careers are perceived within your community or social circle? (Forestry, Other)

Only 37 % of respondents think that forestry career is perceived positively. Half of respondents think that it is perceived indifferently, or they don´t know. Only 18 % think that there is a negative connotation, however this is a big potential for communicating forestry in relation to current topics (e.g., climate change, bioeconomy etc.).

7.9 Country Report: Croatia

7.9.1 General background

In Croatia, data collection was carried out using an online survey via the Google Forms platform. This method enabled us to receive answers from students throughout schools in rural and urban areas of Croatia. The questionnaire was sent out on the May 6th, 2024 and was completed on the May 26th, 2024.

Respondents were contacted through official mail of the schools and through direct contact with the teaching staff from secondary forestry schools that motivated students to complete the questionnaire. Faculty of forestry and wood technology as the main and largest university that offers high education for forestry profession was contacted and they have sent the link to all students through the private student platform. Posters with QR code of the questionnaire was also put in the physical form in the "student corner" of the faculty. We had an opportunity to present the project on the annual vocational schools' competition where we shared the questionnaire with the students as well.

Participation in the study was voluntarily and anonymous in line with good research practice.

We have received 90 responds in total. The "forestry questionnaire" collected 80 responds and "the other questionnaire" 10. Because of the organisation of certain secondary vocational schools that offer forestry programs, in the "forestry questionnaire" we have collected 15 answers from other secondary schools and faculties.

A total of 90 respondents participated in the study, divided into three main groups:

1) 42 female students from Faculty of forestry and wood technology
2) 22 female students from forestry secondary schools
3) 26 female students from other secondary schools and faculties *(16 from the "forestry questionnaire" and 10 from the "the other questionnaire")*

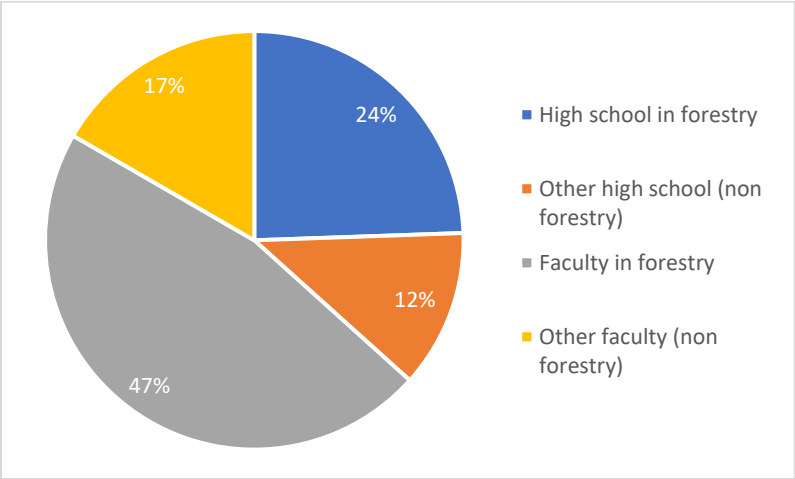

Figure 192: School attendance of the participants

Most of the participants from faculty of forestry did not previously study forestry at secondary forestry school, 12 % of participants studied at high school in related field, and only one participant (2 %) from the faculty of forestry did study forestry in secondary school as well. **From that it can be concluded that most of the students that decide to study forestry at a university level do not have previous education in forestry.** Similarly, students from other faculties either did not study forestry in secondary school (71 %) or they studied at secondary school in related field such as woodworking, environment, agriculture (29 %).

The average age of the high school participant was 16,7 years while the average age at the faculty students was 21,7 years. The respondents were:

- Female students from secondary forestry schools (age 15-18);
- Female undergraduate students at the Faculty of Forestry (age 19-42);
- Female students from other secondary schools (age 16-19);
- Female undergraduate students at other faculties (age 20-31).

Most girls and young women who took part in the study grew up in the rural area (see Figure 193). This implies that rural background may significantly influence the decision to pursue a career in forestry.

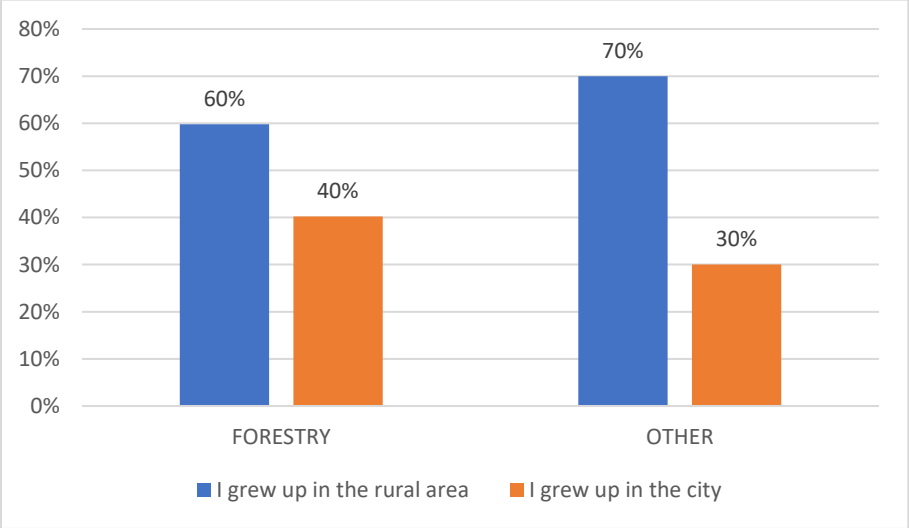

Figure 193: Origin of participants (n=90)

The participants were also asked about the factors that influence their career choice. The results of the participants who attended forestry educational institutions are shown in Figure 194. Overall, the results indicate that personal interests and job availability/stability are among the most important influencing factors for many respondents. Work life balance as well as financial considerations also play a decisive role. In contrast, friends' choices and family expectations generally have less influence on the decision to pursue a career in forestry.

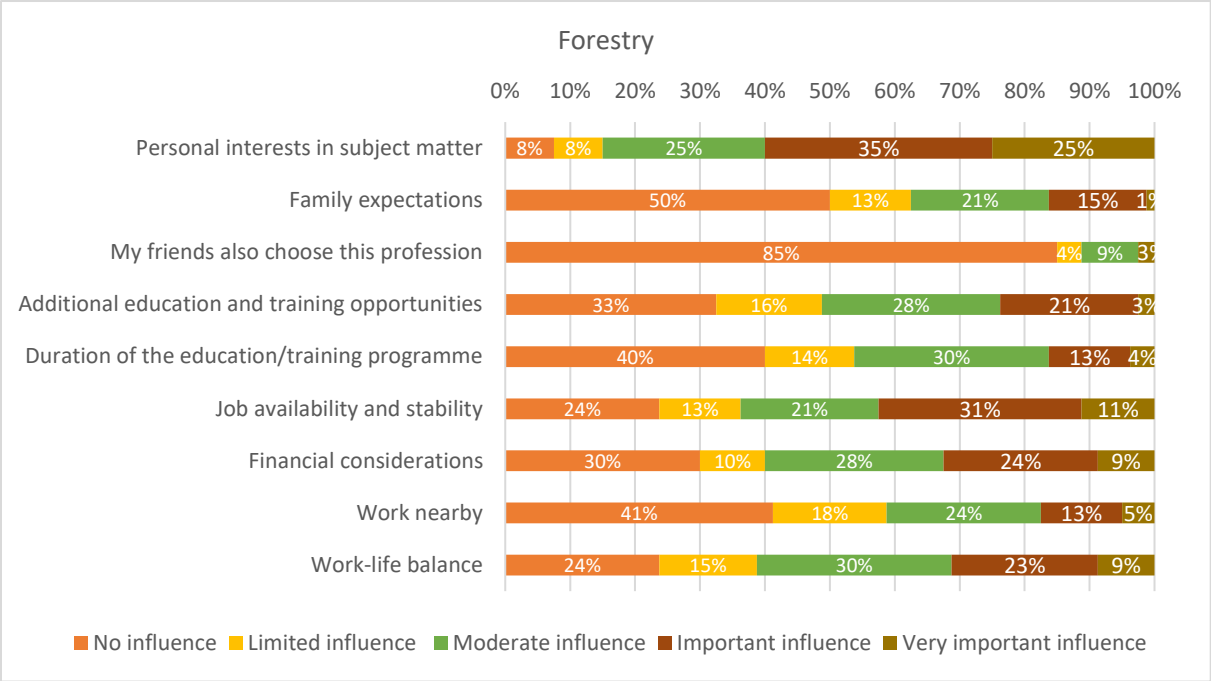

Figure 194: Factors influencing career choices of the students of forestry educational institutions

The other group of respondents emphasized the significance of job availability and stability, work-life balance, and financial considerations as key influencing factors. Personal interest in the subject matter also contributes to career path decisions. For non-forestry students, the duration of education generally has less impact on their choices.

While both forestry and non-forestry respondents highly value job stability, non-forestry respondents place additional importance on financial considerations and work-life balance. Interestingly, the career choices of friends and peers hold less importance for both groups.

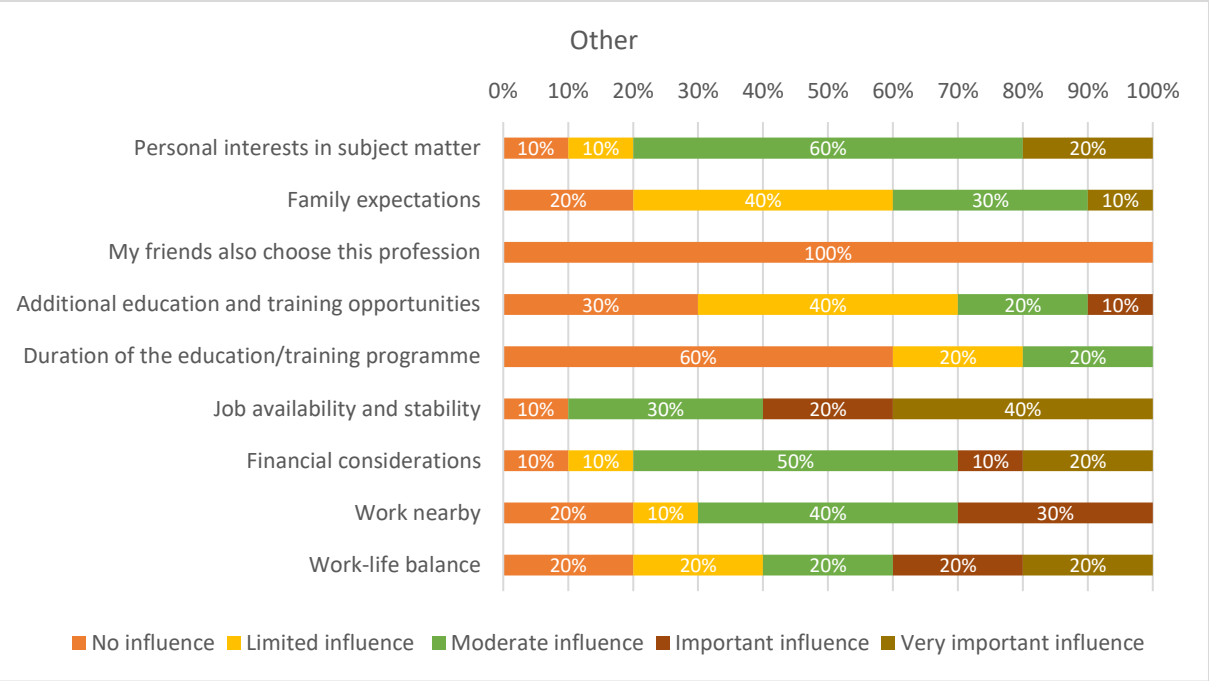

Figure 195: Factors influencing career choices of the students of other educational institutions

7.9.2 Information and motivation for forestry education

In the following part of the survey, the focus was on the sources of information about forestry professions obtained before enrolling in an educational institution. Most forestry students indicated that they received information about forestry careers from the internet or social media (56 %), underscoring the need to tailor information dissemination for younger audiences. Parents or relatives also play a crucial role (43 %), particularly given the high percentage of respondents from rural areas where forestry significantly impacts the local economy. Other important sources include friends already studying forestry, highlighting the importance of peer networks, and forestry high school/college/faculty members. Interestingly, more traditional methods like school fairs and information days were not deemed significant (see Figure 196).

For non-forestry students, the primary source of information about forestry professions is the websites of forestry high schools, colleges, or faculties. In contrast, social media does not play a role in informing young people about forestry and the careers it offers.

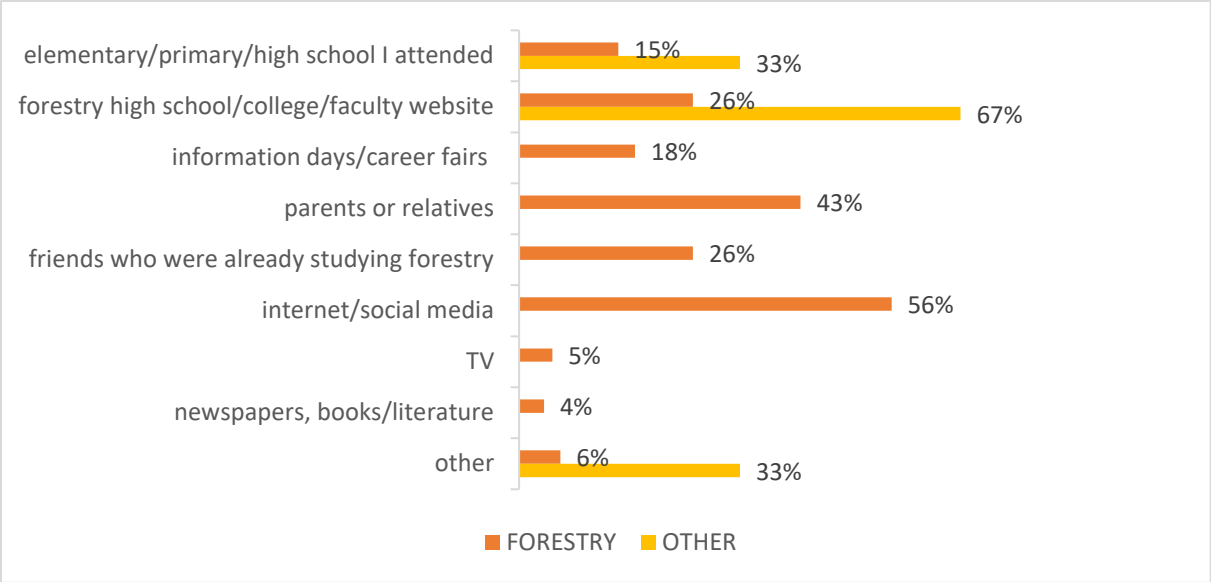

Figure 196: Information sources about forestry education and career

The decision to study forestry among young women is primarily driven by their love and passion for nature and forests (59 %). Other significant factors include the desire to make a positive impact on a larger scale (34 %), the appeal of forestry as a sustainable and ecologically oriented economic sector (30 %), and awareness of climate issues (28 %). The least influential factors are friends' choices to study forestry (5 %) and parental guidance (8 %). Additionally, some participants mentioned that their decision to study forestry was made by chance (15 %). In summary, the main motivations for pursuing forestry education are a passion for nature and the sustainable, ecological nature of the profession, while external pressures, economic reasons, and the attractiveness of educational programs are less important.

Table 31: Reasons to enrol into forestry education

	Number	*Share*
I chose to study at the Forestry high school/college/faculty at the urging of my parents.	13	16 %
I came to high school/college/faculty with my friends/at their urging.	4	5 %
I wanted to study at another high school/college/faculty, but I wasn't admitted.	19	24 %
Parents/close relatives work in the forestry sector and have guided me into this field.	6	8 %
I heard that studying at this high school/college/faculty is not so difficult.	11	14 %
For economic reasons thinking of the possible financial benefits as an employee.	10	13 %
I was attracted by the way of the educational offer of the high school/college/faculty.	13	16 %
Out of love, passion for nature/forest.	47	59 %
Sustainable and ecologically oriented economic sector.	24	30 %
Awareness of climate problems.	22	28 %
The meaning of work - doing good.	27	34 %
I ended up studying forestry by accident/by chance.	12	15 %
Other	3	4 %
Number of respondents =n	80	

The survey also examined the areas of interest that influenced students' decisions to study forestry. The results indicate that girls and young women are most interested in environmental protection (60 %), followed by forest ecology (48 %) and forest management (33 %). Conversely, forest economics, terrestrial measurements, and timber harvesting were the least influential areas in their decision to enrol in forestry high school, college, or faculty programs (see Figure 197).

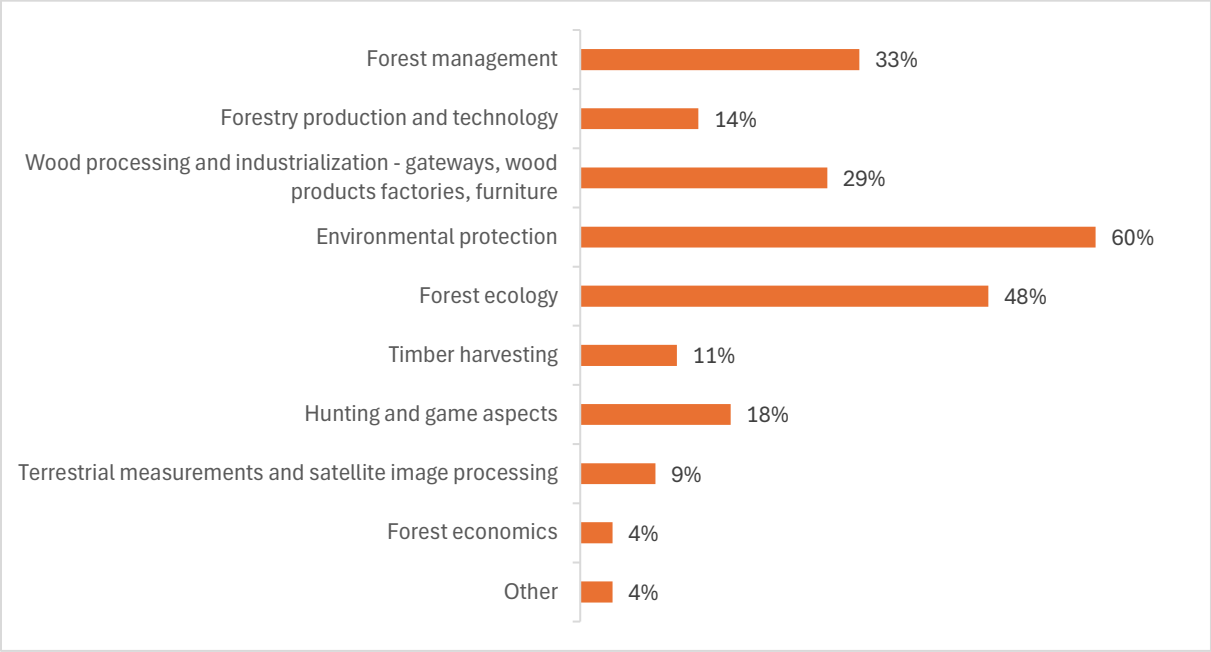

Figure 197: Areas of interest of students of forestry educational institutions

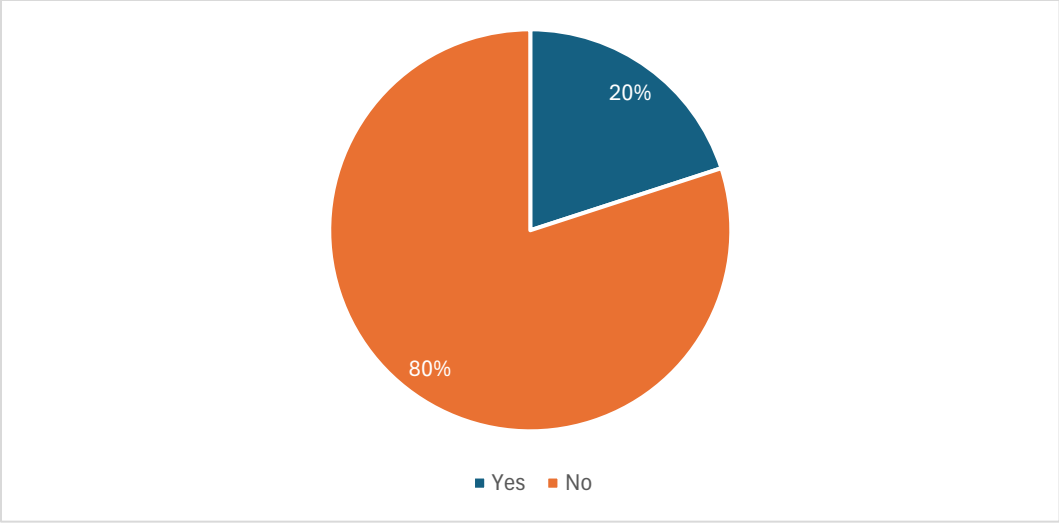

Figure 198: Consideration of forestry as a career option among students of other educational institutions

The majority (80 %) of respondents from non-forestry schools had not initially considered forestry as a career option, primarily due to a lack of interest in the field. Only 20 % had considered forestry

before their current education. Additionally, 60 % of respondents were unaware of the opportunities forestry offers.

