

Acceptance of EU Forest Related Policies in Candidate States – the Case of Serbian Citizens

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Abstract

This study juxtaposes the perceptions of Serbian citizens about forests and forestry with the European Union (EU) forest related policies. The paper is aimed at identifying if both their understanding of the problem, victim, causer, helper and preferred solutions is aligned. Given Serbia’s status as an EU candidate country, understanding how national perspectives align with supranational policies is crucial for policy formulation and acceptance. The results are used to estimate if there will be acceptance of EU forest related policies within the candidate state Serbia. The perception of Serbian citizens towards forests and forestry was monitored over a period of twelve years by means of a representative survey (2012, 2016 and 2024). These findings are contrasted with document analyses of forest related policies stemming from EU. Results indicate limited alignment between the Serbian population’s perspectives and the EU’s forest related policies. Although both recognize the state of forests to be problematic and see the forest as a victim, there is only little correspondence when it comes to causers, helpers and preferred solutions. Based on the results, we conclude that tailored approaches of EU to forest related policies in candidate countries, integrating region-specific preferences, would strengthen a democratic approach of the EU and lead to a higher level of acceptance within candidate states. This is well in line with the principle of subsidiarity.

Key words: subsidiarity; democratic forest policy; policy preference; policy alignment; Western Balkans; Central and Eastern Europe (CEE)

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1. Introduction: EU forest policy viable for candidate states?

Democratic policies play a crucial role in EU accession processes (European Commission 2025a). The incorporation of citizens’ preferences has been an integral democratic element of EU policy for a long time and has been implemented in various policy documents (e.g., European Union 1993, 2007, 2012). A prime example can be found in the Treaty of Lisbon (2007) under the title ‘provisions on democratic principles’ in article 8 B, where it states that EU institutions “shall give citizens and representative associations the opportunity to make known and publicly exchange their views in all areas of Union action” (European Union 2007).

Candidate countries are not exempt from this, as potential members must comply with all EU standards

and rules, including guarantees of democracy and the rule of law (European Commission 2025a). Currently, a total of ten countries pursue integration with the European Union: Albania, Bosnia and Herzegovina, Georgia, Moldova, Montenegro, North Macedonia, Serbia, Turkey and Ukraine (European Union 2025). Candidate countries from the Western Balkans (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia) follow a unique enlargement process called the *Stabilization and Association Process* (SAP), the goal of which is to stabilize the countries politically and economically (European Union 2025). Recent comparison of Western Balkan countries towards EU integration show that Serbia “[...] has made significant progress over the years towards EU integration” while demonstrating the highest intensity in the negotiation process (Hadzhipetrova-Lachova 2024). At the same time, the

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most recent poll carried out in Western Balkans on a representative sample through face-to-face interviews (IRI 2024) shows that percent of citizens who would vote for EU membership in a referendum is in Serbia much lower (40%) compared to remaining countries (e.g., 68% in North Macedonia to 92% in Albania).

As with most Western Balkan countries, forest governance and policy structures in Serbia have undergone significant changes since the 1990s, following the breakup of Yugoslavia (Pezdevšek Malovrh et al. 2015; Stevanov et al. 2018; Nichiforel et al. 2020). In order to adapt to the requirements of the newly introduced democratic and economic system, forest legislation was reshaped in 1991 and 2010 by implementation of new forest acts (Nichiforel et al. 2020). Alongside these processes, starting from 2006, former state forests were returned to churches and religious communities (according to the law on Restitution of Property 1% of all Serbian forests (Nonić et al. 2015)) and the first “Forest development strategy of the Republic Serbia“ was formulated (Ministry of Agriculture, Forestry and Water Economy of the Republic of Serbia 2006).

Forests cover 29% of Serbia’s territory, of which the state holds approximately 53% and private forests account for 47% (Banković et al. 2009). State forests are primarily managed by two main public enterprises: *Srbijašume* for central Serbia and *Vojvodinašume* for the province of Vojvodina, as well as several other public organizations for national parks and protective forests (Nonić et al. 2015). Both *Srbijašume* and *Vojvodinašume* are focused towards “profitability, by prioritizing marketable goods” (Stevanov et al. 2018, p. 898), industry timber and fuel wood in the first place. Sustainability of forest stands is important and anchored in the long tradition of forest management planning (ibid.). However, due to the low average road density in central Serbian forests, the accessible forest area is vulnerable to overexploitation (ibid., p. 905).

Opposite to the strong state forestry, private forest sector in Serbia is rather weak (Stevanov et al. 2018). The private ownership, counting for 500,000 to 900,000 private forest owners (Petrovic 2012 in: Stevanov et al. 2018) is very fragmented (over 72% of owner’s properties are smaller than 1 ha) and private forest owners’ associations are rare (Nonić et al. 2015; Pezdevšek Malovrh et al. 2015). The wood and woody biomass from private forests is mainly being used by the owners directly and less by the industry for energy or raw material purposes (Jankov et al. 2012; Halder et al. 2014). Strict forest legislation, meaning among others obligatory forest management plans for all private forests and marking of each individual tree for harvest (Nonić et al. 2015), is accompanied by the rather weak ministry department (Stevanov et al. 2018).

As far as the existing literature on citizens’ perceptions of forests and forestry is concerned, the most comprehensive study at national level is represented by the

research by Fabra-Crespo et al. (2014), who carried out several surveys in Finland over a period of fifteen years. Other studies that monitor public opinion often focus on specific sub-areas of forests and forestry (e.g., Stern et al. 2018; Malkamäki et al. 2022; Paletto et al. 2022). At the EU level, there are studies about forests and forestry in general (notably Rametsteiner & Kraxner (2003), Rametsteiner et al. (2009), Ranacher et al. (2020) and Winkel et al. (2022)), as well as the special Eurobarometer on different environmental issues like environmental policy and legislation, green and circular economy, hazardous chemicals or water-related issues (e.g., European Union 2020, 2024b). With respect to candidate countries the authors are not aware of extant literature specifically addressing public perception of forests and forestry in general, but rather perceptions about specific aspects like urban green spaces (Krajter Ostoić et al. 2017) or energy wood production (Halder et al. 2014).

This paper addresses this gap by conducting representative surveys in Serbia as EU candidate state. By reference to EU forest policy, our research question is: Are the perspectives of Serbian citizens on forests and forestry aligned with the EU forest related policy program? Following this research question, we aim at identifying if the national and supranational perspective correspond, in order to estimate if acceptance of EU forest related policy will be strong in candidate country.

After having outlined the main idea of the study in the introduction (Chapter 1), we will elaborate further on theory on acceptance and preferences of citizens (Chapter 2). This is followed by a description of the methods used for the survey and juxtaposition with EU policies (Chapter 3). In the results we describe the preferences of Serbian citizens, main aspects of the forest related program of the EU and a confrontation of both (Chapter 4). This is followed by a critical discussion of the results (Chapter 5). In the final section, we draw conclusions about options for EU forest related policies in candidate countries and relate that to possibilities for further research (Chapter 6).

2. Theoretical framework: Policy acceptance and citizen preferences

The claim of the EU forest related policy in candidate states is that the EU policy will improve the living conditions of people in candidate states and therefore the EU policy expects high acceptance among the people (cf. European Commission 2019). This high expectation holds also for the candidate state Serbia, including the forest and environmental sector.

Scientifically, acceptance can be described as approval of a certain product or policy (Bertsch et al. 2016). For answering our research question, we rely on the theory of policy acceptance. According to PytlikZillig et al.

