



Research Article

Timber Smuggling Criminology and Environmental Justice: The Perspective of Forest Guards in the Southern Forests of Guilan

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Abstract

The importance of the Hyrcanian forests, along with the growing wave of environmental concerns about their protection, as well as certain political orientations, led to the Iran's Sixth Development Plan law banning any timber utilization of forest trees. This ban, which became known as the Forest Breathing Plan, has been viewed by many forest experts as a disregard for the multiple functions of forests, a weakening of Principle 45 of the Constitution, destruction of national wealth and Anfal, layoffs of workers, forest rangers, and chainsaw technicians, leaving them in the abyss of inaction and unemployment, and sometimes creating or strengthening a sense of revenge against the forests and the Natural Resources and Watershed Organization, manifesting in aiding, accessory or stewardship in the crime of timber smuggling. In contrast, the main arguments of those in favor of the Breathing Plan focused on banning forest harvesting, citing the need to protect the Hyrcanian forests as a biosphere reserve, avoiding encroachment on forests by relying on supplying the required wood through imports and tree plantations, allocating budget for forest protection by Parliament, and similar matters. Either way the cessation of wood harvesting from forest trees has led to a shortage of wood production, increased demand from the wood industry, and rising prices. As a result of local poverty and the greed of some smugglers, the forests have become vulnerable to timber smuggling. This situation undermines the establishment of environmental justice between those who commit smuggling for subsistence purposes compared to professional smugglers. The present study attempts to examine the perspectives of forest guards of the Rostam-Abad Natural Resources Unit in dealing with timber smuggling, using open and semi-structured focus group interview techniques. The interview was recorded and transcribed in Word software and analyzed with NVivo software. From the perspective of the Forest Security Unit, the most important reason for resorting to smuggling is the high profits from selling smuggled timber. Also, the lack of organizational transportation vehicles and the lack of legal protection against smugglers are among the most important challenges for the guards. In their opinion, spreading a culture of respect to environment, seeking help from local people, making a sense of belonging to the forest in forest dwellers, and being aware of the heavy fines for timber smuggling are the most important social and cultural solutions to combat this crime. Additionally, the main policy to combat timber smuggling is stated to be inter-sectoral cooperation between organizations. According to interviewees, the performance of the Natural Resources Organization in combating timber smuggling is considered successful and acceptable, especially after the increase in the number of security companies since 2018. Finally, the research concludes that revising the implementation of the Breathing Plan and the cessation of forest timber utilization, amending laws related to tree felling and formulation of new and positive policies to combat timber smuggling, are among the most important solutions in the southern forests of Guilan province.

Keywords: Criminology of Timber Smuggling; Environmental Justice; Conservation-Based Legal Solutions; Forest Crime; Focus Group Interview.

1. Introduction

Although the Hyrcanian forests in northern Iran are considered the only source capable of producing industrial wood in the country, they are the last remnants of the Tertiary geological period and are very rich and valuable in terms of tree species. These forests were not subjected to the advance of the Ice Age, and as a result, many tree species from these forests have been found in fossil form in various regions of Europe (Moradi, 2021). From the perspective of forest policy, which has been ongoing in the Iran's Natural Resources and Watershed Organization (INRWO) since the beginning of 2011, the importance of the Hyrcanian forests, along with the growing wave of environmental concerns about the protection of these forests, as well as some other political orientations, led to the following in Article 38 of the Iran's Sixth Development Plan law: "Any wood exploitation of trees in the nation's forests shall be prohibited from the beginning of the fourth year of implementation of this law" (Iran's Sixth Development Plan Law, 2017). The establishment of this ban, which became known as the Forest Breathing Plan, has, in the view of many of the nation's forest experts, disregarded the multiple functions of the forest, weakened and wasted Principle 45 of the Constitution by destroying the national wealth and Anfal, making workers, rangers, and chainsaw technicians unemployed and leaving them in the abyss of inaction and unemployment, and sometimes creating and strengthening their sense of revenge against the forest and the INRWO in the form of collaboration, perpetration, and accessory in the crime of timber smuggling. According to this group of experts, the aforementioned policy meant ignoring the science of forest economics and its effect on simultaneously optimizing the economic and environmental benefits produced by forests, and ultimately destroying the nation's forestry science and techniques, which had been acquired by forest professors in universities and INRWO's experts in the nation's natural areas over many years. In contrast, the main arguments of Breathing Plan supporters focused on banning forest harvesting, citing the need to protect the Hyrcanian forests as a biosphere reserve, avoiding violation to forests by relying on supplying the required wood through imports and wood plantation, allocating funds for forest

protection by forest guards, and similar matters.

Regardless of whether one agrees or disagrees with the aforementioned plan and its related policies, from an ecological perspective and the need to conserve and rationally use of natural resources, it must be acknowledged that isolating forests and preventing the sustainable use of existing resources disrupts the growing social life of generations, as emphasized in Principle 50 of the Constitution, and makes sustainable development difficult. Efficient management and proper use of natural resources are essential for building a sustainable future in many resource-rich countries (Erdoğan et al., 2020), and this opportunity should not be lost or slowed down by development barriers such as bans on wood utilizations (Sefidi et al., 2009). As a result, these methods do not cause irreparable damage "as emphasized in Principle 50 of the Constitution." According to Principle 50: "In the Islamic Republic, conserving the environment, in which the present and future generations must have a growing social life, is considered a public duty. Therefore, economic and other activities that are associated with environmental pollution or its irreparable destruction are prohibited" (Constitution of the Islamic Republic of Iran, 1979).