When asked what might encourage them to consider studying forestry, most respondents (50 %) indicated that forestry-related workshops or field trips would be beneficial, while 40 % cited access to informational materials about forestry careers.

In summary, increasing awareness and providing hands-on experiences and resources are essential for attracting students from other educational backgrounds to forestry careers.

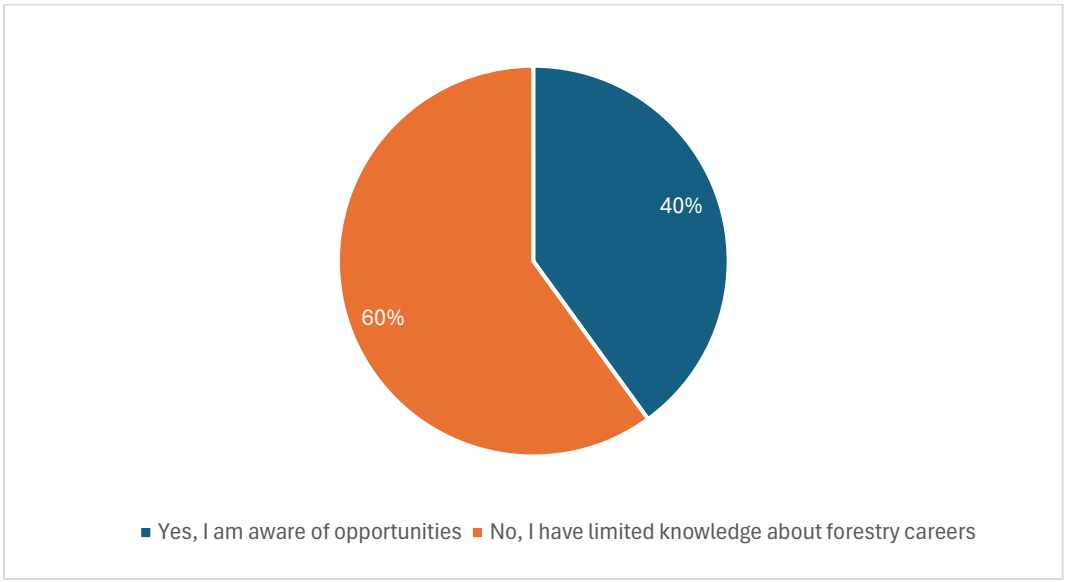

Figure 199: Awareness of career opportunities in forestry (students from other educational institutions)

Table 32: Reasons to consider enrolment into forestry educational institutions (students from other educational institutions)

	Number	*Share*
Access to informational materials about forestry careers (i.e. what forestry jobs involve).	4	40 %
Guidance from career counsellors familiar with forestry professions.	1	10 %
Opportunities for job shadowing or internships in forestry-related fields.	1	10 %
Networking events with professionals working in the forestry sector.	2	20 %
Forestry-related workshop or field trip.	5	50 %
Access to a mentor from the forestry sector.	1	10 %
Seeing more role models (especially women) in forestry.	3	30 %
Online platforms or databases showcasing forestry job opportunities and requirements.	1	10 %
Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.	0	0 %
Gamified learning modules and challenges related to forestry careers.	0	0 %
Information via social media.	2	20 %
Other	3	30 %
Number of respondents =n	10	

7.9.3 Interests and needs in forestry education and career

Participants in forestry education programs were also asked about the aspects of forestry education that have the most appeal to them. As shown in Figure 200, the most engaging aspects are the practical activities (81 %) and the opportunity to interact with others who share the same interests (41 %).

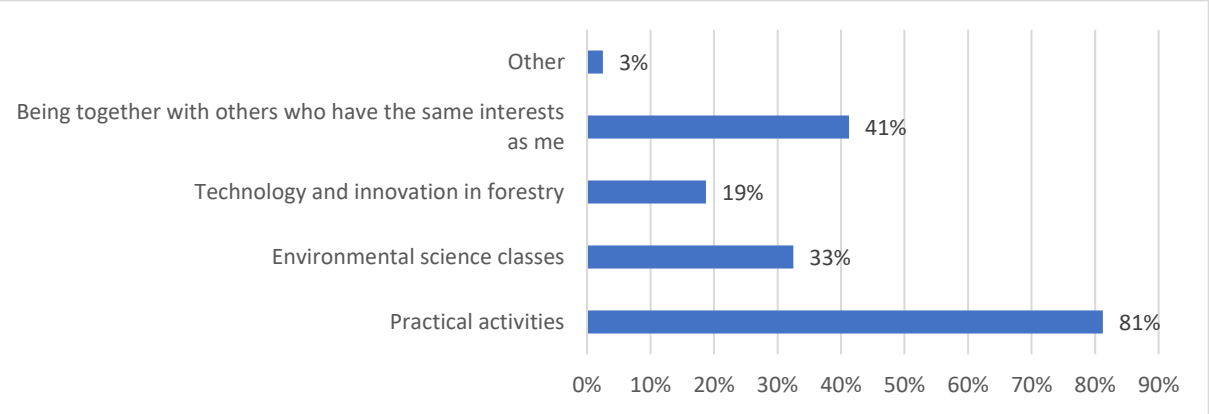

Figure 200: Engaging aspects of forestry education

The survey also explored respondents' interest in various innovative forestry practices or technologies. The results indicate that forest wellness and forest-therapy tourism (43 %) are areas young women are keen to explore. There is also interest in innovative approaches to wood production and forest bioeconomy. However, technologies such as AI in forest management and remote sensing, as well as GIS, are considered less captivating. Some students also find forest protection measures and horticultural architecture to be intriguing topics related to their studies.

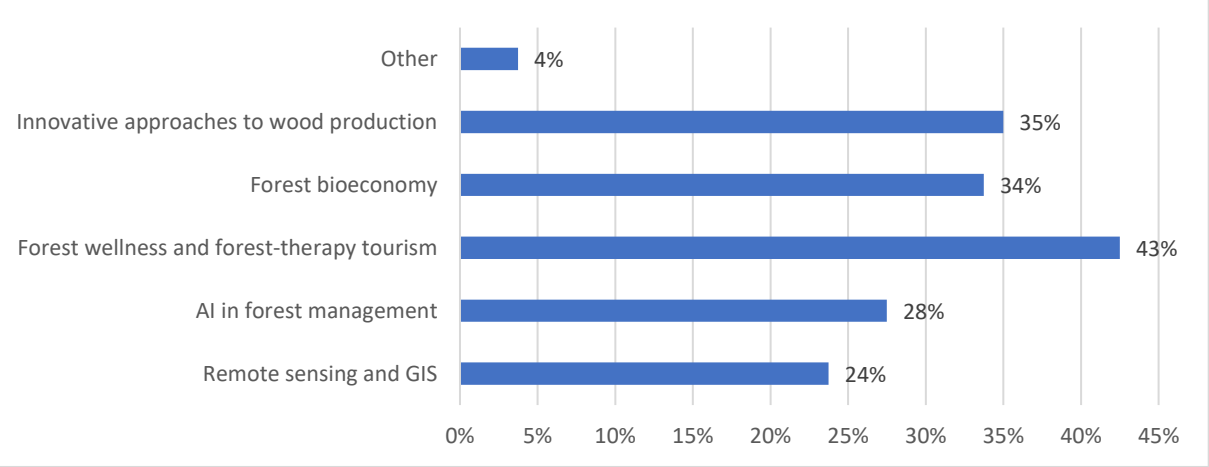

Figure 201: Innovative forestry practices

One of the survey questions aimed at forestry students focused on identifying the support or resources they believed would enhance their forestry education and career preparation. According to Figure 202, students expressed a strong preference for more hands-on field experience (61 %),

increased guidance and mentorship from forestry professionals (56 %), and networking opportunities (55 %).

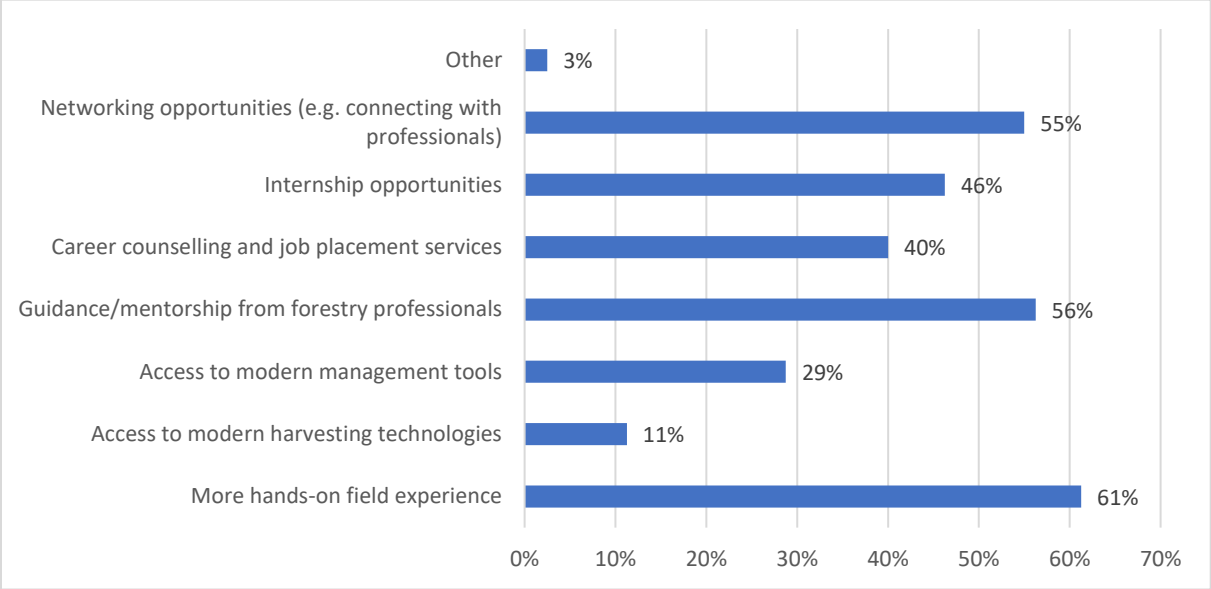

Figure 202: Factors for enrolment into forestry education and career preparation

Half of the non-forestry students do not have experience with forestry activities; however, the other half have participated in forestry activities (e.g. tree planting events, field trips to forests or nature reserves, forest clean-ups, art projects inspired by forests, etc.)

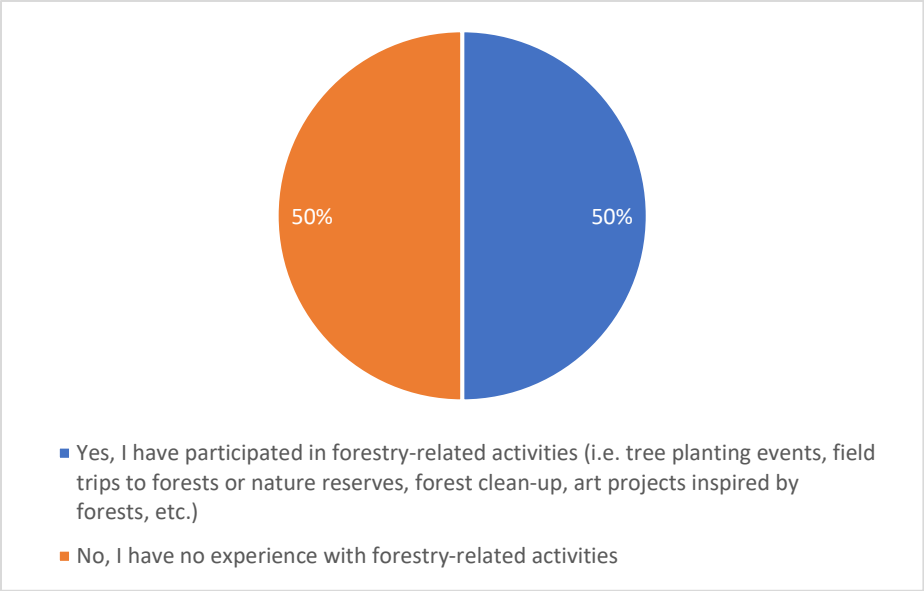

Figure 203: Exposure to forestry-related activities (students from other educational institutions)

7.9.4 Career paths and skills required for forestry career

After analysing students' motivations for career choices, the questionnaire shifted focus to their understanding of the forestry profession and their readiness for their future careers. When asked about their preparedness for a career in the forestry sector after graduation, the majority of forestry students (68 %) expressed uncertainty. Regarding employment prospects in Croatia, only 18 % of students indicated slight or no confidence in finding employment in the forestry sector, while a significant majority (49 %) expressed high confidence. Similarly, students showed slightly less confidence about finding employment abroad.

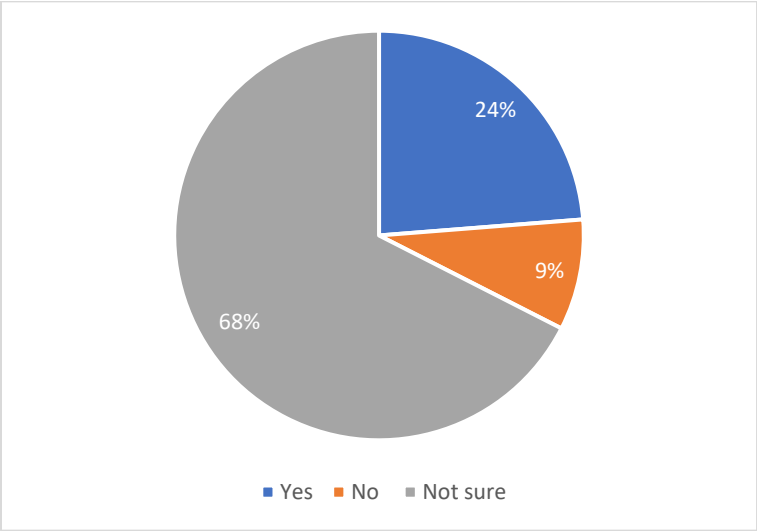

Figure 204: Confidence level regarding readiness to enter the professional life in the forestry sector (students of forestry educational institutions)

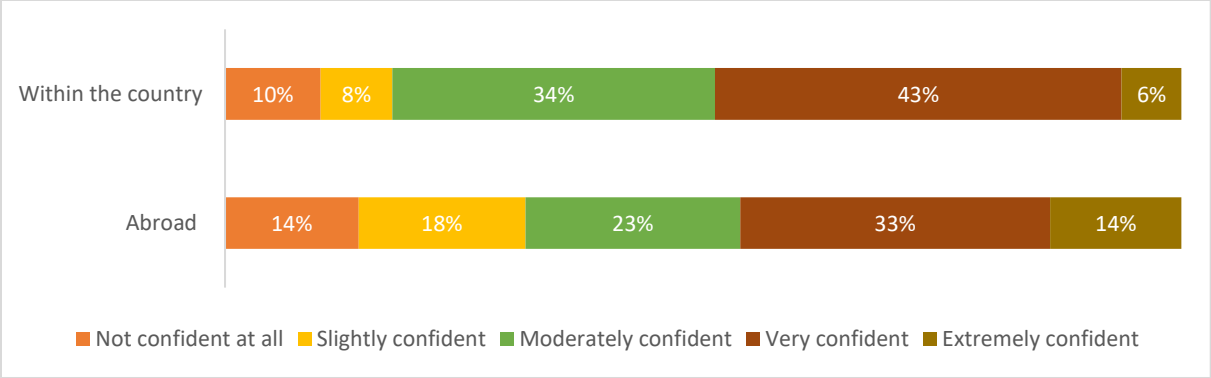

Figure 205: Confidence level regarding employment possibilities in the forestry sector (students of forestry educational institutions)

Those who feel unprepared for professional life in the forestry sector cited reasons such as excessive theoretical knowledge without practical application, insufficient understanding of job expectations and preparation, and a lack of practical knowledge and field experience. On the other hand, 24 % of respondents feel adequately prepared due to excellent professors and a high-quality

curriculum at secondary schools and the Faculty of Forestry and Wood Technology in Zagreb. Some students attribute their confidence to personal efforts and additional education that sets them apart.

Subsequently, the survey queried students about their career preferences within forestry educational institutions. According to the results depicted in Figure 206, there is a preference for careers in nature protection (55 %), followed by research (39 %), and forest management (33 %). Students showed the least interest in forest policies (5 %) and forest economics (13 %).