(2018), *policy acceptance* refers to judgments and evaluations about the policy being in place. It is expected to be strongly affected by *policy preferences*, which is defined as an evaluative attitude of preferring, liking, agreeing with, and being ‘for’ a given policy (ibid.). There are four key elements causing policy acceptance (Table 1). The first element is forest related policy itself. Its goals and instruments define the content, which is the subject of acceptance. The second element is the media discourse, making this subject transparent in a critical manner (Kleinschmit et al. 2021). The third are the preferences of citizens (PytlíkZillig et al. 2018). As citizen policy preferences about topics and attitudes toward these topics tend to correlate (ibid.), citizen’s attitudes can be used as proxy for policy preference. The fourth element is the state of the forest and living conditions. An alignment of all four elements indicates high acceptance. In regard to the issue of EU candidate states, two levels are decisive: the EU level and the national level of the candidate state. It is evident that the relation between two levels, four elements and acceptance is rather complex. Our analysis focuses on the alignment of EU forest related policy with forest related citizen preferences (see Table 1, highlighted). The extent to which these two elements align sheds light into the expected acceptance of EU forest related policy. Even though remaining elements are not all included into our analysis (due to restrictions in empirical evidence we could gain within this research project), some relevant conclusions could be drawn for the accession process (see results).

Public policies, as outputs of decision-making processes and respective policy programs pursued by political actors and authorities (Rohe 1994), are oriented toward solving problems (Howlett & Ramesh 2003). Different actors often have diverging understandings of the same problem and frame it differently within their policy domain (Elomina & Pülzl 2021). According to the framing approach, the core framing tasks are comprised of diagnostic framing, prognostic framing and motivational framing (Snow & Benford 1988; Benford & Snow 2000; Kleinschmit & Sjöstedt 2014; Östberg & Kleinschmit 2016; Kleinschmit et al. 2021; Mack et al. 2023). Diagnostic and prognostic framing proved relevant for our analytical scheme, while “diagnostic framing asks the basic question of what the problem is, [...] but also identifies the victims of a given problem and specific causes” (Benford & Snow 2000). In a prognostic framing, a plan for tackling the problem is central (ibid.). Accordingly,

diagnostic and prognostic framing differentiate among a *problem*, the problem’s *causers* and *victims* (diagnostic frame) as well as *helpers* and *solutions* (prognostic frame). Usually, there is correspondence between diagnostic and prognostic framing: from assessing the causal context (diagnostic framing), ideas about objectives, strategies and tactics start to emerge (prognostic framing) (Snow & Benford 1988; Benford & Snow 2000). In this line we formulate the following descriptive hypothesis: If Serbian citizens and the EU forest related policy program identify the same problems and victims, causes, helpers and solutions to forest related problems, then both perspectives are well aligned. If both perspectives correspond well, the acceptance of EU forest related policies within Serbian population will be high. Under (forest policy) program we understand statements made at a societal level with regard to the utilization and/or conservation of forests (Krott 2001).

3. Material and methods

Empirical evidence for testing our descriptive hypothesis refers to (i) preferences of Serbian citizens and (ii) the EU forest related policy program:

(i) Instead of comparing EU policy with Serbian policy, we are interested in the opinion of Serbian citizens, as potential citizens of EU. Citizens are a central component of the EU’s selfimage (cf. European Union 2007); it is therefore of relevance how Serbian citizens view the EU and their policies. Preferences of citizens are considered to be measured best with the help of a representative survey. “Surveys measure perception in the form of opinions, which represent the social reality of the people” (Fabra-Crespo et al. 2014). In such reality, formed by the interactions of people and strongly influenced by the mass media, people generally believe as if it was real (Searle 1997 in: Fabra-Crespo et al. 2014). Preferences can be used to derive which solutions to a problem are favored. In the case of complex issues however, where citizens lack expertise, we assume that asking citizens for their opinion and deriving solutions from this is a more promising approach than directly questioning them for solutions. In our paper we focus on the citizen attitudes toward forests and forestry (not on the narratives in Serbian media, statements made by experts / political actors, or the prevailing public discourse). It is generally

Table 1. Visualization of the conceptual framework. The tick marks (✓) indicate that all four elements exist at both EU and national level. The grey tiles show what this paper is focused on; within the grey tiles it is indicated which methods were used.

Level	Key elements				Acceptance of forest related policy
	Forest related policy	Forest related media discourse	Forest related citizen’s preferences	State of forests and living conditions	
EU	✓ Document analysis	✓	✓	✓	✓
Candidate state Serbia	✓	✓	✓ Representative survey	✓	✓

assumed that attitudes are major determinants of behavior, i.e. people typically, although not always, behave in a way that is consistent with their attitudes (Nickerson 2003 in: Fabra-Crespo et al. 2014). In research on attitudes, considering evaluation associated with the object (forest in our case), an individual is viewed as a consumer or citizen (as in our case) (Fabra-Crespo et al. 2014).

(ii) Forest policy in the EU is considered to be fragmented and weakly institutionalized (Pülzl et al. 2018) due to the fact that the EU has no competence when it comes to forestry (Lazdinis et al. 2009; Pülzl et al. 2013; Winkel et al. 2013; Lazdinis et al. 2019). However, there are EU documents that contain statements at a societal level regarding the use and/or conservation of forests (= forest policy programs, Krott 2001) and as such influence forest management in EU member states. Those are included into the document analysis (chapter 3.2).

3.1. Representative survey

The data used for analysis refer to the longitudinal representative survey. This survey, concerned with the attitudes of Serbian people towards forests and forestry, is representative for Serbian 18+ population and has been performed in 2024 for the third time. Before that, surveys were conducted in 2016 and 2012. Since 2012 the core questions of the survey remained the same for the purpose of facilitating the production of comparable results. Depending on the changes in available resources (finances) and actuality of issues, some statements have been removed or new were added, which is the practice in common (cf. Fabra-Crespo et al. 2014). Topics covered included the state of the country's forests, forest use, threats to forests and sustainable forest management. Based mainly on Rametsteiner (2000; 2003; 2009) and the proposed EU questionnaire¹, a 'core' of 11 questions² was developed (including several sub questions). These questions, partly multiple-choice, partly ranking matrix, were being asked in all three surveys.

The poll was designed in Serbian language and carried out by a specialized agency. All three surveys were conducted by the same agency using computer assisted telephone interviews (CATI). The last (2024) was conducted 75% as CATI, while 25% were conducted via online survey (that equals 6% of all answers from 2012–2024). The initial survey was carried out in the presence of one author, who is proficient in Serbian language and was responsible for developing the survey questionnaire.

A multi-stage probability sampling method was used by the agency to design a representative sample on the

basis of socio-demographic variables, including gender, age, educational attainment, employment status and region (administrative region, urbanicity and share of the forest in the region area). Sample was generated from the last available official census, e.g., for the survey in 2024 census data from 2022. Although sample size decreased over time from 1,003 (2012) over 612 (2016) to 508 (2024) interviewees, mainly due to resource constraints, representativity is given for all three surveys (by means of a thorough sampling procedure involving a random, two-step stratified sampling – for details see Appendix). A comparison between the different survey periods was conducted by the authors, in order to identify similarities and differences, as well as the development of the results over time. For the interpretation of the results, socio-demographic aspects were considered, but not integrated into results as the amount of data would require an in-depth analysis which would exceed the scope of this study.

3.2. Document analysis

In 2021, the most recent study of forest related EU policies was published. Elomina & Pülzl (2021) examined 36 policy documents, which are mentioned in the 2013 EU forest strategy and thus were considered to play a crucial role in forest related EU policy. The document's foci range from forestry in the narrower sense (e.g., 2013 Forest Strategy, 2010 EU Timber Regulation) over biodiversity (e.g., 1992 Habitats Directive) and climate policies (e.g., 2018 Land Use and Land Use Change in Forestry Regulation) to energy-related documents (e.g., 2018 New Renewable Energy Directive). The authors applied a qualitative content analysis while having nine main frames and 57 sub-frames coded. The resulting network of codes and sub-codes enabled the authors to quantify which frames were used most frequently (cf. Fig. 6), which in turn was used to estimate the relative importance of various aspects within the context of EU forest related policy documents. Selected results of Elomina & Pülzl (2021) proved to be useful secondary evidence used for comparison of survey results with the frames found in the forest related EU policy documents.

