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Commissioned by the Embassy of the Kingdom of the Netherlands in Serbia

Dear Reader,

The importance of education and knowledge is undeniable. Yet in agriculture is sometimes seems as if the connection between education and practice is less obvious. People, farmers, rely on the knowledge passed down to them by their ancestors. Young people feel less attracted to study to become a farmer or any other job in the food system.

In the Netherlands we have recognized this gap between education and practice and in 2016 created the so-called Green Pact ("Groenpact" in Dutch). In line with what we call the Dutch Diamond approach Dutch education institutes on agrifood and nature ('green education' as it is called in the Netherlands), the business community, and civil society organizations joined forces with the Ministry of Agriculture, Fisheries, Food Security & Nature of the Netherlands. *Groenpact* works on learning, working and innovating toward long-term goals such as a future-proof food system, a robust natural environment, and a vital countryside. These major challenges are global challenges that require an international strengthening of education to be prepared for the future. *Groenpact* in 2026 is a network of more than 80 partners. Over 90.000 students in 2024 were receiving their education in the agrifood and nature sector on academic universities, universities of applied science and institutes for vocational training, 7% of the total Dutch student population.

In support of green education in Serbia, the Netherlands wishes to share its experience. To support potential cooperation between Serbian and Dutch partners, we commissioned Dr. Natalija Bogdanov, Professor at Belgrade University-Faculty of Agriculture, to research and describe the Serbian green education landscape. The result of her work is this report, the draft of which we presented during a webinar early October 2026 to Dutch and Serbian interested parties[1]. Based on her thorough research and SWOT analysis of the sector she outlined possible fields for cooperation with Dutch partners.

The last paragraph of professor Natalija Bogdanov's conclusion reads: "Overall, green education in Serbia has a foundation on which further development can build, but its future contribution to the green transition is shaped by the interaction between educational provision, practical learning, institutional capacity and cooperation with the wider agricultural (knowledge) system."
I fully support this call for further development, if and when possible together with Dutch partners.



My team and I look forward to connect you!

Michiel van Erkel

Agriculture Counsellor for the Western Balkans
Embassy of the Kingdom of the Netherlands

[1] During the webinar the representative of the Netherlands Ministry of Agriculture, Fisheries, Food Security and Nature made several suggestions for possible sources of finance, and on how to make 'green education' more attractive for young people. We have added an annex to this report with a short outline of that information.

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INTRODUCTION

The aim of this report is to provide a comprehensive overview of the green education system in the Republic of Serbia across all educational levels and to identify potential areas for cooperation with Dutch educational institutions.

The analysis was based on a combination of desk research and consultations with key stakeholders. The desk research covered relevant national policy documents and legislation, as well as information available on the websites of ministries, educational institutions and other relevant organisations. Quantitative evidence, including available statistical data, was also reviewed to assess key trends and characteristics of the green education system.

In-depth interviews were conducted with representatives of government institutions, educational institutions and the business sector. The interviews provided additional insights into the implementation of green education, current challenges and gaps, and potential areas for strengthening cooperation and future development.

The report focuses on the following key areas:

- Educational profile of the workforce in Serbia's agricultural, agri-food and forestry sectors.
- Green education provision**,** including an overview of education and training providers, curricula and study programmes at the secondary and higher education levels, as well as an inventory of relevant educational institutions.
- Institutional and policy frameworks governing green education, including institutional responsibilities and funding mechanisms.
- Potential for international cooperation**,** identifying educational institutions with relevant capacities and experience, as well as potential areas for cooperation with Dutch educational and research institutions.

The research was conducted in April and May 2025 and subsequently updated in July 2026. The initial research period coincided with widespread strikes and disruptions across secondary schools and universities, which significantly constrained communication with some interviewees, as educational institutions were closed or operating under disrupted conditions. In several cases, it was not possible to reach the relevant representatives of schools, while some declined to participate in interviews or discuss any of the proposed research topics.

A further limitation was the availability and accessibility of online information. Websites of educational institutions and public authorities were often not regularly updated, lacked relevant information or were difficult to access, limiting the extent to which information could be verified and compared across institutions. Finally, information on higher education institutions and their study programmes should be interpreted with some caution, as reaccreditation processes had been initiated and were at different stages of completion at the time of the subsequent update.

Despite these limitations, to the best of our knowledge, this report provides the first comprehensive overview of green education in Serbia in the fields of agriculture, food production and forestry. We hope that it will serve as a useful resource for those who continue to work on this topic, providing a basis for further research, policy development and cooperation among relevant stakeholders.

1. EXECUTIVE SUMMARY

This report provides an overview of the green education system in Serbia, examining its capacity to support the development of knowledge and skills needed for the green transition in the agricultural, agri-food and forestry sectors. It analyses the educational profile of the workforce, secondary vocational and higher education provision, curricula and teaching practices, links between education and the labour market, and the policy, institutional and financing framework. Drawing on desk research and interviews with relevant stakeholders, the report identified key challenges and opportunities for strengthening green education, practical learning and cooperation between educational institutions, businesses and other actors.

The relatively unfavourable educational profile of the agricultural, agri-food and forestry workforce in Serbia, combined with the predominance of occupations requiring lower levels of formal qualifications, presents a challenge for the wider adoption of green practices. The sector employs approximately 371,200 people, of whom 87.6% work as skilled agricultural, forestry and fishery workers and 7.0% in elementary occupations. Only 5.3% of farmers have formal agricultural training, while the vast majority relies primarily on practical experience and traditional farming practices. The ageing workforce further highlights the need to attract younger generations to the sector and strengthen opportunities for their education and training. These characteristics underline the importance of strengthening opportunities for vocational education, lifelong learning and knowledge transfer, particularly in the context of the growing importance of sustainable production, climate change adaptation and digitalisation.

Green education is supported by an established network of secondary vocational schools and higher education institutions, but declining student enrolment raises concerns about the future supply of skilled workers in the agricultural, agri-food and forestry sectors. Serbia has 53 agricultural schools offering three and four-year vocational programmes, alongside 31 technical schools providing programmes related to agriculture, food processing and forestry. The higher education system includes eight specialised faculties and several academies of applied studies offering programmes relevant to these sectors. Enrolment in agricultural and forestry secondary vocational programmes fell by approximately 39% between 2013 and 2025, representing a particularly sharp decline within the secondary education system. Green professions, especially in agriculture and forestry, are often perceived by young people as unattractive career options, while some students enter relevant programmes with limited motivation or insufficient prior knowledge. These trends may further weaken the supply of qualified professionals needed by the agri-food and forestry sectors.

The existing educational infrastructure provides a foundation for more practice-oriented learning, although its potential is not always fully utilised. Many educational institutions have facilities such as school farms, greenhouses, laboratories and workshops, while some also provide student accommodation. These facilities can support hands-on learning and help students connect theoretical knowledge with practical applications. Work-based learning is another important component of vocational education, including through the dual education model, which combines school-based instruction with training in companies. However, the extent to which these opportunities translate into meaningful practical experience varies across institutions. Practical training, interdisciplinary learning and

problem-solving remain insufficient, while employer involvement in curriculum development and student training is uneven. Better use of existing facilities, combined with stronger cooperation with businesses, could improve the practical relevance of education.

Although educational curricula in Serbia have been gradually modernised to include topics relevant to the green transition, this has not been matched by equally significant changes in teaching methods and learning practices. Sustainability, environmental protection, climate change, resource efficiency, organic farming and digital technologies are increasingly covered in secondary and higher education programmes, although the extent of their integration varies across institutions and study profiles. Teaching nevertheless remains predominantly theoretical and teacher-centred, with limited opportunities for practical, interdisciplinary, experiential and problem-based learning. Practical training also often remains a formal requirement rather than a meaningful learning experience, offering students limited opportunities to develop and apply practical skills in real-life settings.

Limited involvement of the business sector in education planning and weak cooperation with educational institutions hinder the alignment of enrolment policies and educational provision with labour-market needs. Employers and other private-sector stakeholders are not systematically involved in determining enrolment quotas or identifying the occupational profiles and qualifications needed by the sector. Cooperation with schools and higher education institutions is often informal and driven by individual initiatives, while the level of engagement varies across businesses. More structured and continuous collaboration could help align enrolment decisions with labour-market demand, strengthen the practical relevance of educational programmes and improve the transition of graduates into employment.

The potential of educational institutions to contribute to agricultural knowledge transfer and innovation remains underutilised. Their integration into Serbia's Agricultural Knowledge and Innovation System (AKIS) is constrained by institutional, organisational and financial barriers. Vocational schools, in particular, could play a stronger role as local and regional hubs for demonstration, practical training and outreach to farmers, agricultural workers and rural entrepreneurs. Closer links between schools, faculties, agricultural advisory services, research organisations and businesses could support the dissemination of knowledge and the uptake of sustainable and digital practices across the sector.

International cooperation offers opportunities to strengthen institutional capacities and introduce new approaches, but its impact is often limited by administrative and financial constraints and the short-term nature of project support. Serbian educational institutions participate in programmes such as Erasmus+, Horizon Europe and donor-funded initiatives, gaining exposure to international expertise and good practices. However, schools and faculties face obstacles to staff and student mobility, including administrative burdens, difficulties in aligning curricula and recognising learning outcomes, limited administrative capacity and heavy teaching workloads. The results of international projects are not always embedded in regular institutional practice or sustained once external funding ends.

Cooperation with Dutch partners could provide opportunities to address some of the challenges identified by Serbian educational institutions and business-sector representatives. Interviews revealed interest in developing partnerships, although only one ongoing project involving a Dutch partner was identified at the time of the interviews. Business representatives emphasised the importance of practical learning and skills relevant to labour-market needs, while educational institutions expressed interest in

exchanging knowledge and teaching practices and strengthening their capacities. Potential areas for cooperation include sustainable and climate-smart agriculture, regenerative farming, climate change adaptation, digitalisation and smart farming, as well as entrepreneurship and business management. Partnerships involving Serbian schools and faculties, Dutch educational and research institutions, and businesses could support curriculum development, teacher professional development, joint practical activities and knowledge transfer. To maximise their impact, such partnerships should respond to identified capacities and institutional needs and aim to sustain their results beyond individual projects.

Serbia has an established policy and institutional framework relevant to green education, but responsibilities are distributed across multiple institutions and coordination remains limited. Education, agriculture, environmental protection, research and innovation are addressed through separate strategies, with no integrated cross-sectoral framework specifically dedicated to green education. The Ministry of Education oversees education policy, while the Ministry of Agriculture, Forestry and Water Management and the Provincial Secretariat in Vojvodina are responsible for agricultural policy and advisory services. Local governments contribute to secondary education through participation in enrolment planning and responsibility for school infrastructure and maintenance, while the Serbian Chamber of Commerce and Industry facilitates dual education and cooperation with employers. International donors and development partners, also support green education and skills development initiatives. However, cooperation among relevant stakeholders often remains largely formal, taking place mainly ad-hoc, through participation in various committees and institutional bodies rather than through sustained, practical collaboration.

Financing arrangements also create constraints on modernisation and the development of practice-oriented learning. Secondary education is financed through a division of responsibilities between the Ministry of Education, which covers staff salaries and core operating costs, and local governments, which fund school infrastructure, utilities and maintenance. In dual education, employers provide workplace learning opportunities and related resources, including student remuneration. Higher education institutions receive public funding and may generate additional income from tuition fees, research and projects. However, the predominantly input-based funding model, which allocates resources largely according to existing inputs rather than performance, outcomes or specific development needs, provides limited incentives for innovation, improved teaching quality and stronger links with employers. Moreover, relatively few funding options specifically promote sustained cooperation between educational institutions and other stakeholders, particularly businesses, limiting opportunities to develop joint training initiatives, strengthen practical learning and align educational provision more closely with labour-market needs.

Overall, Serbia has an established educational infrastructure and a range of ongoing initiatives on which to build. However, reversing declining enrolment, improving the quality and practical relevance of learning, strengthening lifelong learning and knowledge transfer, and developing more systematic cooperation between education, research, business and advisory services will require sustained institutional commitment. Better coordination across policy areas, more predictable funding and stronger mechanisms for embedding successful initiatives into the regular education system are essential to ensure that green education can respond effectively to the evolving needs of agriculture, food production, forestry and the wider green economy.

2. EDUCATIONAL PROFILE OF FARMERS AND THE WORKFORCE IN THE AGRI-FOOD AND FORESTRY SECTORS IN SERBIA

This section examines the educational profile of the agri-food workforce in Serbia, providing an overview of the current situation and the broader context for understanding the sector's human capital challenges and capacity to respond to future demands.

The agri-food sector has the lowest educational attainment of all economic sectors in Serbia. While relatively low educational attainment is common in the agri-food sector in many countries, the situation in Serbia is particularly unfavourable. Of the 371,200 people employed in the sector, 87.6% work as skilled agricultural, forestry and fishery workers and 7.0% in elementary occupations, while only 5.4% are employed in occupations requiring higher levels of education and qualification (Table1).

Table 1 Employees by industry sector and main occupational groups, 2024 (in 000)

	Managers, administrative officials and legislators	Experts and artists *Professionals(	Engineers, professional associates and technicians	Civil and other servants	Service and trade assistants	**Farmers, foresters, fishermen and related**	Craftsmen and related occupations	Machine and plants operators, assemblers and drivers	Basic/simple occupations	Military occupations
Employees (15-89 years), total	115.5	511.8	358.4	249.8	432.6	325.5	326.7	329.1	231.8	16.3
Agriculture. forestry and fishery	**/**	**2.3**	**4.9**	**2.1**	**1.8**	**325.0**	**2.5**	**6.6**	**26.0**	**-**
Manufacturing industry	22.8	38.4	55.2	35.0	17.9	/	164.0	177.9	43.9	-
Administrative and support service activities	5.1	5.6	5.0	11.8	14.7	/	2.2	2.6	20.7	-

Source – Labour Force Survey; Statistical Office of the Republic of Serbia (SORS); 2025
Note: / - Small number of occurrences; estimates is not published.

The educational profile of farm managers is also characterised by a low level of formal agricultural qualifications. According to the 2023 Farm Structure Survey (FSS), only 5.3% of farm managers have received formal training in agriculture, while the remaining 94.7% rely exclusively on practical experience and traditional farming practices (Figure 1). However, there are significant differences in farmers' educational attainment across regions and by farm size. The educational profile of farm managers is considerably more favourable in the Vojvodina region, reflecting, among other factors, a more favourable age structure, the larger average size of farms, and better availability and accessibility of agricultural advisory services compared with Central Serbia.