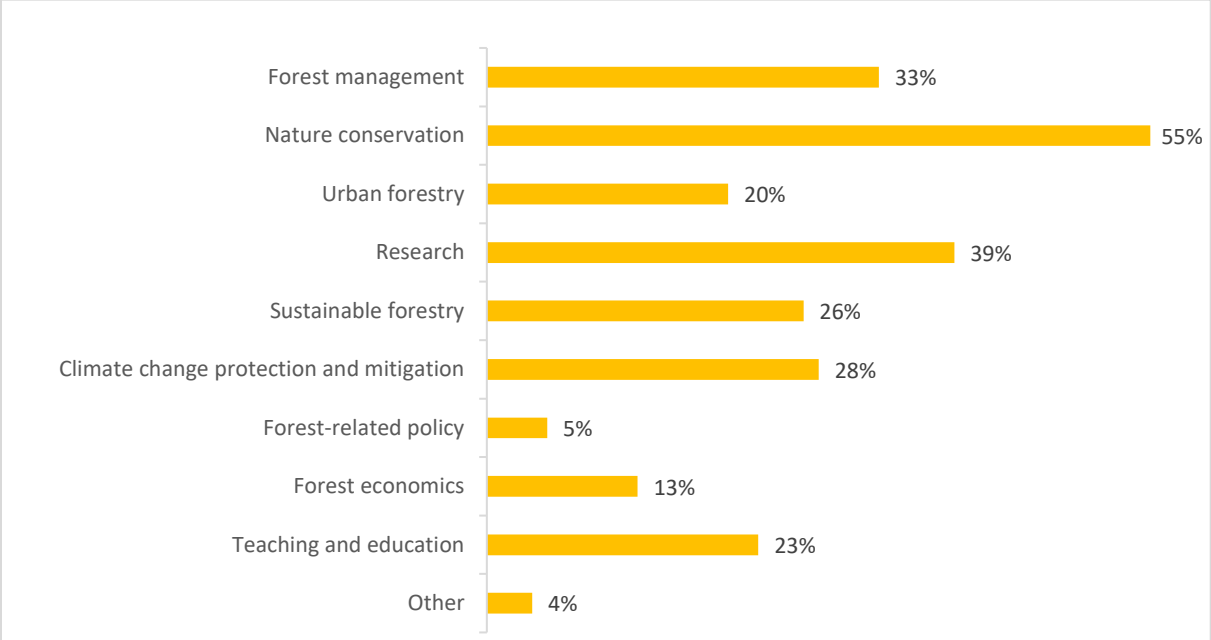

Figure 206: Projected career paths (students of forestry educational institutions)

Overall, these findings suggest that forestry students in Croatia are motivated by diverse career opportunities within the sector, with a notable preference for roles involving nature conservation, climate change, and research.

According to the survey results, participants from other educational institutions identified several crucial factors for making forestry a more appealing career option for them (see Table 33). Forty percent of respondents highlighted the importance of improving the image of foresters, while an equal proportion emphasized the significance of adequate work payment in enhancing the attractiveness of forestry careers.

Table 33: Factors increasing attractiveness of forestry as a career option (students of other educational institutions)

	Number	*Share*
Understanding that forestry can impact climate change positively	2	20 %
Better image of foresters	4	40 %
Appropriate payment	4	40 %
Opportunities to work closely with local communities, and contribute positively to rural development	2	20 %
Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.)	3	30 %
Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management)	3	30 %
Other	0	0 %
Number of respondents =n	10	

Figure 207 indicates that forestry students are somewhat more knowledgeable about the skills and qualifications necessary for a forestry career compared to students from other educational institutions. However, both groups exhibit a lack of understanding regarding their future tasks and the skills they need to acquire. Only 16 % of forestry students feel they are very well informed, and none of them feel extremely well informed. This highlights a significant gap that needs to be addressed so that forestry students can confidently pursue their professional careers and choose areas of interest within the field. Therefore, it is crucial to raise awareness and provide real-life examples of women working in various positions within the forestry sector.

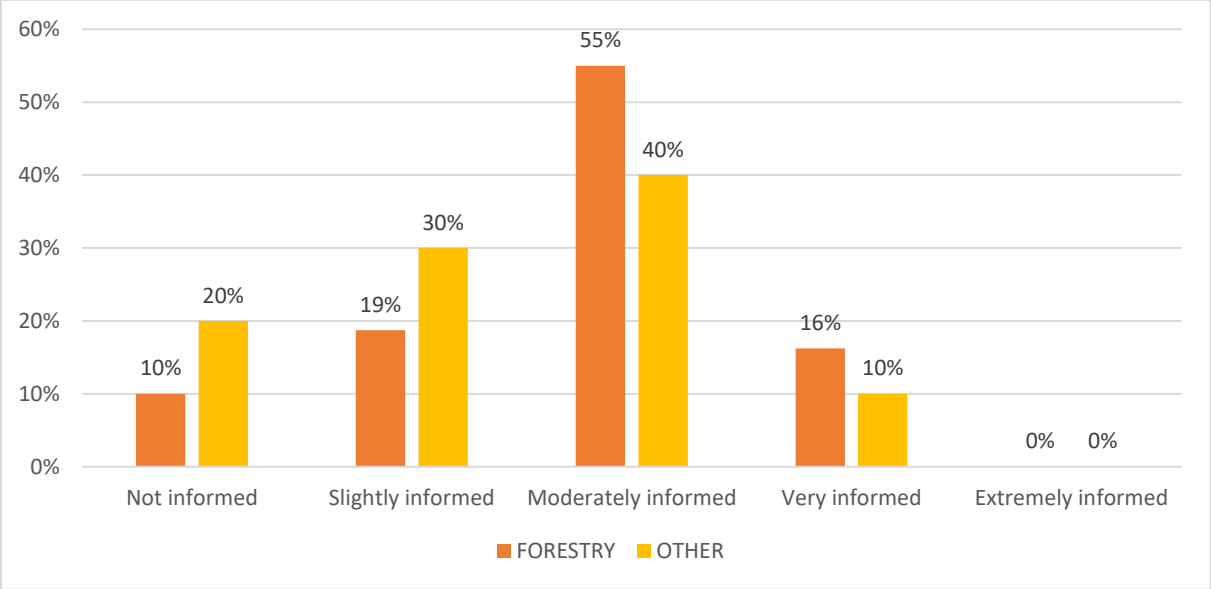

Figure 207: Awareness of skills and qualifications required for forestry career

In the following question, the survey centered on the outlook for career advancement and future education among forestry students. According to the results depicted in Figure 208, participants place significant importance on both career advancement and opportunities for future education.

Specifically, 90 % of respondents regard career advancement as important or very important, whereas slightly fewer, 73 %, emphasize the importance of future education.

These findings underscore the forestry students' recognition of the critical role that ongoing education plays in career advancement, reflecting their ambitious aspirations for future professional endeavours.

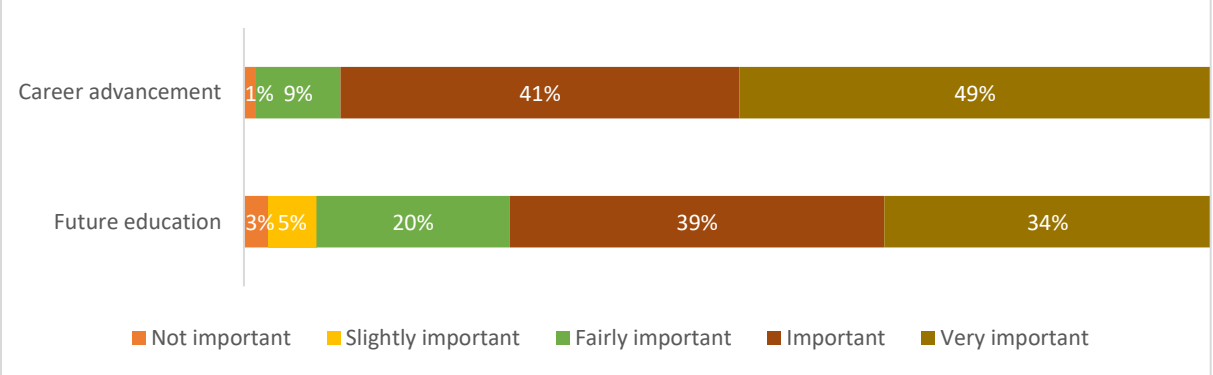

Figure 208: Importance of career advancement and future education (students of forestry educational institutions)

7.9.5 Perceptions and challenges of career in forestry

The subsequent section of the survey addressed misconceptions and stereotypes about careers in forestry. Figure 209. presents the combined responses of forestry students and those from other educational institutions, highlighting common misconceptions among their peers. The most prominent misconceptions include the beliefs that forestry is not suitable for women (70 %), that all foresters are lumberjacks (68 %), that forestry offers limited opportunities and is solely about cutting trees (60 %), and that it does not require higher education (53 %). Other misconceptions noted by students include underestimating the difficulty of forestry programs and a certain misunderstanding of future job roles for forestry graduates.

These findings reveal that the perception of forestry in Croatia remains quite limited, particularly regarding its suitability for women and the diversity of its branches, such as nature conservation, sustainable practices, and research. These fields demand high levels of education, where women have demonstrated exceptional performance.

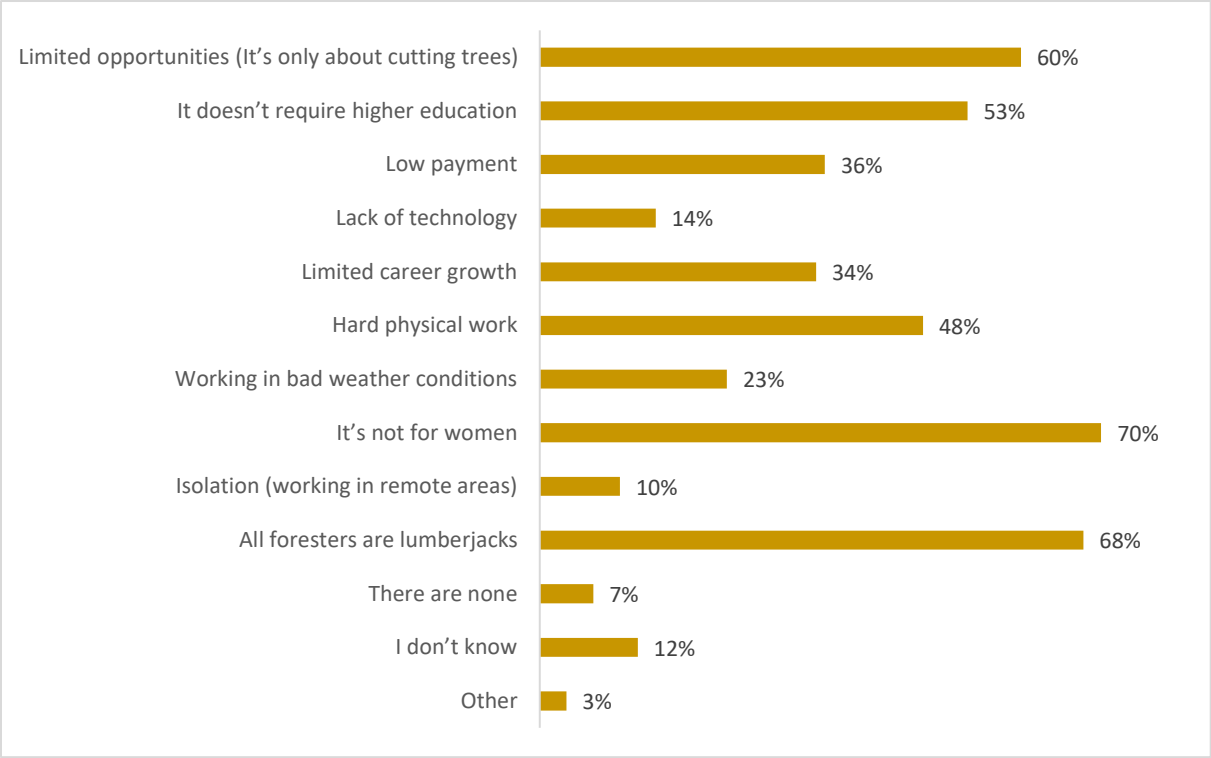

Figure 209: Perception of misconceptions and stereotypes about forestry careers

When asked about the main barriers preventing girls and young women from enrolling in forestry education, the results shown in Figure 210 highlight several common challenges identified by participants from both groups. Both groups recognized the lack of visibility of successful women in forestry and the underestimation of women's abilities and contributions as significant barriers. For forestry students, one of the most important barriers is gender stereotypes and stigmas associated with forestry professionals (61 %), while the other group did not consider this barrier significant (10 %). Furthermore, both groups of participants highlighted cultural or social norms that discourage women from pursuing forestry careers (30 % for the non-forestry group and 45 % for the forestry group) as important barriers to enrolment.

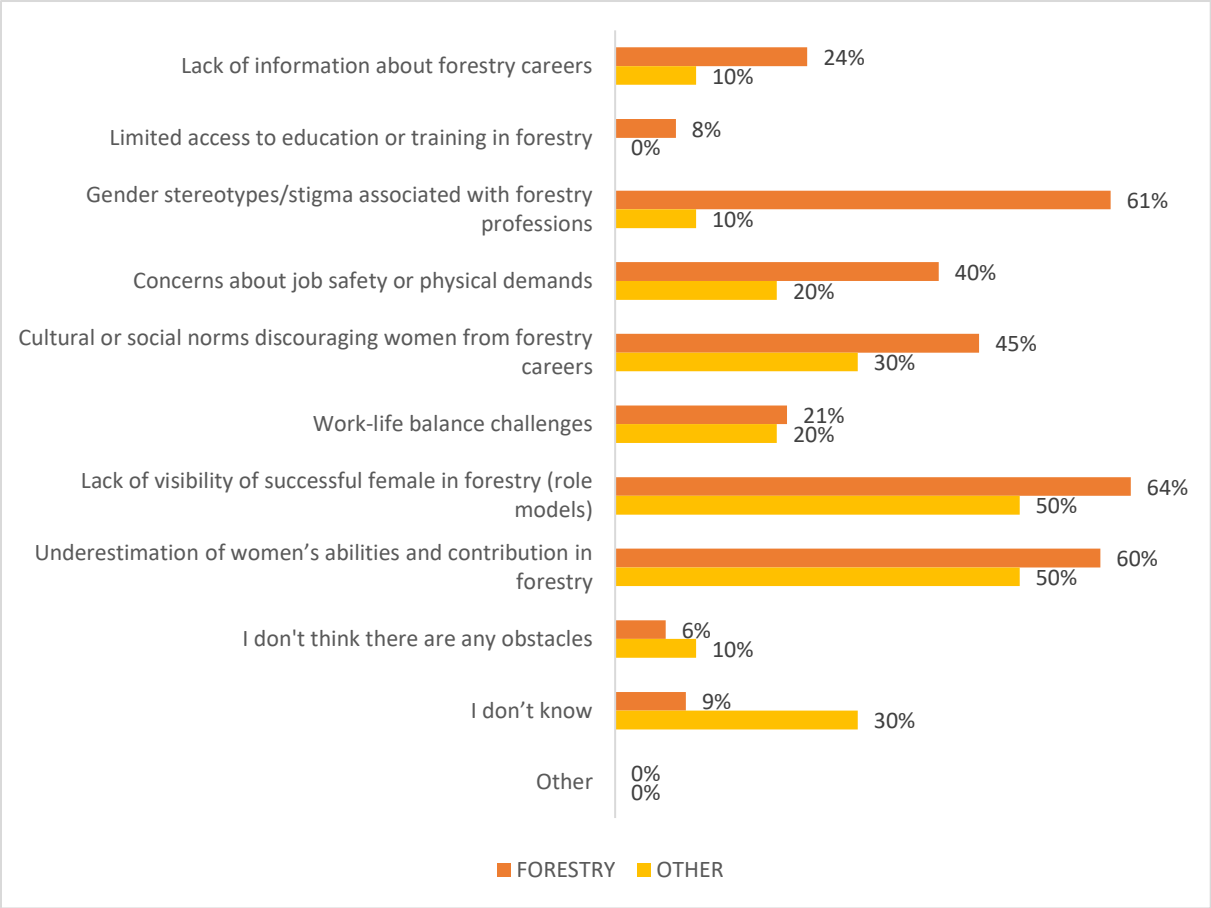

Figure 210: Perception of main barriers for girls and young women to enter the forestry sector

A significant proportion of forestry students have not encountered gender-specific challenges or prejudices, with 49 % answering "no" to this question. However, it is noteworthy that 41 % reported experiencing such challenges or biases, and 10 % preferred not to specify. This suggests that while some students face these issues, they are not universally experienced among forestry students in Croatia.

The majority (55 %) of participants stated they had not experienced different treatment based on their gender, whereas 26 % reported being treated differently due to their gender. This indicates that gender challenges and biases affect a significant proportion of students in Croatian forestry programs. Additionally, 19 % of respondents preferred not to disclose their experiences, indicating a level of sensitivity or discomfort around the topic.

Despite these nuances, detailed explanations were gathered about the unpleasant experiences some students had encountered. Many described how the dynamics of practical work in classes are often skewed towards male students, as these tasks are perceived as easier for them. This left female students feeling excluded and less experienced, a recurring concern in several responses to the questionnaire.

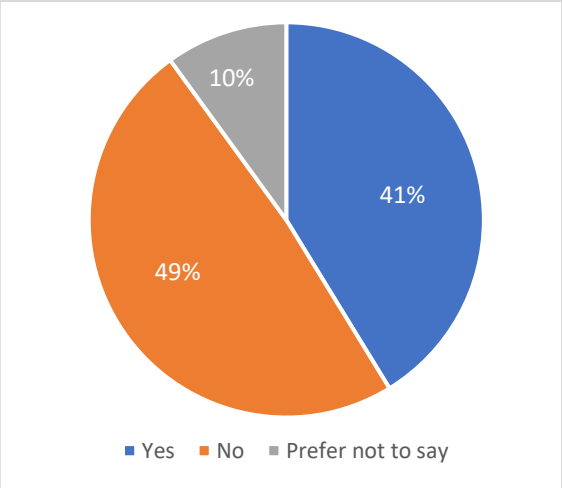

Figure 211: Gender-specific challenges or biases forestry education (students of forestry educational institutions)

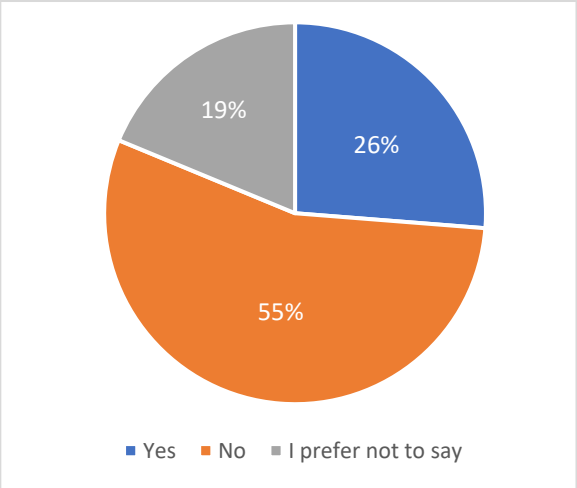

Figure 212: Different treating during your training/internship because of gender (students of forestry educational institutions)

The reactions of family and friends to the decision to pursue forestry education varied, as the survey results indicate. Regarding family reactions, 41 % of respondents reported that their families were satisfied, and 21 % said their families were strongly satisfied. This indicates that a significant majority experienced support and positive reactions from their families. In contrast, friends' reactions were more indifferent, with 56 % of respondents feeling that their friends were neither satisfied nor dissatisfied with their decision.