To also cover the statements from the most recent EU forest related policies (published/updated after the period analyzed by Elomina & Pülzl), the following program elements available online were considered relevant: the updated versions of the Biodiversity Strategy (2020 instead of 2011) and the Forest Strategy (2021 instead of 2013), the 2023 Regulation on Deforestation-free

¹ Comparative basis with EU surveys on forests and forestry is relevant for further research. For designing the Serbian questionnaire in 2012, it was relevant that previously to setting up their questions, Rametsteiner and colleagues asked forest experts to pick the most relevant forest related topics for a survey of the public opinion on forests, which was simultaneously supposed to be used for subsequent EU public opinion surveys (Rametsteiner et al. 2009).

² The total number of questions asked and the related length of the interviews varied from 2012 to 2024 due to actuality of issues and availability of resources. A list of the questions that were used for this study can be found in the appendix.

Products (EUDR) and the 2024 Nature Restoration Law (NRL). Besides, the Political Guidelines for the European Commission 2024–2029 and its predecessor for the period of 2019–2024 were examined, in order to gain insights on the priorities in the near future. The text of each document was downloaded and read in full length. The qualitative text analysis was performed by the social scientist having forestry background (author of the paper) and focused on identifying key statements related to main analytical categories used in the current paper (problems, victims, causers, helpers, solutions) and summarizing them in a text and table form. Also, quotations were collected to underpin key statements (cf. Chapter 4.2).

4. Results: Preferences of Serbian citizens and EU forest related policies

4.1. Preferences of Serbian citizens towards forests and forestry

Protection and recreation as top priorities

The importance of forests in protecting people from natural hazards and preserving biodiversity is the top priority (Fig. 1). This finding is stable over the timeframe of 12 years and even a slight increase is observable: the importance of forests in protecting people and settlements

from natural disasters increased from 82% in 2012 to 86% in 2016/2024. Together with protection, using forests as a place for recreation and leisure activities can be observed as another priority (Fig. 1). This result is also stable over the last 12 years, even though a slight decrease is observable (75% in 2012/2016 and 70% in 2024).

At the same time, forest use for the purpose of wood material and wood energy is considered to play a minor role (Fig. 1). A steady decline in the importance of wood energy use is observable over the 12-year period (Fig. 1).

Forests in serious danger

Almost half of the citizens (46%) is not satisfied with the overall condition of the Serbian forests (Fig. 2). Alarming is the statistically significant (0.05 level) downward trend in the last 12 years: the average sum of ‘satisfied’³ fell from 30% (2012) to 28% (2016) to 23% (2024). In 2024, citizens perceived that both forest area and the diversity of plants and animals are decreasing (in both cases there is no significant change in attitudes when compared to surveys 2012 and 2016):

- from 96% of citizens who expressed opinion, majority (72% in 2024) is holding a preference that the forest area is decreasing (Fig. 2).
- similar results occur when asked about the number of plants and animals in the forest: in 2024, 64% assume decrease, 14% stagnation, 12% increase (Fig. 2; 10% say they do not know).

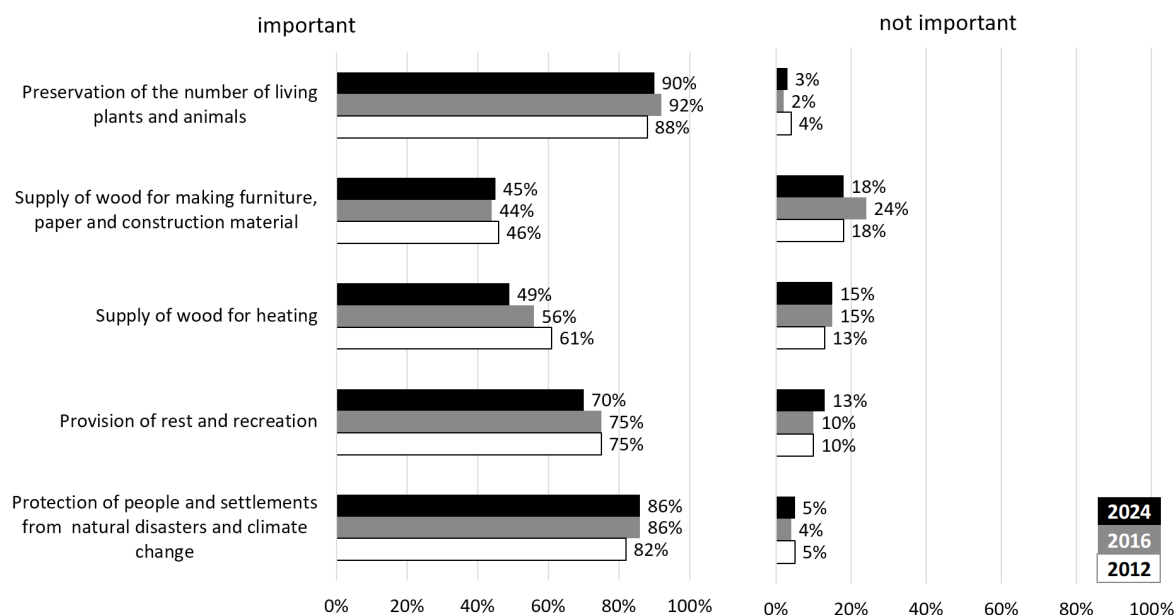


Fig. 1. Responses to the question “How important are the following aspects for the Serbian people? Please rate them on a scale from 1 to 5, where 1 means ‘not important at all’ and 5 means ‘very important’”.

³ Comprising the answers ‘satisfied’ and ‘very satisfied’.

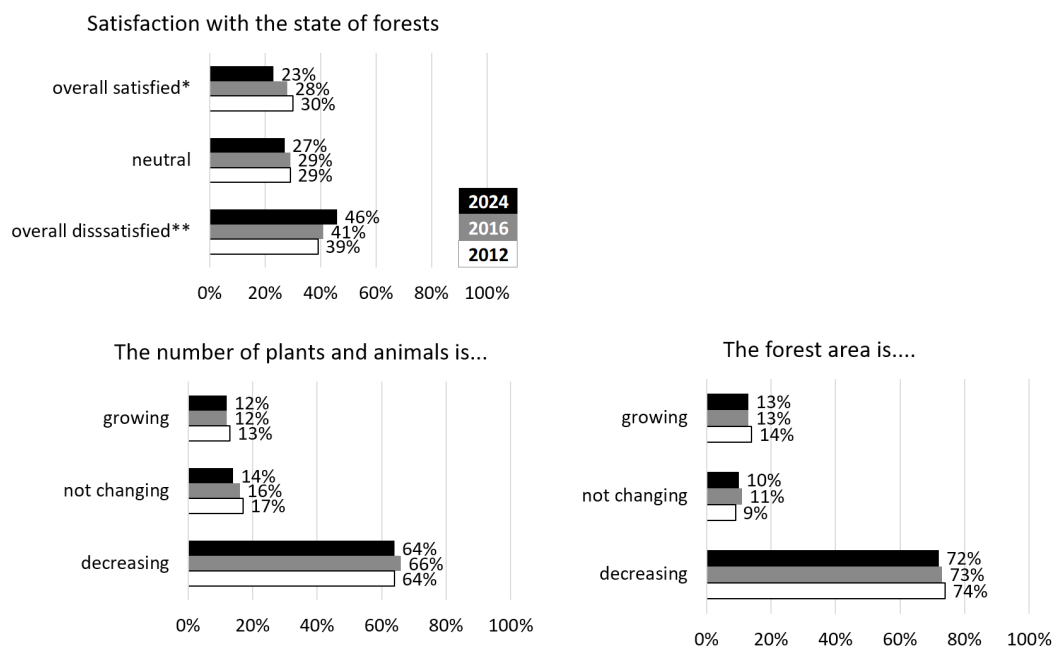


Fig. 2. Survey results regarding satisfaction with the state of Serbian forests and the perceived change regarding total forests area and total amount of species. Notes: *comprising the answers ‘satisfied’ and ‘very satisfied’; **comprising the answers ‘dissatisfied’ and ‘very dissatisfied’.