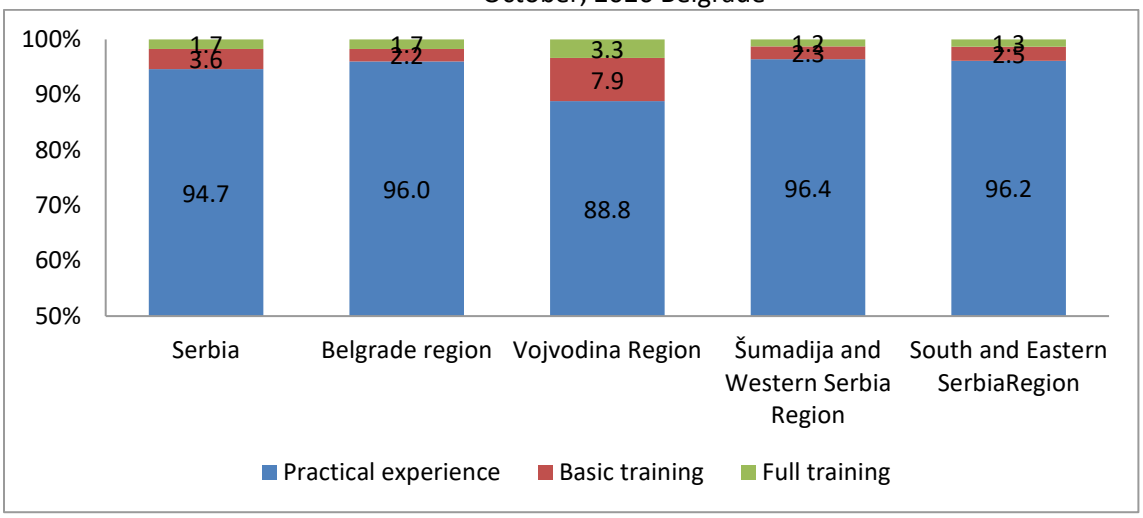


Figure 1 Share of farm managers with basic training, practical experience of full agricultural training, by regions

Source: Farm Structure Survey (FSS); 2023; Statistical Office of the Republic of Serbia (SORS)

The data (Figure 2) further indicate that managers of larger holdings tend to have higher levels of formal agricultural training. Among managers of farms of up to 20 hectares, less than 10% have received some form of formal agricultural education or training, while this share increases substantially with farm size, reaching its highest levels among managers of farms exceeding 50 hectares.

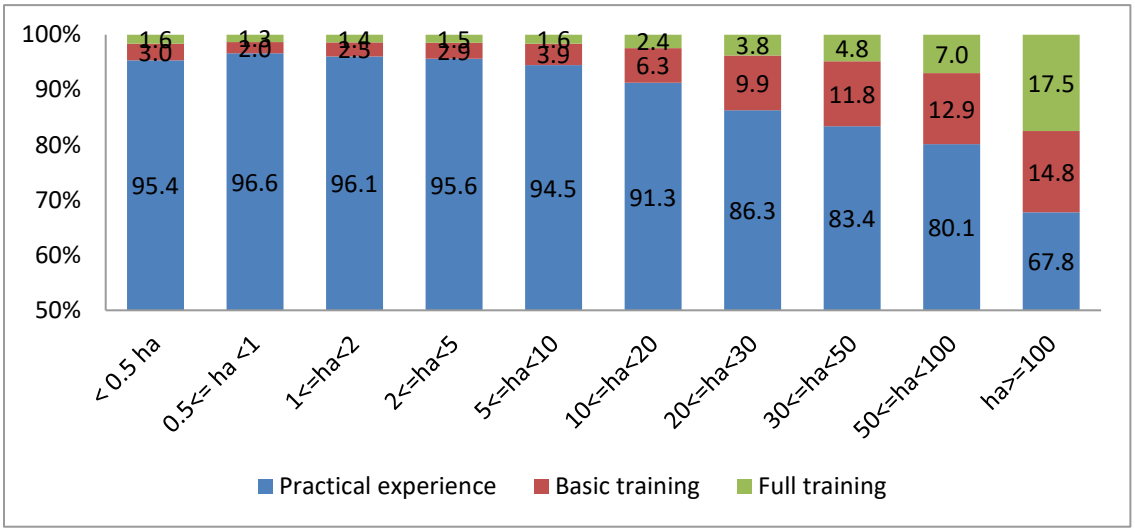


Figure 2 Training of farm managers by farm size (UAA)

Source: SORS; Farm Structure Survey; 2023;

The relatively unfavourable educational profile of workers in agriculture, forestry and fisheries, as well as of farm managers, can be attributed to a combination of demographic, structural and labour-market factors. The ageing structure of the agricultural workforce is an important factor, with more than half of agricultural workers (53.4%) aged 55 or older. The predominance of small-scale and family farming is

another factor contributing to the relatively low educational attainment of the agricultural workforce, as production and farm management rely heavily on family labour, practical experience and traditional farming practices, reducing the need for formal qualifications. At the same time, relatively low levels of technology adoption and limited opportunities for specialised and knowledge-intensive employment constrain demand for higher-level skills. These factors are further reinforced by the sector's limited attractiveness to highly educated workers, partly due to relatively low wages and limited career opportunities.

Employers' perspectives on labour market needs and skills gaps

Interviews with representatives of the business sector indicate that Serbia is facing an increasing risk of labour shortages in agriculture, a trend that employers expect to intensify in the coming years. Labour-intensive segments of primary agricultural production, particularly fruit growing, nursery production and vegetable cultivation, are already experiencing significant difficulties in securing sufficient seasonal labour during peak production periods. According to employers, this is increasingly leading to the recruitment of migrant workers to fill these positions, reflecting the declining availability and willingness of the domestic workforce to take up physically demanding, seasonal and relatively low-paid agricultural jobs.

Labour shortages are also reported in the food processing industry. Companies report persistent difficulties in recruiting workers for occupations such as butchers, bakers and other skilled production-related professions. In response, many employers recruit local workers without formal vocational qualifications and provide them with practical, workplace-based training. As a result, employers often place greater emphasis on practical skills and the ability to learn on the job than on formal educational credentials when filling positions for which qualified candidates are difficult to find.

At the same time, employers consistently point to a mismatch between the competencies acquired through formal education and the skills required in the workplace. According to interviewees, many graduates entering the labour market are not sufficiently prepared to perform their jobs independently and require substantial additional training before becoming fully productive. Employers therefore emphasise the importance of strengthening practical learning and closer links between education institutions and the labour market. However, respondents also stressed that these challenges are not specific to green occupations or the agri-food sector. Rather, they reflect a broader structural issue within the education and training system, as similar skills gaps are reported across a wide range of occupations and economic sectors.

3. GREEN EDUCATION IN SERBIA

According to OECD *Review of Evaluation and Assessment in Education*[2], the Serbian education system performs relatively well compared to other Western Balkan countries. Serbia has made significant progress in expanding access to education and implementing institutional reforms in recent years, including the introduction of performance standards, teacher standards, and a school evaluation framework. Enrolment rates in primary and secondary education are high, with the vast majority of children of the corresponding age groups enrolled in school. Serbia's 2020 Human Capital Index (HCI)[3] also ranks above the average for countries in its region and income group.

However, these achievements do not necessarily translate into a workforce whose qualifications and practical competencies fully meet employers' needs. Serbian companies continue to report difficulties in recruiting workers with the required competencies, citing a lack of suitably qualified candidates, limited practical experience among graduates and an insufficient supply of graduates in certain fields as key barriers[4]. These challenges highlight the importance of examining not only access to education, but also how well educational provision responds to labour-market needs and emerging economic and environmental priorities.

Against this background, this report focuses on green education in Serbia, with particular attention to the agricultural, agri-food and forestry sectors. The following sections examine recent enrolment trends across different educational levels, the curricula of green education programmes, and the profile and capacities of educational institutions, including their interest in cooperation with Dutch partners.

3.1. Green education from vocational training to University level education

Green education in Serbia encompasses a broad range of programmes preparing students for occupations in agriculture, forestry, food processing, veterinary medicine, environmental protection, and other sectors contributing to the green economy[5]. These programmes are delivered through formal vocational and higher education institutions and are complemented by adult education and lifelong learning opportunities aimed at updating and upgrading the knowledge and skills of the existing workforce.

Technical and Vocational Education and Training (TVET)

A total of 84 secondary schools in Serbia offer educational programmes in fields relevant to green education. The majority of these schools (53) are specialised agricultural vocational schools (Annex 2), many of which also offer programmes in related fields, including food processing, veterinary medicine and forestry. Green education programmes are also offered by 31 vocational schools covering a broader range

[2] Maghnouj, S. et al. (2020), *OECD Reviews of Evaluation and Assessment in Education: Serbia*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, *https://doi.org/10.1787/225350d9-en*.
[3] The HCI calculates the contributions of health and education to worker productivity. The final index score ranges from zero to one and measures the productivity as a future worker of child born today relative to the benchmark of full health and complete education. The Human Capital Index (HCI) combines indicators of health and education into a measure of the human capital that a child born today can expect to obtain by their 18thbirthday, on a scale from 0 to 1. Higher values indicate higher expected human capital.
[4] *Serbia's New Growth Agenda - Country Economic Memorandum : Investment for Growth (English).* Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/842791585547764962; Serbia's STEP Employer Survey
[5] The Serbian education system comprises early childhood education and care, primary and secondary education, higher education, and adult education (Annex 1).

of occupations, some of which include profiles relevant to agriculture and the food industry (Annex 3). Accreditation standards require schools offering agricultural programmes to have adequate facilities and resources for practical training, including agricultural land, greenhouses, livestock facilities, agricultural machinery and equipment, laboratories and workshops. Agricultural schools generally meet these requirements, and investments in upgrading practical training facilities and equipment have been made in recent years, supported by both the state and international donors. In addition, many agricultural schools are equipped with student dormitories, which significantly improve access to secondary education for young people from rural and remote areas.

Stakeholder perspectives on educational infrastructure

The interviews indicate that many secondary agricultural schools have a relatively strong infrastructure and equipment base for practical training. Interviewees highlighted that this infrastructure enables schools to organise training programmes for students and teachers from neighbouring countries, as well as student and staff exchange programmes.

Agricultural schools in the Vojvodina region were reported to have particularly well-developed infrastructure and equipment, partly reflecting dedicated funding from the provincial budget for these purposes. In addition, schools provided examples of support from large companies, including contributions towards the purchase of equipment, agricultural machinery and other resources needed for practical training.

The technical and vocational education and training (TVET) system in Serbia provides vocational qualifications through three- and four-year secondary education programmes. These programmes cover 15 vocational fields[6], including Agriculture, Food Production and Processing, and Forestry and Wood Processing. They combine general education with vocational subjects and practical training, preparing students either to enter the labour market or to continue their education.

At the end of their studies, students in four-year programmes take the national graduation examination (matura), while those in three-year programmes take a final examination. Although the Law on the Foundations of the Education System provides a general framework for progression to higher education, access in practice depends on the type of secondary qualification and the admission requirements of the higher education institution. Graduates of four-year programmes can apply for higher education, subject to the applicable admission requirements. Graduates of three-year programmes generally need to complete additional education or meet other requirements specified by the relevant higher education institution. In addition to regular secondary programmes, some vocational schools offer one or two-year specialisation programmes, as well as adult education and other forms of vocational training.

Agricultural vocational education has particular requirements for practical training because learning needs to reflect the seasonal nature of agricultural production and the diversity of farming activities.

[6] Economics, Law and Administration, Mechanical Engineering and Metalworking, Electrical Engineering, Transport, Trade, Hospitality and Tourism, Health and Social Protection, Agriculture, Food Production and Processing, Forestry and Woodworking, Textiles and Leather, Geodesy and Construction, Geology, Mining and Metallurgy, Chemistry, Non-Metals and Graphics, Culture, Arts and Public Information and Personal Services.

Practical learning may take place through school-based exercises, block teaching and training on school farms, agricultural land, in greenhouses, workshops and other specialised facilities. This should be distinguished from dual education, which is a specific model involving structured work-based learning with employers.

Dual education is a specific model of vocational education that places greater emphasis on structured learning in the workplace. Following pilot initiatives during the 2010s, it was formally established by the Law on Dual Education adopted in 2017, with systemic implementation beginning in the 2019/20 school year[7]. Under this model, students acquire competences defined by the relevant qualification standard through a combination of school-based instruction and learning through work in a real working environment. Workplace learning takes place under the supervision of an instructor employed by the company, with support from the school's work-based learning coordinator. In specific circumstances, it may also be organised in a school or training centre. The curriculum and the allocation of learning activities between the school and the employer are based on the applicable qualification standard. Students may undertake workplace learning with one or more employers, depending on the programme and its arrangements. The rights and obligations of students and employers are regulated by a work-based learning contract concluded between the employer and the student or, where applicable, the student's parent or legal representative. Students participating in workplace learning under the dual education model are entitled to monthly remuneration of at least 70% of the national minimum wage, calculated on a net basis in accordance with the applicable legislation.

The current list of dual educational profiles in the agricultural and agri-food sectors includes, among others, Horticultural Technician, Agricultural Technician for Digital Technologies, Viticulturist–Winemaker, Agricultural Technician, Food Industry Operator, Food Biotechnology Technician, Flower Grower–Gardener, and Agricultural Machinery Operator. No dual educational profiles in forestry or veterinary medicine are currently included in the list of available programmes.

Higher education

Green higher education in Serbia is provided through several types of higher education institutions, including universities (*univerziteti*), colleges of applied studies (*visoke škole strukovnih studija*) and academies of applied studies (*akademije strukovnih studija*). Universities, through their faculties, are the main providers of academic higher education.

Serbia has a relatively broad institutional base for green higher education, with specialised faculties of agriculture, forestry and veterinary medicine playing a central role, complemented by applied higher education institutions and a limited number of private providers. The distribution and range of programmes, however, vary considerably across institutions and regions, as presented in the Table 2.

Within the green education system, faculties of agriculture play a central role, combining academic education, applied and professional knowledge, research and practical training. Agricultural faculties offer study programmes at different levels of higher education, including bachelor's, master's and doctoral studies, covering a broad range of areas such as crop and livestock production, agricultural economics, food technology, environmental protection, biotechnology, and related fields. In addition to specialised

[7] Law on Dual Education, "Official Gazette of the Republic of Serbia", No. 101/2017, as amended by Nos. 6/2020 and 76/2023.

agricultural faculties, academies of applied studies offer programmes in related fields, with a stronger emphasis on practical and professionally oriented education.

The University of Belgrade offers the broadest range of programmes in this field, including those provided by the Faculty of Agriculture, the Faculty of Veterinary Medicine and the Faculty of Forestry Table 2). At the University of Novi Sad, veterinary medicine and landscape architecture are offered within the Faculty of Agriculture, while landscape architecture is taught at the Faculty of Forestry at the University of Belgrade.

The University of Kragujevac offers agricultural study programmes through its faculty in Čačak. The University of Niš includes the Faculty of Agriculture in Kruševac, which offers undergraduate academic programmes in fruit growing and viticulture, animal husbandry, and crop and vegetable production, as well as master's studies in agriculture. The University of Priština temporarily based in Kosovska Mitrovica includes the Faculty of Agriculture in Lešak, which offers undergraduate programmes in animal husbandry and plant production.

Among private universities, Educons University is the only private higher education institution identified as offering specialised programmes in agriculture and related green fields through its Faculty of Ecological Agriculture, based in Sremska Kamenica.

Alongside university-based education, academies of applied studies and other institutions providing applied studies contribute to the development of practical and professionally oriented skills relevant to agriculture, food production and other green sectors. The extent to which green skills and sustainability principles are integrated into individual programmes depends on their curricula and specialisation.

Higher education in Serbia follows the principles of the Bologna Process, which the country joined in 2003. It is organised into three cycles—Bachelor's, Master's and doctoral studies—and delivered through accredited academic and applied study programmes under the European Credit Transfer and Accumulation System (ECTS).