According to the aforementioned principle, environmental conservation is necessary and must be implemented in such a way that the current generation and future generations can have a growing social life within it. That is, if the environment is protected to the extent that people can secure their minimum livelihood to survive, this type of protection is not approved by the Constitution. The conservation approved by the Constitution is one in which the environment provides a degree of peace and welfare for the people in which "growing social conditions" are provided (Shamekhi, 2018). On the other hand, and according to Principle 45 of the Constitution, from the perspective of Islamic jurisprudence and based on the first verse of Surah Anfal, forests are at the disposal of the Islamic government for public use and are considered part of the public commons (things common to all). Essentially they cannot be privately or even state-owned and must be managed based on public interest (Iraqi et al., 2005). Determining what constitutes the public interest is the

responsibility of the legislator (Shamekhi, 2018).

Considering the above-mentioned information, it seems that the lack of attention paid by the nation's forest policy and development plans to upstream documents (Strategic Documents) such as the Constitution and other similar references has exposed forests to serious risks such as timber smuggling. In the past, due to the constant presence of forestry plan staff and the prosperity of forests during this time, wood smuggling, mostly carried out on a small scale and mainly by poor forest-dwelling communities, was limited. However, as a result of adopting this policy, along with the skyrocketing price of wood due to a shortage of supply and increased demand, "the greed of some people to earn income with little effort and high profits from wood smuggling and the evasion of wood industry owners from tariffs and taxes through wood smuggling" (Beiranvand et al., 2023) and similar factors are turning into organized smuggling. This now includes chainsaw operators, former local workers, muleteers, drivers, retail and wholesale wood dealers, and sometimes even officers and personnel of INRWO, the police, and others (Daliri et al., 2024). The increasing cases of attacks on honest forest guards of the INRWO, their assault and battery, injuries, and sometimes their deaths in recent months and years are evidence of this claim and confirm it. Therefore, one of the main problems of this research is to examine the question of whether, in recent years, wood smuggling has been transitioning from local subsistence-based activity to organized smuggling by networks of non-local smugglers aiming for higher profits and benefits. On the other hand, while smuggling networks receive large revenues and various forms of supports through their illegal networks, is environmental justice being observed for local forest-dependent communities, who, according to their customary rights, sometimes smuggle forest products but are quickly arrested and tried?

Wood smuggling is one of the major environmental and economic challenges in countries with vast natural resources. Illegal logging is estimated to cost the international community US\$30–100 billion each year and accounts for 90% of timber exports in some countries (Goncalves, 2012; World Bank, 2019). Illegal wood smuggling includes

logging activities in protected areas, the logging of protected species, logging outside concession boundaries, extraction of more than the allowable harvest, removal of oversized or undersized trees, and harvesting in areas where extraction is prohibited such as catchment areas, steep slopes, and riverbanks (Casson & Obidzinski, 2002).

In the forests of southern Guilan province, this issue has various dimensions, and analyzing the views of conservation unit officers and the factors influencing their activities can pave the way for providing effective legal conservation solutions to control this problem. Timber smuggling in these areas is not driven solely by economic and livelihood reasons. Although price differences, taxes, and fees are the main drivers of this activity, studies show that smuggling is heavily influenced by local policies, weak laws, and enforcement gaps (Gallien & Weigand, 2021). In some cases, ineffective policies and lack of coordination between different bodies not only fail to prevent smuggling, but actually facilitate it (Wajid et al., 2014).

Wood smuggling is caused by various factors. For example, the legal factor, which includes legal tools in criminalization and crime prevention, is only effective in about 11 percent of the charcoal smuggling cases in the forests of Central Zagros (Mahdavi et al., 2022). As a result, in addition to paying attention to other factors involved in smuggling, examining the experiences of forest guards in this field can be helpful in preventing timber smuggling and obtaining easily accessible and nature-based solutions. UNODC (2013) aimed at determining the role of the criminal justice system in Vietnam in combating the illegal timber trade and presenting its findings to the Vietnamese government, conducted a series of country visits, data reviews, and interviews with key stakeholders such as prosecutors, police, customs officers and environmental/forestry officials involved in law enforcement, officers responsible for investigations, representatives of international organizations and civil society, and analyzed the crime response framework defined by national laws. While criminal justice systems are in theory designed to respond to all crimes, the purpose of this report was to map out as far as possible the processes by which forest crimes are detected, investigated and prosecuted – and by whom. The crime of timber

exploitation and trafficking falls under the purview of multiple departments and effective coordination between them is crucial for success. The recommendations of the report are aimed at national policymakers, but also at generating a wider discussion about how criminal justice interventions could play a more effective role in curbing the illegal exploitation and smuggling of timber. Also, the study of Afrand Sorkhani et al., (2013) shows that wood smuggling centers can be identified based on field surveys and the use of GIS software, and a time-space plan can be developed to prevent it. The findings of Beiranvand et al. (2023), obtained through coding and analyzing data using the grounded theory method, identified the main cause of timber smuggling in northern Iran as the collapse of the forest management system and the lack of a plan or program for its conservation. Eshaghi et al., (2024) identified two categories, exploitation and legal-management conflicts, while examining forest conflicts and their impact on the Lordegan forest resources. They stated that, based on conflict theories, crime and violation of the law are indicators for measuring the level of conflict in society. They consider ambiguity in property rights, access to and use of natural resources, scarcity of resources, and limited livelihood opportunities to be among the reasons for forest conflicts in the region. Administrative challenges and weak forest governance are seen as obstacles to recording, reporting, and resolving conflicts. Recently, Sharifi Ziraksar & Sarwari (2025) investigated the consequences of illegal exploitation of forests in the context of green criminology principles. The fundamental question of this research is what are the consequences of illegal exploitation of forests, considering the teachings of green criminology? The hypothesis of this study is based on the premise that illegal exploitation has dire economic consequences, including the destruction of forests and national capital.