When it comes to the question whether they consider Serbian forests as sustainably managed⁴, one in two interviewees (52%) believes that in many forests more wood is cut than what grows. At the same time, only 17% hold the exact opposite opinion and think that many forests are being managed in a sustainable manner.

Respondents also identified a number of factors that they felt contributed to the deterioration of the situation (Fig. 3). From respondents who were not fully satisfied with the overall condition of Serbian forests (n = 467), two thirds (65%) hold an opinion⁵ that illegal logging has led to the current situation. This is followed by cutting

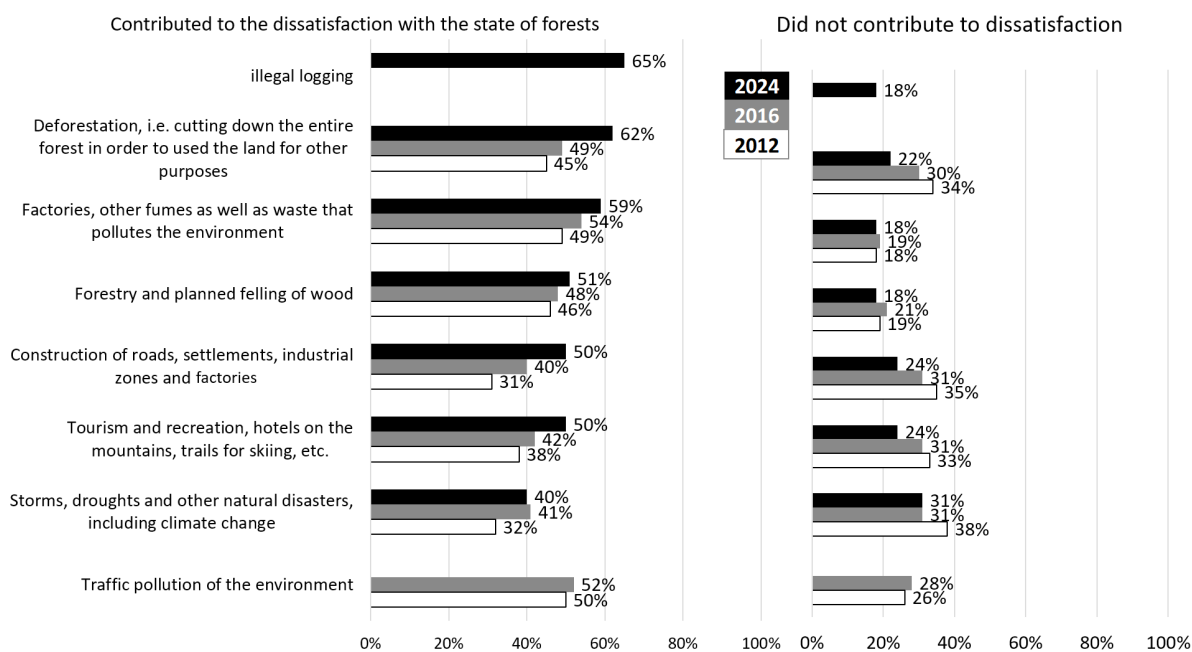


Fig. 3. Results to the question “What contributed to your dissatisfaction with the current state of forests?”.

⁴ Sustainable management is focused here on the aspects of yield being sustainable. Therefore, the interviewees were told that sustainable management implies that “the forest is handled carefully and that no more wood is cut than the one that grows”.

⁵ Comprising the answers ‘contributed’ and ‘contributed a lot’.

down the forest in order to use that land for other purposes (62%), and for the construction of infrastructure such as roads, settlements, industrial zones and factories (50%). Even though response options were adapted in 2024, by finetuning wood harvesting influence into planned harvesting and illegal logging, the comparative results show that – according to the respondents – the impact of almost all investigated reasons has increased over the years (Fig. 3).

Apart from relating the current unsatisfactory forest condition with illegal logging, half of all respondents (n = 508) judged illegal logging also as the most threatening factor for the Serbian forest in general (survey 2024). This is followed by forest fire (24%) and regular logging (15%). Forest fire as a cause declines over the period of 12 years: 41% in 2012 to 27% in 2016 to 24% in 2024. In 2024, the aspect of climate change was included into the survey after potential causes were finetuned as well. Yet, only a small percent of respondents (6%) recognizes it as the real threat.

Nevertheless, while being asked about the activities that would contribute most to the climate change mitigation, on average 80% of the interviewees (n = 508) replied that maintenance and planting of trees in forests, as well as planting trees for wood as raw material, contributes to climate change mitigation.

Who could help?

A question that only appeared in the 2024 survey was: “Who could help improve the current state of the forest?”. Among the three categories – national, EU, international (= China)⁶ – it is clearly the Serbian experts, and

among them it is forestry experts, who are perceived as most trusted helper. 69% of people hold an opinion that Serbian forestry experts could mostly help improve the current forest state, followed by Serbian experts in ecology (66%). Also, EU experts in forestry are trusted more than EU ecology experts (Fig. 4). Chinese forestry and ecology experts ranked last (Fig. 4).

Which future uses are preferred as solutions?

With regard to the desired future type of use, a focus on protective and recreational functions is recognizable among Serbian citizens: according to the longitudinal survey results, forests should be used more to protect plants and animals (88% in 2024) and for recreational purposes (82% in 2024). The data suggest that the desire to protect biodiversity is slightly increasing at the expense of recreational use (Fig. 5).

Moreover, in 2024, 82% would like to see forests used primarily as buffers against natural hazards, benefiting people and nature alike. Although there are no statistically significant changes, it is noticeable that the importance of and the desire for protective and recreational functions is emphasized, whereas the economic functions of forests play a subordinate role (Fig. 5). This latter aspect is reflected in the fact that almost half of the interviewees (47%) support a reduction in the use of timber for material use (e.g., furniture, paper, building materials). Also, 41% are in favor of reducing the use for firewood. According to our methodological approach, we derive from the direct and indirect answers that Serbian people opt for the enhancement of protective functions, the promotion of (local) recreation, and a diminution in wood production.