1. Bachelor's studies - Basic academic studies generally last three to four years and carry 180–240 ECTS credits. Basic applied studies typically last three years and carry 180 ECTS credits, with a stronger emphasis on practical and professional competences. Specialist applied studies provide further professional training and generally last at least one year, carrying a minimum of 60 ECTS credits.

2. Master's and integrated studies - Master's academic studies usually last one to two years and carry 60–120 ECTS credits. Combined with a Bachelor's degree, they amount to 300 ECTS credits. Specialist academic studies last at least one year and carry at least 60 ECTS credits, leading to a specialist qualification. Certain fields, including veterinary medicine, are organised as integrated academic studies, typically lasting six years and carrying 360 ECTS credits.

3. Doctoral studies - Doctoral studies last at least three years and carry at least 180 ECTS credits. They provide advanced research training and can contribute to the development of knowledge and innovation in agriculture, forestry, biodiversity conservation, climate change adaptation and other areas relevant to the green transition.

Table 2 Higher education institutions offering green education in Serbia and list of programs offered

Belgrade Region	Vojvodina Region	Region of Šumadija and Western Serbia.	Region of Southern and Eastern Serbia	Kosovo* Region
State universities	**State universities**	**State universities**	**State universities**	**State universities**
University of Belgrade	**University of Novi Sad**	**University of Kragujevac**	**University of Niš**	**University of Pristina**
Faculty of Veterinary Medicine ***https://vet.bg.ac.rs/en***	***Faculty of Agriculture*** ***http://polj.uns.ac.rs/en***	***Faculty of Agronomy – Čačak*** ***https://www.afc.edu.rs/index.php/en/***	**Academies of Vocational Studies**	***Faculty of Agriculture*** ***www.agr.pr.ac.rs***
Faculty of Agriculture ***https://agrif.bg.ac.rs/en***	1. Department of Crop and Vegetable Production	1. General Agronomy	***Toplička Academy of Vocational Studies – Prokuplje*** ***https://toplicka.edu.rs/en/academy/***	1. Study program: Plant production
1. Study program: Plant production	2. Department of Fruit Growing, Viticulture, Horticulture and Landscape Architecture	2. Food Technology	1. Fruit and Viticulture	2. Study program: Animal husbandry
Module: Crop and vegetable growing	3. Department of Phytomedicine and Environmental Protection	3. Fruit Growing and Viticulture	2. Crop and Vegetable Growing	
Module: Fruit growing and viticulture	4. Department of Animal Husbandry	4. Animal Husbandry	3. Plant Protection	
Module: Horticulture	5. Department of Agricultural Engineering		4. Animal Husbandry	
Module: Soil and water management	6. Department of Water Management	**University of Niš**	5. Food Technology	
2. Study program: Animal husbandry	7. Department of Agricultural Economics and Rural Sociology	***Faculty of Agriculture - Kruševac*** ***https://poljfak.ni.ac.rs***		
3. Study program: Agroeconomics	8. Department of Veterinary Medicine	1. Crop and Vegetable Production		
4. Study program: Food technology	**Private universities**	2. Fruit Growing and Viticulture		
Module: Animal product technology	**Educons University - Integrated Faculties** ***https://educons.edu.rs/***	3. Animal Husbandry		
Module: Canning and fermentation technology	1. Organic Plant and Livestock Production	**Academies of Vocational Studies**		
Module: Crop product technology	2. Ecological Agriculture – Master studies	***Academy of Vocational Studies Šabac*** ***https://www.obrazovanje.rs/en/in/academy-of-vocational-studies-sabac***		

Module: Food microbiology		Department of Agricultural and Business Studies and Tourism		
Module: Safety and quality management in food production		1. Management		
5. Study program: Biotechnical and information engineering		3. Phytomedicine		
6. Study program: Environmental protection in food production		4. Agronomy (2 modules: plant production, animal husbandry)		
7. Study program: Phytomedicine		5. Management (2 modules: agromanagement, entrepreneurship)		
Faculty of Forestry ***https://www.sfb.bg.ac.rs/en/***		6. Biotechnology (2 modules: field and vegetable farming, animal husbandry)		
1. Forestry and nature conservation		7. Plant Protection		
2. Wood technologies		8. Environmental Protection		
3. Landscape architecture		9. Veterinary Medicine		
4. Ecological engineering in the protection of land and water resources		10. Tourism		
Academies of Vocational Studies		11. Fruit and Viticulture Production		
Academy of Technical Vocational Studies Belgrade		12. Food Technology		
1. Food Technology and Nutrition				
2. Food Engineering and Food Safety				
Study Programs in Požarevac ***https://www.pozarevac.politehnika.edu.rs/***				
1. Digital Agriculture Technologies				
2. Food Engineering and Food Safety				
3. Environmental Protection				
4. Occupational Safety and Health				
5. Mechanical Engineering – Computer Aided Design and CNC Systems				

6. Ecotourism and Rural Development				

Source: author's elaboration

Stakeholder perspectives on cooperation across the education system

Stakeholder interviews consistently highlighted weak links between different levels of Serbia's education system. Cooperation was described as largely *ad hoc*, driven by immediate institutional needs rather than supported by formal arrangements or long-term partnership frameworks. Interviewees noted the absence of established communication channels and structured mechanisms for cooperation between secondary and higher education institutions, resulting in interactions that are often sporadic and lack continuity or strategic direction.

Cooperation most commonly takes the form of university professors contributing to the development of secondary school curricula and textbooks or providing subject-specific training for secondary school teachers. However, interviewees considered these activities limited in scope and frequency, while joint involvement in research, innovation and development projects remains rare.

Representatives of secondary agricultural schools also expressed concern about the limited interest shown by universities and other knowledge-transfer institutions in establishing sustained partnerships. As one interviewee put it, *"They find us when they need us,"* reflecting a perception that cooperation is often transactional rather than based on shared priorities and long-term engagement.

Interviewees also described efforts by secondary agricultural schools to strengthen cooperation with higher education institutions and encourage the Ministry of Agriculture to play a more active role in the development and reform of agricultural education. According to school representatives, these efforts have received limited engagement from faculties. Their accounts suggest that the challenges extend beyond the absence of formal cooperation mechanisms to differences in institutional priorities and willingness to collaborate. Overall, stakeholders viewed weak coordination across education levels as a significant obstacle to developing a more coherent and responsive green education system

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3.2. Enrollment trends in green educational institutions in Serbia

Enrolment trends show a sharp decline in student participation in education programmes in agri-food and forestry fields in Serbia. Over the past decade, enrolment has fallen across education levels, raising concerns about the future supply of qualified workers and the education system's capacity to meet the sectors' evolving skills needs and support the green transition.

Secondary education **-** According to the latest official statistics, 10,463 students were enrolled in agricultural and forestry vocational programmes in the 2025/26 school year, 39.1% fewer than in 2013/14 (Figure 3). Their share of total secondary enrolment fell from 7.4% to 4.7% over the same period. This decrease was considerably steeper than that recorded across other groups of secondary education programmes. The decline therefore appears to reflect not only the shrinking school-age population, but also the decreasing attractiveness of agricultural and forestry programmes to students.

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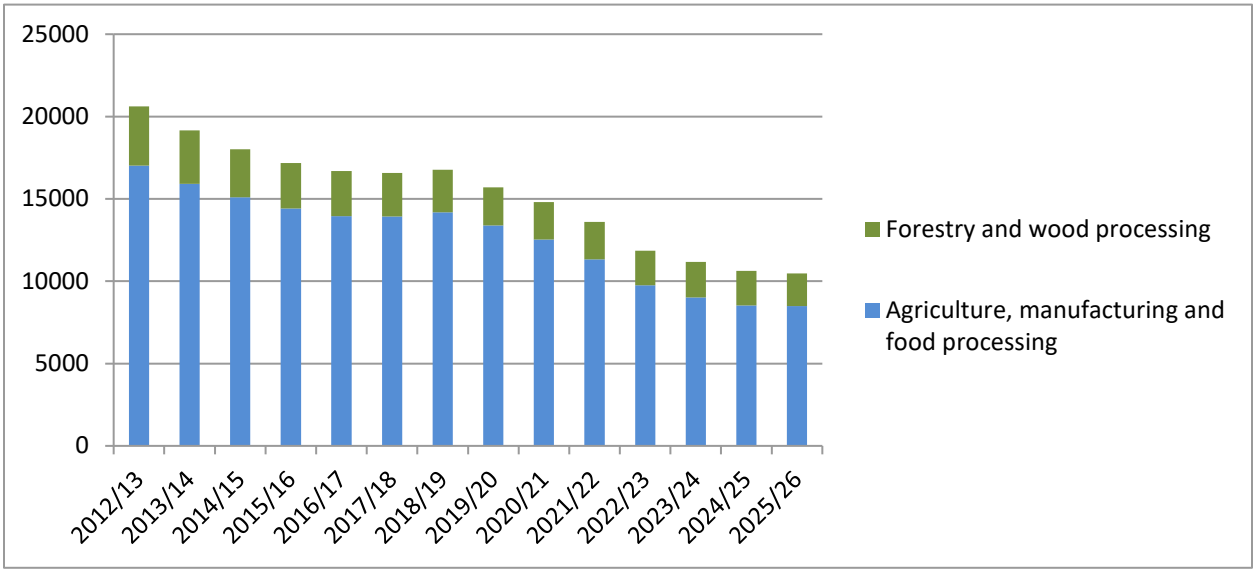


Figure 3 Number of pupils, at the beginning of the school year by fields of education

Source: SORS; https://data.stat.gov.rs/Home/Result/11030302?languageCode=en-US

Looking across the regions, Vojvodina and Šumadija and Western Serbia stand out as having the largest numbers of students enrolled in green education (Figure 4). In addition, Vojvodina has the highest proportion of students enrolled in green education relative to the total number of secondary school students (7.1%). Furthermore, the decline in the number of students in this region between 2015 and 2026 (32.9%) was smaller than the national average (39.1%).

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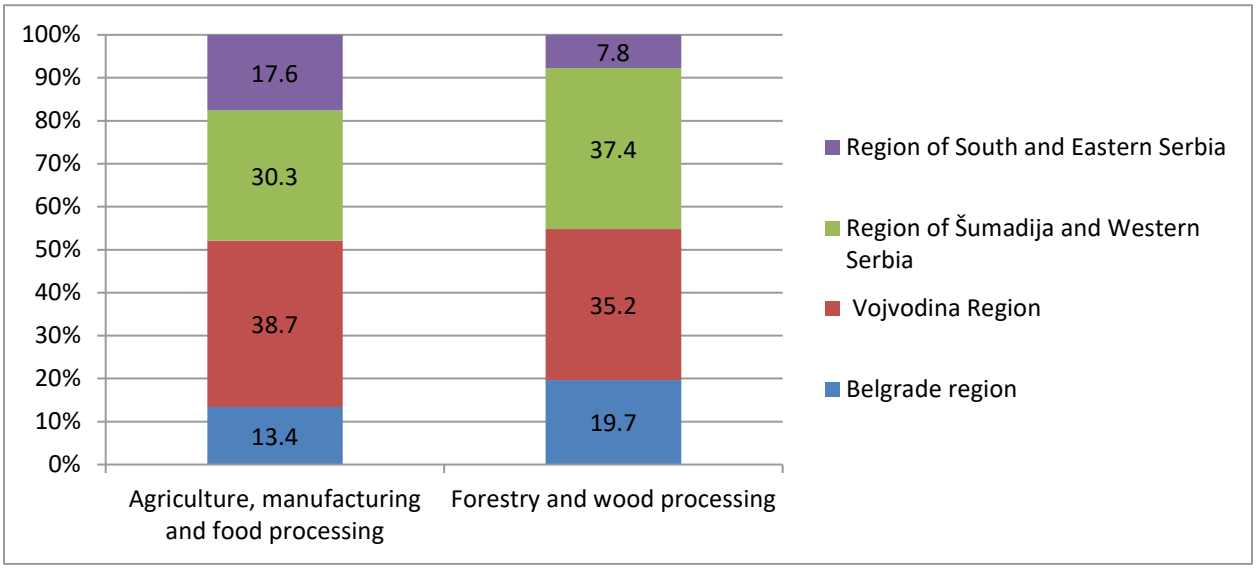


Figure 4 Number of students at the beginning of the school year by fields of education, 2025/26 year

Source: SORS; https://data.stat.gov.rs/Home/Result/11030302?languageCode=en-US

The data for the 2024/2025 school year shows that a total of 2,808 students graduated from secondary schools in the green sectors. Of these, 2,321 students graduated from schools specializing in agriculture, manufacturing and food processing, while 487 students graduated in forestry and wood processing. Of the total number of graduates, just over a third (1,153) continued their education.

Official data on the secondary education of students enrolled in the faculties of agriculture, forestry and veterinary medicine are not available. However, surveys of first-year students at the Faculty of Agriculture at the University of Belgrade show that most students come from general high schools (approximately 40%), while 15–20% come from agricultural secondary schools. Among the factors that motivated them to pursue this study, the possibility of opening their own business and the love of nature and agriculture stand out, each accounting for around 30% of responses.

Higher education - In the 2025/26 academic year, a total of 5,907 students were enrolled in higher education programmes in agriculture, forestry and veterinary medicine, accounting for 2.4% of total higher education enrolment in Serbia (Figure 5). Of these, 51.3% were enrolled in Bachelor's programmes, 40.3% in Master's programmes and 8.3% in doctoral programmes. Compared with 2015, total enrolment across these three study cycles had declined by 31.9% by 2025.

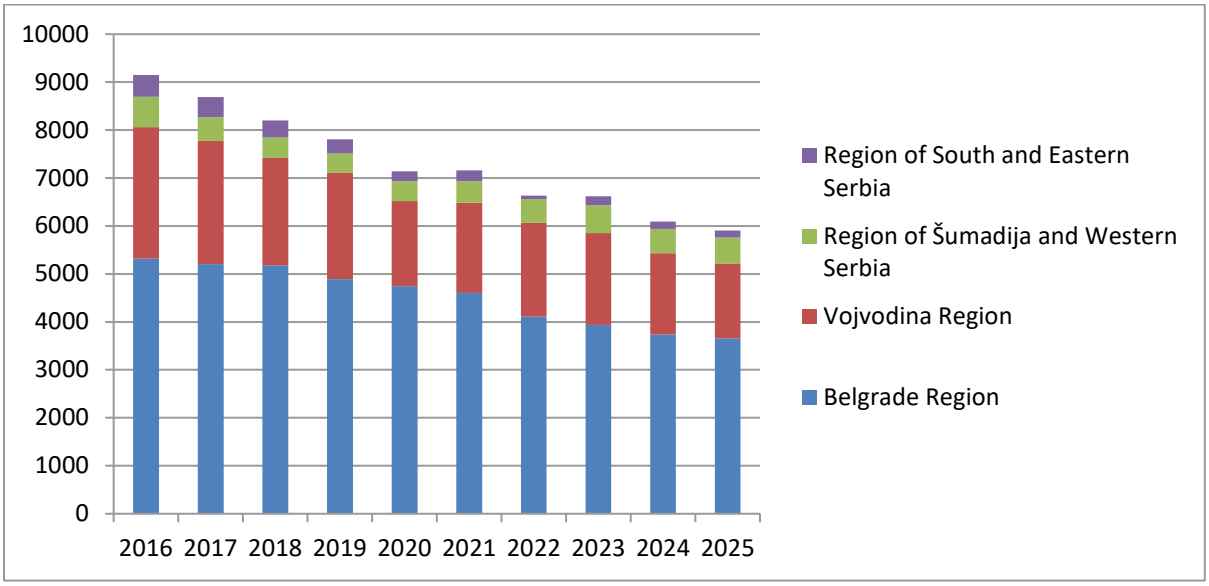


Figure 5 Number of students enrolled in green education studies, all degree levels, by regions

Source: SORS; https://data.stat.gov.rs/?caller=11&languageCode=sr-Cyrl

The regional distribution of students shows a strong concentration of students in the largest university centers — Belgrade and Novi Sad (Vojvodina region) (figure 5). In the entire region of Southern and Eastern Serbia, on the other hand, the number of students declined sharply, from 450 in 2016 to just 75 in 2023.