However, the criminology of wood smuggling shows that this crime has various reasons. Therefore, studying the views of forest guards can open a new perspective on preventing smuggling in the forest by examining various factors and also examine environmental justice in the context of the rights of forest guards. Environmental crimes are an area of increasing concern, not only because of their globalized nature but because

these crimes have impacts beyond the capacity of the criminal justice systems of most states to comprehend or address. Violations of environmental laws and regulations might be local but the effects that follow may be felt long distances away (Faroque & South, 2022).

This research aims to examine forest guards' views on timber smuggling, the conditions of their encounters with smugglers, and the security of environmental justice for these guards, and to upgrade relevant knowledge in this field. As a result, the purpose of this research is the criminological investigation of social, economic, legal and regulatory conditions related to timber smuggling for forest guards, and the need to implement environmental justice more appropriately for local-livelihood smugglers than organized smugglers so as to determine the most important factors in preventing the crime of smuggling and spread of environmental justice. This research seeks to provide appropriate solutions to prevent the crime of timber smuggling in order to present them to INRW and their policymakers and legislators.

2. Materials and methods

2.1. Study area

Considering factors such as the student's employment as the head forester of the Rostam-Abad Natural Resources Unit, the possibility of accessing other forest guards for interviews in this area, and the student's linguistic and cultural affinity with the region, the Rostam-Abad Natural Resources Unit affiliated with the Natural Resources Department of Roudbar County, located in Guilan Province, was selected to conduct this research. This unit has 17 personnel, all of whom participated in the interview. Therefore, the statistical population of this study consists of 100% of the personnel of the Rostam-Abad Natural Resources Unit. In Rostam Abad Natural Resources Unit, like other natural resources units, there is an infraction register notebook, in which all infractions, such as wood smuggling, seizure, etc., are recorded. However, in order to prevent this information from influencing or directing the research literature, the pre-designed questions and the discussion of findings focused solely on the perspective of forest guards.

Another reason for choosing Roudbar County as the study area is that it is the closest

and most important entry and exit route to Guilan Province. As a result, in addition to detecting smuggling from local people, a large portion of the timber smuggling that takes place throughout the province is discovered in this city.

2.2. Research Method

In qualitative studies, the researcher, while present in the selected area, observes phenomena, events, and factors affecting the research topic in order to raise some predetermined topics (axes) which are usually obtained from document review and research background through unstructured interviews (Karimi & Nasr Esfahani, 2013). A pilot study is a small-scale version of a full-scale study and can be conducted in qualitative, quantitative, or even mixed-method research. In qualitative research, a pilot study can be summarized in four areas: (1) identifying problems and barriers related to participant selection, (2) engaging the researcher as a qualitative researcher, (3) assessing the acceptability of the interview or observation protocol, and (4) determining the epistemology and methodology of the study (Janghorban et al., 2014).

In this study, first, relevant and appropriate articles and research on timber smuggling were selected and studied. Then, by analyzing the content of similar research, important categories related to the topic of timber smuggling were extracted and categorized into different themes. These themes were then transformed into questions. In this research, 100% of forest guards including 17 individuals were gathered at the Rostam-Abad Natural Resources Unit. The interview framework was based on unstructured and pre-determined questions as well as questions that came to mind of the researcher/facilitator or forest guards during the meeting. On October 9, 2024, 17 forest guards from the Rostam-Abad Natural Resources Unit participated in a 3-hour group discussion based on the focus group method. "Focus Group", as a qualitative research method, involves collecting data through group discussions in which participants exchange opinions and ideas on a specific topic. This method helps the researcher gain deeper perspectives, feelings, and experiences through group dynamics. Focus groups typically consist of 6 to 12 people and are led by a facilitator who answers

questions and manages the discussion. Information collected from these groups can lead to the development of effective policies to combat timber smuggling and protect natural resources (Krueger & Casey, 2014). In this research, using the focus group interview tool, deeper views, feelings, and experiences of forest guards, regarding timber smuggling and their rights regarding environmental justice were obtained.

2.3. Analyzing Method

The Framework Approach is part of a broad family of analytical methods, often referred to as thematic analysis or qualitative content analysis. This approach identifies similarities and differences within qualitative data before considering the relationships between different parts of the data and it seeks to draw descriptive or exploratory results clustered around themes. The ability to organize information and search for keywords across all available data is a significant help to the researcher. In the present study, NVivo software was used to analyze the qualitative interviews conducted. This software is mainly used for text analysis and coding in qualitative research methods. Data (interview text, or descriptive responses to questionnaires) are entered into this software, and then the text is coded. Finally, the software is used to examine existing codes and their relationships to the characteristics of the participants (Pourezat & Kavousi Khameneh, 2020).

At this stage, the software counts the codes repeated by the forest guards. It should be noted that since this research is based on a group interview and conducted according to the dynamics of the interviewee group, pre-designed questions are not asked to each interviewee individually. This means that some interviewees may not express an opinion on some codes. On the other hand, it is possible that one of the interviewers may talk about a code that they consider important more than once during a 3-hour interview.

3. Results

The codes obtained from NVivo software were analyzed and codes with common concepts were categorized into four classes. Each category was named according to its underlying concepts: 1- Reasons for committing timber smuggling; 2- Challenges

faced by forest guards to combat timber smuggling; 3- Social and cultural solutions to combat timber smuggling; and 4- Legal and policy solutions to combat timber smuggling.