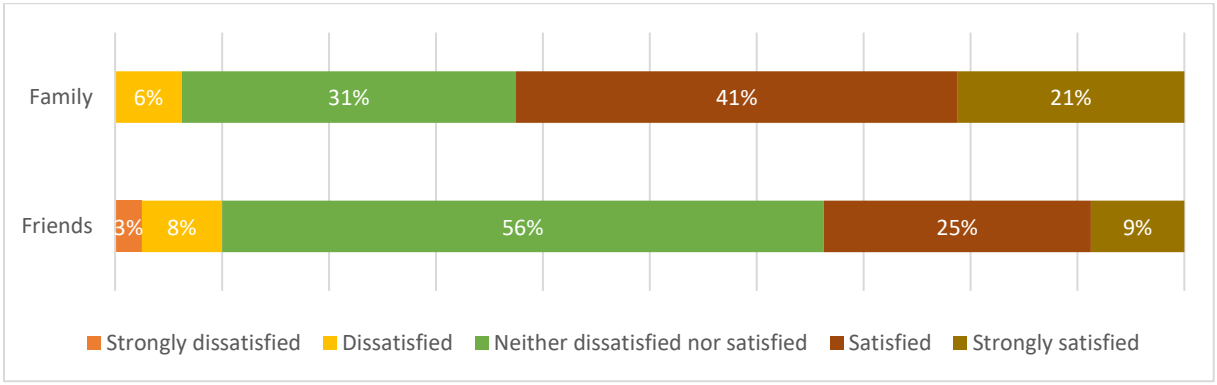

Figure 213: Reactions of family and friends to participants' interest in the forestry education (students of forestry educational institutions)

According to the survey results regarding the perception of forestry careers within the community or social circle, 29 % of respondents think their community views this profession positively. This suggests that a notable portion of the population acknowledges the value and significance of forestry work.

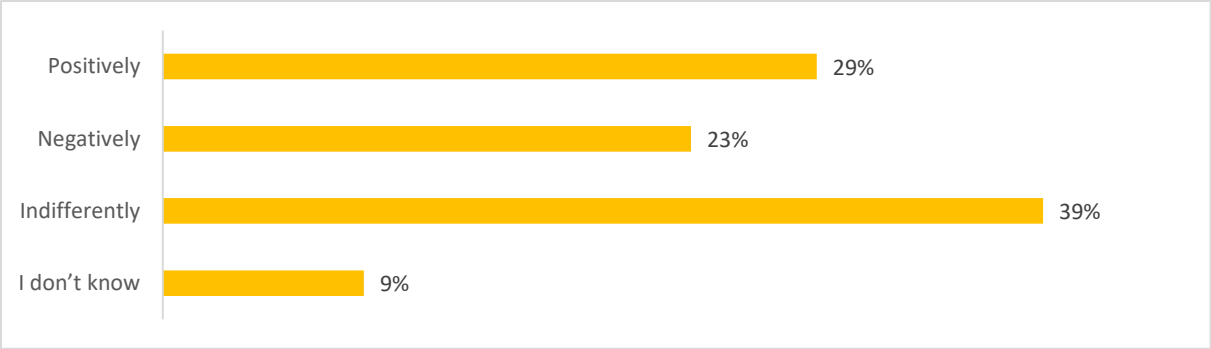

Figure 214: Perception of forestry careers in community and social circle

8 Key insights gathered from the stakeholder roundtables

8.1 Country Report: Slovenia

In Slovenia, two roundtables were carried out. Both took place on the Slovenian Forestry Institute's premises, the first on 21th of May 2024 and the second on 4th of June 2024.

The roundtable brought together panellists from all fields of education, from primary school to university level, adult education and researchers involved in forest pedagogy. Representatives from the Employment Service of Slovenia and two of the main employers in the forestry sector, Slovenia Forest Service and Slovenian Forestry Institute, also took part.

8.1.1 Information and motivation for forestry education

Young people and the choices they make are strongly influenced by the environment in which they grow up. The majority of female forestry students come from rural areas and have a family tradition in the sector.

Career orientation advisers in primary and secondary schools as also at Employment Service of Slovenia lack knowledge and information about education and the diversity of careers in forestry. Forestry is never or just rarely promoted; the focus is more on wood industry. There used to be more counselling in primary schools, but nowadays the career consultants are too busy with other tasks.

It is important to talk to parents and pupils about career orientation. Sometimes it takes a lot of individual work for parents to hear what their children feel, think and want about their future careers.

However, at secondary forestry schools and at Biotechnical Faculty, Department of Forestry and Renewable Forest Resources, they put a lot of effort into promoting their programmes. They take part in all the job fairs where they are very active. Presentations are also organised at individual schools, even in urban areas, to promote forestry.

A few years ago, the Slovenian Forestry Institute started to develop and implement forest education activities. In this context, an open day is held every year, which is attended by a large number of primary school and kindergarten children. The influence of forest pedagogy has already been recognised. Forest education activities have been presented to youngsters of different generations, from kindergarten to secondary school and even university students. Many primary schools already offer at least some lessons in the nature, at least in the lower classes. A big difference in forestry knowledge between children from rural and urban areas has been observed.

Several employees of the Slovenian Forestry Service are also active promoters of forestry in kindergartens and schools, participating in various fairs. They are also present in the media - on the radio, posting various contents on social networks, ...

8.1.2 Perceptions and challenges of career in forestry

The forestry profession is recognised as being physically demanding. The secondary forestry curriculum includes a lot of practical work, which girls find very challenging and often avoid. Hard physical work is the main limiting factor that prevents girls from choosing a career in forestry. In this context, the main stereotype that foresters are mainly loggers doing physically demanding work was recognised. It is important to change the perception of forestry in the society, because there are still many misconceptions. The education system in this field also needs to be updated.

The diversity of careers in forestry was found to be very poorly recognised. Nevertheless, machine harvesting is becoming increasingly used, where physical strength does not play a major role. Women who choose these fields should be supported. Everyone should be able to assess their own abilities and choose a profession they are interested in and enjoy.

Women own forests mainly as a result of inheritance. They often would not have decided to own the forest themselves, but they keep it mainly out of a sense of duty and family tradition. However, female owners leave physical work in the forest to men and devote themselves more to managing the finances and the environmental aspect of the forest.

Slovenia Forest Service (SFS) prefers to employ men rather than women. The main reason for this is the attitude of male forest owners towards female foresters. They often approach their superiors instead, who then have more work to do. The women themselves say that they have problems being accepted by male forest owners. They face many stereotypes in their careers and have to prove themselves as women much more than their male colleagues. SFS has recently started hiring more women, partly because of a lack of suitable candidates.

8.1.3 Interests and needs in forestry education and career

Faculties and secondary schools do not present professions good enough, so pupils and students do not get the best impression. They need concrete experience of what it is like to work in a certain profession. Presentations of professions need to be interactive and interesting to engage children and make them realize the importance of each job. It should be repeated several times, presented in different ways. Forestry must be promoted at all levels, from the kindergarten on. As much learning as possible should take place in nature.

Promotion of career diversity in forestry is of crucial importance. Job fairs are a powerful tool to achieve this. Opportunities for jobs that bring out more feminine qualities should be highlighted. All aspects of forestry should be promoted, e.g. close-to-nature forest management, nature conservation, forest pedagogy, forest tourism, … Education and employment stakeholders need to work together to start targeting professions where there is a skills shortage.

Visibility of female role models in forest sector and availability of committed female mentors are one of the important factors, which should be promoted and established in order to help and encourage girls to decide for the forestry career. We also need to have zero tolerance of all gender stereotypes and create a safe environment for everyone. Very low pay of district foresters is negative factor that discourages many people from entering the profession. Recognition of forestry

profession importance at policy level is of crucial importance, leading also to improvement of the payment system.

8.1.4 Good practices for involving girls and young women in forestry sector

The primary school that was interviewed at the roundtable has a staff member who works exclusively on careers guidance and is involved in a number of projects in this field. Among other projects they have a career day, where pupils spend a day in a company/organisation learning about their chosen career. In recent years they have observed that more and more girls are interested in traditionally "male" professions.

Good practices show the importance of consistency and putting a lot of effort into career promotion in school. Persistence, good cooperation with schools and adapting to their timetables bring successful results. The programs of visits and career presentations must be submitted and coordinated with schools in June so that they can be implemented in the new school year.

Traditionally male professions need to be introduced and adapted to women. The Employment Service of the Republic of Slovenia has had a very successful project in the past, where several women were trained as welders. They are now highly qualified personnel and known for their conscientiousness and precision.

One of participants highlighted her bad experience from the primary school. They career counsellor did not want to help her in any way, because their opinion was that the forestry is not for women. However, she was recently invited to the same school to give a presentation on the profession of forestry and hunting.

8.2 Country Report: Germany (Bavaria)

8.2.1 Information and motivation for forestry education

In Bavaria, forestry professions in the secondary educational system can be pursued with a university degree or an apprenticeship at one of the forestry training facilities. Hence, LWF conducted two round tables: one focusing on university education and the other on forestry training facilities and potential employers in forest administration and research. The experiences of round table (RT) participants regarding their experience with promoting forestry careers to students, especially girls and young women differ among forestry training institutions and academia. There are currently no special programs or strategies at the Bavarian forestry training institutions which are specifically designed to promote young women. Therefore, no particular experiences have been made so far. By contrast, at Bavarian universities offering forestry degrees there are a few programs and initiatives to promote female students to pursue a career in forestry. These programmes and initiatives are listed in section 8.2.4 of this report.

8.2.2 Perceptions and challenges of career in forestry

In both round tables the participants identified several barriers that girls and young women face when considering a career in the forestry sector. These included:

1) Issues with self-confidence: A lack of self-confidence to assert themselves against their mostly male colleagues in forestry professions was mentioned by several participants as a major obstacle to entering the forestry sector. Female participants recounted their experiences of being too intimidated to speak up in a male-dominated group during an internship in a forestry company. However, male participants who had switched to the forestry profession from other sectors also had to find their feet and assert themselves in a very masculine environment. The pronounced "male" power structures in the forestry sector, where it is mainly men in management positions, can have an intimidating effect on outsiders, especially women, and might be an important obstacle for choosing a career.

2) Hunting license: There is general pressure from many colleagues and employers in the forestry sector to have a hunting license and enthusiasm for hunting in order to pursue a forestry profession. For some of the RT participants and many of their colleagues, the killing of animals might not be compatible with their ethical principles and can lead women in particular to decide against a career in the forestry sector.

3) Lack of female role models networks for women in the forestry sector: A lack of networks for women in forestry professions was also mentioned as an obstacle to choosing a career. Female students in particular felt lost when thinking about entering the forestry profession because most employers are male and there is often a lack of female role models in forestry companies and authorities. According to the participants, networks for women in the forestry sector, which

provide advice to students as well as graduates and young women entering the profession, can play an important role in deciding on a career in forestry.

4) Work-Life balance: The round table participants stressed that one of the most important obstacles for women entering the forestry profession might be the desire to have children and the associated care work, which is largely carried out by women, and to balance their care work with work duties. The participants felt that the working hours in the forestry professions are difficult to reconcile with parental responsibilities because there are few part-time positions on offer that allow them to combine family and career. The career advancement of women in forestry authorities is also hampered by a rigid evaluation system, where time lost due to pregnancy and parental leave can have a detrimental effect on promotion to a management position.

5) Physical challenges and sexualization: For several participants, aspects related to the female body were important reasons for not considering a career in forestry. On the one hand, there were challenges related to physical fitness, such as working in nature in all weathers and handling heavy equipment, which make it difficult or even impossible to carry out certain activities in forestry professions, especially for women who are pregnant or menstruating. The lack of sanitary and hygienic conditions, which can affect women's well-being, was mentioned especially when working in the field. Another important topic mentioned in connection with the female body was sexualization by male colleagues in the workplace. This can range from inappropriate sexist comments about women to sexual harassment and deters many women from wanting to work in a male-dominated environment.

6) Contradicting expectations: The student participants of the RT report that forestry students who do not have a family background related to forestry and who have decided to study forestry out of an interest in nature conservation and forest ecology are often dismissively referred to as "eco-women" by their fellow students. For some participants, not being taken seriously as prospective female foresters was an obstacle to staying in the profession after graduation. The expectations associated with the forestry profession can also vary greatly. For example, students interested in nature conservation see the forestry profession as an opportunity to become more involved in the preservation of forests, while for others the main motivation for the profession is the production of timber and the economy of the forest.

7) Lack of marketing of the forestry profession: Forestry professions are largely unknown to many young people who are about to choose a career and, unlike other disciplines, forestry not very present in everyday life. Very few pupils and prospective students come into contact with careers in forestry through school. Furthermore, there is also a lack of knowledge about the opportunities for career advancement in forestry. This lack of knowledge and the associated clichés about foresters can be a major obstacle to choosing a career in forestry according to participants.

8) Income: Especially in forestry training professions the pay can be quite low.

9) Family background: The participants reported that only a few of the career starters/applicants for forestry school come from families with no connection to forestry and they are also

predominantly from rural regions. Accordingly, family role models and origin play an important role in the career choices of young women.

8.2.3 Interests and needs in forestry education and career

Assessment of the current situation and positive aspects in the engagement of girls and young women in forestry education

In Bavaria the current situation in forestry education of young women differs among the existing educational paths: while female student graduates from the university degrees in forestry at TUM and HSWT are around 30 % (Source: TUM & HSWT Statistics of 2019 & 2020), in forestry training facilities with an emphasis on technical forestry professions the share of female trainees is only 9 % (Source: BLE Statistics 2022). Despite these facts, the active engagement to recruit women at Bavarian forestry training institutions is still very limited and there are no specific programs to promote the career and educational pathway of young women in forestry. The current job situation at Bavarian forestry administration offices is very good at the moment because of a shortage of skilled workers in the forestry sector. Yet for women who take time off for maternity leave or care work, starting or advancing a career as a forestry officer becomes very difficult since recruitments and promotions are based on performance and qualifications only; social or gender-specific characteristics are not taken into account at Bavarian forestry administration facilities.

The Bavarian forestry schools and the forest administration try to engage young women for forestry professions through female forestry professionals that serve as a role model during information events and careers fairs. Another positive aspect to further engage women for forestry pointed out by RT participants was the explicit call for women to apply for jobs in the advertisement of forestry professions. Further positive aspects and best practice examples in the engagement of girls and young women in forestry education from academic institutions are listed in section 8.2.4.

Weaknesses of existing support systems

At the first round table with representatives of the educational system for forestry, the weaknesses of three existing support systems for young women were discussed. The first one was a mentoring program for female forestry students and those that are about to start a career that is offered by the University of Applied Science Weihenstephan- Triesdorf (HSWT) in Bavaria. Weaknesses of the mentoring program are a lack of mentors and motivated coordinators of the program, who are making greater efforts to find additional mentors and fundraising. A lack of resources is a limiting factor for the successful implementation of the program. To improve the mentoring program, it would be important for prospective mentors to follow the contents of the "Mentoring in Forestry" guidelines more closely in preparation. It would also be desirable to have larger exchange rounds at regular intervals, where numerous mentees and mentors come together to network and exchange ideas, instead of just "one-to-one" meetings between mentees and mentors. The presence of male mentors would also help to improve the program, as they can give female students a different perspective than their female counterparts and help to boost the self-confidence of young women in the male-dominated forestry industry.

The other two support systems that were discussed during the first round table are focused on providing special support to students who conduct care work, which are mostly female. One of the programs provides more flexibility during the examination period for students with children and the other one gives them the chance to choose their elective classes prior to the rest of the students in order to better adapt their class schedule to their family life. Weaknesses of these two programs are that until now they are not well known among students and lecturers. To take advantage of these funding opportunities, formalities have to be completed that involve bureaucratic effort, which can be perceived as a deterrent. Teachers, who are often not aware of these funding opportunities themselves, do not pass them on to students. For students with care responsibilities to take full advantage of these funding opportunities, it would be necessary to provide more information about them and advertise them. This could be done, for example, via the Student Union, the Women's Representatives, and the Campus Offices the educational institutions. Necessary support systems for encouraging girls into forestry careers and improvements for better guidance are described in section 8.2.4.

8.2.4 Good practices for involving girls and young women in forestry sector

The following strategies and programs were identified by the participants of the first round table with universities in Bavaria. None of them is directly focused on forestry careers but all of them have effectively supported young women in their career path and have helped to overcome potential gender biases:

- Mentoring program for female students during college and before starting a career (HSWT)
- Flexible examination structure for students with care tasks (TU Dresden)
- Doctoral program for women (TU Dresden)
- "Become a professor" program (HSWT, Bavaria-wide)
- Early registration option for elective subjects for students with care responsibilities (HSWT)
- Equal opportunities principle for job advertisements at universities
- Network "Women in the forestry sector"
- Online course - Success strategies for women in the forestry sector (Nürtingen University)

The participants of both round tables identified concrete suggestions for improving the inclusion of women and girls in vocational orientation and training in the forestry sector. These suggestions included necessary support systems for encouraging girls into forestry careers and improvements for better guidance. The ideas that participants gathered during the round tables could be divided into four categories: career advertisement, events, networking, mentoring, voluntary services and professional training opportunities (see Table 34).

Table 34: Future steps and activities for improving the involvement of women and girls in career guidance and training proposed during round tables in Bavaria.

Categories	Description of activities that could positively impact the inclusion of girls/young women into forestry
Career advertisement	Improve marketing for forestry training to make it more target group-oriented and effective. In particular, career opportunities in the forestry sector should be highlighted.
	Career advertisement and promotion should be promoted via multiple channels, especially through social media.
Events	Taster event days for high school students
	One-day guided tours by forestry students for high school students
	Presentation of forestry professions in schools
	Regional job fairs for youngsters from rural areas
	Girls and boys days on forestry professions
Networks	Establishment of a university group in the network „Women in Forestry.“
Mentoring	Mentoring through forest manager/forest technicians
Voluntary services	Create more opportunities for the Voluntary Ecological Year (FÖJ) in the forestry sector
Professional training/Internship opportunities	Create more openings for professional trainings in technical forestry professions through collaboration with Forest Owner collectives and regional forest offices that specifically address young women
	Internships at forestry offices

Most participants of the first round table saw improved, more effective career advertising for forestry professions as a very effective measure to attract young people to the forestry sector. This should highlight career opportunities in the forestry sector and be more target group-oriented than before. Difficulties both in implementing a more effective marketing strategy and in holding information events are the limited financial and personnel resources at forestry training institutions.

The participants also emphasize that further training opportunities in forestry professions should be communicated more intensively to improve career guidance. In addition to personal exchanges at careers fairs, websites and print material, social media should also be used more frequently as a communication channel.

Most of the measures to improve the involvement of women and girls in forestry career guidance and training belonged to the "Events" category and targeted school pupils. There was a general consensus among the round table participants that women can be attracted to forestry professions if interest and enthusiasm for the occupational field can be awakened at high school. According to the participants, information events were an effective measure for this, ideally if they could take place directly at high schools.