In 2025, a total of 581 students graduated from programmes in these fields. Bachelor's graduates accounted for 60% of the total, followed by Master's graduates at 33%, while less than 7% completed doctoral studies (Tabela 3).

Table 3 Graduates in Agriculture, forestry, fisheries and veterinary medicine by the level of degree (number)

	2016	2017	2019	2020	2021	2022	2023	2024	2025
First-level studies	697	666	635	595	556	460	358 *	381	348
Second-level studies	399	351	321	220	308	253	252 *	229	194
Third-level studies - Number of PhD	86		50	32	33	43	26 *	37	39
Total Agriculture, forestry, fisheries and veterinary medicine	1.182	1.017	1.006	847	897	756	636	647	581

Source: SORS; https://data.stat.gov.rs/Home/Result/1104020302?languageCode=sr-Cyrl

3.3.The curriculum of the green educational programmes

Curricula in secondary and higher education provide the framework for the knowledge and skills acquired by students in agriculture, forestry and related fields. Their content, structure and balance between theoretical instruction and practical training are central to understanding how these programmes prepare students for professional careers and further learning.

Secondary vocational education curricula

Secondary vocational education curricula are organised into two main components: general education and vocational education subjects, accounting for approximately 45% and 55% of total teaching hours, respectively. The general education component comprises compulsory subjects prescribed for each educational profile, alongside elective subjects or programmes. The vocational component includes qualification-specific subjects, combining theoretical instruction with practical training to develop the technical knowledge, practical skills and occupational competences required for the profession. The range of elective subjects or programmes may vary between schools, depending on the applicable curriculum and each school's capacity to offer them.

The curriculum for the Agricultural Technician programme (Tables 4–7) illustrates how general education, vocational theory and practical training are structured and integrated within a four-year vocational programme.

Table 4 Teaching and learning plan for the **general education subjects** – Agricultural technician profile (number of teaching hours annually)

		Grade							
		I		II		III		IV	
		T	P	T	P	T	P	T	P
A 1	**Compulsory general education subjects**	**672**	**64**	**352**		**288**		**352**	
1	Serbian language and literature	96		96		96		96	
2	Foreign language	64		64		64		64	
3	Sport and health education	64		64		64		64	
4	Mathematics	64		64		64		64	
5	Computer science and information technology		64						
6	History	64							
7	Ecology and environmental protection	32							
8	Geography	64							
9	Chemistry	64		64					
10	Sociology with civil rights							64	
11	Biology	64							
12	Physics	64							
13	Latin language	32							
A 2	**Elective general education subjects**	**32**		**96**		96		**96**	
1	Civic Education / Religious Education	32		32		32		32	
2	Elective programs by educational profile (table 4)			64		64		64	
	Total	**704**	**64**	**448**		**384**		**448**	

T -Theoretical instructions; P - Practical classes

From the list of elective programs, students from the second grade choose subjects according to the educational profile program.

Table 5 Elective general education subjects - Agricultural technician profile (number of teaching hours per week)

		Grade			
		I	II	III	IV
1	Second foreign language		2	2	2
2	History (selected topics)*		2	2	2
3	Selected chapters of mathematics*			2	2
4	Geography in agriculture*		2	2	2
5	Arts*			2	2
6	Logic with ethics*			2	2

* The student selects a program only once during their education

Vocational subjects are delivered through an integrated approach that combines classroom-based theoretical instruction with practical training. The practical component includes a combination of practical exercises, hands-on training and block teaching. Block teaching is particularly important in agricultural

education, as it enables practical instruction to be scheduled in accordance with the seasonal nature of agricultural production. This approach allows students to gain direct experience in key agricultural operations, such as sowing, crop management, harvesting, pruning and livestock production, at the appropriate time of year, thereby improving the quality and relevance of practical learning. Examples include:

- Food science students undertake both theoretical and practical instruction in classrooms and school workshops.
- Veterinary medicine students undertake practical training on school farms, in on-site clinics and at local veterinary stations.
- Agricultural technicians, horticultural technicians and farm machinery operators undertake practical training on school farms equipped in accordance with accreditation standards, providing facilities for comprehensive hands-on learning.
- Professional practice for agricultural technicians, veterinary technicians, horticultural technicians and farm machinery operators is usually organised during the summer months (June–August), when seasonal agricultural activities provide opportunities for relevant practical learning. Food science students, by contrast, undertake block practical training throughout the school year

Table 6 Teaching and learning plan for the **vocational education subjects** – Agricultural technician profile (number of teaching hours annually)

		Grade													
		I		II				III				IV			
		T	P	T	P	HT	B	T	P	HT	B	T	P	HT	B
Compulsory vocational subjects		**256**	**150**	**288**	**96**	**192**	**150**	**288**	**160**	**192**	**150**	**224**	**160**	**192**	**60**
1	Soil Science and Agrochemistry	96	30												
2	Agricultural Mechanization	96	30	64		32	30	64	32			32	32		
3	Plant Protection	64		32	32		12	32	32		6	32	32		6
4	Crop and Vegetable Production			96	32	96	18	64	32	96	18				
5	Fruit Growing and Viticulture			64	32			64		96	24	64		64	24
6	Nursery Production			32		64									
7	Animal Husbandry							64	64		12	96	32	128	30
8	Entrepreneurship												64		
9	Professional Practice		90				90				90				
Elective vocational education subjects				**64**				**64**				**64**			
	Elective programs according to educational profile			64				64				64			
Total		**256**	**150**	**288 (352)**	**96**	**192**	**150**	**288 (352)**	**160**	**192**	**150**	**224 (288)**	**160**	**192**	**60**

T - Theoretical instructions; P - Practical classes; HT - Hands-on training; B -Block classes

The list of elective subjects according to the educational profile of agricultural technician is presented in the table 6.

Table 7 Elective vocational education subjects - Agricultural technician profile (number of teaching hours per week)

		Grade			
		I	II	III	IV
1	Agritourism		2		
2	Cooperatives			2	2
3	Climate change in agriculture			2	2
4	Artificial intelligence and robotics			2	2
5	Organic production in vegetable growing		2	2	
6	Renewable energy sources		2		

Examples for other educational profiles are presented in Annex 3.

An analysis of the curricula and learning outcomes across different educational profiles shows that agricultural secondary education increasingly incorporates knowledge and competences relevant to green education and the green transition. In addition to occupation-specific knowledge and skills, students are exposed to topics related to sustainable agricultural production, efficient use of natural resources, environmental protection, organic farming, climate change and the application of new technologies. The extent to which these topics are covered varies across educational profiles and individual curriculum units, but they increasingly form part of the knowledge and competences expected of future agricultural professionals.

Secondary school teachers' perspectives on curriculum innovation in agricultural education

Interviews with teachers indicate that efforts are also being made to connect theoretical content with contemporary approaches to sustainable agriculture. Teachers reported that, where appropriate, they emphasise the potential advantages of alternative and more sustainable production practices compared with conventional approaches and incorporate relevant examples into individual thematic units. This helps students understand how environmental considerations, resource efficiency and technological innovation can be integrated into agricultural production.

The curricula have also evolved to reflect emerging technological and environmental challenges in the sector. Notable examples include the introduction of the Agricultural Technician for Digital Technologies educational profile, which develops competences in digital agriculture and precision farming, and the recently accredited course Climate Change in Agriculture, developed in cooperation with the FAO. According to interviewed teachers, both initiatives have attracted considerable interest among students. These examples suggest that incorporating contemporary topics related to digitalisation, climate change and sustainable production can make agricultural education more relevant and potentially more attractive to students, while helping to prepare graduates for the changing skills requirements associated with the green transition.

Higher education curricula

Higher education institutions in Serbia enjoy autonomy in designing their curricula within the framework of national accreditation standards, which define the distribution of ECTS credits across subject groups and requirements for practical training[8].

Bachelor's studies - In academic Bachelor's programmes, ECTS credits are distributed across four subject groups:

- General academic education subjects: approximately 15%
- Theoretical and methodological subjects: approximately 20%
- Scientific and professional subjects: approximately 35%
- Professional and applied subjects: approximately 30%

In applied Bachelor's programmes, the distribution is as follows:

- General academic education subjects: approximately 15%
- Professional subjects: approximately 40%
- Professional and applied subjects: approximately 45%

Master's and specialist studies - In academic Master's programmes, academic and professional-applied subjects account for approximately 70% of total ECTS credits, while general education and theoretical-methodological subjects account for the remaining 30%. In applied Master's programmes and specialist applied studies, approximately 90% of ECTS credits are allocated to vocational and job-related subjects, and 10% to general education subjects.

In agriculture and forestry, undergraduate students must complete at least 270 hours of practical training, divided equally among work practice, production practice, and technological and organisational practice, with at least 90 hours for each component. In technical and technological sciences, professional practice and practical work must also be included in Bachelor's and Master's curricula, with a minimum duration of 90 hours.

Veterinary medicine programmes include compulsory core subjects and specialised modules. At least 10% of total ECTS credits must be allocated to elective courses, in accordance with the applicable accreditation standards.

The curricula of related faculties are largely harmonised. However, differences remain due to several factors, including the perceived relevance or attractiveness of particular course content, the institutional capacity to deliver specific programmes, organisational structures and the expertise of teaching staff. Despite the overall alignment, inconsistencies persist, particularly in the categorisation of subjects. These differences may reflect faculties' efforts to meet accreditation requirements within the constraints of available resources, including teaching staff, as well as a general reluctance to make substantial revisions to overlapping or closely related course content.

[8] The revised accreditation standards entered into force on 6 February 2026 and apply to accreditation applications submitted from that date.

4. ADULT LEARNING AND AGRICULTURAL ADVISORY SERVICE IN SERBIA

Adult learning represents an important component of green education in Serbia, particularly in agriculture, where technological change, climate change, environmental requirements and the transition towards more sustainable production systems require farmers and other agricultural workers to continuously update their knowledge and skills. While formal adult education provides opportunities to obtain recognised qualifications, agricultural advisory and extension services play an important complementary role by providing continuous access to practical knowledge and technical advice and information relevant to sustainable agricultural production.

Adult education and training can be provided by general and vocational schools, public services and publicly recognised providers of adult education activities. Public services established by national or local authorities may provide training as part of their broader mandates. For example, the National Employment Service provides vocational training and other employment-related services, while the Education Centre of the Chamber of Commerce and Industry of Serbia provides continuing education and training related to business and entrepreneurship. Adult education and training centres also work with local authorities, schools and other stakeholders to identify labour-market needs and develop relevant programmes.

Publicly recognised providers may include NGOs, cultural institutions, associations, open universities, private schools and other registered training organisations. Providers of formally recognised adult education programmes must obtain the relevant approval or accreditation from the Ministry of Education and comply with the standards established under the Law on Adult Education.

The current database of publicly recognised organisers of adult education activities lists only two institutions offering training relevant to agriculture and food production: the People's College of Šabac and the Šabac Professional Training Centre, which are authorised to provide training for bakers and mushroom growers. In previous years, the list of state-accredited adult education providers was considerably longer and covered a broader range of occupations. Many of these institutions, however, have not renewed their accreditation. The decline in the number of active providers may be associated with several factors, including the administrative and organisational requirements associated with accreditation, limited financial and institutional capacity among providers, and insufficient demand for some types of training. Consequently, access to formally recognised adult education and training opportunities in agriculture, food production, forestry and related green sectors appears to be relatively limited.

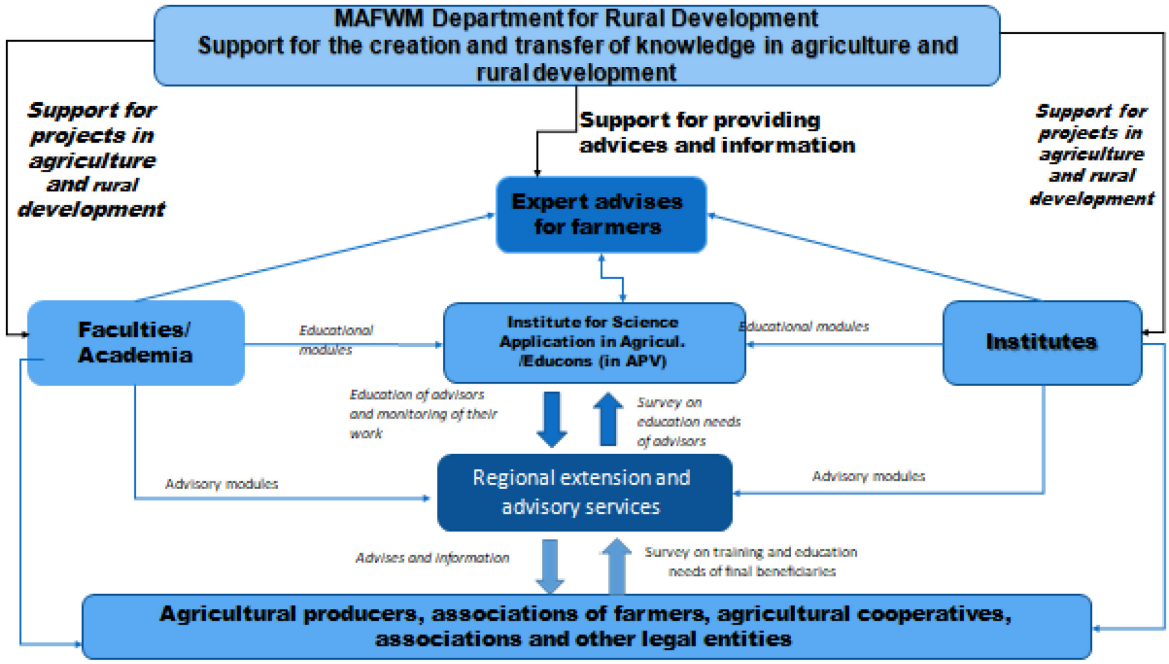
For farmers, however, opportunities for lifelong learning extend beyond formal adult education through the agricultural advisory and extension system. Advisory and extension services provide an opportunity to reach farmers who are not participating in formal education and to support continuous upgrading of their knowledge and skills. They can thus serve as an important bridge between formal green education, agricultural research and innovation, and the practical needs of farmers and rural businesses.