3.1. The reasons for committing timber smuggling

From the perspective of the forest guards, the most important factor in timber smuggling is the high profits from the sale of smuggled timber with a frequency of 6. In the next stage, unemployment is identified as a factor, with a frequency of 3 (Table 1).

3.2. Challenges for forest guards in Combating Timber Smuggling

Among the challenges faced by forest guards in combating timber smuggling is the lack of organizational transportation, which appears with a frequency of 8 in the results. Also, from their perspective, the first problem of this unit is the lack of legal support for

forest guards to fundamentally confront timber smuggling and smugglers, also with a frequency of 8. They believe that the INRWO provides weak support for the forest guards, does not provide them with proper equipment and defense means, and fails to provide sufficient training. In addition, their personal safety is not guaranteed, and there is a strong need for access to advanced technologies for use by forest guards.

3.3. Social and cultural solutions to combat timber smuggling

The findings show that the most important solution to combat timber smuggling from a socio-cultural perspective is development of a culture of respect for nature with a frequency of 6. Other most important strategies include seeking help from local people, forest dwellers' sense of belonging to the forest, and increasing awareness of the heavy fines for timber smuggling each with a frequency of 3.

Table 1. The reasons for committing timber smuggling.

Number	Codes	Frequency
1	Huge profits from timber smuggling	6
2	Unemployment	3
3	Addiction	1

Research findings

Table 2. Challenges for forest guards in Combating Timber Smuggling.

Number	Codes	Frequency
1	Lack of legal protection	8
2	Lack of organizational transportation	8
3	Weak support from the INRWO for forest guards	7
4	Lack of defensive equipment	7
5	Lack of proper tools and equipment	7
6	Need to train forest guards	6
7	Unavailability of advanced technology	5
8	Lack of life security	5
9	Lack of financial security	4
10	Low salary	4
11	Lack of uniform and ID card	2
12	Difficulty of administrative bureaucracy	2
13	Perjury against forest guards in court	2
14	Informal contract with forest guards	1
15	Insufficient number of forest guards	1
16	Lack of insurance after-hours work	1

Research findings

Table 3. Social and cultural solutions to combat timber smuggling.

Number	Codes	Frequency
1	Developing a culture of respect for nature	6
2	Forest dwellers' sense of belonging to the forest	3
3	Raising awareness about heavy fines for timber smuggling	3
4	Getting help from local people	3
5	Promoting environmental values through schools education	2
6	Providing educational solutions and creating forest-based jobs	1
7	Educating people about timber smuggling	1

Research findings

Table 4. Legal and policy solutions to combat timber smuggling.

Number	Codes	Frequency
1	Mandating organizations to combat timber smuggling	5
2	Revising policies and laws related to the prohibition of timber harvesting from forests	4
3	Increasing the number of security companies	4
4	Alternative punishments	4
5	Increasing the number of forest guards	3
6	Increasing fines	3
7	Creating a comprehensive system to combat timber smuggling	3
8	Establishing standards for evaluating the performance of forest guards	1

Research findings

3.4. Legal and policy solutions to combat timber smuggling

The main policy-making method for combating timber smuggling, from the perspective of forest guards in this case study, is to mandate relevant organizations to actively combat timber smuggling with a frequency of 5. Revising policies and laws related to the prohibition of timber harvesting from forests, increasing the number of security companies, and applying alternative punishments each with a frequency of 4 are ranked second.

4. Discussion

The term "green crime" refers to criminologists' varying etiological perspectives on this emerging branch of criminology (Gorgi Fard, 2016). While conventional victimology primarily recognizes humans as the sole victims of crime, green victimology extends this perspective by valuing the environment, asserting that both humans and nature can be considered victims of environmental harm (Shamlo et al., 2017). This discipline explores the political, social, and economic conditions that lead to environmental crimes (Brisman & South, 2019). From this perspective, environmental crimes are referred to as any act or omission that harms the environment and its inherent elements, regardless of whether these behaviors are criminalized by the criminal system or whether they are committed by individuals, corporations, or governments. This field of study seeks to improve environmental laws and regulations by focusing on environmental harms (White & Heckenberg, 2014).

This section discusses the views of forest guards from the Natural Resources Protection Unit of Rostam-Abad, Guilan, regarding timber smuggling, obtained through a focus group interview.

It should be noted that since this research was conducted at the level of one natural

resources unit, the results of this research cannot be generalized to all administrations of INRWO. Meanwhile, it seems that in some questions, the interviewees (forest guards) subconsciously talk cautiously about some weaknesses and somewhat exaggerate their strengths in order to defend their performance.

On the other hand, bribery and corruption in administrative agencies and security forces are contributing factors in smuggling. However, since the present research is one of the first studies related to the field of timber smuggling and its main goal is to examine the views of forest guards on timber smuggling and the realization of environmental justice in this area. Additionally, addressing the issues of bribery and corruption in administrative agencies and security forces requires obtaining permission from relevant institutions, the research avoided addressing these challenging issues.

4.1. The reasons for committing timber smuggling

The views and opinions of this unit regarding the roots of turning to timber smuggling were examined. Thus, the high profits from smuggling, unemployment, and addiction were identified as the three major and root causes of timber smuggling. A deep examination shows that the issue of economics and then environmental justice appears in full color in each. Because Justice is central to rights (Sollund, 2022). In other words, it is the economic motive that causes timber smuggling. These cases are consistent with the findings of Beiranvand et al., (2023), who consider unemployment, increasing poverty, livelihood problems, and decreased social welfare of the local community as reasons for resorting to timber smuggling. In this regard, Nussbaum, (2006a, 2006b) adopts an "capability" approach when discussing environmental justice. It begins with asking;

“What are people actually able to do and to be?” She maintains that each human being should be entitled to a decent level of opportunity in areas of particular centrality, such as life, health, bodily integrity, social belonging, and their ability to reason. Accordingly, while there is livelihood poverty among forest dwellers as well as forest guards, preventing timber smuggling is difficult. However, this is not true in the case of organized smuggling, especially in the case of individuals who commit the crime of smuggling with the aim of making huge profits from timber smuggling.