Another suggestion from the participants for improving career guidance would be an expanded range of regional careers fairs on forestry professions, which could be organized by forestry offices and the Bavarian Forestry Enterprise. This would help to raise awareness of forestry professions among schoolchildren in rural areas who are unable to travel far to careers fairs.

The introduction of a Girls/Boys Day for forestry professions was seen by all RT participants as a positive and desirable measure to improve career guidance for young women and girls. To implement the Girls/Boys Day, an initial concept is to be developed in 2025 by the equal opportunities officers of the agricultural and forestry administration and the forestry offices of Bavaria. This is planned as a cross-departmental Girls'/Boys' Day for agricultural and forestry professions. However, the successful implementation of the campaign still depends on the capacities of individual forest enterprises and forestry offices.

In order to strengthen the networking of female students and lecturers in forestry educational institutions and thus facilitate their entry into the forestry profession, the participants suggested setting up a university group in the "Women in forestry" network. This group does not yet exist but could make a valuable contribution to better integrating young women into the forestry sector.

The participants agreed that mentoring should be promoted more in order to attract young forestry professionals. Through mentoring, young people get the chance to experience the forestry profession and get guidance and support from forestry professionals which can be very important when starting a career. An improvement of the existing mentoring in the forestry sector could be achieved through a centralized management of mentoring offers, so that a larger pool of potential mentors and mentees can be used.

For school leavers who are in the career search phase, forestry volunteering opportunities such as the Voluntary Ecological Year (FÖJ) can provide an opportunity to get a taste of forestry professions and gain initial experience in forestry practice. Career fairs, which provide a good overview of the various occupational fields and further training opportunities in the forestry sector, were also mentioned by the participants as helpful measures.

The participants of the RT explain that at the moment there are more applicants than apprenticeship openings for forest technicians/ forest workers in Bavaria. To create more openings the technical forestry school is trying to get more involvement from the Forest Owner Collectives in Bavaria. This is an opportunity to attract more women for professional trainings as in technical forestry professions. Internships were mentioned as another important measure for recruiting young forestry professionals. The forestry administration encourages the forestry offices to offer internships for young people in the career search phase, but the existing offer could be strengthened and also aimed more at young women.

8.3 Country Report: Austria

8.3.1 Information and motivation for forestry education

The participants' previous experiences and current assessments of the situation of women and young girls in training and employment can be summarized as follows:

➔ **The proportion of women in the workforce is (too) low, but the trend is fundamentally positive.**

In particular, those participants who are also employers emphasized that the proportion of women in the sector or among applicants in recruiting is not satisfactory. This is exacerbated by the fact that employees are often sought who can cover several areas of expertise (e.g. forestry and IT).

Nevertheless, a fundamentally positive development is noted, particularly with regard to the proportion of female students.

- *More women are needed not only in forestry, but in technology in general*
- *The proportion of women in other technical professions is simply a disaster*
- *Cross-section of forestry and IT – It is difficult to find people who can and like both, but for many companies it is important and necessary.*
- *Too few girls and young women are applying.*
- *A lot has changed.*
- *Something is already happening, there are more women and more women are applying for jobs.*
- *There are already more than a third of girls at school.*
- *There have been many developments in a positive direction since 2010.*
- *There are already more women.*
- *Girls say they are not disadvantaged because of their gender.*
- *It's good for the boys that girls are at school.*
- *Many young men also see the discrimination of women.*
- *Girls are ahead at school - because they have to prove themselves at school*

➔ **Positive influence of women on the sector**

The sector would therefor do well not to do without the perspectives and skills of girls and women. Both at school and at work, they are committed and determined, and have important communication skills.

- *The views and skills of women would be good for the forestry industry.*
- *Young women are much more committed, better at communicating and generally do a good job, we are very happy with them.*
- *Girls are determined.*

➔ **Change in the sector and skills that will be in demand in the future**

The activities and fields of work in forestry are currently changing and developing rapidly. As digitalization progresses, the forestry industry and thus also the occupational field will change and

develop significantly. New professions will emerge (e.g. drone pilots) and the work will continue to move away from heavy physical labor – an opportunity for women.

- *Different disciplines play a role, different skills come together, and the forestry industry needs the interaction of expertise and experts.*
- *The forestry sector is very diverse, AI in forestry will also play a role.*
- *More and more new professions are developing with increased use of technology (e.g. drone pilots, IT...), which benefits women and is an opportunity for women.*
- *Young people also still have the image of being in the forest, but also in connection and in dealing with new technologies (e.g. drones)*
- *"Office foresters" will increase.*
- *Other people with different basic training will become forest owners (change of ownership structure).*

➔ **Potential for conflict**
Some participants mentioned that the targeted promotion of girls and women could result in an actual or subjectively perceived imbalance to the disadvantage of boys or men.

- *Boys: Who looks after us? What offers are there for us?*
- *Promoting girls/women must not lead to discrimination against boys/men*
- *Women's quota/favoring women creates bad blood*
- *Danger of "against each other" - girls and boys must learn to live together*
- *Compulsively fulfilling quotas does not work (e.g. board of directors in a committee)*

8.3.2 Perceptions and challenges of career in forestry

➔ **Tradition – attitudes and structures**
Forestry is characterized by traditional and conservative structures, both in terms of ownership structures and attitudes; change is often difficult to accept and only takes place slowly, while the familiar – in this case, traditional structures shaped by men – is maintained and passed on for as long as possible. These entrenched structures are therefore difficult to break down.

- *Forestry is slow and traditional (trees grow slowly...)*
- *Traditional ownership structure (noble families, church)*
- *Structures in forestry are outdated*
- *In the public perception, men in forestry often want to be seen as very traditional*
- *It is important to many representatives that the industry remains male-dominated*
- *"Regulars' table culture" in the forestry industry often excludes women*

➔ **Traditional career paths and structural disadvantages for girls and young women**
The traditional forestry career path, e.g. in the forestry service, becomes increasingly difficult for women at the latest when they start a family. The compatibility of family and career with working models perceived as specific to women, such as part-time work, continues to represent a professional challenge from the participants' point of view, which boys and young men are often not aware of.

It was also mentioned that professions with a strong environmental focus ("green jobs"), which attract girls and young women in particular, are often less well paid.

- *It's still not the same in terms of career opportunities and promotion prospects*
- *Challenges for women in forester jobs - 40 hours and more are difficult to reconcile with family life*
- *Boys/young men don't know much about paternity leave etc.*
- *Disadvantages for women due to part-time work are often not seen*
- *When it comes to "green", girls are at the forefront, but "green" is often not yet (sufficiently) paid, "green" is more quickly associated with women*
- *The closer to the forest, the fewer women…*

➔ **Gender stereotypes**

The participants observe that the performance of girls and women is still perceived and judged differently than that of boys and men. On the one hand, performance is devalued in that female pupils are sometimes assumed to have a "girl bonus" when they achieve good grades. On the other hand, it is questioned from the outset that women can achieve the same level of performance, especially in those areas where physical work is required.

- *Girls are often demotivated – "Good grade because you're a girl" – Girls' bonus…*
- *There is still the opinion that girls are too weak for the profession.*

➔ **Minority status**

Girls and women are in the minority, or alone, both in education and in the workplace. This often makes it difficult for individuals to be accepted, contribute and perform (token effect).

- *"If you are there and the others don't want to, then you can starve"*
- *It is very difficult for girls when they are alone ("one is the loneliest number"), or even if there are only a few girls.*

8.3.3 Interests and needs in forestry education and career

➔ **Mentoring**

The participants consider mentoring to be very important, especially for starting out in professional life, on the one hand to provide orientation in the very broad professional field, and on the other hand to support girls and young women in their arrival in the sector.

- *Mentoring program is very important.*
- *Most important insight – mentoring is super helpful when starting out because the field is so large and diverse.*
- *It's not easy at the beginning, you just grow into it (mentoring is certainly helpful).*

➔ Role models

The role model function of role models for girls and young women is seen as important. These could also be schoolgirls, for example, who provide information about forestry training and career opportunities.

- *Idea: in future, always send girls along when it comes to career information*
- *Anticipate career guidance - role models (e.g. send students to former technical schools to inform them about forestry training and career opportunities)*
- *Good practice: Agricultural and forestry schools go on the offensive – girls present their careers.*

➔ Career information

What people do not know is not taken into consideration when choosing a career. Two aspects are considered essential in order to be able to provide targeted information about forestry:

1. information as early as possible anchors forestry professions in the perception of young people. Particularly obvious: The connection to forestry is often passed on within the family.
2. preparation of the information: The profession must be presented clearly, but also in its thematic breadth and also stand out from the ever-increasing variety of professions and career information.

- *From an early age – parental decisions when growing up in a forestry business*
- *Start early with information*
- *Addressing young people*
- *Who do we address with our concerns? Young women and men for all facets of forestry. Other sectors provide posters (e.g. how do I get to study psychology). Nobody knows that the study of forestry exists.*
- *The more concretely professions are presented, the easier it is for me to imagine what they involve.*
- *Girls must be given opportunities and adequate information to gain a foothold in the good sector*
- *Young people are often overwhelmed by the variety on offer. It is difficult to find your way through. BOKU is taking a new approach – advertising with topics and not with professions (is just at the beginning).*
- *Forestry must be explained in a simple and understandable way.*

➔ Image and job profile

The image of forestry is still a very traditional one and closely linked to the image of a forester or hunting. In order to break away from this image, which is not very appealing to girls and women when making decisions, simple, impressive, clear, concrete and motivating presentations of the diverse fields of activity and career opportunities are needed.

Modern developments need to be depicted, as the new occupational fields and areas of activity in forestry in particular offer an opportunity for women.

- *There is a general image of the forestry sector – man with chainsaw in the forest or old hunter with dachshund. These images need to be changed.*

- *Move away from the image of the forester with a dog.*
- *Take the "chainsaw" out of forestry.*
- *The sector is little known as a diverse field of work and is still lumped together with hunting*
- *Present new innovative areas of the sector.*
- *Introduce nature conservation, landscape conservation, career guidance at an early stage and show how diverse the sector is*
- *Using technology to bring in more women*
- *Other things besides wood need to be given value in the industry.*

➔ **Competencies and cross-sectional issues**

The openness for competencies should be increased in both directions. On the one hand, forestry skills can also be applied in other disciplines and thus open up even broader areas of application for foresters. On the other hand, management skills, economic or technical knowledge from other areas, for example, should be increasingly integrated into forestry training.

- *Acceptance of basic skills, especially for career changers or forest owners*
- *More training towards leadership skills, economic training, technical training – integrate into forestry training as a cross-sectoral issue*
- *Make it clear: People trained in forestry can also work in other disciplines*
- *Attract people with other qualifications to the forestry sector*

➔ **Awareness-raising and communication**

The participants call for role stereotypes to be broken down. They see communication as the key to raising awareness, taking a critical look at gender stereotypes and role attributions and improving understanding and the culture of discussion between the genders. This also includes work and awareness-raising with boys and young men.

- *Rethink and break down gender stereotypes: E.g. in the Middle Ages, women were mathematicians.*
- *Awareness needs to be raised among boys.*
- *Changed structures and framework conditions are needed.*
- *Women cannot break through male dominance in the sector (communication can help).*
- *Communication is needed in the future in order to live and work together as women and men.*
- *Communication between the sexes must be encouraged.*
- *Promote a culture of discussion at school*

8.3.4 Good practices for involving girls and young women in forestry sector

The participants cited two websites as examples of new ways to publicize forestry as an attractive career field in its thematic breadth:

- Information about the bachelor's degree program in forestry at the University of Natural Resources and Life Sciences, Vienna: https://boku.ac.at/boku4younow/bachelorstudium-forstwirtschaft-waelder-nuetzen-und-schuetzen
- Waldkontakte (contacts for excursions, work experience, training or questions about the forest): https://www.lko.at/neue-plattform-waldkontakte-gelbe-seiten-aus-dem-wald-online+2400+3993775

An existing good practice example cited was that female students from agricultural and forestry schools go on the offensive and present their careers at their previous schools.

8.4 Country Report: Ukraine

Two round tables "Challenges and needs faced by girls and young women in their careers paths in the forestry sector in Ukraine" were held in May in the partners' cities:

On May 9, in Lviv, 22 participants (5 men, 17 women) attended the event, including 17 external participants (leadership and professors from the UNFU and Forest Technical College in Lviv, online participant from Public Administration School, others). Also, there were 3 project team members from UNFU and 2 from FORZA.

On May 13, in Uzhhorod, 17 participants (1 man, 16 women), of whom 13 external (teachers and students from the forestry chair in Uzhhorod National University, career consultant, gender equality expert, representatives of regional forest management department and State-owned company "Forests of Ukraine") and 4 from FORZA.

During both round tables Fem2Forests project was presented, the first results of the survey were presented and discussed, issues, related to the current practices of professional orientation and delivering information to future students, were discussed, looking for potential improvements and application of new (or forgotten) practices, which can be taken to the future.

Among the proposed activities and practices, which can/should be practiced to better inform and involve girls and young women in forestry studies and careers, the following were discussed:

- Lack or absence of work with schoolchildren and need to activate this work, also to thinking of certain thematic lessons in kindergartens;
- Revival of "Junior Forestry Academy", which has been inactive for a while;
- Promote female foresters' success stories, role models, and other female professional examples, at various stages of communication and actual studies;
- Map of forestry positions/careers;
- Use appropriate communication channels (to be investigated prior to communication);
- Changes of university access rules for women over 35;
- Produce a video about female forestry professionals;
- Organising meetings with the female scientists during the *International Day of Women and Girls in Science (February 11);*
- Establish a community of forestry female students alumnae;
- Professional orientation to be done by women (e.g. female police officers who visit schools, after which all girls want to become police officers);
- Efforts to be made to make the forestry profession more visible in media;
- Organize forestry camps for schoolchildren;
- There is a staff reserve for certain positions (with individual training plan) at the State-owned company "Forests of Ukraine", it is advisable (i) to analyze the staff reserve from the gender perspective and see whether more women might be proposed; (ii)create a career reserve from the last year female and male students;
- Collaboration with media, campaign in promotion of the forestry professions;
- More practical activities, excursions with teachers and forestry practitioners (the Open door day of Carpathian Office of SE "Forests of Ukraine");
- "The route from the seed to the harvesting" campaign;

- Direct contact with forestry practitioners, inviting women foresters for communication, organizing working meetings directly at working places of female forestry practitioners.

8.4.1 Information and motivation for forestry education

Current practices for promoting forestry careers for school children and future students are rather limited to:

- open days/career days, as a rule of the whole university, where forestry is often “lost” among other more popular professions;
- so-called “school forestries”, extra-curriculum classes, usually as a collaboration between local school and local forest management unit;
- there was an example of an extra-curriculum course “Sustainable Development” for school children starting year 5 and up (Drohobych lyceum).

During the discussion at the round tables, it was mentioned several times that the vocational orientation to forestry careers should be "modernised" with appropriate visual materials, right messages, relevant communication channels, involvement of female role models in promotional activities, organisation of open days in the industry, etc. (the full list of suggested improvements can be found above in the summary section).

Key recommendations included:

- Promoting female success stories: Highlighting successful women in forestry to serve as role models.
- Clearly outlining career opportunities: Demonstrating potential job positions, career progression prospects, and intermediate stepping stones leading to higher positions.
- Using appropriate communication channels: Identifying and utilizing effective channels to reach the target audience.
- Creating appealing visual materials: Developing modern and engaging visual content to attract students.
- Organizing interactive and engaging industry open days: Facilitating open days at forestry companies and institutions to provide first-hand experience.
- Incorporating sustainable development into school curricula: Introducing subjects like "Sustainable Development" into the school program where sustainable forestry and environment management shall be part of the subject.
- Presenting practical case studies during internships: Showcasing real-life world examples of forestry work.
- Publicizing alumni success stories: Sharing news about successful female graduates to inspire current students.
- Proposing legislative changes: Advocating for policy changes to achieve gender equality in forestry.
- Creating a promotional video: Producing a video that highlights the advantages for women of working in forestry.

By implementing these recommendations, the goal is to modernize and make forestry careers more appealing, particularly for girls and young women, and create a more inclusive and attractive environment for future forestry professionals.

8.4.2 Perceptions and challenges of career in forestry

We have discussed during the roundtables that indeed, forestry and forest management professions are still very often considered to be "not for women". This misconception was confirmed by both the results of the questionnaire, as well as forestry practitioners and educators. However, these days the situation in Ukraine is changing, due to the general trend of gender equality mainstreaming and due to the reorientation of men working in forestry towards military purposes.

There are more and more examples of successful women in forestry-related positions and these examples should be publicised and used to change the above-mentioned misconceptions.

Additionally, it was suggested that a broader range of opportunities for women, both with and without forestry education, should be highlighted and widely promoted. Women with forestry education can pursue careers outside the forestry sector, and similarly, women without forestry education can find employment within the forestry sector.

8.4.3 Interests and needs in forestry education and career

The discussion of the needs of women in forestry education and careers was also built around the current perception of the role of women in the profession and issues of equity and equality at work.

It was several times noted that it is important for girls and young women to understand during their studies what the future work/position/profession they want to develop in will be, and for this, the map of forestry professions should be made as well as conscious work with potential career path should be done by students to understand where they want to be, what knowledge, hard and soft skills are needed, what interruptions (for family goals) may occur, where in the career path and so on.

Another topic that was discussed was the importance of talking about a supportive work environment for women (and men) to be able to implement their functions effectively. The tools that can be used to improve the working conditions were mentioned as being: the creation of a community that pushes the issue of creating a better environment and also changes to the collective agreement between the employer and employees, where the relevant conditions will be noted down (flexible working hours; children day care or after school care or room for children to study and play; comfortable uniform; safety tools and measures etc.)

8.4.4 Good practices for involving girls and young women in forestry sector

Among the **good practices**, mentioned by participants of the round tables, were the following:

- Extra-curricular course "Sustainable development", starting from 5th grade in Drohobych lyceum, where the holistic idea of sustainable development is taught, including forestry and natural resources use.
- School forestry in schools (mostly in rural areas, where the forest management unit is located), the gathering, where schoolchildren are exposed to the forestry professions and various tasks, performed by foresters.
- "Junior Forestry Academy", where schoolchildren would prepare a research paper (educational project) on the topic of forestry and forest management, then the competition of works on a certain level (regional, national) is carried out with defining the winners.
- Meeting of the successful professional forester (woman, Revenko) with children in rural schools.
- Presentation by educational institution (Lviv forest technical professional school) of alumnae success stories (at the website or during the career days).

Future steps, that can/would be useful to be implemented, mentioned at the round tables, are:

- Forest walks/forestry excursions for schoolchildren with female forestry professionals.
- Revival of "Junior Forestry Academy".
- Promote the female success stories, role models, and other female professional examples, at different stages of communication and actual studies.
- Prepare the map of forestry positions/careers.
- Use appropriate communication channels; produce videos about female forestry professionals; make the profession more visible in the media.
- Establish a community of alumnae of female forestry students.
- Involve female forestry professionals in the professional orientation, particularly via practical activities: excursions, forest walks, open door meetings of the Carpathian Office of SE "Forests of Ukraine".
- Forest camps for schoolchildren.
- Consider creating a career reserve at the State-owned company "Forests of Ukraine" with more women in it and from among the students.