Responsibility for the agricultural knowledge and information system (AKIS) in Serbia is divided between the Sector for Rural Development within the Ministry of Agriculture, Forestry and Water Management, which is responsible for Central Serbia, and the Provincial Secretariat for Agriculture, Water Management and Forestry, which is responsible for the Autonomous Province of Vojvodina (AP Vojvodina). The system

comprises a regional network of 34 agricultural advisory and extension services (PSSS)[9], of which 22 operate in Central Serbia, including three privately owned services, and 12 in AP Vojvodina. Within Serbia's AKIS, the Institute for the Application of Science in Agriculture (IPN) and Educons University play an important role in linking agricultural research, advisory services and practical application. Their role includes the training and professional development of agricultural advisors, as well as the development and dissemination of methodological approaches and technical knowledge relevant to agricultural extension. Training provided to agricultural advisors can support the dissemination of knowledge on sustainable and climate-resilient agricultural practices, efficient use of natural resources, environmental protection, digitalisation and new agricultural technologies. It also contributes to strengthening advisors' communication and other professional skills needed to support farmers in adopting new practices and technologies..

Secondary agricultural schools have the potential to play a stronger role in Serbia's Agricultural Knowledge and Innovation System (AKIS), particularly through their practical facilities and links with local agricultural communities. However, their involvement remains more the exception than standard practice. In some cases, schools cooperate with local agricultural advisory and extension services (PSSS) through joint projects, demonstration activities, pilot initiatives, study visits and promotional events, creating opportunities to connect education with practical agricultural innovation.

Faculties and research institutes are more systematically integrated into AKIS through knowledge generation, education, advisory support, participation in joint projects and involvement in expert and advisory bodies. They also contribute to the transfer of new knowledge and technologies to farmers and other end users.



[9] These services are organized as stations, institutes or centers, depending on the type and scope of their work.

Scheme: AKIS system in Serbia

Source: author's elaboration

In addition to the PSSS, agricultural advisory services can also be provided by companies, legal entities and entrepreneurs registered in the Register of Business Entities. In order to carry out such advisory activities, agricultural advisors must be licensed, registered in the Register of Agricultural Advisors and employed by an authorized organization or entrepreneur. The licensing criteria for advisors include: Completion of a second-level higher education (master's degree, academic or vocational specialization, or a four-year undergraduate degree), at least one year of relevant professional experience in agriculture, and proof of completed training in agricultural advisory work.

Beyond formal education institutions and agricultural advisory services, a wider range of actors contributes to green education and knowledge transfer in Serbia. These include agricultural companies and technology providers, farmer organisations and cooperatives, professional associations, NGOs, and international organisations and development partners. Their contribution includes practical training, demonstration activities, technology transfer, professional development and pilot projects related to sustainable and climate-resilient agriculture, digitalisation and resource efficiency. Farmers themselves are also important actors in the knowledge system, particularly through peer-to-peer learning, participation in demonstration activities and sharing of practical experience. This broader network complements formal education and advisory services and provides additional channels for introducing new practices and technologies into agricultural production.

5. GOVERNMENT POLICY ON GREEN EDUCATION IN SERBIA

5.1.Institutional responsibilities for green education in Serbia

The institutional framework for green education in Serbia encompasses the education and training system, the qualifications framework, research and innovation institutions, and the agricultural advisory and knowledge-transfer system. There is no single institution responsible for green education as a distinct policy area. Instead, green education is integrated into existing formal education and training programmes, adult and lifelong learning, agricultural advisory services, research and innovation activities, and work-based learning. Overall, Serbia has a relatively broad institutional base for green education, but responsibilities are distributed across several institutions and policy areas.

Within the education system, the Ministry of Education has the central role in developing and implementing education policy and the regulatory framework for primary and secondary education, vocational and adult education, and higher education. Several national bodies provide professional and quality-assurance functions within this framework, including the National Education Council, Council for Vocational Education and Adult Education, National Council for Higher Education, Institute for the Improvement of Education (ZUOV), Institute for Education Quality and Evaluation (IEQE), and Commission for Accreditation and Quality Assurance (CAQA). Their respective responsibilities cover curriculum and programme development, educational standards, quality assurance, accreditation and the professional development of teachers and other education staff. Green-related knowledge and competences are therefore incorporated into education through the existing institutional and curricular framework rather than through a separate green education system.

The qualifications system provides an additional link between education and labour-market needs. The Qualifications Agency and the National Qualifications Framework of Serbia (NQFS) support the development and quality assurance of qualifications, including the definition of learning outcomes and competences relevant to particular occupations. Sector Councils provide a mechanism for involving employers and other stakeholders in identifying changing skills needs. This framework is particularly relevant to green education, where technological change, digitalisation, environmental requirements and new production practices are creating new or changing occupational competences.

In agriculture, the institutional framework extends beyond formal education into the AKIS. The Ministry of Agriculture, Forestry and Water Management, agricultural advisory and professional services (PSSS), universities, research institutes, agricultural schools, and farmer organisations all contribute to knowledge development and transfer. This creates a link between scientific research, education, advisory services and practical application at farm level. Other actors, including professional associations, private companies, NGOs and international development partners, complement the formal system through training, demonstrations, technology transfer and pilot activities.

The Chamber of Commerce and Industry of Serbia (CCIS) plays an important role in connecting vocational education with business needs and supporting the development of skills relevant to the green transition.

The Law on Dual Education assigns a number of tasks to the Serbian Chamber of Commerce and Industry[10]. Within the dual education system, its responsibilities include verifying employers' eligibility to provide work-based learning, training and licensing workplace instructors, and maintaining registers of eligible employers and dual education contracts. The Chamber also facilitates employers' involvement in identifying skills needs and planning enrolment in vocational education. Beyond these functions, the CCIS has participated in initiatives promoting the integration of green competences into secondary vocational education and has supported professional training for businesses in areas such as circular economy and resource efficiency.

At the subnational level, several institutions contribute to the implementation of green education and the transfer of knowledge.

- The **Autonomous Province of Vojvodina**, through its provincial secretariats responsible for education, higher education and scientific research, and agriculture, plays a role in the administration and support of educational institutions, research activities and agricultural advisory services within its respective competences.
- **Regional School Authorities** (RSAs) are decentralised units of the Ministry of Education, oversee the implementation of education regulations in schools, monitor school performance and provide professional support to school principals and teachers. They also help ensure that national education policies and standards are applied consistently across schools within their respective territories.
- **Local self-government units** contribute to the functioning of secondary schools through their responsibilities for school infrastructure and maintenance, as well as through their representatives on school boards. They also participate in planning secondary school enrolment: the local authority responsible for employment, in cooperation with school administrations, employers and other relevant stakeholders, helps prepare proposals for student enrolment across schools within the municipality or city. This provides an opportunity to take local economic conditions and skills needs into account when planning educational provision. Under the Law on Secondary Education and Upbringing[11], schools are also required to cooperate with local self-government units, including their youth offices. These responsibilities are relevant to green education because they can help strengthen links between schools, local employers and sectors such as agriculture and food processing.

Interviews with school representatives suggest that local self-government units do not always engage sufficiently in addressing local education needs. Interviewees described cases in which companies had reportedly abandoned planned investments because of a shortage of qualified workers and what they perceived as a lack of willingness on the part of local authorities to address the skills gap. They also noted that efforts to accommodate broader systemic constraints, such as insufficient teaching hours and shortages of teachers in certain subjects, can take precedence over more comprehensive reforms aimed at improving the responsiveness of education to local needs.

[10] https://prosveta.gov.rs/wp-content/uploads/2020/01/Masterplan-2019-ENG.pdf
[11] Law on secondary education and upbringing ("Official Gazette of RS", no. 55/2013, 101/2017, 27/2018 - other laws, 6/2020, 52/2021, 129/2021, 129/2021 - other laws, 92/2023 and 19/2025)

Curricula are developed and regulated primarily at the national level, with teaching and learning plans specifying the subjects, content and learning outcomes for each educational profile and grade. This leaves schools with limited scope to adapt curricula to local circumstances, employer needs and students' specific needs. Although schools are expected to take these factors into account, interviewees indicated that they receive limited guidance and often lack the capacity to make substantial adjustments. Consequently, most schools follow the national curriculum with only limited adaptation to local economic conditions, labour-market needs and the circumstances of their students[12].

5.2. Public authority strategy and key objectives of green education

The strategic framework relevant to green education in Serbia comprises several interconnected documents addressing education, environmental protection, climate change, agriculture, research and innovation.

The Strategy for the Development of Education and Upbringing in the Republic of Serbia until 2030[13] provides the overarching framework for education policy, including vocational education, higher education and adult learning. The Strategy envisages comprehensive reforms at all levels of education. Although the strategy does not provide specific goals and measures for green education, it highlights several overarching goals that are important:

- Improving vocational education and training: the Strategy commits to reforming education and training with the aim of improving the quality of VET. This includes the development of a national quality assurance framework with mandatory self- and peer-assessment and a new national concept for the training of VET school teachers.
- Alignment with labour market needs: There is a focus on harmonizing education policy with policy in the areas of science, technology and technological development in order to meet the demands of a modern society. This also includes adapting curricula to the current and future needs of the labor market.
- Integration of digital competencies: The strategy focuses on the development of digital education, the promotion of digital skills among teachers and students and the pedagogical application of digital technologies to improve the quality of teaching and learning.

The Environmental Protection Strategy of the Republic of Serbia until 2033 – Green Agenda for Serbia and the Programme for Adaptation to Changed Climate Conditions for 2023–2030[14] establish priorities related to environmental protection, sustainable resource management and climate adaptation, which generate demand for relevant knowledge and competences. The Strategy for Agriculture and Rural Development of the Republic of Serbia for 2026–2034[15] is particularly relevant to agricultural and agri-food education, given the need to strengthen knowledge and skills for sustainable production, modernisation and climate

[12] Maghnouj, S. et al. (2020), OECD Reviews of Evaluation and Assessment in Education: Serbia, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, https://doi.org/10.1787/225350d9-en
[13] *Official Gazette of the Republic of Serbia*, No.63/2021
[14] *Official Gazette of the Republic of Serbia*, No. 71/2026
[15] *Official Gazette of the Republic of Serbia*, No. 74/2026

resilience. In addition, the Smart Specialisation Strategy of the Republic of Serbia for 2020–2027[16] provides a framework for connecting education, research, innovation and business, particularly through its Food for the Future priority, which promotes more competitive, technologically advanced and sustainable food production. The Strategy for Scientific and Technological Development and Innovation of the Republic of Serbia for 2026–2030[17] further complements this framework by supporting research and innovation capacities relevant to the green transition. Although these documents do not constitute a single, dedicated strategy for green education, together they define important policy priorities and provide a basis for developing the knowledge and competences needed for the transition towards a greener economy.

5.3. Financing mechanisms for green education in Serbia

Green education in Serbia is financed through a combination of public funding, institutional revenues, employer contributions and external project support, with funding responsibilities varying across education levels and types of provision (Table 8).

The Ministry of Education covers major recurrent costs in primary and secondary education, particularly staff salaries, while local self-government units finance specified costs related to school facilities, maintenance and utilities. In vocational and dual education, employers contribute to work-based learning by providing training facilities and workplace instructors and remunerating students as required by law. The Chamber of Commerce and Industry of Serbia supports the implementation of dual education by coordinating cooperation between schools and employers.

Higher education funding differs between public and private institutions: public institutions receive state-budget funding alongside own-source revenues, whereas private institutions rely primarily on tuition fees and other own revenues.

Adult learning and agricultural advisory activities draw on a combination of public resources, employer and participant contributions, and external project funding. Public funding for agricultural advisory services is provided by the Ministry of Agriculture, Forestry and Water Management and, in the Autonomous Province of Vojvodina, by the Provincial Secretariat responsible for agriculture and agricultural advisory services. International donors and development partners complement these sources by supporting training, capacity building, equipment and projects promoting green skills, although such funding is often time-limited.

Table 8 Funding Sources and Responsibilities for Green Education in Serbia

Areas	Main funding sources and responsibilities
Primary and secondary education	The Ministry of Education covers major recurrent costs, particularly staff salaries and other centrally funded expenses. Local self-government units finance specified costs related to school facilities, maintenance, utilities and other locally assigned responsibilities.

[16] *Official Gazette of the Republic of Serbia*, Nos. 21/2020 and 96/2023.
[17] *Official Gazette of the Republic of Serbia*, No. 84/2026.

Vocational and dual education	Vocational schools are financed through public education budgets and other available resources. In dual education, employers bear costs related to workplace learning, including the provision of training facilities and instructors, as well as student remuneration as required by law. The Chamber of Commerce and Industry of Serbia supports implementation by coordinating cooperation between employers and schools, verifying employers' eligibility and training and licensing workplace instructors.
Higher education	Public higher education institutions receive funding from the state budget, including support for state-financed student places and institutional operating costs. They may also generate their own revenue through tuition fees, research grants, contracts and externally funded projects. The funds of the higher education institution coming from the state budget are earmarked for a specific budget line, while the funds from other sources (own revenues, which can come from various sources: projects, consultancy services, real estate, donations, equipment, facilities, etc.) are subject to management by the higher education institution itself. The use of the own revenues is governed by the institution's internal acts in accordance with its strategic goals. The ratio between self-generated income and income from the state budget varies greatly from one higher education institution to another. Private higher education institutions rely primarily on their own revenues, particularly tuition fees, although they may also receive income from research projects and other activities.
Adult learning and continuing vocational training	Funding may come from public institutions, employers, participants and externally funded projects. The source of funding depends on the type of training, the provider and the target group.
Agricultural advisory and extension services	Public funding is provided by the Ministry of Agriculture, Forestry and Water Management and, in the Autonomous Province of Vojvodina, by the Provincial Secretariat responsible for agriculture and agricultural advisory services. Additional training and knowledge-transfer activities may be supported through projects and other funding sources.
International donors and development partners	Donors and development partners provide additional, generally project-based funding for capacity building, teacher and advisor training, curriculum development, equipment, practical learning and initiatives promoting green skills. This support can complement public budgets, but its continuity depends on the availability of external funding. Projects such as GIZ, ETF, EU IPA Fund and Swiss PRO have supported: School modernization, teacher training, curriculum reform and development of green skills and career guidance systems

Beyond the distribution of funding responsibilities, an important issue is the extent to which existing financing arrangements adequately support the specific needs of green education. These needs include investment in modern equipment and facilities for practical learning, the continuous professional development of teachers, the integration of emerging green and digital skills into curricula, and stronger cooperation between education providers, research institutions and businesses. International and donor-funded projects can help address some of these needs, but their impact may be limited if activities cannot be sustained after project funding ends. Funding for green education is not systematically identified as a

separate budget category, making it difficult to determine the total resources allocated to this area. Green education activities are supported through regular education budgets and individual projects, but the extent to which these resources are sufficient to meet specific needs remains difficult to establish. This highlights the importance of improving the identification and monitoring of funding for green education, including the resources allocated, the institutions and learners reached, and the results achieved.

In addition, the financing of green education in Serbia is shaped by broader challenges affecting the education system, as well as by the specific costs associated with developing green skills. OECD (2024) analyses highlight the continued reliance on input-based funding in school education and differences in the financial capacity of local self-government units. These factors can affect schools' ability to invest in infrastructure, equipment and practical learning opportunities. They are particularly relevant to agricultural and technical education, where the development of green competences may require access to school farms, laboratories, workshops, modern machinery and digital technologies.