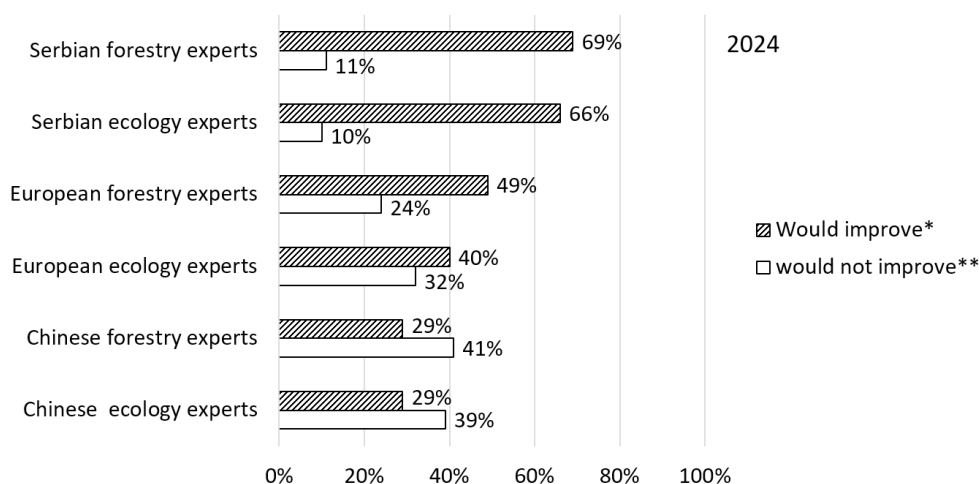


Fig. 4. Survey results regarding the question „To what extent can the following experts improve the current state of forests?“.

Notes: *Comprising the answers ‘would improve’ and ‘would improve a lot’; **comprising the answers ‘would not improve’ and ‘would not approve at all’.

⁶Chinese experts were included as a response option in the survey, while (compared to other countries) China’s direct presence in Serbia is enlarging through investments and expertise in infrastructure projects and new facilities, e.g., Linglong Tire factory in the city of Zrenjanin (IRI 2024), signaling growing ambitions in the region. 66% of Serbian citizens are aware of major Chinese investments (ibid.)

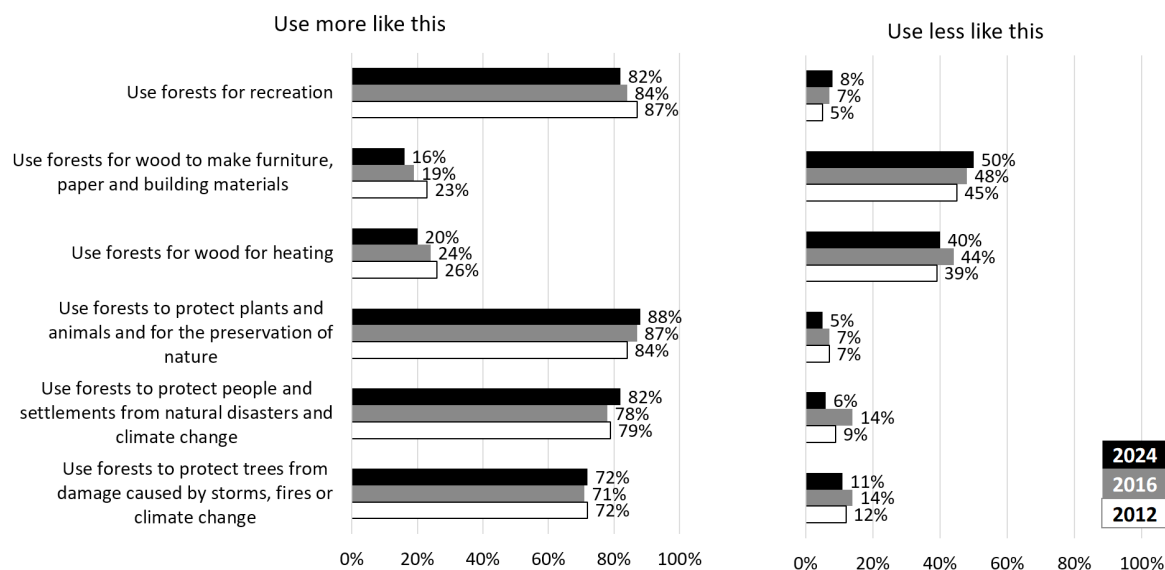


Fig. 5. Survey results regarding question “How should forests be used in Serbia?”.

4.2. The core of EU forest related policies

Forest use and climate change mitigation are most important

Forests play a vital role for the EU as sources of numerous environmental, economic and cultural services (European Commission 2021). European forests are seen as being “under increasing strain” (ibid.), posing a great threat to the EU and are thus considered “this generation’s defining task” (European Commission 2019). The problem’s dimensions are numerous: Accelerated tree cover loss, an overall poor conservation status, and an increasing threat from forest fires are all consequences of climate change (European Commission 2021).

Simultaneously, the European Union acknowledges the significance of forests in addressing climate change, particularly through their capacity to sequester carbon in wood (European Commission 2021). Roots to the forest affecting problems are generally addressed to global drivers, that increase greenhouse gas emissions and lead to a great loss of biodiversity by extracting resources and processing materials, fuels and food (ibid., European Commission 2020). The EU’s industry is not seen as exempt from this, remaining “too ‘linear’ and dependent on a throughput of new materials”, stressing the need for a circular economy system (European Commission 2019). In addition to the pressing concerns regarding climate change and high CO₂ emissions, illegal harvesting of timber causing global deforestation is seen as a problematic issue (European Union 2023). Nevertheless, natural effects are also mentioned as causes. On the way to a “sustainable and climate neutral future”, the expertise of forest managers is seen as vital for a successful transition (European Commission 2021). The EU views its role as primarily supportive (political influence, financial resources and field expertise), enabling national forestry

experts to carry out their mission (European Commission 2019). It regards itself as a “global leader” due to its economic size and political influence on international panels (ibid.). It is therefore convinced that it must “continue to promote and implement ambitious environment, climate and energy policies across the world” by being a “credible example” (European Commission 2019). To achieve its goals, the EU stresses the importance of cooperation within the union, as well as partnership with UN, G7, G20, WTO plus “other relevant international fora” (European Commission 2019).

Analysis of Elomina & Pülzl (2021), on how forests are framed in EU forest related policies, included qualitative frame analysis of 36 policy documents. Results show that there are nine main frames referred to in the EU forest related policy documents, “with the frame that presents a forest as a *provider of wood and non-wood forest products* being the most dominant” (ibid.). The second and third frame portray forests as ‘contributors to bioeconomy’ and a ‘climate change solution’ (Fig. 6), increasing the legitimacy for more forest use (ibid.).

Together with seeing the forest mainly as a source of resources and as relevant for industry (= bioeconomy), the protective functions of forests and the preservation of nature and biodiversity are of modest importance (Fig. 6). Recreation (socio-cultural wellbeing) plays a minor role.

Within recent years, the EU has passed or updated several regulations, that have an impact on forests. Worth mentioning are the Nature Restoration Law (European Union 2024a), the Regulation on Deforestation-free Products (European Union 2023), the New EU Forest Strategy 2030 (European Commission 2021) and the Biodiversity Strategy 2030 (European Commission 2020). Moreover, *President of the European Commission* Ursula von der Leyen proclaimed her ideas for the future orientation of the EU in the Political guidelines for 2024–2029

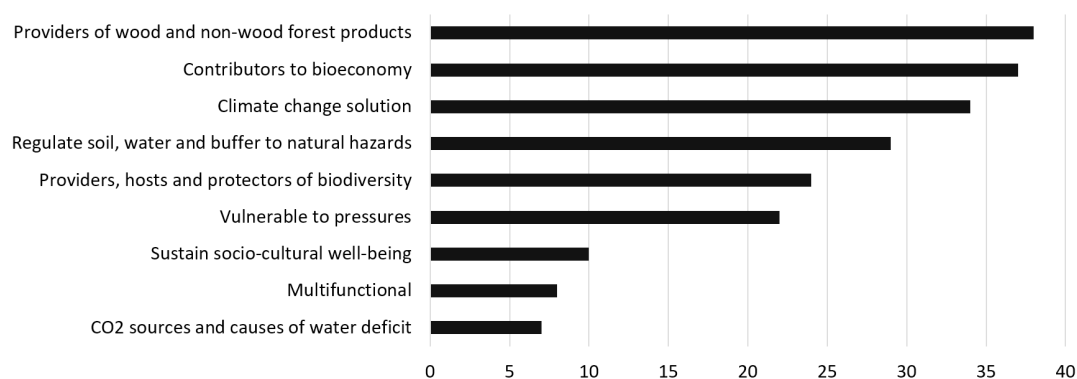


Fig. 6. Main policy frames in forest related EU policy documents according to Elomina & Pülzl (2021). The bottom two aspects do not apply to our comparison.