Also, “from the perspective of this unit”, since 2018, organized timber smuggling has significantly decreased due to the increase in protection companies and forest guards in their protected district. However, they believe that organized smuggling from neighboring cities, especially Talesh, is still intense, so that most of the vehicles carrying smuggled timber have escorts. According to guards, addiction plays a small role in the smuggling of timber from the forest, especially in large quantities because the operations of cutting and transporting trees are physically difficult for drug addicts, addiction is more common in drivers and other person of smuggling chain.

Forest dwellers depend on the forest for their livelihood. According to Article 4 of The Law on the Conservation and Harvesting of Forests and Rangelands, (1967), forest dwellers and residents of villages adjacent to forests are exempt from obtaining a cutting permit for trees and branches that the INRWO deems appropriate for their wood consumptions. That is, although the aforementioned law is old, it still somehow provides for environmental justice in the use of rural wood consumptions for the local community. According to this law some provisions have been approved for the owners of rural houses regarding rural consumptions, including the cutting down trees on the grounds of rural houses. However, there is no provision regarding the transportation of wood, firewood, and charcoal produced from forest wood. As a result, this act is prosecuted under the accessory of aiding and abetting a crime under the criminal law, or the person transporting the wood and firewood is considered the owner or supplier and punished (Mohseni, 2017). Therefore, customary rights

of forest dwellers for rural consumptions should be paid in other ways to achieve environmental justice in this case as well. Also, issuing similar sentences to local smugglers as to non-local smugglers who smuggle timber for greater profit undermines environmental justice for forest dwellers. Therefore, it is essential that the mitigation or aggravation of punishments regarding judgments related to crimes and penalties for wood smuggling are not the same for these individuals. The law is a measuring on which green victims can be identified. But the important challenge of this measuring is that, from the perspective of green victimologists, the law mainly supports the interests of the powerful (Lynch & Stretsky, 2003) or that large environmental crimes are often committed by governments (Kauzlarich et al., 2001). Therefore, not all injurious behaviors to environment are addressed by the law (Shamlo et al., 2017).

4.2. Challenges for forest guards in combating timber smuggling

One of the challenges facing the Forest Protection Unit in combating timber smuggling is the lack or shortage of organizational transportation vehicles, which prevents the presence of forest guards in forest areas. Timber theft can occur only when criminals have access to the forest (Thompson & Magrath, 2021). After logging ban period in the north forests of Iran, the forest roads were abandoned (Abdollahi et al., 2022). Old and abandoned roads that are left alone which invite timber smugglers to inspect the forests for isolated areas to illegally harvest wood (Magrath et al., 2007). On the other hand, when the personal belongings of the guards are damaged by the smugglers, a conflict of interest has occurred, which sometimes leads to incidents between the protection unit and the smugglers. According to forest guards, this issue has occurred many times and can cause conflict between the parties and irreparable damage. Also, from their point of view, there is no legal support for this group to fundamentally confront timber smuggling and smugglers. In this regard, one of the members of the interview group said: "Once, during a dispute, smugglers attacked our colleagues, but they found four false witnesses and proved that our colleague had broken his nose, and he was sentenced to pay a fine of 120 million tomans."

Legal protection for forest guards not only helps protect forests, but also ensures their job security and rights. Strengthening laws and creating appropriate conditions could improve the condition of forests and help preserve biodiversity. The Protection Unit feels it is not being given the attention it deserves by the INRWO. Feeling supported by human resources is a key factor in the success of organizations. By creating an environment where employees feel supported and valued, organizations can achieve improved performance and increased job satisfaction (Sun, 2019). The sense of belonging has not been properly instilled by the INRWO in the forest guards. If this trend continues, it is likely to lead to abnormalities.

One of the main reasons for the spread of timber smuggling in the northern regions of Iran is the lack of supervision and the lack of sufficient legal tools to prevent this crime. According to other studies, weak criminalization of timber smuggling and inadequate monitoring of forest areas have led to an increase in illegal exploitation (Nikooy et al., 2022). According to the interviewees, INRWO provides poor support to the forces of the forest guards, does not provide them with the necessary equipment and appropriate defensive means, and does not provide these guards with sufficient training. Also, their safety is not guaranteed, and the need for advanced technologies for use by forest guards is strongly felt.

4.3. Social and cultural solutions to combat timber smuggling

The findings show that the most important solution to combat timber smuggling from a socio-cultural perspective is the development of a culture of respect to natural resources, which aligns with the research of (Zareh Pour, 2018). Forest dwellers' sense of belonging to forests can act as an effective factor in reducing timber smuggling and protecting natural resources. Strengthening this feeling through education and creating economic opportunities can help improve the condition of forests (Lasco et al., 2010). However, the perspective of smugglers regarding their activities in rural areas is also interesting. Some findings indicate that they consider their activities as their natural and legitimate right; This issue arises from the conflict between

official laws and local beliefs. In particular, legal restrictions and the elimination of previous quotas for forest exploitation have led to discouragement and dissatisfaction among villagers (Nikooy et al., 2022). In terms of green victimology approach, protecting the rights of individuals, nature and future generations in the face of green crime will be possible by using to recognize them as a victim of crime (Seifi et al., 2020). The issue that the criminology and victimology has been unaware it until a few decades ago. Therefore, the perspective must change: nature and humans should be recognized as independent victims, each with inherent independent value deserving of recognition (Shamlo et al., 2017).