Limited resources for teacher professional development may also constrain the integration of emerging topics, including sustainable production, climate change, resource efficiency and digital technologies, into teaching practice. While international programmes and donor-funded projects can provide additional support for curriculum development, training and equipment, their contribution needs to be considered alongside the capacity of institutions to maintain activities and investments over time. The project funding is usually time-limited and does not necessarily ensure that activities or investments can be sustained after a project ends.

6. SWOT- ANALYSIS OF THE GREEN EDUCATIONAL SYSTEM IN SERBIA

The SWOT analysis below summarises the main strengths, weaknesses, opportunities and threats shaping the state of green education in Serbia. It considers the existing education and training infrastructure, the integration of green competences into curricula, the educational profile of the workforce, practical learning, institutional cooperation, agricultural advisory services and knowledge transfer, as well as the broader policy and funding environment.

Table 9 SWOT- analysis of the green educational system

STRENGTHS	WEAKNESSES
Established educational infrastructure. A wide network of secondary vocational schools, universities and faculties offers programmes in agriculture, food production and processing, forestry, veterinary medicine and related fields**.**	**Low educational attainment and limited formal training in the agricultural workforce.** The agri-food sector has the lowest educational attainment among Serbia's economic sectors, while only 5.3% of farmers have formal agricultural training. This constrains the development of green and digital competences and highlights the need for more accessible and targeted lifelong learning opportunities.
Existing foundations for green competences. Education programmes already include elements related to sustainable production, environmental protection, organic farming, resource efficiency, climate change and new technologies, although coverage varies**.**	**Low attractiveness of green professions and declining enrolment.** Limited awareness of career opportunities in agriculture and other green sectors, together with low student motivation, contributes to declining enrolment in agricultural vocational programmes and challenges in student retention and achievement.
Practical learning infrastructure. School farms, greenhouses, laboratories, workshops, provide a basis for developing applied skills. This network of schools provides a foundation for delivering practice-oriented green education and developing lifelong learning opportunities for farmers, agricultural workers and other stakeholders.	**Outdated curricula and insufficient integration of green competences**. Although some programmes have introduced sustainability-related content, curriculum reform remains uneven and often too slow to keep pace with developments in climate adaptation, sustainable production, circular economy and digital technologies.
Established dual education framework. Work-based learning provides a mechanism for cooperation between vocational schools and employers and for developing skills in real working environments.	**Traditional teaching methods and limited practical learning.** Teaching remains predominantly teacher-centred, while practical training is not always sufficiently connected to real-world challenges, interdisciplinary problem-solving or the needs of modern businesses**.**
Agricultural advisory and knowledge-transfer network. Agricultural advisory services provide an established channel for transferring	**Weak cooperation between education and the private sector.** Despite employers' concerns about future skills needs, structured partnerships with educational institutions remain limited.

knowledge and promoting improved and more sustainable farming practices**.**	Existing cooperation is often informal and insufficiently integrated into curricula and practical training.
Institutional and policy foundations. Existing education, qualifications, agricultural, environmental and research policy frameworks provide entry points for integrating green competences into education and training.	**Fragmented policy coordination and limited strategic integration.** Green education is not yet addressed through a unified policy framework. Responsibilities are distributed across different policy areas, while green education initiatives are often developed through individual projects rather than integrated into coordinated, long-term institutional reforms.
Experience with external cooperation. International programmes and development partners have supported curriculum development, teacher training, equipment, innovation and skills development**.** Serbian schools and faculties have participated in EU-funded projects, including Erasmus+, HORIZON, FAO cooperation and bilateral partnerships. These engagements help to raise educational standards, build capacity and familiarize students and teachers with global best practices.	**Funding constraints and uneven institutional capacity.** Limited funding for equipment, infrastructure and teacher professional development, combined with differences in the financial capacity of local governments and educational institutions, can constrain the implementation and sustainability of green education initiatives.
Growing presence of foreign companies in the green economy. The increasing presence of foreign companies operating in Serbia's green economy creates opportunities to strengthen links between education and labour-market needs. These companies can provide internships, support applied research and offer employment opportunities for graduates, helping to increase demand for green skills and improve the relevance of education and training.	
OPPORTUNITIES	**THREATS**
Green transformation of family farming. The large number of family farms in Serbia creates substantial potential for improving production practices, resource efficiency and climate resilience. Green education, vocational training and agricultural advisory services can support this transformation by helping farmers adopt sustainable methods and new technologies.	**Demographic decline and continued decrease in student numbers:** Population decline and the emigration of young people are expected to continue putting pressure on enrolment across education levels. This may threaten the long-term viability of specialised agricultural, forestry and other green education programmes, particularly where student numbers are already low.
Growing demand for green skills. The green transition, climate policies and the Sustainable Development Goals are increasing the importance of environmental and sustainability-related competences. Serbia can use this momentum to	**Regional inequalities in access to green education:** Southern and Eastern Serbia may face limited access to schools and higher education institutions offering relevant programmes, despite the importance of

strengthen the role of education in supporting green innovation, employability and the modernisation of the agri-food sector and forestry.	agriculture and natural resources to regional economies. These disparities risk reinforcing differences in access to skills development and opportunities for rural communities.
Digitalisation and smart agriculture. Advances in precision farming, artificial intelligence, digital decision-support tools and other technologies create opportunities to develop new educational profiles, update existing curricula and expand ICT-based and interdisciplinary teaching across agriculture, food production, forestry and environmental management.	**Insufficient policy responsiveness and coordination.** Without stronger policy coordination and institutional support, initiatives supporting green education and knowledge transfer may remain fragmented and progress slowly. As climate change, digitalisation and the green transition reshape skills and knowledge needs, delays in adapting policies and support mechanisms may widen the gap between the knowledge and competences available and those required by agriculture, forestry and the wider green economy.
Engaging young people through sustainability and entrepreneurship. Growing interest in climate change, sustainability and innovation can be used to make green professions more attractive to young people. More applied curricula, student-led projects and entrepreneurship training could strengthen links between sustainability challenges, career opportunities and the development of viable businesses in the agri-food sector.	**Inadequate and fragmented funding for green education and knowledge transfer.** Limited public resources, inflexible budget arrangements and disparities in the financial capacity of local governments and institutions may constrain investment in educational infrastructure, practical training, teacher and adviser development, and agricultural knowledge-transfer activities. The reliance on project-based external funding further creates uncertainty about the continuity and long-term sustainability of initiatives supporting green skills. Successful pilot initiatives risk ending when external funding expires.
International cooperation and scaling up successful initiatives. Programmes and organisations such as Erasmus+, Horizon Europe and FAO offer opportunities for curriculum innovation, teacher development, institutional partnerships, applied research and cross-border knowledge exchange. National co-funding and sustained institutional support could help embed successful pilot initiatives into mainstream education and training.	
Stronger partnerships between education, research and business. Cooperation between vocational schools, universities, research organisations, agricultural advisory services and companies can improve the relevance of curricula, expand work-based learning and facilitate the transfer of	

innovative and sustainable practices to farms and businesses.
Expansion of lifelong learning and targeted skills development. Flexible training opportunities for farmers, agricultural workers, advisers and rural entrepreneurs can help address gaps in formal education and support the continuous development of green and digital competences across the workforce.

The SWOT analysis indicates that Serbia has an established institutional and educational foundation for developing green skills, supported by a network of vocational schools, higher education institutions and agricultural advisory services. However, the potential of this infrastructure is constrained by declining student enrolment, limited practical learning, low levels of formal agricultural training, weak cooperation between education and business, and fragmented policy coordination. At the same time, the growing demand for green and digital skills, the potential for sustainable transformation of family farms, technological innovation and opportunities for international cooperation provide a basis for further development. Realising this potential will require a more coordinated and sustained approach that integrates green competences into education and training, strengthens practical learning and knowledge transfer, improves cooperation among relevant stakeholders, and ensures adequate and predictable funding.

7. GREEN EDUCATION INSTITUTIONS IN SERBIA - COOPERATION POTENTIAL AND POSSIBLE AREAS FOR COLLABORATION WITH DUTCH PARTNERS

The selection of potentially interested vocational schools for collaboration with Dutch educational institutions was based on several criteria, and was followed by in-depth interviews with selected schools. The pre-selection criteria included:

- The school is a member of the Community of Secondary Agricultural Schools, or its main focus is on training students in food production and processing, veterinary medicine or forestry.
- The school offers a broad range of educational profiles.
- The regional distribution of schools was taken into account to ensure balanced territorial representation.
- All interviewees were also asked to identify schools they believed had the capacity to engage in international cooperation projects and demonstrated a proactive approach to improving education. The schools mentioned most frequently were included in the selection.
- A school with a long-standing tradition and reputation in educating students for the dairy industry was also included in the selection: Dairy School with Dormitory “Obren Pejić” Pirot. In addition, one of the three forestry schools in Serbia, which is not a member of the Community of Secondary Agricultural Schools, was included to ensure that this segment of green education was represented.

Based on these criteria, 12 vocational schools were pre-selected and approached for interviews in April and May 2025. Interviews were successfully conducted with representatives of 10 schools, as it was not possible to establish contact with the other two. All 10 schools interviewed expressed a clear interest in cooperating with Dutch educational institutions (Table 10).

The selection of potentially interested higher education institutions for collaboration with Dutch partners was based on a set of clearly defined criteria to ensure a broad range of institutional profiles and balanced regional representation. The following criteria were considered in the selection process:

- Priority was given to higher education institutions that educate students in a broad range of agricultural and related disciplines. These include the Faculties of Agriculture at the Universities of Belgrade and Novi Sad, as well as the Faculty of Forestry at the University of Belgrade.
- Academies of applied studies offering vocational programmes in agriculture were also included to ensure that different types of institutions within the higher education system were represented.
- Regional distribution: The geographical location of institutions was taken into account to ensure balanced territorial representation across Serbia.

Following pre-selection, semi-structured interviews were conducted with representatives of the selected institutions (Table 11). The interviews focused on the following topics:

- The existence of institutional planning documents or action plans covering international cooperation in education and research;

- Ongoing or recently completed international projects, especially those involving Dutch institutions, and the thematic focus of such projects;
- Interest in future cooperation with educational institutions and/or companies from the Kingdom of the Netherlands, including priority themes and potential areas for joint activities.

Interviews with Serbian educational institutions and business-sector representatives indicated an interest in developing cooperation with Dutch partners. However, only one ongoing project involving a Dutch partner was identified at the time of the interviews. The interviews also highlighted different but complementary perspectives on the potential focus of such cooperation.

Business-sector representatives emphasised the need to strengthen the practical orientation of education and better prepare students for labour-market requirements. In their view, cooperation with Dutch partners could provide access to international experience and good practices, particularly in the application of sustainable and climate-smart agricultural practices, the use of digital technologies in agriculture, and the development of entrepreneurial and business skills.

Representatives of secondary agricultural schools and higher education institutions expressed interest in establishing cooperation with Dutch educational and research institutions, although specific priorities and cooperation formats would need to be further defined. Potential areas for collaboration include the exchange of knowledge and teaching practices, curriculum development, teacher professional development, student learning opportunities and joint practical activities.

Based on the perspectives of both business-sector representatives and educational institutions, several areas emerged as potential priorities for cooperation with Dutch partners:

- Sustainable and climate-smart agriculture**:** regenerative farming practices, climate change adaptation, sustainable production methods and the efficient use of natural resources.
- Digitalisation and smart farming: applications of artificial intelligence, digital decision-support tools and data-driven approaches to agricultural production and farm management.
- Entrepreneurship and business management: practical skills for establishing and managing agricultural businesses, including financial planning, business development, access to markets, value chains and supply chain management.

Cooperation in these areas could combine the expertise of Dutch educational and research institutions with the practical experience of businesses, supporting curriculum development, hands-on learning and the preparation of students for the evolving needs of the agri-food sector.

The following tables present the findings from interviews with representatives of vocational schools and higher education institutions, focusing on their institutional capacities and experience in international cooperation.

Table 10 List of schools for potential collaboration

	School	Three-year programs	Four-year programs	
1	Secondary School "Sveti Trifun" with Dormitory Aleksandrovac	Food industry operator Baker	Winemaker Agricultural technician Food biotechnology technician	The school carried out the Erasmus+ mobility project Sustainable Agriculture in 2022. Ten agricultural technician students spent time in Athens, where they participated in activities organized by the IN-PLANET Institute and gained practical experience in organic farming and modern mechanization. The school is also involved in the Erasmus+ project She has a job – Craft training of women entrepreneurs in rural areas with partners from Italy, Romania, Lithuania and Spain (FEMUR). The project has the following objectives: To enable female teachers in rural areas to integrate entrepreneurial thinking into the classroom; to link schools with local businesses to tailor vocational training to the needs of the labor market; to equip female students with practical entrepreneurial skills; and to develop an adaptable guide for vocational education in rural areas. In addition, students and teachers from the Winemaker program participated in the Erasmus+ mobility project Wine Paths through Europe with partners from North Macedonia and Slovenia. The project focused on: Improving the employability of students from the Viticulture and Winemaking program; building entrepreneurial and teamwork skills, gaining international experience in the wine industry and strengthening partnerships and improving practical teaching. The school is open to collaboration with national and international institutions, especially in the areas of fruit growing, viticulture and winemaking.
2	Agricultural School with Dormitory PK "Beograd"	Butcher Baker Florist-gardener	Agricultural technician Food - biotechnology technician Veterinary technician Horticultural technician	The school participated in an Erasmus+ project with Slovenia, Slovakia and the Netherlands on sustainable materials in horticulture (Introduce PhenoGeno Roses to the school and vice versa) and in an FAO project on climate change. As a result, Climate Change in Agriculture was introduced as an elective subject. Other green education subjects include: Sustainable energy sources (new), Ecology and the environment and Organic farming (fruit and vegetables). A key challenge is the changing profile of students: students used to come from agricultural backgrounds, but now most come from urban areas and show less interest in farming. There are no economic topics related to agriculture in the curriculum, and perhaps this would be of greater interest to the students enrolled. In addition, the school has difficulty adapting to program innovations as the teaching staff is predominantly older.
3	Agricultural School with Dormitory Valjevo	Agricultural machinery operator Baker	Agricultural technician Veterinary technician	The school collaborated with a Norwegian institution on a pig breeding project that focused on improving animal nutrition and husbandry conditions to reduce the need for vaccinations and antibiotics.