(2024). While reaching the goals of the Green Deal is still the overarching objective, the EU seems to be on a new course, stemming from the understanding that “there is an equally urgent need to decarbonize and industrialize our economy at the same time” (Von der Leyen 2024). Due to the changed circumstances on a geopolitical level that have risen within recent years (e.g., the war in Ukraine and a rising competition over raw materials), the EU will introduce a new economic policy (ibid.). Part of it is the so-called Prosperity Plan, intended to create a competition policy that supports companies aiming at the global market by reducing regulation and financially supporting especially small and medium enterprises (ibid.). In comparison with the political guidelines for 2019–2024, economic aspects have been prioritized, while the mitigation of climate change effects now is second priority (cf. Von der Leyen 2019, 2024).

In parallel with a shift towards more business-friendly policies (cutting red tape and supporting private investment), the EU is trying to foster nature conservation, as well as the fight against illicit logging. This is to be achieved through regulations like EUDR (European Union 2023) and also through deepened efforts regarding the conservation of nature (European Union 2024a) and protection of biodiversity (European Commission 2020, 2021).

4.3. Preferences of Serbian citizens and the EU: only partly aligned

The alignment of EU policies and preference of citizens is a major pillar of democratic acceptance of EU policies. Our hypothesis discriminates the understanding into problems, causes, helpers and solutions. Following this hypothesis, the empirical evidence shows that the perspective of Serbian citizens and the goals of EU forest related policies are only partly aligned (Table 2).

The only shared view is that forests (= victim) are endangered by different development (= problem) (Table 2). But huge differences exist in regard of the

causes, potential helpers and solutions. Climate change is identified as the dominant threat to forests by EU, but not by Serbian citizens (Table 2). For Serbian citizens, illegal logging and industry are the main causes threatening the forest. In contrast, both these causes are regarded of minor importance by EU policies. For Serbian citizens, the main helper from whom they expect solutions for the forest are national experts (Table 2). The experts of the EU and the EU policies are not considered as important. The least amount of help is expected to come from Chinese specialists. The strong national orientation of Serbian citizen and the mistrust into international expertise and policies provides no support to share concepts of EU policies. There is little agreement regarding solutions (Table 2): under the umbrella of the bio-economy, the EU is prioritizing wood production and the reduction of CO₂. Serbian citizens, however, prefer to strengthen the role of forests as a buffer to natural hazards, providing biodiversity and recreation. In line with the theory of policy acceptance, the results show that only little correspondence between Serbian citizens and the EU exists; this basis provides a weak ground for democratic acceptance of the EU forest related policies during the ongoing political efforts of becoming a member of EU.

5. Discussion

Our study juxtaposed the preferences of Serbian citizens with the forest related policies of the European Union. The goal of identifying if there is congruence between national and supranational perspectives, which can be used as proxy for acceptance of EU forest related policy in candidate country, was met by contrasting the preferences of Serbian citizens with EU forest related policies. Survey results of the Serbian population and document analysis of EU forest-related policy served as a basis for analysis. The results show a dichotomous perspective regarding most aspects. The only aspect in which they are fully aligned (both have +++) lies in the perception of the **problem** and related **victim**.

Serbian citizens as well as the EU seem to recognize the generally alarming state of forests (and nature) as a **problem**. Although European forests are actually increasing in area, scientists have been pointing out a loss in tree vitality for many years (Forest Europe 2020). The EU, which sees great potential in science to solve problems (European Commission 2025b), apparently acknowledges these research results and implements them into their policies. If and how much Serbian citizens get in contact with scientific information, remains unknown. But when looking at comparable surveys asking for the opinion of citizens on the state of forests, results show that European citizens also tend to perceive the state of forests as problematic (e.g., Rametsteiner & Kraxner 2003) and identify forest as the **victim** of different influential causes.

In our case, the **causes** boiled down to climate change, industry and illegal logging, even though with different intensities. Climate change is seen by the EU as the main cause of damage to forests (cf. European Commission 2021), which does not occur as such to Serbian people (Table 2). This may be due to the fact that environmental issues have only recently begun to be addressed by the Serbian media (Jovanovic & Acimovic 2014). Media plays a significant role in political discourses and has potential to largely influence opinions (Östberg & Kleinschmit 2016). At the same time, people frame their opinions not only based on media, but also on other factors such as their local realities. This personal experience could be one reason why Serbian citizens see illegal logging as the main cause for a worrying state of Serbian forests, since illegal logging is more apparent than long term effects of climate change. Illegal logging is seen as a general problem in the Balkan region and closely linked to the poverty that especially occurred in the transition phase after the end of socialism (Jovanović & Milanović 2017). Whereas the view about illegal logging primarily occurring in the southern regions (where Serbian authorities do not have full access due to political instabilities) is common (Jovanović & Milanović 2017; Radosavljević et al. 2024), statements on the nature and scale of the thefts are somewhat contradictory. Some authors state that “well-organized groups, [...] which usually have several tractors and whole professional equipment and mechanization, organize large illegal loggings” (Jovanović & Milanović 2017) while others describe it as “small-scale logging for self-consumption” (FEA 2020 in: Radosavljević et al. 2024). Statistical data are collected and published, but should be taken with caution due to the difficulty of gathering reliable data on illegal harvested timber. According to the Statistical Office of the Republic of Serbia (2020, 2024), the 5-year average volume of illegally harvested timber (2019–2023) comes to 23,047 m³, while at the same timeframe damages caused by fire account for only 4,520 m³ (ibid.). It is crucial to acknowledge that the primary objective of both the EUTR and EUDR policies is to impede the trade in illegally harvested timber on EU

level. However, these policies do not address the domestic consumption of wood obtained through illicit means. In the event that illegal wood harvesting in Serbia is found to be predominantly of a “small-scale nature for personal use” (FEA 2020 in: Radosavljević et al. 2024), it would not be covered by EU legislation. In this instance, the implementation of targeted interventions at the EU or national level could prove an effective solution to the issue at hand. According to a recent study, a rising awareness for illegal logging is likely the reason why the support for EUTR regulation in Serbia is growing, also within the civil society (Radosavljević et al. 2024). Citizens of Serbia have also expressed disapproval of timber logging associated with increasing land-use change, as there has been a high number of protests in recent years related to this development (Radosavljević et al. 2021). Citizens of Serbia have also expressed disapproval of timber logging associated with deforestation (there has been a high number of protests in recent years related to this (Radosavljević et al. 2021)) or similar developments (e.g., protests, road blockades and large petitions against lithium mining in Jadar - Western Serbia (Đorđević et al. 2024)).

Another causative factor is seen in the industry. This could be due to a general increase in awareness, but also to growing industrial investment in the country – factories in the first place (like reconstruction of the RTB Bor Copper and Smederevo Ironworks or the construction of Linglong Tire Factory in Zrenjanin), but also related infrastructure. Serbia is part of the ‘Belt and Road Initiative’ and Chinese direct investments, which increased rapidly in 2016, 2018 and 2021 (Trivić 2023) and include the Pupin’s Bridge in Belgrade and the Miloš Veliki highway sections, the reconstruction of the Kostolac Thermal Power Plant (ibid.), as well as parts of the railway network (Stanicek & Tarpova 2022). At the same time, EU is still the biggest partner regarding foreign direct investments (FDI) (Fabrègue 2023). However, FDI of the EU are much more diversified with investments ranging from textile industry over banking and insurance to automobile (ibid.).