8.5 Country Report: Bosnia and Herzegovina

8.5.1 Information and motivation for forestry education

In addressing the multifaceted challenges surrounding forestry education in BiH, dissecting the underlying issues hindering its growth and development is imperative. Forestry education in BiH faces significant hurdles in garnering interest and enrolment, primarily due to a widespread lack of understanding among the public. Misconceptions and prejudices obscure the diverse career paths and societal contributions that forestry education offers. Despite efforts by high schools and faculties to promote different programs (including forestry), dwindling enrolments persist, exacerbated by concerns about post-graduation job prospects.

The onset of the COVID-19 pandemic further exacerbated these enrolment challenges, prompting educational institutions to adapt their recruitment strategies. A notable example is the high school in Sarajevo, which achieved positive outcomes by targeting specific primary schools and utilizing social media campaigns. However, these successes remain localized, and broader systemic issues continue to impede enrolment across different sectors.

Gender disparities represent another significant challenge within the forestry sector in enrolment and career progression. Despite the academic prowess of female students, they remain underrepresented in forestry programs and encounter barriers to job placement post-graduation. The predominance of men in management positions exacerbates these disparities, creating a gender imbalance that undermines diversity and inclusivity. While success stories of women in forestry underscore individual achievements, systemic barriers persist, necessitating targeted interventions to promote gender equity. Innovation and diversification are essential for addressing enrolment challenges and meeting the evolving needs of the forestry sector. Educational institutions must expand their curricula to encompass emerging areas such as forest biomass, environmental pedagogy, and ecosystem services.

Furthermore, in an era dominated by digital communication, the role of social media in promoting forestry education cannot be overstated. Traditional outreach methods are no longer sufficient to engage today's digitally native youth. Leveraging social media platforms for targeted promotion and engagement offers a unique opportunity to reach prospective students effectively.

Effective social media campaigns must transcend mere information dissemination to actively address misconceptions and showcase the relevance and impact of forestry education. By dissecting these challenges and proposing actionable strategies, stakeholders can work towards a more inclusive and sustainable forestry education landscape.

8.5.2 Perceptions and challenges of career in forestry

The analysis of key findings from roundtable discussions on the perception and challenges for careers in forestry in BiH emphasizes the complexity of issues affecting the consideration of this profession, particularly among girls and young women in BiH. Societal perceptions and gender

stereotypes emerge as significant barriers hindering the consideration of forestry careers for this demographic group, underscoring the urgent need for interventions to change the sector's image and increase awareness of the opportunities it offers.

It is important to note that factors shaping these perceptions and stereotypes include a wide range of elements, including social norms, traditional gender roles, perceptions of the environment, and promotional activities. Understanding these factors is crucial for developing strategies that will ensure greater inclusivity in BiH's forestry sector, particularly in terms of involving girls and young women.

Identification of specific barriers that women face in BiH's forestry sector reveals that achieving a balance between work and personal life is one of the greatest challenges. Women often bear the additional burden of family responsibilities, which can reduce their ability to fully commit to a career in this sector. Additionally, while the work environment in BiH's forestry sector may not openly discriminate against women, there are subtle challenges that hinder the achievement of true gender equality.

In the context of BiH, it is important to highlight that changes in the education system, historical context, and educational guidance are crucial for overcoming these challenges and promoting inclusivity in the country's forestry sector. Educational institutions and the sector as a whole need to recognize these barriers and take action to create a supportive environment that enables all women to fulfil their full potential in BiH's forestry sector.

8.5.3 Interests and needs in forestry education and career

The analysis of these segments provides a deeper insight into the specific challenges faced by girls and young women in the forestry sector of BiH. These insights stem from discussions held during roundtable meetings, where experts and practitioners exchanged opinions and experiences.

Forestry, traditionally perceived as a male-dominated domain, requires essential transformation to embrace new perspectives and create an inclusive environment for all. Societal perceptions and gender stereotypes often create barriers to the engagement of girls and young women in this sector. Forestry is often considered inadequate for women, which can limit their potential career paths and decrease motivation for involvement. Therefore, it is necessary to create support that transcends these prejudices and empowers women to actively engage in the forestry community.

Educational changes play a crucial role in promoting diversity in career options and eliminating gender-specific job perceptions. However, in BiH, existing educational programs often do not cater to the individual interests and abilities of girls and young women, further complicating their inclusion. Therefore, **it is essential to adapt the curriculum to emphasize opportunities for all students, regardless of gender biases.**

Considering the specificities of the forestry sector in BiH, identifying and overcoming these challenges requires a comprehensive approach. This entails changes in educational policies to ensure equal access to education and career opportunities for all. Promoting gender equality and raising awareness of career opportunities in forestry are crucial steps towards building a more inclusive and sustainable forestry community in BiH that values and supports the contributions of all its members.

8.5.4 Good practices for involving girls and young women in forestry sector

Interactive promotions and engagement initiatives

Participants of the roundtable discussions recognized that developing strategic frameworks advocating interactive promotions and inclusive activities for students could be pivotal tools in reshaping perceptions and stimulating interest among girls and young women. Initial efforts in this regard, such as the pioneering program by the Faculty of Forestry in Sarajevo targeting kindergartens, and similar initiatives, could serve as catalysts for fostering positive associations with forestry careers from an early age, fostering a culture of inclusivity and ambition.

Harnessing the potential of social media and innovative platforms

The integration of social media platforms, notably TikTok, as exemplified by a high school in Sarajevo, could serve as a significant milestone in devising engagement strategies, effectively utilizing captivating short-form video content to attract the interest of youth. By leveraging the ubiquity of social media, initiatives in the forestry sector can expand their reach and impact, transcending traditional boundaries and appealing to diverse audiences.

Learning from global exemplars

Drawing inspiration from successful initiatives abroad, such as innovative practices from Slovenia, provides a model for adaptation and implementation in the Bosnian context. By considering lessons from global exemplars, BiH can tailor strategies to local nuances, maximizing efficacy and relevance.

Innovative pedagogical courses

Introducing innovative elective courses, especially in schools with a high number of female students, can serve as a transformative mechanism for expanding horizons and awakening interest. These specialized programs act as incubators for exploration and discovery, catering to various interests and creating a supportive learning environment conducive to women's empowerment. As an example of promoting gender equality in the forestry sector in BiH, the proactive initiative of the Faculty of Forestry at the University of Sarajevo, which is the only one in the region offering a course "Sociology of Forestry" with a dedicated segment on gender equality, can serve as a model. Testimonials from faculty staff confirm the transformative potential of female students, highlighting their ability to reach high positions in various sectors, challenging entrenched gender norms, and driving a transformative shift within the forestry landscape in BiH.

8.6 Country Report: Serbia

8.6.1 Information and motivation for forestry education

Round table 1 (Belgrade)

- when it comes to secondary school students, the problem can be a total lack of information about the profile and programs offered by the Faculty of Forestry, especially in high schools where there is no orientation towards a specific profession. Therefore, it is necessary to draw the attention of the high school population to this faculty through campaigns in schools, organizing events and disseminating promotional materials on social networks;
- during 2023, various activities were carried out to increase visibility, both for new students and to improve cooperation with the business community and the general promotion of the Faculty of Forestry. Open days were organized in April and October (22 April and 28 October) to present the study programs and scientific research at the Faculty of Forestry. The largest regional science festival 2023 took place from May 17 to 19, with the clear aim of bringing science and research closer to visitors in a direct and interesting way. The promotion also took place as part of the "Researchers in Schools" and "European Researchers' Night" events, virtual fairs, etc. In addition, teachers and staff from the Faculty visited 35 secondary schools to promote the Faculty of Forestry's programs and activities;
- it is very important for the promotion of a career in forestry and especially for the female population that successful women in the field of forestry, regardless of their position, are in the public eye and are represented in the media as much as possible;
- the public company from the forestry sector has experience with positive recruitment and hiring the best student (regardless of gender) from the Faculty of Forestry. A positive example is a Public enterprise for state forest management "Vojvodinašume", where a woman was the general director for 14 years.

Round table 2 (Kraljevo)

- the basic impression is that there is a great misunderstanding and ignorance about what forestry is about, i.e. what all forest-related professions involve. Only after the promotion, children get an impression of forestry and learn more precisely what this profession really is, that it is not about a chainsaw, but a much more creative and beautiful profession. Afterwards, when it is beautifully presented, it is noticed that the interest of all the children, including the girls, grows. However, it is true that their decision on which secondary school to attend does not maintain the interest they show in the promotion itself. This is probably because the stereotype that forestry is a male profession has not yet been broken;
- girls' interest in forestry is still weaker than in landscape architecture, for example;
- the school does not have a big problem with the number of students enrolled, but a lot of effort is invested in promotion. The school has a promotion team consisting of 4-5 professors and a promotion coordinator;
    - they are very active in the field and visit high schools not only in Kraljevo and its surroundings, but in the entire Raško district and beyond (eastern and southern Serbia);

    - for example, the promotion took place in a school in a village near Kraljevo, which has 2 students, and the result was that one of these children enrolled at the forestry school. Sometimes they drive 150 km to Tara mountain and visit 4-5 elementary schools to get 2-3 children enrolled in the forestry school, and the motto is: "If we don't interest them, someone else will";
    - visiting forestry high schools in the Czech Republic and Hungary was very useful;
- for the promotion to be successful, there must be something to show: that the school is modern, that there is a lot of work with the children, that all the teachers work hard with them, that there are many projects in which the children are involved;
- it is not enough just to interest the children, but also the parents and the teachers in the elementary school. Children often do not know what they want to study or what opportunities they have. Therefore, parents, teachers, and other school workers should have a greater awareness of nature and environmental protection and know that forestry is not just harvesting, i.e. that there is forestry as a profession in general;
- during promotion, it is very important to instill confidence in young people, especially girls, and to explain to them what awaits them in the future, to encourage them to find out about employment opportunities.

8.6.2 Perceptions and challenges of career in forestry

Identification of barriers that girls and young women face when considering a career in the forestry sector

Round table 1 (Belgrade)

- Young people are not sufficiently aware of what forestry actually means; it is much more than "cutting down trees" as it is commonly perceived. With more information, the girls would understand the different career opportunities in forestry, which could help them find their place in this field.
    - Young girls often associate jobs in forestry with "hard work" in the forest and an environment where it is more challenging for women to prove themselves.
- The community reacts negatively to the choice of this profession because the prevailing opinion is that it is a male occupation.
- There is a lack of best practice examples, i.e. women who have made a successful career in forestry.
- Concerns about employment after graduation, especially the difficulty of finding a job after graduation and finding positions that are more suitable for women.
- The forestry sector is not attractive enough (due to salary levels).

Round table 2 (Kraljevo)

- There are still prejudices and stereotypes that forestry is a purely male profession and that a forester is the same as a lumberjack.

- As a result, the girls themselves and their surroundings often ask the question: "How will you make a living and where will you find a job if you're not a lumberjack?!"

Influence of societal perceptions and gender stereotypes on the career choices of girls and young women in our community.

Round table 1 (Belgrade)

- The environment and stereotypes influence young people to choose schools that offer easier employment and higher profits.
- Forestry is an unattractive and fairly conservative industry. It needs to be promoted as a field that provides opportunities for women as well.
- Gender stereotypes have a significant influence on the career choices of girls and young women. This is particularly pronounced in forestry, which is seen as a "man's job" and "no place for women", mainly due to the closed nature of the forestry profession and the perception that forestry work is physically demanding.

Round table 2 (Kraljevo)

- Prejudices and stereotypes are still very present and influential. Forestry is still perceived as a "male-dominated sector", which can discourage girls from choosing a career in this field.
- In addition, the general public is still unaware of how diverse the forestry profession is and the numerous opportunities it offers. It is a common misconception that forestry only involves using the forest, which is often seen as physically demanding and "rough" work, which can put girls off because they do not see themselves in such an environment.
- Girls often mention that the experiences/advice of parents, relatives and friends were of great importance in their choice of school (they found out about the forestry school in this way or, if someone from their environment graduated from this school/faculty, they liked the profession).

8.6.3 Interests and needs in forestry education and career

Round table 1 (Belgrade)

- In addition to the innovations being introduced into academic programs, it is important to implement new approaches in the industry to address specific problems in our fields. Major companies need to recognize the range of tasks that women with a forestry education can take on.
- It is desirable that girls and young women in forestry become familiar with the career paths of women who have had successful careers in forestry both domestically and internationally. The awareness that such a career is possible as well as different examples of successful women in leadership positions in companies, institutions, teaching and research can help young women to choose their role models and follow their examples.

- The forestry education system needs to be radically changed to become interactive, hands-on, field-oriented and fully incorporate digital technologies to stimulate children's interest in the field.
- Forestry education needs significant reform to compete with other educational programs and profiles that are most attractive to children, especially those that are developing, such as the IT sector.
- Educational programs need to be more engaging, attractive, and digitally oriented. It seems that a crucial aspect is related to marketing and promotion. Forestry must base its promotion on the need for greater digitalization, as a sector that offers, among other things, the possibility of using simulation technologies and contributing to the fight against climate change.
- Students need more international experience, which can be gained through universities abroad, a growing number of summer schools organized through programs such as Erasmus+, or student mobility during a semester, as well as Erasmus internships aimed at practical work in companies or research work in laboratories. Teacher mobility can also help to transfer best practices from other countries' education systems to our environment.
- Internships have been included in the education system, which should facilitate good communication between future employers and future engineers.

Round table 2 (Kraljevo)

- There is a lack of visible role models, i.e. there are only a few successful personalities from the forestry sector who are present in the public eye.
- Weak promotion of forestry as an attractive career path that contributes to sustainable development.
- A systemic approach is needed: nature conservation, natural resources and ecology should be the focus of the state to promote "green" jobs instead of emphasizing the IT sector exclusively. Furthermore, cooperation between secondary forestry schools and the Faculty is necessary (students cannot be expected to choose to study forestry just because they have completed secondary forestry school).
- Early education: Promote forestry to biology teachers and primary school teachers to get girls interested in this field at an early age.
- Inclusion of more practical activities, and projects related to forestry (cooperation of secondary schools and universities with elementary schools and kindergartens) to familiarize students with the practical aspects of this sector.
- Dual education has proven to be beneficial, especially in the field of wood processing; it combines theory and practice through partnerships with private companies involved in wood processing - this can also be applied in the forestry sector.
- Mandatory presence in every elementary school, as many prejudices require considerable effort to overcome in terms of promotion.

8.6.4 Good practices for involving girls and young women in forestry sector

Presentation of good practices: successful strategies or programs that have effectively encouraged girls and young women to consider forestry careers. Also, innovative teaching methods or tools to engage students in forestry education and overcome potential gender biases.

Round table 1 (Belgrade)

- Media promotion of the Faculty of Forestry (TV programs, electronic media and social networks) and activities at the Faculty and in the teaching facilities in the field.
- Organization of promotional events at the Faculty: Tree Planting Forum, Science Festival, Open Day, Science Picnic (at the Faculty of Forestry Arboretum) and similar events.
- A more recent activity that is considered good practice to promote careers in forestry is the Faculty of Forestry Alumni Club, entitled "Career and Science Encounters" where students have the opportunity to meet with representatives from companies in their field and learn about their expectations and prospects for employment in the industry.
- Changing the names of the departments to the Department of Environmental Engineering in Land and Water Resource Conservation and the Department of Forestry and Nature Conservation.
- Involve students in research projects and reforestation activities in the field.
- Introduce mandatory internships for students to connect faculty with industry and increase student interest in enrolment.

Round table 2 (Kraljevo)

- Open days in the school where primary school children visit in organized groups.
- Joint activities with kindergartens and elementary schools: Tree planting, spatial orientation, workshops (learning about medicinal plants, mushrooms, recognizing tracks of wild animals, etc.).
- High-quality promotional material is crucial for effective promotion:
    - Films in which current students talk about their experiences at the school and show what students can expect during their training and what employment opportunities they have after graduating from forestry school.
    - Interesting flyers and small gifts are a must (e.g. students have made wooden phone stands that are given away at promotional events).
    - Active presence on social media platforms: Facebook (for parents and teachers) and Instagram accounts, with short clips and regular posts (at least 2 posts per week, even in less active times, often more frequently).

Identification of future steps and activities that could significantly impact the inclusion of girls and young women in the forestry sector.

Round table 1 (Belgrade)

- Raising awareness of the diverse and important tasks in forestry that do not require heavy physical labor and in which women can fully exploit their potential.
- Presenting and promoting successful women in the field of forestry on social media platforms and on the university's website as positive role models.
- Organizing workshops for young women and girls where mentors are successful women, former students of the Faculty who have made remarkable careers in the country or abroad.
- Promoting fields of study that are attractive to the female population and are studied at the faculty (such as ecology and nature conservation).
- Modernize study programs and teaching methods by introducing interactive and block teaching, more practical work and organizing summer schools.
- Establish links with industry to match mutual needs and provide support in the development of educational programs and employment opportunities.

Round table 2 (Kraljevo)

- Public campaigns with the aim of:
    - promote forestry as “green jobs” profession, emphasizing its contribution to ecology, healthy living, and fostering a relationship with nature.
    - raising awareness of the opportunities for women in forestry and breaking down gender stereotypes.
- Joint participation in education fairs, hunting exhibitions, environmental exhibitions, etc., together with the Faculty of Forestry.
- Role models (successful alumni): Involve them in promotion, e.g. successful women in forestry who have attended forestry high schools, graduated from the Faculty of Forestry and now have careers in forestry to be the "face" of promotion.
- Implement a "tracking" mechanism to evaluate the impact of the promotion. This includes recording and analyzing data on school attendance and the number of students who enroll in forestry high schools after the promotion (compared to before the promotion) to accurately measure the impact.

8.7 Country Report: Romania

8.7.1 Information and motivation for forestry education

1st round table. The students who participated during the round table have expressed their desire that the Forestry Faculty should invite also successful women role models in forestry to educate and inspire young students. Since they are study forestry they didn't hear about women to be invited as a speaker at the faculty. The head of the faculty is receptive to any request about the invitation of accomplished women from the forestry sector. The students suggested names such as Maria Mihul and Alina Cuciurean, who have relevant expertise in the forestry industry. When questioned about the women they are acquainted with, it proved to be somewhat challenging to provide a response. Additional efforts should be made to increase the level of awareness through campaigns. The students require an understanding of the issues and obstacles present in the forestry sector and businesses. Learning and reality are distinct entities.

8.7.2 Perceptions and challenges of career in forestry

1st round table. Forestry careers face diverse perspectives and problems, both domestically and internationally. The Dean of the Forestry Faculty emphasizes the significance of a competent and environmentally-friendly forestry workforce, underscoring the scarcity of forestry professionals and the necessity for methods and strategies to attract and retain them. Due to the Forestry Faculty's involvement in the development of the Romanian Forestry Strategy, they are optimistic that there will be some forthcoming changes in the forestry sector.