			Horticultural technician Food - biotechnology technician	The principal is interested in international collaborations and projects, including those related to green education. The current curriculum covers three relevant topics: Climate change in agriculture; Organic farming (mainly plant-oriented); Ecology and environmental protection A key challenge is the shift from theory-based teaching to more practical learning. While progress has been made, further reforms and better integration of subjects are needed. The school also struggles with low student interest in agricultural programs.
4	High Agricultural School Zrenjanin	Agricultural machinery operator Florist-gardener	Agricultural technician Veterinary technician Horticultural technician	The school maintains diverse and active cooperation with educational institutions both in Serbia and abroad. Due to a blockade/strike at the time of the interview, the principal was unable to provide any specific information on current projects. The school is committed to improving and modernizing teaching and served as a pilot institution for the "Climate Change" course, which was developed in cooperation with the FAO. A special feature of the school is that many students come from large family farms. After graduating, they usually return to their own farms. They believe that their students are more motivated, committed and interested in practical knowledge and new technologies that they learn about at school because they will use them in their farms.
5	Forestry School, Kraljevo	Operators in furniture production Carpenter Forester	Hunting and fishing technician Landscape architecture technician Forestry technician	The school has collaborated with institutions from Greece (reforestation), Austria (landscape architecture) and Turkey (wood processing). It is currently involved in an Erasmus+ project with a Macedonian organization (Young Roots for Climate Change), where students learn to assess the impact of climate change on forests and biodiversity, produce seedlings, carry out reforestation and participate in local environmental planning. The school is open to all forms of international cooperation, especially in the field of green education. Although green topics are not at the center of the curriculum, they are taught in subjects such as: Forest vegetation; Forest planning and management and Construction and maintenance of green spaces. The school is committed to reducing general education subjects in favor of a practice-oriented education, which it has largely implemented. With over 500 students enrolled, it has no problems with student interest or enrollment.
7	Dairy School with Dormitory "Obren Pejić" Pirot	Baker Dairy processor	Veterinary technician	The school is currently implementing the European Excellence in Dairying project in cooperation with the Faculty of Agriculture (Belgrade/Zemun), the social partners, the Serbian Chamber of Commerce and the Institute for the Application of Science in Agriculture. The schools has participated in several teacher mobility programs: Malta (2022, 2023), Bucharest and Brussels (2024). In 2024, together with the Genista Research Foundation, the school participated in the NEW JEDI project in Bucharest, which focused on the use of green technologies in the hospitality industry. In the same year, the school took part in the SwAI-CITIZENS-TOWN project in Kortrijk, Belgium, which investigated the involvement of citizens and municipalities in the circular economy. As part of the project, the participants visited the Howest College of Applied Sciences, a regional recycling center and the HangarK creative center.

				Regular student exchange projects are organized with partner schools in Gabrovo and Pirdop (Bulgaria), Kranj (Slovenia) and Prijedor (Republika Srpska). Student mobility also took place in Gabrovo (2018), Ljubljana (2021), Thessaloniki (2022) and Braga (2024). Green education topics are integrated into the curriculum through the subjects of biology, ecology and environmental protection and are further supported by an active extracurricular environmental section. The school is keen to participate in new projects. It regards the current education system as outdated and is committed to greater automation of the curriculum. As a vocational institution, it emphasizes the importance of versatile practical training — from traditional producers to automated industrial lines. They emphasize that theoretical education needs to go beyond the traditional teacher-and-table model. A major problem continues to be the declining number of students. The school believes that involving young people in food production and processing at an early age and better promotion of the profession could help reverse this trend.
8	Agricultural and Veterinary School with Dormitory "Svilajnac"	Butcher	Veterinary technician Agricultural technician Food - biotechnology technician Agricultural machinery operator	The school participates in several Erasmus+ projects, including projects to reduce transport emissions and promote healthy lifestyles through nutrition. Partners include schools from Italy, Romania, Turkey, North Macedonia and France. There is a 20-year partnership with a Swedish school with regular student exchanges in veterinary medicine. The school is still open to further national and international cooperation. The most important subjects in the current green education curriculum include the following subjects: Climate change in agriculture; Organic farming (vegetables, livestock and arable farming) and Integrated environmental aspects in plant production The main challenges in education are adapting to new technologies and preparing students for digital technologies. They also point to the lack of cross-curricular integration, where students struggle to connect content from different disciplines. Strengthening cross-school collaboration, including within Serbia, is seen as essential.
9	High School Agricultural and Food Science School Sombor	Food industry operator Agricultural machinery operator Florist-gardener Baker	Agricultural Technician for Digital Technologies Veterinary technician	The school has actively participated in numerous exchange programs, cross-border projects and initiatives to modernize and improving the quality of teaching. It maintains close cooperation with the local community and large regional companies. The school is also one of the initiators for the development of a new training profile: Agricultural Technician for Digital Technologies.
10	Agricultural School with Dormitory Futog	Agricultural machinery operator Florist-gardener	Agricultural Technician for Digital Technologies Veterinary technician Agricultural technician Horticultural technician	The school previously participated in a project on sustainable agriculture with partners from Hungary and Croatia, though details are hard to remember. Recently, it has applied for a project on sustainable greenhouse agriculture in cooperation with BioSens, the results of which are still pending. The school is open to cooperation with national and foreign schools on a variety of topics. Environmental education is represented in the curriculum through the following subjects:

				Organic farming (agriculture, fruit growing, viticulture), Ecology and environmental protection, Climate change in Agriculture (new subject) In response to the need for modernization, the school has introduced a new course of study: Agricultural Technician in Digital Technologies. In the first class, 12 students were enrolled, but many of them dropped out due to unfulfilled expectations. Overall, the curriculum remains outdated and innovation is slow to be introduced. For 15 years, the school participates in the "Cleaner and Greener Schools of Vojvodina" program, which aims to promote ecological awareness and environmental knowledge. The program is led by the school's environmental team, and the school has received several awards for its contributions.
11	Agricultural School "Radoš Jovanović Selja", Prokulje	Baker Butcher Food industry operator	Veterinary technician Agricultural machinery operator Agricultural technician	In the 2021/2022 school year, the school is working with an institution from Macedonia on a project on the cultivation of herbs and medicinal plants and with a Greek school on projects on recipes and nutrition. The school is open to cooperation with domestic and international partners. It has an active Environmental Section, run in cooperation with the local government, where students participate in clean-up activities in remote villages, around schools, and abandoned farms. Environmental education is taught in several subjects, including: Environmental Protection, Climate change in agriculture and Organic production (fruit and vegetables), Sustainable agriculture, Medicinal and ornamental plants. The biggest challenge for the school is the low enrolment figures, which are largely due to prejudices against agricultural education. To address this, the school regularly organizes promotional events.

Source: author's elaboration

Note: The two schools that did not respond to the interview request were not presented in the table.

Table 11 List of high education institutions preselected for potential collaboration

	Institution	Degree level	
	1. Faculty of Agriculture University of Belgrade	Undergraduate studies (Bachelor), Master's degree studies, Specialized academic studies, Doctoral studies, Doctoral studies in English	The Faculty maintains active co-operation with numerous academic institutions in the Western Balkans, the European Union, Eastern Europe, Asia and North America. Cooperation with the private sector and public institutions is diverse and is implemented in various modalities, including joint participation in projects funded by the National Science Fund, start-up initiatives, bilateral cooperation with foreign partners and participation in international programmes such as Erasmus+ and Horizon Europe. The most recent examples of collaboration with Dutch partners include the projects: 1. Towards Innovation - driven and smart solutions in short food supply chains, SMARTCHAIN, H2020-SFS-2016-2017/H2020-SFS-2017-2, period 2018-2021,

			Dutch partners: UNIVERSITEIT UTRECHT (Netherlands), WAGENINGEN UNIVERSITY (Netherlands), STICHTING NEDERLANDS BAKKERIJ CENTRUM (Netherlands), AMPED CONCEPTS BV (Netherlands), BRANDT & LEVIE BV (Netherlands) 2. Europearn Excellence in dairy learning (AEDIL dairy COVE), 101055548-AEDIL-dairy-CoVE, Erasmus+ Program - Centres of Vocational Excellence, period 2022-2026, Dutch partners: Stichting Aeres Groep (Netherlands), Stichting Van Hall Larenstein (Netherlands), FrieslandCampina Nederland BV (Netherlands)
	2. Faculty of Agriculture University of Novi Sad	Bachelor, Master, Integrated (Veterinary medicine), Erasmus Mundus Joint Master Degree (4 semesters, 120 ECTS), PhD	The Faculty of Agriculture of the University of Novi Sad, in cooperation with Wageningen University, is currently preparing a project proposal for Horizon Europe under the HORIZON-CL6-2025-02-FARM2FORK-07 call: Fostering animal breeding and genetics for climate change adaptation and mitigation, improved robustness and resilience. Several other forms of collaboration with Dutch institutions have been established or actively pursued in recent years. In particular, the faculty is involved in the ongoing COST Action CA23127: Group on Insect Nutrition: To Open Nutritional Innovative Challenges (GIN-TONIC), in which Wageningen University is also involved as a partner. In addition, the Faculty participated in a project proposal submitted under the ERASMUS-EDU-2024-PEX-COVE call: Hatching Futures: Revolutionizing Poultry Education with Continuous Innovation through Ongoing Collaboration between Education and Industry. The project was led by AERES University of Applied Sciences in Wageningen, but was not selected for funding.
	3. Academy of Applied Studies Šabac	Undergraduate applied studies, Master applied studies	The Academy of Applied Studies in Šabac maintains active cooperation with scientific and educational institutions in the Western Balkans region, primarily through participation in international initiatives such as ERASMUS+ projects (Key Actions K131 and K171) and COST actions. However, the Academy has no experience of working with institutions from the the Netherlands. One of the main challenges the institution faces is the low interest of students in green subjects, which significantly affects enrolment numbers and the sustainability of the programme. Based on the 2023 accreditation, the school organizes education in only three areas: 1. Phytomedicine, 2. Agronomy (Module: Plant Production and Module: Zoo-technics) and 3. Management
	Faculty of Agronomy - Čačak	Bachelor, Master, PhD	The Faculty of Agronomy in Čačak maintains active collaboration with domestic and regional higher education institutions, especially through bilateral cooperation projects and participation in COST actions. In recent years, the faculty has successfully carried out joint projects with partners from China, Hungary, Italy, Russia and Slovakia. The faculty is currently preparing new project proposals under Horizon Europe and the Eureka 2024 call. The Faculty of Agricultural Sciences has expressed a broad interest in collaborating with national and international institutions. It is open to various forms of collaboration, including joint research initiatives, academic mobility, curriculum development and applied innovation projects.

	Toplička Academy of Applied Studies - Prokuplje	Undergraduate applied studies, Master applied studies, Dual studies	Toplicka Academy of Applied Studies has demonstrated engagement in international cooperation, particularly through its participation in the ERASMUS+ project titled "Improving Skills for Sustainable and Ecological Tourism." The main objective of the project was to enhance environmentally responsible competencies among students, hotel industry professionals, and other stakeholders in the tourism sector. Project partners included the University of Macedonia – Thessaloniki, the University of Dubrovnik, Hotel Ramonda – Rtanj, and the NGO "Strujni krug" from Zagreb. Starting from the 2025/26 academic year, the academy plans to launch a new study program in gastronomy, expanding its educational portfolio and aligning with trends in sustainable food, hospitality, and tourism. Faculty members also recalled participation in the larger LANDS project, implemented under the Erasmus+ framework, which focused on the development and promotion of agritourism in Serbia. While no additional international projects were mentioned, the academy's demonstrated interest for future cooperation—including with Dutch institutions.
	Faculty of Forestry University of Belgrade	Undergraduate vocational studies, Undergraduate studies (Bachelor), Master's degree studies, Master's degree studies in English (2022), Doctoral studies	As the only higher education institution in Serbia specialising in forestry, the Faculty of Forestry maintains a broad and active portfolio of international cooperation. The Faculty participates in numerous COST actions, Horizon Europe and other international projects. A notable example of successful collaboration is the partnership with the People's Republic of China, where a group of Chinese students are currently studying for a Master's degree at the Faculty, fully funded by the Chinese government. During the consultations for this report, faculty representatives expressed their interest in exploring new forms of collaboration.

8. CONCLUSION

The analysis of green education in Serbia reveals a system with an established institutional and educational foundation, but with challenges in adapting to the changing knowledge and skills requirements of the agri-food sector and forestry. The existence of broad network of specialised vocational schools and higher education institutions provides a basis for developing the competences needed for the green transition. However, declining enrolment, the limited formal agricultural education of much of the labour force, and persistent gaps between theoretical instruction and practical learning highlight the challenges of equipping current and future workers with the knowledge and skills needed for the green transition.

The findings also point to the importance of considering green education as part of a broader system of knowledge development and transfer. Educational and research institutions, businesses, and agricultural advisory services each contribute to the development and application of knowledge. However, cooperation among them remains limited. The capacity of education to support the green transition therefore depends not only on curricula and formal qualifications, but also on opportunities to apply knowledge in practice and maintain links between education, research and production.

The institutional review and stakeholder interviews indicate that Serbian educational institutions possess experience and capacities that could provide a basis for international cooperation. Interest in collaboration with Dutch partners was expressed by both educational institutions and business-sector representatives, although established cooperation remains limited. The findings suggest that the potential for collaboration extends beyond student and teacher exchanges to include curriculum development, practical training, new teaching approaches and knowledge transfer. The specific scope of this potential varies across institutions, reflecting differences in their educational profiles, expertise, facilities and existing international links.

Overall, green education in Serbia has a foundation on which further development can build, but its future contribution to the green transition is shaped by the interaction between educational provision, practical learning, institutional capacity and cooperation with the wider agricultural (knowledge) system.

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10. ANNEXES

Annex 1

Table: Structure of the education system in Serbia

<table>
<tr><th>ISCED 2011</th><th>Starting age</th><th>Grade</th><th colspan="5">Education programme in English (examinations where applicable)</th></tr>
<tr><td>8</td><td>24/25</td><td rowspan="3"></td><td colspan="2">Higher education - Doctoral Studies - Doktorske akademske studije</td><td colspan="3"></td></tr>
<tr><td>7</td><td>22/23</td><td>Higher education - Master Academic Studies - Master akademskestudije</td><td rowspan="2">First and second cycle integrated studies - Integrisane akademske studije</td><td>Higher education - Specialist Academic Studies - Specijalističkestrukovnes</td><td>Higher education - Master Professional Studies - Master Strukovnestudije</td><td>Higher education - Specialist Professional Studies - Specijalističkestrukovnestud</td></tr>
<tr><td>6</td><td>19</td><td>Higher education (Basic academic studies) - Osnovne</td><td></td><td>Higher education (Basic professional studies) - Osnovne strukovne</td><td></td></tr>
<tr><td>4</td><td>18</td><td colspan="4"></td><td>Post- secondary education (Specialist education/Craft education) - Specijalističko obraz/Majstorsko obraz</td></tr>
<tr><td rowspan="4">3</td><td rowspan="4">15</td><td>12</td><td rowspan="4">Upper secondary - Four-year general secondary education - Opšte srednje (School-level exam)</td><td rowspan="4">Upper secondary - Four-year art secondary education - Srednje umetničko obraz (School-level exam)</td><td rowspan="4">Upper secondary - Four-year VET secondary education - Srednje stručno obrazovanje (School-level exam)</td><td></td></tr>
<tr><td>11</td><td rowspan="3">Upper secondary -Three-year VET secondary education - Srednje stručno obrazovanje (School-level exam)</td></tr>
<tr><td>10</td></tr>
<tr><td>9</td></tr>
<tr><td rowspan="4">2</td><td rowspan="4">11</td><td>8</td><td colspan="5" rowspan="8">Primary & lower secondary education - Osnovno obrazovanje
(National-level final examination at the end of Grade 8)
Compulsory</td></tr>
<tr><td>7</td></tr>
<tr><td>6</td></tr>
<tr><td>5</td></tr>
<tr><td rowspan="4">1</td><td rowspan="4">7</td><td>4</td></tr>
<tr><td>3</td></tr>
<tr><td>2</td></tr>
<tr><td>1</td></tr>
<tr><td rowspan="3">0</td><td>5.5</td><td rowspan="3"></td><td colspan="5">Preparatory pre-school education - Predškolsko vaspitanje i obrazovanje
Compulsory</td></tr>
<tr><td>3</td><td colspan="5">Kindergarten - Predškolski programme</td></tr>
<tr><td>0.6</td><td colspan="5">Nursery - Jasleni programme</td></tr>
</table>

Source: MoESTD. 2018. *OECD Review of Evaluation and Assessment: Country Background Report for Serbia*, Ministry of Education, Science and Technological Development.