In terms of potential **helpers**, differently from the EU, Serbian citizens clearly opt for national experts. Mistrust towards EU specialists could be interpreted as a symptom of doubts regarding EU policies, especially about the EU’s unilateral approach overlooking the authority of foreign states (cf. Radosavljević et al. 2024; Niedzialkowski et al. 2025).

When looking at the **solutions** respectively main priorities of Serbian people, our findings are overall in line with other surveys monitoring the people’s opinion regarding forest related topics. Several studies have shown that citizens endorse intensified preservation and protection of forests (Rametsteiner & Kraxner 2003; Rametsteiner et al. 2009; European Union 2024b). A meta-analysis of the general public’s opinion on forests found that survey results consistently show citizens

Table 2. Juxtaposition of EU forest related policies with preferences of Serbian citizens. +++ meaning high, ++ medium, and + low importance; (+) meaning aligned, (+/–) partially aligned and (–) not aligned.

EU	Importance in the EU policy	Preferences of Serbian citizens	Importance for Serbian citizens
Main EU forest related policies			
1. Problem and victim			
Forests (= victim) are in serious danger (= problem)	+++	Serbian forests (= victim) are in serious danger (= problem)	+++
2. Causes			
Climate change	+++	Climate change	+
Illegal logging	++	Illegal logging	+++
Industry	++	Industry	+++
3. Helpers			
EU experts / EU policies	+++	EU experts	++
International partners	++	International experts (China)	+
National states	++	National experts (Serbia)	+++
4. Solutions			
Strengthening bioeconomy through sustainable forestry	+++	Fostering wood production	+
Enhancing climate change mitigation	+++	Enhancing the mitigation of climate change	+
Reinforcing protective effects of forests regarding natural hazards	++	Reinforcing protective effects of forests regarding natural hazards	+++
Improving biodiversity protection	++	Improving biodiversity protection	+++
Fostering carbon capture and storage	++	—	–
Promoting recreational opportunities	+	Promoting recreational opportunities	+++

having “a higher awareness of ecosystem services and related attributes of forests such as biodiversity, plant and wildlife observation, recreation and resilience, whereas they had a lower level of awareness about hunting, profitability and wood production” (Ranacher et al. 2020). This pattern has been observed in a number of countries, including the Czech Republic (Šišák et al. 2011; Krejčí et al. 2019), Germany (Lupp et al. 2016; Almeida et al. 2018), Slovakia (Dobšínská & Sarvašová 2016), Ireland (Howley et al. 2011) and Italy (Paletto et al. 2013), Spain (Varela et al. 2017) and Sweden (Eriksson et al. 2012) (all of the cited studies in: Ranacher et al. 2020).

Similar to our findings, dos Santos and colleagues (2022) highlighted dichotomous perspective between EU policy narrative and citizens’ opinion, but in the area of sustainable mobility. Whereas the EU policy, especially after the Green Deal, is in strong support of autonomous vehicles (as a means to make transport more efficient, by influencing transport safety and emissions at the same time), citizens’ opinion (gathered through the special Eurobarometer Survey) contrasts it – citizens are skeptical and the majority demonstrates more negative attitude towards automated technologies.

6. Conclusions: tailoring forest related policies

In line with the theory of policy acceptance and the important role the preferences of citizen play within a democratic policy making of the EU, we draw conclusions for EU forest related policies in candidate countries and further research in this topic.

With respect to EU forest related policies in candidate countries, the EU could follow its subsidiarity concept.

This concept, which is about the level of governance at which action should be taken (central, regional, local) (European Parliament 2025), means for the EU to refrain from forest issues that can be solved on national level (Elomina & Pülzl 2021). In particular, to zoom out unilateral policy concepts, such as the Green Deal or, more recently, the Prosperity Plan, regarding issues where national policies could benefit from additional support. As Polish example shows, insufficient recognition of national interests leads to a low acceptance for EU forest related policy within national politics (Niedziałkowski et al. 2025). Also, implementation of EU bioeconomy-related policies is expected to be more effective if regional differences and country priorities are strongly recognized (Winkel 2017; Lovrić et al. 2021). The importance of tailored policies has been highlighted in studies of regional development as well (e.g., Mairate 2006; Barca et al. 2012; Camagni & Capello 2015 in: Capello & Perucca 2018), underlying that effective EU action requires a match between objective needs and unexploited potential of regions (Capello & Perucca 2018).

Another approach is more indirect. The concerns of Serbian citizen about illegal logging and endangering effects of industry on the forest area could be taken in a serious consideration and discussed bilaterally. In this way, the discourse of Serbian citizens may become included into the EU citizen discourse. A more pluralistic forest policy discourse may lead towards more resilient forest policies within EU overall. Both a pluralistic discourse and subsidiarity concept are assumed to increase the acceptance of EU forest related policies in candidate states.

Our research deals with the opinion of citizens only. To offer a more precise understanding of the results, it may be advisable to conduct a detailed analysis of the available socio-demographic data at a later point. Further

analysis of the Serbian forest policy programs would be an important step towards comparing Serbian forest policy with EU forest policy in the future. An analysis of the media discourse on forests in Serbia would add deepening insights into the causalities, creating a differentiated overall picture. Specific science-based knowledge about forest policy in Eastern Europe could also make specific subjects for reforms and incentives by EU policy visible, fostering an incremental policy approach. Our evidence alone, that Serbian citizens see their forests at risk, gives an indication of where to start in order to increase acceptance of international forest policy and EU efforts.

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Appendix

Table A1. Overview of the three surveys conducted from 2012 to 2024 (Part I). The information is based on the data provided by the agency that carried out the survey.

Year	Type of survey	Sample	Target population	Sample size	Time of the survey	Scope of the survey	Analyzed categories (post stratification)
2012	CATI* ad hoc**	representative sample of the Serbian population that owns a landline phone in the household	Serbian citizens, age 18+	1,003	December 2011 and June 2012	19 questions, 15 minutes	gender, age, education, current employment status, income, region***, urban/rural area, percentage of forests in the region (more or less than 25%)
2016	CATI* ad hoc**	representative sample of the Serbian population that owns a landline phone in the household	Serbian citizens, age 18+	612	6–9 December 2016	12 questions, 10 minutes	gender, age, education, current employment status, income, region***, urban/rural area, percentage of forests in the region (more or less than 25%)
2024	CATI* 75 %, online 25 % ad hoc**	representative sample of the Serbian population	Serbian citizens, age 18+	508	12–16 December 2024	11 questions, 8 minutes	gender, age, education, current employment status, income, region***, urban/rural area, percentage of forests in the region (more or less than 25%)

Notes: *Computer-Assisted Telephone Interview

**one-time survey that is conducted to address a specific research question or need. It is not part of a regularly occurring series of surveys.

***northern province of Vojvodina, central Serbia, capital Belgrade

Table A2. Overview of the three surveys conducted from 2012 to 2024 (Part II). The information is based on the data provided by the agency that carried out the survey.