Using the potential of local people can be a very effective solution to prevent timber smuggling, and this is achieved when local people have a sense of ownership and belonging to the forest. This solution has also been emphasized in the study by Shirzadi Laskookalaye et al., (2021), and is fully consistent with the opinions of the interviewees. They have introduced forest dwellers as their most important source of information for preventing or discovery of smuggled, or arresting smugglers. Awareness of the heavy penalties for smuggling (Khademi & Rouhi, 2018) and education for the conservation of forests and the environment (Rezvani & Hashemzadeh, 2014) are also appropriate solutions to make this issue as a public demanding.

The research results in this section show that social and cultural solutions have the potential to play an effective role in reducing timber smuggling and conserving natural resources. Strengthening the cooperation of the INRWO with local people and NGOs, relying on participation and increasing public awareness about timber smuggling are among the measures that can help improve the condition of forests. The media can also play a serious role in promoting social status and establishing environmental justice in relation to forest guards. According to the interviewees, after the broadcast of the television series "Afra," which focused on nature and environment guards, people's views towards forest guards changed, and people expressed greater sympathy and respect for the personels of the Forest Protection Unit. In this context, the findings show that the exposure of

especially young people to environmental realities, often through media, news, and coverage of climate/environmental justice activities, puts many people on a path to learn about the issues and their solutions through independent research, dialogue, and interaction with local groups (Trott, 2024).

According to Article 18 of "The Law on Increasing the Productivity of the Agriculture and Natural Resources Sector, (2010)", the Islamic Republic of Iran Broadcasting Organization is required to prepare and broadcast special programs for the agricultural sector in order to "improve social status" and increase knowledge and capabilities, in addition to the radio and television programs of the Agricultural Jihad Group, by establishing the "Knowledge Promotion and Development of the Agricultural and Natural Resources Sector" group. The sources of funding are also provided for in the third note of this article. However, the national media has performed poorly in this regard. According to interviewees, it should be emphasized more in the media and public speeches that the main goal of forest guards is to protect natural resources for future generations. Combining social and cultural solutions can serve as a strategy to combat timber smuggling and protection of natural resources. Harnessing the potential of local people and strengthening social cooperation, especially in forest-dwelling communities, could be the key to success on this path.

4.4. Legal and policy solutions to combat timber smuggling

Incomplete enforcement of forestry-related laws and the absence of required law have allowed smugglers to easily circumvent the law (Wajid et al., 2014). The main policy-making approaches to combat timber smuggling, from the perspective of forest guards in this case study, are mandating organizations to combat timber smuggling, revising the laws (Khademi & Rouhi, 2018) and policies related to the prohibition of timber harvesting from forests (Shirzadi Laskookalaye et al., 2021), increasing the number of protection companies, and replacing cash fines with alternative punishments.

The present study is also consistent with the findings of Izak Abdollahi et al., (2024). They also consider solutions such as amending laws,

more precise monitoring on forests, and increasing inter-organizational cooperation to combat timber smuggling to be necessary. Given the importance of this issue, inter-organizational cooperation, amend of restrictive laws, and increasing monitoring of forest-related activities can be used as a key factor for success in this path.

In relation to the need to revise policies and laws related to the prohibition of timber harvesting from forests, the findings of Shirzadi Laskookalaye et al., (2021), which identified strengths, weaknesses, opportunities, and threats and the presented management strategies for exploitation plans and the prohibition of forest timber exploitation indicate that: while the most important strength of the ban on forest exploitation is the increased economic value of forest environmental services, its most important weakness is the increase in timber smuggling. They also consider implementing forest exploitation policies that align with the needs of the timber industry and sustainable forest conservation, as well as planning to better organize people for the principled forest exploitation, job stability, and technical training as the most important proposed strategies (Alizadeh Aliabadi, 2024).

From the perspective of the interviewees, the role of increasing fines in reducing timber smuggling has been very evident. Regarding fines, they emphasized that: "The highest form of deterrence is pen and paper, which is more effective than a gun." This means that by writing a legal provision, the legislator can create a greater impact than protection with weapons. However, the interviewees have emphasized that in many cases they have been able to arrest the local smugglers for the crime of timber smuggling after spending time and hard work, but the smugglers receive light sentences and fines by pretending to be victims and explaining their financial and livelihood needs to the judges, and a few days later, the guards are ridiculed. This reduces the motivation of forest guards. It should be noted, however, that although the motivation of the forest guards decreases, this finding shows that local and livelihood smugglers receive more support than professional and organized smugglers in terms of civil procedure in the courts. From the perspective of green victimologists, the law is mainly supports the

interests of the powerful (Kauzlarich et al., 2001), however, Iranian judges are trying to observe environmental justice. On the other hand, according to interviewees, local smugglers who smuggle small amounts of wood are arrested more often than organized smugglers who smuggle large volumes. However, it seems the courts try to observe environmental justice by issuing lighter sentences to local smugglers who commit wood smuggling for their livelihoods.