Annex 2

Table: List of agricultural vocational schools (schools belonging to the Association of Agricultural Vocational Schools)

	three-year programs	four-year programs
Secondary School "Sveti Trifun" with Dormitory Aleksandrovac	✓	✓
Biotechnological School "Šumatovac" Aleksinac	✓	✓
High School Barajevo		✓
Agricultural School Bač	✓	✓
Agricultural School with Dormitory Bačka Topola	✓	✓
Agricultural School with Dormitory PK "Beograd"	✓	✓
Chemical Food Technological School Belgrade	✓	✓
High School Blace	✓	✓
Mačva Secondary School Bogatić		✓
Technical School "Boško Krstić" Bojnik	✓	✓
Agricultural School with Dormitory Valjevo	✓	✓
High School Agricultural and Veterinary School "Stevan Sinđelić" Vranje		✓
High Vocational School "4. juli" Vrbas	✓	✓
Agricultural School Vršac	✓	✓
Secondary School "Svetozar Krstić Toza" Vučje	✓	
High School Grocka	✓	
High School Žitorađa		✓
High School Agricultural School Zrenjanin	✓	✓
Chemical Food and Textile School "Uroš Predić" Zrenjanin		✓
Secondary School "Borislav Mihajlović Mihiz", Irig		✓
PTSC "Besedes Jožef" Kanjiža	✓	✓
Secondary Vocational School "Miloš Crnjanski" Kikinda	✓	✓
Secondary School "Vasa Pelagić" Kovin	✓	
First Technical School Kragujevac		✓
Agricultural School "Dr Đorđe Radić" Kraljevo	✓	✓
Chemical and Technological School Kruševac	✓	✓
Agricultural School Leskovac	✓	✓
Agricultural School with a Dormitory Priština - Lesak	✓	✓
Agricultural School with a Dormitory "Rajko Bosnić" Bukovo - Negotin	✓	✓
Food Chemistry School Niš	✓	✓

Technical School "Pavle Savić" Novi Sad	✓"	
Agricultural and Chemical School Obrenovac	✓	✓
Agricultural School "Josif Pančić", Pančevo	✓	✓
Technical School "23 maj" Pančevo	✓	✓
Technical School Paraćin	✓	✓
Dairy School with Dormitory "Obren Pejić" Pirot	✓	✓
Agricultural School with Dormitory "Sonja Marinković" Požarevac	✓	✓
Agricultural School with Dormitory "Ljubo Mićić", Požega	✓	✓
Agricultural School "Radoš Jovanović - Selja" Prokuplje	✓	✓
Agricultural and Veterinary School with Dormitory Rekovac	✓	✓
High Vocational School "Stevan Petrović Brile", Ruma	✓	✓
Agricultural and Veterinary School with Dormitory "Svilajnac"	✓	✓
Technical and Agricultural School with Dormitory Sjenica	✓	✓
Textile Technological and Agricultural School "Despot Đurađ" Smederevo	✓	✓
High School "Žikica Damnjanović" Smederevska Palanka	✓	✓
High School Agricultural and Food Science School Sombor	✓	✓
Chemical and Technological School Subotica		✓
Agricultural - Forestry School "Josif Pančić" Surdulica	✓	✓
High School "Kralj Petar I" Topola		✓
Agricultural School with Dormitory Futog	✓	✓
High Vocational School Crvenka		✓
Food and Catering School Čačak	✓	✓
High Agricultural School with Dormitory Šabac	✓	✓

Table: List of secondary vocational schools in Serbia offering courses in agriculture, food production, forestry, veterinary medicine and the environment

City/Municipality	**three-year programs**	**four-year programs**
Arandjelovac		Technical School "Mileta Nikolić"
Belgrade (Vozdovac)		Geological and Hydrometeorological School "Milutin Milanković"
Belgrade (Vozdovac)		Technical School for Leather Design
Belgrade (New Belgrade)		Technical School "Zmaj"
Belgrade (Old Town)		Technical School "Drvo Art"
Bečej	School for primary and secondary education "Bratstvo"	
Bor		Technical School
Vranje		Chemical Technology School

Grdelica (Town)		High School
Zaječar	School for primary and secondary education "Jelena Majstorović"	
Koceljeva		High School
Kraljevo	Forestry School	Forestry School
Kučevo		Vocational High School
Lepina	Agricultural School Lipljan	Agricultural School Lipljan
Leskovac		Chemical and Technological School "Božidar Đorđević Kukar"
Loznica		High School Saint Sava
Novi Sad	School for primary and secondary education "Milan Petrovic"	
Niš (Crveni Krst)		Neimar Civil Engineering Technical School
Novi Pazar		Hotel and Tourism School
Novi Sad		Mileva Marić-Einstein Technical School
Novi Sad		Pavle Savić Technical School
Osečina (Town)		Educational Center "Braća Nedić"
Pirot		Secondary vocational school
Rača	"Đura Jakšić" High School	
Sombor		"Saint Sava" High School
Sremska Mitrovica		School of Food, Forestry and Chemistry
Subotica		Polytechnic school
Ub	Technical School Ub	
Čoka	Chemical and Food Secondary School	Chemical and Food Secondary School
Šabac		Vocational Chemical and Textile School
Šid		Technical School "Nikola Tesla"

Annex 3 **Examples of teaching and learning plan for the vocational education subjects for the several training profiles in the field of green education (number of teaching hours annually)**

	Agricultural machinery operator	Baker	Food technician	Winegrower-winemaker	Veterinary technician	Forestry technician	Landscape architecture technician
	Compulsory vocational subjects						
1	Physics	Physics	Physics	Pedology and agrochemistry	Anatomy and physiology	Biology	Draft geometry
2	Fundamentals of agricultural technology	Chemistry	Chemistry	Laboratory work techniques	Animal husbandry with nutrition	Geography in forestry	The aesthetics of the landscape
3	Engines and tractors	Operations in bakery	Human nutrition	Plant protection	Pharmacology	Forest ecoclimatology	Landscape typology
4	Agricultural machinery	Production of bakery products	Laboratory work techniques	Organic chemistry	Pathology	Pedolgy with geology	Biology
5	Fundamentals of agricultural production	Food safety	Analytical chemistry	Analytical chemistry	Animal hygiene and care	Forest vegetation	Computer graphics
6	Operation of agricultural technology	Facilities and equipment in the bakery	Basic food technology (water technology)	Agricultural technique	Epizootiology	Production of planting material	Botany
7	Entrepreneurship	Market of bakery products	Technological operations	Analytical chemistry	Maternity	Geodesy in forestry	Florist
8	Professional practice	Entrepreneurship	Enzymology	viticulture	Animal diseases	Mechanization in forestry	Decorative dendrology
9		Professional practice	Physical chemistry	Technological operations	Basics of surgery	Raising and caring for forests	Biodesign
10			Microbiology	Technological microbiology	Entrepreneurship	Hunting	Landscape architectural construction
11			Elective food technologies 1	Basics of food technology	Professional practice	Use of forests	Landscape ecology

12			Elective food technologies 2	Winemaking		Dendrometry	Maintenance of green spaces
13			Quality control in food technology	Grape products		Forest management planning	Landscape architectural design
14			Entrepreneurship	Entrepreneurship		Forest roads	Entrepreneurship
15			Professional practice	Professional practice		Forest protection	Professional practice
16						Endangered and protected species	
17						Entrepreneurship	
	Elective vocational education subjects						
1	Hydraulics and Pneumatics	Agricultural tourism	Basics of tourism	Wine culture	Bee diseases	Production of endangered game species	Protected natural resources
2	Precision Agriculture	Cooperatives	Agricultural tourism	Organic production in viticulture	Goat farming	Mushroom farming	Therapeutic gardens
3	Agritourism	Basics of hospitality and tourism	Basics of catering	Fruit and special wines	Fish pathology	Medicinal herbs	Landscape drawing
4	Cooperatives	Preparation of hot desserts	Preparing grilled dishes	Agricultural tourism	Sports equestrianism	Protection of natural resources	Sustainable development
5	Climate Change in Agriculture	Artistically shaped dough	Basics of confectionery	Cooperative society	Pathology of exotic animals		
6		Production of traditional types of bread	History of brewing		Animal welfare		
7			Wine culture		Hygiene of foods of animal origin		
8			Cooperatives		Cynology		

9					Agricultural tourism		
10					Organic production in animal husbandry		

Source: https://pravno-informacioni-sistem.rs/eli/rep/pg/ministarstva/pravilnik/2012/6/1/reg
Source: https://pravno-informacioni-sistem.rs/eli/rep/pg/ministarstva/pravilnik/2022/8/6/reg

Additional Annex from the Netherlands Ministry of Agriculture, Fisheries, Food Security and Nature

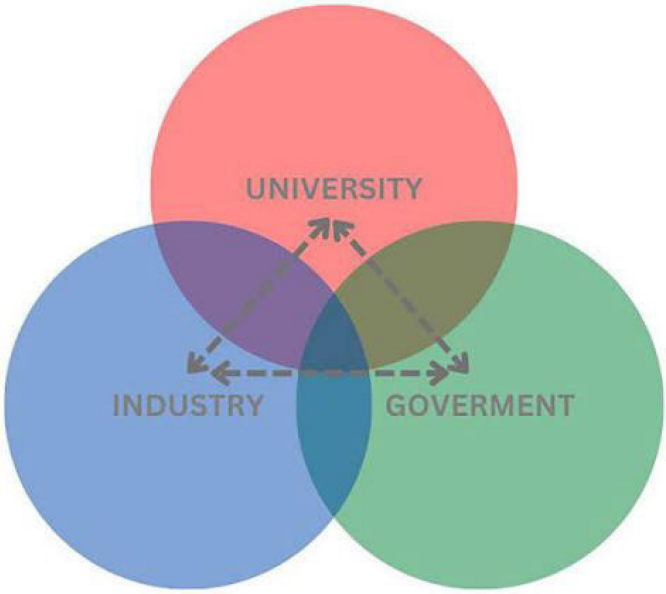
During the webinar organized by the Netherlands Embassy early October 2026 for Dutch and Serbian interested parties, the representative of the Dutch Ministry of Agriculture, Fisheries, Food Security and Nature (LVVN) presented **some possible sources of finance** for cooperation between Dutch and Serbian partners.

On of the topics during the discussion in the webinar was the challenge to **make agriculture and green education attractive for young people**. Following this discussion LVVN shared a few examples on how the Netherlands has worked on "making agriculture more sexy".

In this Annex the Netherlands Embassy shares the information on these two topics. This information is part of the report, but was not prepared by Prof. Natalija Bogdanov. Nor do those the information intend to be complete.

Some possible sources of finance:

The Netherlands government (the Ministry of LVVN) over decades has strongly supported the role of education in the development of its agriculture. Through its "triple helix" approach education and research have a clear position in this development:



Also in its international and bilateral policy, LVVN wishes to promote this cooperation.



The representative of LVVN presented a (non-exhaustive!) list of potential funding sources. Some sources are national, often well known to the Dutch partners, other sources are available on an EU/European level:

- SMP -SeedMoney Projects
  Support small and medium-sized enterprises in the agri-food and horticulture sectors in launching innovative, international partnerships.
- KIEM GoFood& International Cooperation
  To conduct (explorative) applied research through new practice-oriented research activities. Maximum € 40.000.
- Erasmus
  Student exchange.
- Erasmus+
  Vocational Secondary Education. Partnerships in Europe.
- Marie Curie Actions
  European grant program that promotes the international cross-sectoral mobility and career development of scientists.
- Groenpact vouchers
  Open till 30 October. Maximum € 12.500.
- Horizon

Making Green Education attractive for young people in the Netherlands:

In Serbia and the Netherlands, just like globally, it is a challenge to interest young people to engage in agriculture. In the six examples from the Netherlands below young people are stimulated to learn about agriculture and green education. To give you an impression, we have included links to the Dutch websites.

1. **Wegwijs Groen Onderwijs'**

Through TikTok, Instagram, Facebook, and outdoor advertising, young people aged 12 to 18, their parents, and education professionals are made aware of the opportunities offered by green programs. Students are also enlisted as ambassadors to share their experiences with their own programs. The campaign reached more than 15 million people, generated 43,000 website visits, and led to more than 1,100 referrals to green degree programs.
Welkom - Wegwijs Groen Onderwijs
Meer jongeren kiezen voor groen onderwijs dankzij campagne Wegwijs Groen Onderwijs - PlatformBloem

2. **Present Green Education in a much broader context**

Show how broad the green sector is. Present agricultural education not only as traditional farming, but also as technology, entrepreneurship, innovation, and food security.
Een herkenbaar verhaal over groen slaat aan in het vmbo

3. **Learning about food at a young age**

Through school gardens, vegetable gardening classes, cooking, tasting, and food education, children learn about the origins of food. The program thus fosters an interest in food and its production even before students choose a field of study.

This requires collaboration between the government, schools, and community organizations.
www.jonglereneten.nl

4. **Learning on the farm and in the greenhouse**

Hands-On Education and Experiential Learning. Through farm education, guest lectures by farmers, and farm visits, introduce students to the day-to-day realities of food production. Organize hands-on days at farms, where young people can sow, plant, and harvest crops themselves and try out modern cultivation techniques. Also show them what happens to the vegetables after they're harvested.

5. **Showcasing vocational competitions and talent**

Vocational high school students demonstrate their craftsmanship in competitions, from preparation at school to national finals. This showcases practical skills, provides students with a challenge, and can inspire other young people to choose vocational education.
https://www.worldskillsnetherlands.nl/vakwedstrijden/skills-heroes?utm_source=chatgpt.com

6. **Education and the business community collaborating on the agriculture of the future**

A concrete example is the Greenport Horti Campus centered around the World Horti Center. Here, companies, vocational and higher vocational education institutions, knowledge organizations, and the government work together on education, innovation, and talent development.

What makes this collaboration special:

- Companies present real-world problems. Students work on challenges from the horticultural sector, such as those related to energy, digitization, and cultivation techniques.
- Learning takes place in a practical setting. Students visit companies, work in greenhouses, and complete hands-on assignments in collaboration with business owners.
- Education is aligned with the job market. Companies help keep training programs up to date and connect with potential future employees early on.
- Young people get a close-up look at the modern sector. The combination of technology, entrepreneurship, and sustainable food production shows that horticulture is more than just traditional farming.

Learning Community - World Horti Center