Year	Sample type	Sampling frame	Sample stages	Allocation by strata	Forms of control	Error
2012	random, two step, stratified sample	based on data from the Telephone Directory (electronic), the 2002 census, vital statistics and migration data, as well as the 2008 ISM population estimates	Simple Random Sample Household (SRSWoR), a member of the household with a quota criterion	proportional to the size of the strata	automatic procedure control, interactive consistency control, logical response control: 100% in all cases	no information
2016	random, two step, stratified sample	based on data from the Telephone Directory (electronic), the 2011 census, vital statistics and migration data, as well as the ISM population estimates (n.d.)	Simple Random Sample Household (SRSWoR), a member of the household with a quota criterion	proportional to the size of the strata	automatic procedure control, interactive consistency control, logical response control: 100% in all cases	no information
2024	CATI: Two-stage representative stratified sample Online: One-stage representative stratified sample	CATI: no information Online: Respondents from the agency's online panel	Simple Random Sample Household (SRSWoR), a member of the household with a quota criterion	no information	Field control on 12% of the sample, logical response control and consistency control in 100% of cases	±2.16% for occurrences with an incidence of 5% ±4.29% for occurrences with an incidence of 25% ±4.96% for occurrences with an incidence of 50%

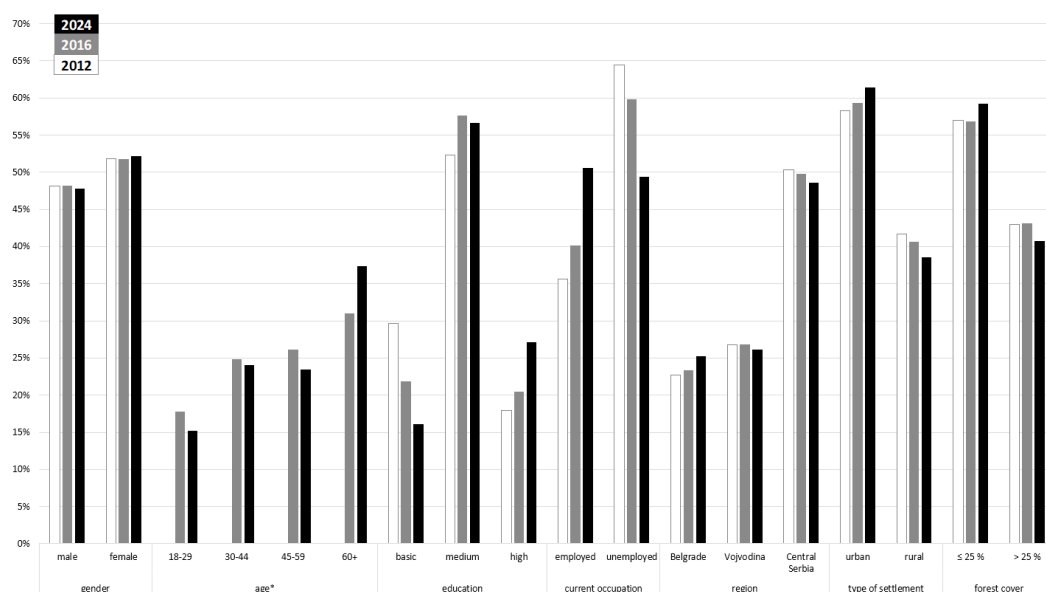


Fig. A1. Comparison of the demographic data of the 2012, 2016 and 2024 samples.

Notes: Total sample size

2012: 1 003 2016: 612 2024: 508

* 2012 age categories 18–29: 19% 30–39: 17% 40–49: 16% 50–64: 32% 65+: 16%

Statistical Analysis Procedures

The software used (Kal) employs Pearson's chi-square test to evaluate the statistical significance of relationships between two categorical variables within contingency tables. It utilizes standardized residuals to quantify the magnitude and direction of deviations from expected frequencies, testing statistical significances at the 0.05 and 0.01 levels. For each survey question, confidence intervals and margins of error for the estimated proportions were calculated using standard procedures for random samples: margins of error were determined by multiplying the standard error by the critical value (z-score) associated with the desired confidence level, such as 1.96 for a 95% confidence interval. These margins of error were then used to construct confidence intervals around the sample estimates.

List of survey questions used for this paper

Note: Following the methodological approach of the study, the questions were designed to help identifying the problems (primarily questions 2, 3, 4 and 5), causes (primarily questions 6 and 7), helpers (primarily question 9) and solutions (primarily questions 1, 8 and 10). If a question/answer option was not asked/presented in all three surveys (2012, 2016, 2024), the year in which it was asked/presented is indicated in brackets.

1. We know that nowadays forests in Serbia are used in different ways so as to provide different benefits to the Serbian people. How important are the following aspects for the Serbian people? Please rate on a scale from 1 to 5, where 1 means "not important at all" and 5 means "very important".

- Preservation of the number of living plants and animals in forests
- Supply of wood for making furniture, paper and construction material
- Provision of rest and recreation
- Supply of wood for heating
- Protection of people and settlements from natural disasters and climate change

2. How satisfied are you with the overall state of forests in Serbia?

- Highly satisfied
- Satisfied
- Neutral
- Unsatisfied
- Highly unsatisfied
- I do not know

3. What do you think about the forested area in your country? Do you think the forested area is...?

- Growing a lot
- Growing a little
- Not changing
- Decreasing a little
- Decreasing a lot
- I do not know

4. What do you think about the diversity of plant and animal species in forests in your country? Do you think the number of plants and animals is...?

- Increasing a lot
- Increasing a little
- Stable
- Decreasing a little
- Decreasing a lot
- I do not know

5. Sustainable forest management implies that the forest is handled carefully and that no more wood is cut than the one that grows. In your opinion, how many forests are managed sustainably in Serbia?

- None
- Only a few
- Not a few, not many
- Many
- All
- I do not know

6. To what extent did the following aspect contribute to the current state of forests in Serbia? Please rate on a scale from 1 to 5, where 1 means "Did not contribute at all" and 5 means "contributed a lot" (only respondents, who did not indicate that they were very satisfied with the condition of the forests were asked this question).

- Factories, other fumes as well as waste that pollutes the environment
- Deforestation, i.e., cutting down the entire forest in order to use the land for other purposes (e.g., mining)
- Forestry and planned felling of wood
- Tourism and recreation, e.g., mountain hotels, ski slopes, etc.
- Construction of roads, settlements, industrial zones and factories
- Storms, droughts and other natural disasters, including climate change
- Traffic pollution of the environment [2012, 2016]
- Illegal logging [2024]

7. What threatens the forests in Serbia the most?

- Forest fires
- Storms, snow, wind
- Trees and plants from other regions that conquer areas where domestic species grow

- d) Harvesting of trees and damages caused by harvesting and forest management
- e) Other Issues
- f) Don't Know
- g) Wild animals (such as roe deer, wild boar etc.) [2012, 2016]
- h) Illegal logging [2024]
- i) Climate change [2024]

8. Nowadays, climate change is an important issue. **To what extent do you think that the following measures can help mitigate climate change?** Please rate on a scale from 1 to 5, where 1 means “would not mitigate at all” and 5 means “would mitigate a lot”.

- a) Planting new trees in Serbia to provide wood as raw material and as energy from renewable sources
- b) Care and cultivation of trees in the forest
- c) Greater use of wood as construction material
- d) Greater use of wood for heating and electricity production

9. In recent years, severe droughts, stormy winds and illegal logging have had an impact on forests in Serbia. In your opinion, **to what extent can the following experts improve the current state of forests?** Please rate on a scale from 1 to 5, where 1 means “would not improve at all” and 5 means “would improve a lot”. [2024]

- a) Serbian forestry experts
- b) Serbian ecology experts
- c) European Union forestry experts
- d) European Union ecology experts
- e) Chinese forestry experts
- f) Chinese ecology experts

10. **How should forests be used in Serbia?** Please rate the following types of use on a scale from 1 to 5, where 1 means “should be used much less” and 5 means “should be used much more”.

- a) Use forests for recreation
- b) Use forests for wood to make furniture, paper or construction material
- c) Use forests to protect plants and animals and for the preservation of nature
- d) Use forests for wood for heating
- e) Use forests to protect people and settlements from natural disasters and climate change
- f) Use forests to protect trees from damage caused by storms, fires and climate change