Since the main motivation for turning to timber smuggling, from the perspective of the interviewees, is greed and gaining more profit, this motivation should be reduced by imposing heavy fines. Applying heavy fines has also been confirmed in research by Iraqi et al. (2005), that it can reduce crimes. Timber smuggling is heavily influenced by local policies, weak laws, and gaps in enforcement (Gallien & Weigand, 2021), an issue that was also emphasized by the interviewees in the present study. Because existing laws do not provide the necessary deterrence, and in some cases, ineffective policies and lack of coordination among responsible institutions not only fail to prevent smuggling, but also facilitate it (Wajid et al., 2014). On the other hand, the issue of determining and implementing alternative prison terms in the management of Iran's natural resources is relatively new and face various challenges. The alternative votes issued in the field of natural resources are a double-edged sword, which can lead to positive and negative effects in forest conservation (Karimi Manesh et al., 2024). Also, the results of some studies indicate that if deterrent punishments, legal follow-ups, and international cooperation to curb environmental crimes are not adopted, it will lead to human, social, economic, and environmental problems. As a result, legislators and governments must criminalize harmful behaviors toward forests in the areas of fuel and industrial exploitation and respond proactively and criminally to actions that cause significant short-term and long-term damage to forests (Sharifi Ziraksar & Sarwari, 2025).

In the Iranian legal system, forest policy advances legislation toward the preservation, restoration, development, and utilization of forests and rangelands. Prescribing punishment for potential abuses and violations is one of the solutions to ensure the implementation of this

policy (Iraqi et al., 2005). The term "Forest Crime" refers to a broader set of criminal activities against flora and fauna in forest areas, and stipulates that illegal timber trade is a subset of forest crime (UNODC, 2013). On the other hand, humans have not properly protected forests, which is a renewable natural resource, and has destroyed a large part of them. In underdeveloped countries, one measure to ensure food security involves exploiting natural resources, often leading to their degradation (Mahboobi & Badahang Gale-Bache, 2025). This destruction has occurred mainly through clear-cutting for agriculture and the supply of firewood for fuel. Of course, in Iran, due to the presence of abundant oil and natural gas resources (BP, 2018), the need for fuel wood has significantly decreased. However, rural consumption for building houses, fencing land, illegal sale of wood through smuggling still occur (Ghanbari et al., 2021; Zolfi et al., 2023).

Considering the opinions of the interviewees, the authors of the article, and the research background, it is necessary to adopt a comprehensive and coordinated approach and strategy in the field of policymaking, legislation, and law enforcement based on a spatial-location schedule (Afrand Sorkhani et al., 2013) in order to effectively combat timber smuggling and protect forests.

5. Conclusions

The nationalization of forests imposed a new order on local communities, forest dwellers, villagers, farmers, nomads, and herders, that differed from and at times conflicted with the previous order. These conflicts undermined environmental justice between the actual inhabitants of these areas and those who did not live there but benefited from the resources far more than the indigenous inhabitants. These conflicts led to long-term and sometimes intractable disputes among different stakeholders over how the nation's forest resources should be used (Ghasemi & Karami dehkordi, 2017).

The Iranian Constitution recognizes the right of Iranian citizens to benefit from natural resources and considers their conservation, sustainable management, and principled utilization to be subject to fair use and the observance of environmental justice (Babaei Ahmad-Abad, 2024). Conflict appears in

forest administration when there is a dispute among different stakeholders regarding the right of access and how to use it, and each of them tries to neutralize the activities of others. As a result, stakeholders may try to limit one another's operations, which can ultimately lead to a slowdown, suspension, or complete paralysis of activities in the affected area (Gritten et al., 2013; Schellens & Diemer, 2020). An increase in the intensity of such conflicts and the failure to manage them leads to tension and conflict between local communities, whose environmental justice concerns are often overlooked, and governing organizations. This, in turn, impedes the formation of cooperative actions in natural resource management. Failure to observe environmental justice, along with increasing tensions, will lead to distrust and rejection of beneficial proposals (NGO, 2020) and may manifest in countermeasures, revenge, or gaining high profits in the form of illegal logging or timber smuggling in forest areas.

According to interviewees, the performance of the INRWO in combating timber smuggling in Guilan province is considered successful and acceptable, especially since the number of protection companies has increased since 2018. In other words, the increase in companies has led to improved monitoring and protection of natural resources. However, it is also possible that interviewees may have underestimated or exaggerated their strengths and weaknesses due to collective interests or conflicts of interest. This is noteworthy, as another study reported that the level of satisfaction of local experts with the functioning of the core activities of the Natural Resources Custodian in Gilan province was declared to be weak (Safari et al., 2024).

To improve the quality of conservation measures, it is recommended that specialized training be provided for forest guards to equip them with the necessary knowledge and skills to combat timber smuggling and forests protection. It is also necessary to carefully select forest guards and employ competent, committed, and ethical individuals. Increasing wages, rotating patrol shifts, providing material and spiritual support, increasing social status through the media, judicial training and granting judicial bailiff cards, training and explaining how to interact between courts, judges and forest guards, and similar matters

can, to some extent, achieve environmental justice for forest guards. The following are the key points shared by the interviewees and obtained from research background, are summarized by the researchers:

5.1. Challenges arising from implementing the forest breathing plan

- The implementation of the Forest Breathing Plan has led to an increase in timber smuggling.
- Restrictions on cutting in private properties have put additional pressure on owners and have led some to engage in illegal actions.
- The termination of forestry plan contracts caused many people working in this sector, who had no other expertise, to turn to timber smuggling.

5.2. New and positive policies to combat timber smuggling

- Local people have played an effective role in preventing smuggling as reporters.
- The use of protection companies since 2018 and employing local people to report timber smuggling have been among the most successful policies.

5.3. Need to revise policies

- New policies should clarify the status of previous policies to reduce contradictions and confusion.
- Failure to anticipate implementation problems, including the smuggling problem, in formulating and implementing policies has created numerous challenges.
- Revising laws and policies related to the Natural Resources and Forest Conservation Unit is necessary, especially in the field of timber smuggling.