Gender discrimination is a widespread problem in forestry settings, which has a significant impact on career advancement and job satisfaction, particularly in hierarchical organizations. Gender discrimination arises from either a lack of education or the perception among men that women are less qualified individuals in their organization.

All the participants agreed that an effective communication strategies are crucial for garnering public support in forestry, with public willingness to assist in forestry activities varying across different groups.

Right from the start everything it is an illusion and the expectations are very high within the students. Most of the students want to learn about silviculture right from the beginning of the first year of studies, without learning basically conceptions. The beginning of the forestry education program consists of a series of classes that some students might not find very appealing. These classes include mathematics, physics-biophysics, topography, mechanics, and strength of materials. As a consequence of this, a significant number of students decide to withdraw from their schooling during the initial year of the program. It was brought in discussion about that they **need training sessions on resiliency** throughout the first year of their studies, along with a clear explanation of the significance of these seminars to their academic studies.

To address these challenges, forestry education programs are evolving to meet the demands of the sector, focusing on enhancing student competencies, aligning curricula with industry needs, and bridging gaps between academia and the job market.

Discouragement of young women who are interested in pursuing a career in forestry, including from their families.

8.7.3 Interests and needs in forestry education and career

1st round table. Determine and illustrate the various opportunities for employment that are available to young women in the forestry sector, both in the public and private sectors.

8.7.4 Good practices for involving girls and young women in forestry sector

1st round table. The Forestry Faculty should enhance partnership with business enterprises to secure places for the most exceptional students throughout their studies, while ensuring that other colleagues are not subjected to discrimination. The students who are considered to be the most representative have said that there is a requirement for **training on how to effectively address and overcome failures that may occur during employment interviews or tests.**

Presentation of good practices. The Forestry Faculty initiated its awareness campaign on forests and biodiversity in March. At national level there are two important programs, Green Week and Alternantive School, events that occur from September 11, 2023 to April 26, 2024, with five consecutive working days between each interval. The specific scheduling of these days will be determined by the educational establishment.

As part of the **"Săptămâna verde/Green Week"**, all educational institutions are required to allocate 5 days for activities related to biodiversity, nature, forests, and other environmental topics. These activities can either be organized within the institutions or by visiting relevant environmental or forestry institutions. This requirement is in line with the recommendations of the report **"Climate Change and Environment Education in Sustainable Schools"** prepared by the working group of the Presidential Administration, as well as the *National Strategy on Environmental Education and Climate Change 2023 - 2030 and the National Strategy for Sustainable Development of Romania 2030*.

At the Forestry Faculty more than 20 schools and 800 students and children visit the faculty within this program (table 35).

Table 35

No crt	Name of the school	Date	No. of students	Level of institution	Place of meeting	Topic
1	Colegiul Tehnic Petru Poni, Roman	27 March	26	12 - liceu	USV	
2	Scoala Bogdanesti (Apetrei Larisa)	22 April	50	gimnaziu	Bogdanesti	Forest/biodiversity
3	Sc. Gimnaziala nr. 4 (nu stim cine a contactat)	22 April	30	primar	USV	Forest/biodiversity
4	Școala Gimnazială nr.4 Suceava (profesor Brîndușa Zegrea)	22 April	25	clasa a Va	USV	
5	clasa a VIII-a de la Scoala Gimnaziala nr.3. (prin Geanina Maciuca)	22 April	25	Clasa a VIIIa	USV	
6	Colegiul de Artă ”Ciprian Porumbescu” Suceava	22 April	33	Clasa a IX-a si a X-a	USV	
7	Școala Generala nr. 1, Suceava	23 April	29	clasa 8	USV and in the park	
8	Veronica Ujeniuc, prof. înv. primar la Liceul Teoretic Filadelfia.	23 April	20	clasa IV	USV	
9	Colegiul de Artă - Irina	23 April	50	liceu cl 9 A si E	USV	Forest/biodiversity
10	Scoala generală nr. 3 (învăț. Ștefan Oana)	23 April	26	primar, Clasa a 4-a	USV	
11	Scoala Gimnazială nr. 3 Suceava	23 April	45	primar, clasa 0	USV	
12	Școală generală Balusesti (dir. Liliana Mancuta)	23 April	30		Balusesti	
13	Școala gimnazială nr 4 Suceava	23 April	25	clasa VII-a D	Scoala generala Nr 4	
14	Colegiul de Artă - Cristina Dascalu/ prof. Manuela Musca	24 April	30	liceu - cl 9 C	USV	Forest/biodiversity
15	Liceul Teoretic Filadelfia	24 April	19	pregatitoare	USV	To story of Semi
16	Școala Gimnazială Petru Cormanescu, din Gura Humorului	24 April	60			

17	Scoala Gimnaziala nr. 3 Suceava	24 April	25	cls. 2	USV	To story of Semi
18	Scoala Mandache Leocov, Prelipca	24 April	30	a VIIIa si aVIIa.	USV	
19	Liceul Petru Rares	25 April	25		Pătrăuți Forest	interactive activities - species identification, tree measurements, orientation etc.
20	Colegiul de Artă - Irina/Ciprian Tabarcea	25 April	20	X-a		
21	Liceul Teoretic Filadelfia	25 April	20		USV	Forest/biodiversity
22	Scoala Gimnaziala nr. 10	25 April	30	cls. 5	USV	
23	Colegiul Petru Rares	25 April	80	cls. 9, 10, 11	Colegiul Petru Rareș	
24	Scoala gimnnaziala nr 10	26 April	31	clasa 7-a B	USV	
25	Neamt - liceu	27 April	25	liceu	USV	?
Total			**809**			

The second national program is about **"Școala altfel/Alternative school"** in which the role of this initiative is to contribute to the of the knowledge, skills and attitudes needed to:

- **prevention of alcohol**, drugs and other psychoactive substances among children and young people;
- **prevention and reduction of verbal, physical, psychological** - bullying, emotional, sexual, social, cultural, cyber violence among children and young people;
- **appropriate reactions in emergency situations:** accidents, earthquakes, fires, pandemics, etc., including first aid.
- **prevention and reduction of discrimination** based on social, economic or cultural status, nationality, ethnicity, nationality, weight, disability, age among children and young people;
- **reducing unhealthy eating habits**, sedentarism and excessive use of technology, according to the Ministry.

8.8 Country Report: Czech Republic

The timing of data gathering plays a role. For targeting students and even for the organization of the round tables, end of April, May and beginning of June are among the worst time since at that time school-leaving exams (so-called “maturita” – leaving exam from high school) takes place and state bachelor and master exams take place too.

From the point of view of stakeholders who were contacted to join the roundtables, we could see their interest in the topic. The round table organized by Foresta SG (31/5/2024) was organized directly in the building of high school of forestry in Hranice. It brought a fruitful discussion. The round table organized by CZU had to be postponed (because of the above-mentioned reasons) and took part as a hybrid event (7/6/2024).

8.8.1 Information and motivation for forestry education

In a high schools of forestry (related to high forestry school of Hranice) the number of female students is increasing, but when they finish the school many of them do not choose forestry for the future work or for the university studies. There is also a gap between the number of female students who enter the university education and those who are pursuing the latter education (master, doctoral) and those who continue managerial positions. There might help to have some good examples of successful women from forestry sector coming to schools who would present the possibility of good career in forestry for women. The school is involved to the school cross-border exchange programs where the female students can experience different positions in forestry but would love to be involved to more programs. The school organises “the day of open doors” when potential applicants, children from the primary school and their parents can come to school to get know the school from inside (speak with teachers, see classrooms…). At this action would be also great to have some successful women from forestry sector who would present the possibility of good career in forestry for women not only for children but also to their parents.

There is also an increasing trend of female students at the Faculty of Forestry and Wood Sciences, CZU Prague. There is an increase in the number of female students, currently half to half among enrolled bachelor forestry students at FLD CZU, but 68 % to 32 % in favour of men among master students. Uneven situation (around ¾ and more of male students) are among wood-processing students. Surprisingly the highest share of women is among Taxidermy and Game management students. Good way how to promote forestry careers is to start education in young age, use the tool of forestry pedagogy and Open Days. The question might also be like – there might not be the problem to promote forestry to women, but to promote forestry as a field of study to anyone. It is also valuable to build up on findings and experience from graduates.

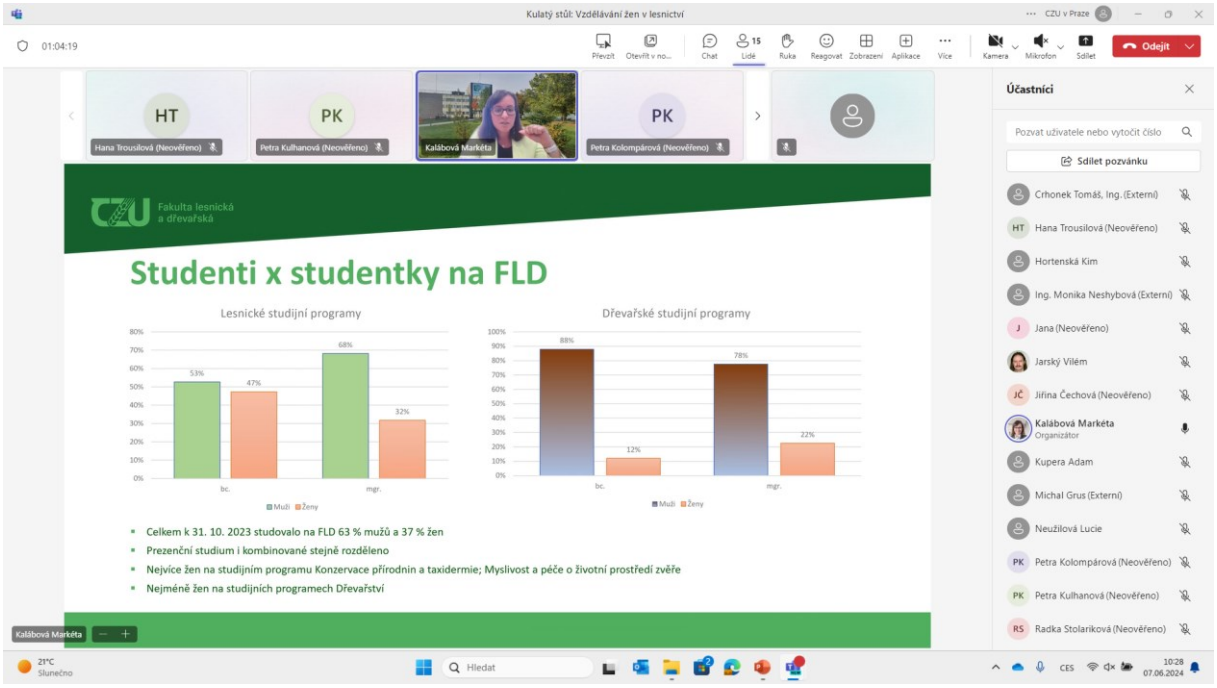

Figure 215: Share of male and female students at FLD CZU (source: ppt from the round table meeting)

8.8.2 Perceptions and challenges of career in forestry

For people outside the forestry-field, it was noted that those people rarely distinguish between work positions in forestry (forester x hunter) and low perception of foresters (variety of activities that foresters do in the field). Common public opinion is that forest grow by itself without big influence of people. Other common public opinion is that forestry is for rough men. There is the big space for enlightenment. Because of that, there is a need to describe and communicate and show the availability of working positions. There are missing examples of role models in forestry. On the other hand, there are more women among forestry pedagogues, more males in this positions would help too.

Although nowadays the situation is getting better, in forestry companies where almost only men are employed, sometimes there is problem for these men to let the women come to their group so they hesitate to offer free working position for women.

There is also problem, how is forestry represented for children from the low age, where in children programs (like fairytales, educational movies etc.) are mainly men in roles of foresters, gamekeepers etc. and this fact have big influence how they will perceive forestry in future.

8.8.3 Interests and needs in forestry education and career

There is a space to show and teach the girls that they do not need to “become” men to study or work in forestry. They need to get know that they can preserve their woman nature (like behaviour, thinking, expression etc.) – to be ladies to be able to get respect from men and concurrently to do revenge among male students.

There is common lack of good foreign language education (for girls and for boys). The schools are involved in several exchange cross-border programs, but many students do not use this possibility due to lack of languages skills of students. And, the revenge among the students about importance of foreign language education is needed.

8.8.4 Good practices for involving girls and young women in forestry sector

The good practice always include involvement in practice, so works in the field, job shadowing, practice with companies, professional lessons with people outside school/university etc.

8.9 Country Report: Croatia

8.9.1 Information and motivation for forestry education

Promotion of Forestry

In Croatia there is a trend of decreasing number of students enrolling in forestry schools, partly due to demographic decline hence, one of the most important conclusions on both round tables was that more intensive promotion of forestry is needed. Special emphasis should be placed on rural areas where the need for labour is greater in comparison to the urban areas. Increasing interest in forestry can be achieved through targeted promotion from an early age, fostering better understanding and interest in this profession among young people.

Focusing on early education and promoting forestry in rural areas could attract new students and future professionals, ensuring a continuous supply of qualified labour in this important sector.

Faculty of forestry and wood technology is actively promoting forestry during last two academic years presenting all the Faculty's study programs to high school graduates from 71 schools across the Republic of Croatia, distributing promotional materials, and answering numerous questions related to studying and the profession. During the summer semester, preparations in mathematics (level B) are also held for graduates of certain high schools, all with the aim of achieving the best possible success for students in the State Matura exam and their enrolment at the Faculty of Forestry and Wood Technology.

The Faculty has also started Instagram profile where they share many videos and pictures from fieldwork trips, classes and students sharing their experiences and motivation to study forestry. During the first round table, the representative of the Faculty expressed the importance of communicating through channels students and young people mostly use and learn from. In today's day and age social media plays a crucial role in transferring information and finding target groups for certain information.

Secondary schools representatives highlighted the practical approach in motivating students and informing them about forestry. Presentations didn't have much impact in the process but practical workshops were great success. Regarding motivation of female student, they emphasized the importance of female role models that work in the forestry sector to act as motivators sharing their career path in the forestry sector. The focus should be on all professions that forestry education can lead to, from secondary to faculty level.

Visibility

Participants of the first and second round table all agreed that in Croatia exists negative perception of forestry among public. A very few positive stories come to public eye and most of the public do not understand the complexity of the work of foresters. The limited viewing of forester as "woodcutters" that just cut trees regardless of the consequences on the nature and ecosystem puts the whole profession of foresters as unattractive.

Changing attitudes towards forestry and increasing interest in this profession are the responsibility of all societal participants, including educational institutions, employers, media, and the community as a whole. It is crucial to continually educate the public and work on changing negative perceptions about forestry.

Promoting successful examples from practice and increasing the visibility of career opportunities within forestry are key to changing perceptions and encouraging more girls to choose this education. Increasing the visibility of forestry through media promotion can help break down prejudices and ensure greater representation of women in this sector.

It is also important to mention that the forestry sector must adapt as well. Currently, forestry in Croatia is a "closed" sector, not encouraging collaborative work with other professions and remains a traditional sector resistant to change. Consequently, there is still a certain seclusiveness towards women and their contributions to the forestry sector.

These conclusions highlight the need for a comprehensive approach to promoting forestry, with a special emphasis on practical education methods, visibility of the profession, and the inclusion of girls and young women in all aspects of the forestry sector.

8.9.2 Perceptions and challenges of career in forestry

In both round tables the participants identified several barriers that girls and young women face when considering a career in the forestry sector. These included:

1. **Negative perception of forestry in the public eye.** As already mentioned, there is not enough understanding of forestry profession and sector in general. The complexity and importance of managing forest sustainably, as it is a practice in Croatia for more than 250 years, is not a common knowledge among the public and foresters are often seen as "woodcutters". In connection to that, there is also lack of knowledge of many careers that forestry sector offers that would be attractive to girls and young women deciding on their education.
2. **Low payment**. Jobs in forestry and wood technology sector in Croatia are one of the lowest paying jobs especially regarding the physicality of the work and possibility of work injuries. Forester with bachelor or master's degree find themselves in similar situation, as they have lower salary than other professions with the same level of education. While most of the girls and young women answering our survey, chose love and passion for nature and the nature of the job as their motivation to study forestry while putting financial aspect lower on their priority list, it is important to highlight this subject as it is inevitably going to become a problem in their future careers.
3. **Not enough job opportunities**. On Faculty of forestry and wood technology in Zagreb there is trend of many students from urban areas enrolling. There is an overflow of engineers of forestry and urban forestry on the market of labour and not enough job opportunities for all of them to find employment in the urban area they originate from. On the other hand, in the rural areas exists lack of work force. In the largest forestry company "Hrvatske šume d.o.o", a public company, it is hard to secure employment and the process can last years. This puts women in unsecure place as it is pushed on them to choose either to focus on their career or

starting the family. This can make a decision to study forestry a hard one for some girls. It is also common for the employer to choose male over female candidates for the job as it "simplifies" the logistics of planning field work trips and solve the potential difficulties women could have regarding the physicality of the work, which is showcasing the prejudices women are still facing.

4. **Lack of support and real life examples of female foresters**: When discussing the challenges women and young girls encounter in their education and subsequent careers, lack of confidence frequently emerges as a significant issue. Developing crucial skills, such as communication and personal, is essential for them to assert themselves in a male dominated surroundings. Secondary school professionals have noted that the most confident students are often those who have participated in workshops focusing on personal and communication skills. This indicates a clear need to support young girls in navigating their educational and career paths. Many participants at the roundtable shared their own experiences of feeling unprepared for their jobs due to a lack of leadership and communication skills. This gap highlights the importance of equipping young girls with these essential skills early on. In the context of entering the forestry profession, young girls often look for role models. However, there is a noticeable shortage of female foresters who can share their career journeys and provide insights into their daily tasks. This lack of visible role models further underscores the need for targeted support and skill development to help young girls succeed in their chosen careers.

8.9.3 Interests and needs in forestry education and career

Female Role Models and Mentorship:

Promoting successful stories of women in forestry can inspire and motivate other young women to consider a career in this sector. Increasing visibility and recognizing their contributions will help strengthen and advance the forestry sector. Establishing mentorship programs where experienced professionals from forestry provide support and advice to young students can further motivate girls to choose a career in forestry. Mentorship helps students better understand their professional opportunities and develop confidence.

Role of Girls in Practice:

Girls often show excellent results in practical tasks within the forestry sector. Their involvement can contribute to innovations and the improvement of work methods. Through teamwork and practical experiences, girls bring freshness and a different perspective that is crucial for the progress and sustainability of forestry.

Support and Incentives for Youth

Professional internships, scholarships, and mentorship are key tools in supporting and developing girls in forestry, providing them with the necessary resources and opportunities for success. Examples of good practices discussed at the round table include:

- Scholarships:
    - Internova d.o.o. offers scholarships to students in carpentry programs, encouraging young people to choose this profession.
    - Hrvatske Šume d.o.o (Croatian Forests) provides scholarships to forestry students from rural areas, helping them to get an education and providing financial support.
- Connecting with Employers:
    - The Faculty of Forestry and Wood Technology has introduced a new course that includes professional practice, allowing students to gain experience and connect with potential employers.