5.4. Need to amend the laws and regulations related to cutting trees

- Legal use of trees in gardens and private areas should be made possible, especially through the issuance of permits and the use of marking hammers.
- Strict bans and the implementation of regulations such as a complete ban on marking hammer have not only had no effect on reducing smuggling, but have

also exacerbated it; therefore, they need to be revised.

5.5. Strategic suggestions

Although the local nature of this study limits generalizability of its results to the entire Natural Resources and Watershed Management Organization, the following strategic suggestions derived from the findings of this study are presented:

- Revise policies and laws related to the prohibition of timber harvesting from forests
- Re-implement forestry plans in a legal, sustainable and managed manner.
- Create employment opportunities for former smugglers, such as contracting or protection activities.

- Allocate better facilities to INRWO' forest guards to improve performance.
- Formulate realistic policies, based on a detailed analysis of the problems and clarifying the laws, along with the cooperation of local people and improving infrastructure.

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جرم شناسی قاچاق چوب و عدالت محیط زیستی: دیدگاه محافظان جنگل در جنگل‌های جنوب استان گیلان

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چکیده

اهمیت جنگل‌های هیرکانی در کنار موج فزاینده نگرانی‌های زیست‌محیطی در خصوص حفاظت از این جنگل‌ها و برخی جهت‌گیری‌های سیاسی دیگر، موجب شد تا در قانون برنامه ششم توسعه جمهوری اسلامی ایران، هرگونه بهره‌برداری چوبی از درختان جنگلی ممنوع شود. این ممنوعیت که به طرح تنفس جنگل معروف شد، از نظر بسیاری از کارشناسان جنگل کشور بی‌توجهی نسبت به کارکردهای چندگانه جنگل‌ها و موجب تضعیف اصل ۴۵ قانون اساسی، نابودی ثروت ملی و انفال، بیکاری کارگران، جنگلبانان، تکنسین‌های اره‌موتوری و رهاکردن آنان در ورطه بی‌عملی و بعضاً ایجاد و تقویت حس انتقام ایشان نسبت به جنگل‌ها و نیز سازمان منابع طبیعی و آبخیزداری کشور در قالب همکاری، معاونت و یا مباشرت در جرم قاچاق چوب شده است. در مقابل، عمده استدلال موافقان طرح تنفس بر ممنوعیت برداشت از جنگل‌ها، استناد به لزوم حفاظت از جنگل‌های هیرکانی به عنوان ذخیره گاه زیست کره، عدم تجاوز به جنگل با تکیه بر تامین چوب مورد نیاز از طریق واردات و درختکاری، اختصاص بودجه برای حفاظت از جنگل‌ها توسط مجلس و مواردی از این دست بود. به هر روی، توقف برداشت چوبی از درختان جنگلی منجر به کمبود تولید چوب، افزایش تقاضا از سوی صنایع چوب و افزایش قیمت آن شده است. در نتیجه فقر مردم محلی و طمع برخی از قاچاقچیان، جنگل‌ها در برابر قاچاق چوب آسیب پذیر شده‌اند. این وضعیت برقراری عدالت زیست محیطی را بین کسانی که برای مقاصد معیشتی قاچاق می‌کنند در مقایسه با قاچاقچیان حرفه‌ای تضعیف می‌کند. پژوهش حاضر سعی دارد با استفاده از تکنیک مصاحبه گروهی باز و نیمه ساختاریافته، دیدگاه جنگلبانان واحد منابع طبیعی رستم آباد را در برخورد با قاچاق چوب بررسی کند. مصاحبه ضبط و در نرم افزار Word ثبت و با نرم افزار NVivo مورد تجزیه و تحلیل قرار گرفت. از دیدگاه یگان حفاظت جنگل، مهمترین دلیل روی آوردن به قاچاق، سود بالای ناشی از فروش الوار قاچاق است. همچنین نبود وسایل حمل و نقل سازمانی و عدم حمایت قانونی در برابر قاچاقچیان از مهمترین چالش‌های یگان حفاظت می‌باشند. به عقیده آن‌ها گسترش فرهنگ احترام به محیط زیست، کمک گرفتن از مردم محلی، تعلق جنگل‌نشینان به جنگل و آگاهی از جرم‌های سنگین قاچاق چوب از مهمترین راهکارهای اجتماعی و فرهنگی برای مقابله با این جرم است. همچنین سیاست اصلی مبارزه با قاچاق چوب، همکاری بین بخشی بین سازمان‌ها عنوان شده است. به گفته مصاحبه شونده‌گان، عملکرد سازمان منابع طبیعی و آبخیزداری کشور در مبارزه با قاچاق چوب به ویژه پس از افزایش تعداد شرکت‌های حفاظتی از سال ۱۳۹۷ موفق و قابل قبول تلقی می‌شود. در نهایت، پژوهش به این نتیجه می‌رسد که بازنگری در پیاده‌سازی طرح تنفس و توقف بهره‌برداری چوبی از درختان جنگلی، لزوم اصلاح قوانین مرتبط با قطع درختان و تدوین سیاست‌های جدید و مثبت در مبارزه با قاچاق چوب، از مهمترین راهکارهای مبارزه با قاچاق چوب در جنگل‌های جنوب استان گیلان است.

واژگان کلیدی: جرم‌شناسی قاچاق چوب؛ عدالت محیط‌زیستی؛ راه‌حل‌های حقوقی مبتنی بر حفاظت؛ جرم جنگلی؛ مصاحبه گروهی.