8.9.4 Good practices for involving girls and young women in forestry sector

Practical Approach and Teamwork

A practical approach is crucial for promoting forestry programs among young people. Conducted promotional workshops have proven to be a very successful method, allowing students to gain practical knowledge and skills and directly familiarize themselves with the opportunities that forestry offers. Teamwork, involving both girls and boys, is also very important to evenly distribute tasks and ensure that all students have the opportunity to actively participate.

Motivation and Interests of Girls in Choosing a Career Path

The most important factor influencing the decision to enroll in a school or college is the future employment that a particular education enables. The share of girls in secondary schools offering forestry programs, such as nature conservation technicians, has increased in recent years, while the Urban Forestry, Nature Conservation, and Environmental Protection program at the Faculty of Forestry and Wood Technology enrolls more girls than boys. This suggests that girls are particularly interested in occupations related to nature conservation.

Expanding the range of professions through the development of green jobs further attracts girls. Green jobs, which include sustainable practices and environmental conservation, offer new career opportunities that appeal to young women. Improving awareness of these opportunities can help reduce the fear of unemployment and increase interest in forestry programs.

9 Appendices

9.1 Annex 1: Identification of needs by a participatory approach Questionnaires

FORESTRY (high school/college/faculty)

A1.1: Identification of needs by a participatory approach
Questionnaires

2 different questionnaires (high school & Faculty students in forestry, other high school & Faculty Students)
Min. 30 participants per country

GENERAL DATA

1. **Gender**
   (tick the appropriate answer)
   a. Male
   b. Female
   c. I don't want to specify

1.a If male or I don't want to specify - THANK YOU, YOU HAVE REACHED THE END OF THE QUESTIONNAIRE

2. **Age (with number)**

_____

3. **Your place of origin**

(tick the appropriate answer)

a. I grew up in the rural area.
b. I grew up in the city.

4. **School that you attend**

(tick the appropriate answer)

a. High school in forestry
b. Other high school (non forestry)
c. Faculty in forestry
d. Other faculty (non forestry)

If c) or d) - Did you study at Forestry high school?

a. Yes
b. No, but I studied at high school in related field (woodworking, environment, agriculture, …)
c. No

5. **How did the following factors influence your career choices?**

(please mark)

	No influence	Limited influence	Moderate influence	Important influence	Very important influence
Personal interests in subject matter.					
Family expectations.					
My friends also choose this profession					
Additional education and training opportunities					
Duration of the education/training programme					
Job availability and stability					
Financial considerations					
Work nearby					

Work-life balance					
Other:					

SPECIFIC PART

6. **Before you started studying, from where did you find out most information about forests professions/fields of activity?**
   (multiple answers possible)
   a. elementary/primary/high school I attended
   a. forestry high school/ college/faculty website
   b. information days/career fairs
   a. parents or relatives
   b. friends who were already studying there
   c. internet/social media
   d. TV
   e. newspapers, books/literature
   f. Other: _____

7. **Which of the following reasons contributed to the choice to pursue higher education/study in forestry?**
   (tick the appropriate answer)
   a. I chose to study at the Forestry high school/college/faculty at the urging of my parents.
   b. I came to high school/college/faculty with my friends/at their urging.
   c. I wanted to study at another high school/college/faculty, but I wasn't admitted.
   d. Parents/close relatives work in the forestry sector and have guided me into this field.
   e. I heard that studying at this high school/college/faculty is not so difficult.
   f. For economic reasons thinking of the possible financial benefits as an employee.
   g. I was attracted by the way of the educational offer of the high school/college/faculty.
   h. Out of love, passion for nature/forest.
   i. Sustainable and ecologically oriented economic sector.
   j. Awareness of climate problems.
   k. The meaning of work - doing good.

l. I ended up studying forestry by accident/by chance.
m. Other: _____

8. **Which of the following areas of interest contributed to the choice of the high school/college/faculty of Forestry?**
(multiple answers possible)
   a. Forest management.
   b. Forestry production and technology.
   c. Wood processing and industrialization - gateways, wood products factories, furniture.
   d. Environmental protection.
   e. Forest ecology.
   f. Timber harvesting.
   g. Hunting and game aspects.
   h. Terrestrial measurements and satellite image processing.
   i. Forest economics.
   j. Other: _____

9. **Which aspects of your forestry education do you find most engaging?**
(multiple answers possible)
   a. Practical activities.
   b. Environmental science classes.
   c. Technology and innovation in forestry.
   d. Being together with others who have the same interests as me.
   e. Other: _____

10. **What innovative forestry practices or technologies are you most interested in learning more about?**
(multiple answers possible)
   a. Remote sensing and GIS.
   b. AI in forest management.
   c. Forest wellness and forest-therapy tourism.
   d. Forest bioeconomy.
   e. Innovative approaches to wood production.
   f. Other: _____

11. **What support or resources would enhance your forestry education and career preparation?**
(multiple answers possible)

a. More hands-on field experience.
b. Access to modern harvesting technologies.
c. Access to modern management tools.
d. Guidance/mentorship from forestry professionals.
e. Career counselling and job placement services.
f. Internship opportunities.
g. Networking opportunities (e.g. connecting with professionals).
h. Other: _____

12. Do you feel that you will be well prepared to enter the forestry sector when you finish your studies?

(tick the appropriate answer)

a. Yes
b. No
c. Not sure

12a. If yes – Why?

_____

12b. If no – Why?

_____

13. How confident do you feel about finding employment in the forestry sector after graduation?

(tick the appropriate answer)

	Not confident at all	Slightly confident	Moderately confident	Very confident	Extremely confident
Within the country					
Abroad					

14. What career paths within the forestry sector are you considering?

(multiple answers possible)

a. Forest management
b. Nature conservation
c. Urban forestry
d. Research
e. Sustainable forestry

f. Climate change protection and mitigation
g. Forest-related policy
h. Forest economics
i. Teaching and education
j. Other: _____

15. How well are you informed about the skills and qualifications required for forestry careers?

(tick the appropriate answer)

1 – Not informed
2 – Slightly informed
3 – Moderately informed
4 – Very informed
5 – Extremely informed

16. How important is the prospect of career advancement and future education to you?

	Not important	Slightly important	Fairly important	Important	Very important
Career advancement					
Future education					

17. What do you believe are the biggest misconceptions/stereotypes about careers in forestry among your peers?

(multiple answers possible)

a. Limited opportunities (It's only about cutting trees).
b. It doesn't require higher education.
c. Low payment.
d. Lack of technology.
e. Limited career growth.
f. Hard physical work.
g. Working in bad weather conditions.
h. It's not for women.
i. Isolation (working in remote areas).
j. All foresters are lumberjacks.
k. There are none.
l. I don't know.
m. Other: _____

18. What do you perceive as the main barriers for girls to study in the forestry sector?
(multiple answers possible)

a. Lack of information about forestry careers.
b. Limited access to education or training in forestry.
c. Gender stereotypes/stigma associated with forestry professions.
d. Concerns about job safety or physical demands.
e. Cultural or social norms discouraging women from forestry careers.
f. Work-life balance challenges.
g. Lack of visibility of successful female in forestry (role models).
h. Underestimation of women's abilities and contribution in forestry.
i. I don't think there are any obstacles.
j. I don't know.
k. Other: _____

19. Have you come across any gender-specific challenges or biases in your forestry education or field experiences?
(tick the appropriate answer)

a. Yes
b. No
c. Prefer not to say

19a If you want to share your experience, you can write it below:
_____

20. Have you ever been treated differently during your training/internship etc. because you are a girl/woman?
(tick the appropriate answer)

a. Yes
b. No
c. I prefer not to say.

20a If you want to share your experience, you can write it below:
_____

21. How did your family and friends reacted when you told them that you want to enter forestry high school/college/faculty? They were:

	Strongly dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Strongly satisfied
Family					
Friends					

21a If you want to share your experience, you can write it below:

_____

22. How do you think forestry careers are perceived within your community or social circle?

(tick the appropriate answer)

a. Positively
b. Negatively
c. Indifferently
d. I don't know

23. Is there anything else you would like to tell us about your education and career path that has not been addressed in the previous questions?

_____

You have reached the end of the questionnaire. Thank you for your participation!

9.2 Annex 2: Identification of needs by a participatory approach Questionnaires

OTHER (high school/college/faculty)

A1.1: Identification of needs by a participatory approach
Questionnaires

2 different questionnaires (high school & Faculty students in forestry, other high school & Faculty Students)
Min. 30 participants per country

GENERAL DATA

2. Gender
(tick the appropriate answer)

a. Male
b. Female
c. I don't want to specify

1.a If male or I don't want to specify - THANK YOU, YOU HAVE REACHED THE END OF THE QUESTIONNAIRE

24. Age (with number)

_____

25. Your place of origin
(tick the appropriate answer)

c. I grew up in the rural area.
d. I grew up in the city.

26. School that you attend

(tick the appropriate answer)

e. High school in forestry
f. Other high school (non forestry)
g. Faculty in forestry
h. Other faculty (non forestry)

If c) or d)

4a) Did you study at Forestry high school?

(tick the appropriate answer)

d. Yes
e. No, but I studied at high school in related field (woodworking, environment, agriculture, …)
f. No

27. How did the following factors influence your career choices?

(please mark)

	No influence	Limited influence	Moderate influence	Important influence	Very important influence
Personal interests in subject matter.					
Family expectations.					
My friends also choose this profession					
Additional education and training opportunities					
Duration of the education/training programme					
Job availability and stability					
Financial considerations					
Work nearby					
Work-life balance					
Other:					

SPECIFIC PART

28. Had you ever considered forestry as a career option?

(tick the appropriate answer)

a. Yes
b. No

6a. If yes, why didn't you choose the forestry high school?

_____

6b. If no, why not?

_____

29. Before you started studying, did you get any information about forests professions/fields of activity?

(tick the appropriate answer)

a. Yes
b. No

If YES, where from did you learn most? *(multiple answers possible)*

a. elementary/primary/high school I attended
a. forestry high school/ college/faculty website
b. information days/career fairs
a. parents or relatives
b. friends who were already studying forestry
c. internet/social media
d. TV
e. newspapers, books/literature
f. Other: _____

30. Are you aware of the career opportunities available in the forestry sector?

(tick the appropriate answer)

a. Yes, I am aware of opportunities.
b. No, I have limited knowledge about forestry careers.

31. What would you appreciate to have/know to consider studying in forestry?

(multiple answers possible)

a. Access to informational materials about forestry careers (i.e. what forestry jobs involve).
b. Guidance from career counsellors familiar with forestry professions.
c. Opportunities for job shadowing or internships in forestry-related fields.

a. Networking events with professionals working in the forestry sector.
b. Forestry-related workshop or field trip.
c. Access to a mentor from the forestry sector.
d. Seeing more role models (especially women) in forestry.
e. Online platforms or databases showcasing forestry job opportunities and requirements.
f. Virtual reality simulations allowing individuals to experience various forestry job roles firsthand.
g. Gamified learning modules and challenges related to forestry careers.
h. Information via social media.
i. Other: _____

32. What would make forestry a more attractive career option for you?

(multiple answers possible)

a. Understanding that forestry can impact climate change positively.
b. Better image of foresters.
c. Appropriate payment.
d. Opportunities to work closely with local communities, and contribute positively to rural development.
e. Possibility to participate in international and national conservation activities (programs focused on biodiversity conservation, forest protection, etc.).
f. Career path that involves understanding, conserving, and managing some of the world's most valuable natural resources (i.e. protected area management).
g. Other: _____

33. Have you had any exposure to forestry-related activities or education in school or extracurricular programs?

(tick the appropriate answer)

a. Yes, I have participated in forestry-related activities (i.e. tree planting events, field trips to forests or nature reserves, forest clean-up, art projects inspired by forests, etc.).
b. No, I have no experience with forestry-related activities.

34. How well informed are you about the skills and qualifications required for forestry careers?

(tick the appropriate answer)

1 – Not informed
2 – Slightly informed

3 – Moderately informed
4 – Very informed
5 – Extremely informed

35. What do you believe are the biggest misconceptions/stereotypes about careers in forestry among your peers?

(multiple answers possible)

n. Limited opportunities (It's only about cutting trees).
o. It doesn't require higher education.
p. Low payment.
q. Lack of technology.
r. Limited career growth.
s. Hard physical work.
t. Working in bad weather conditions.
u. It's not for women.
v. Isolation (working in remote areas).
w. All foresters are lumberjacks.
x. There are none.
y. I don't know.
z. Other: _____

36. What do you perceive as the main barriers for girls to study in the forestry sector?

(multiple answers possible)

l. Lack of information about forestry careers.
m. Limited access to education or training in forestry.
n. Gender stereotypes/stigma associated with forestry professions.
o. Concerns about job safety or physical demands.
p. Cultural or social norms discouraging women from forestry careers.
q. Work-life balance challenges.
r. Lack of visibility of successful females in forestry (role models).
s. Underestimation of women's abilities and contribution in forestry.
t. I don't think there are any obstacles.
u. I don't know.
v. Other: _____

37. How do you think forestry careers are perceived within your community or social circle?

(tick the appropriate answer)

a. Positively
b. Negatively
c. Indifferently
d. I don't know

38. Is there anything else you would like to tell us about forestry education and career path that has not been addressed in the previous questions?

_____

You have reached the end of the questionnaire. Thank you for your participation!

9.3 Annex 3: Checklist for Fem2Forests Round Tables

This checklist/guide is designed to ensure your round tables are well-organized, meaningful, and impactful, leading to actionable insights for promoting inclusion in the forestry sector.

Pre-Event Planning:

1. **Defined Objectives**:
    - To better understand the needs and barriers girls and young women face in forestry sector
    - To share and discuss good practices of career orientation in the field of forestry
2. **Identify Participants**:
    - Compile a list of educators and teachers from schools and universities, focusing on those who have shown an interest or have relevant experience in forestry education.
    - Consider inviting also representatives of your ASPs, forestry professionals, and decision makers from the education and training sector. Optional also gender inclusion experts to provide diverse perspectives.
    - Identify participants for the two roundtables you are organising, either by area (e.g. region within a country) or by level of education (high school/secondary level and tertiary education). The latter is recommended.
    - There should be at least 5 participants per roundtable, so keep the usual "rejection rate" in mind and invite correspondingly higher number of relevant participants.
3. **Choose a Format**: Preferably organise both roundtables in person, unless online format is the only way to get relevant stakeholders to participate or if you want to cover a wider area with the activity. In this case at least 1 roundtable should be organised in person and one online.
4. **Set a Date and Venue**: Pick a convenient date and a venue that supports interactive discussions. In case of online round table ensure the technology setup is adequate for virtual format. Keep in mind the deadline for round tables.
5. **Prepare an Agenda**: Draft a detailed agenda with time allocations for each segment – introductions, presentations, open discussions, and conclusions/takeaways for participants. If you will already manage to obtain data from the questionnaires by the time of the roundtable, use them.
6. **Develop Discussion Guides**: *see attached proposed set of questions.**
7. **Send Invitations**: Distribute invites well in advance, with details on the objectives, agenda, and any preparatory material participants should review. The draft invitation will be prepared by Prizma, to be used by PPs at their own discretion.

Logistics:

8. **Technology Check**: In case of virtual roundtable, test all technology beforehand, including video conferencing platforms, microphones, and presentation equipment.
9. **Materials Preparation**: Ensure that all necessary materials, such as handouts and slides, are ready and accessible.
10. **Catering and Comfort**: For in-person gatherings, arrange refreshments and consider participants' comfort, adjusting room layout and climate control as needed.

During the Event:

11. **Facilitation**: Assign a moderator or facilitator to guide the discussion, keep time, and ensure all voices are heard.
12. **Documentation**: Designate someone to take detailed notes or record the sessions (with participants' consent) for those who couldn't attend and for record-keeping.
13. **Encourage Engagement**: Utilize interactive methods to foster participation (cards, boards, flipchart,…).
14. **Close the round table**: Recall purpose of round table, specify lessons learned, and allow for feedback from participants (about the round table goal, how it was organised and, if possible, what they said about its' outcome). Indicate the way forward and follow up.

Post-Event:

14. **Follow-Up**: Send a thank-you note to attendees, along with a summary of the discussions/key takeaways, and any next steps.
15. **Report Compilation**: Compile a report as per template prepared by Prizma.

* Proposed set of questions that can be used at the round tables

General Introduction:

1. What has been your experience with promoting forestry careers to students, especially girls and young women?

Identifying Barriers:

2. What barriers do girls and young women face when considering a career in the forestry sector?

3. How do societal perceptions and gender stereotypes influence the career choices of girls and young women in our community?

Assessment of the current situation, perceptions of positive aspects and needs of students and other actors:

4. What positive aspects do you currently see in the engagement of girls and young women in forestry education?
5. Can you identify the main weaknesses of existing support systems? What resources or support systems are currently lacking but deemed necessary for encouraging girls and young women to pursue forestry careers?
6. From an educational standpoint, what needs to be improved to provide better guidance about careers in the forestry sector?

Sharing Good Practices:

7. Can you share any successful strategies or programs implemented in your school or university (or you came across) that have effectively encouraged girls and young women to consider forestry careers?

8. What innovative teaching methods or tools have you found effective in engaging students in forestry education and overcoming potential gender biases?

Looking Forward:

11. What actionable steps can educators take to create a more inclusive environment that encourages girls and young women to pursue careers in forestry?

12. How can we leverage technology and social media to raise awareness and interest in forestry careers among girls and young women?

Concluding Thoughts:

13. What is one change you would like to see implemented in the next year that could significantly impact the inclusion of girls and young women in the forestry sector?

* Proposed content for the Invitation letter *(to be used as you see fit)*

Dear [Recipient],

We are pleased to invite you to participate in an upcoming round table discussion focused on **challenges and opportunities for girls and young women within forestry sector,** as well as to **explore best practices of career orientation that promote inclusion and diversity**.

The round table is organised within the Fem2forests project, aimed at addressing the critical challenges facing the forestry sector in [Country/Region]. As a valued stakeholder, your expertise and insights as [mention their role: educator, teacher, etc.] are essential to our collective efforts in promoting gender diversity and sustainability within the forestry industry.

The event will take place:

Date: [Insert Date]

Time: [Insert Time]

Location: [Insert Location or Virtual Meeting Link]

As we strive to identify barriers and needs faced by girls, young women, and educators in forestry education, your active involvement is crucial. This participatory approach ensures that activities are built from the ground up, incorporating diverse stakeholder perspectives from the outset.

Fem2forests project endeavours to achieve three key objectives:

- Develop innovative career pathways for girls and young women in forestry.
- Strengthen the capacity of forestry education institutions by mainstreaming the gender perspective.
- Facilitate conditions for the efficient involvement of women at various levels in forestry organizations and labor markets.

Your expertise and insights will contribute significantly to the success of this initiative, ultimately shaping more inclusive and supportive environments within the forestry sector.

We look forward to your participation and collaboration in this important dialogue.

Kind regards,

[Your Name]

[Your Position]

[Your Contact Information]