



PUBLIC POLICIES AND INVESTMENTS FOR MAINSTREAMING SUSTAINABLE FOREST MANAGEMENT IN TURKEY

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ABSTRACT: The forestry is an important sector that requires serious investment and research that could enable the management of ecosystems and the transformation of goods and services from that ecosystem into high value-added products. Additionally, the forestry refers to a remarkable economic potential for several sectors as well as mining, animal husbandry, plant production. Up to this point, it is intended to analyze the progress of the forestry sector in Turkey in the near term in line with the objectives of sustainable development in current study. In this context, for the sustainable use of resources, the various policy documents to sectoral strategy of the national development plans were examined and forestry investments in 2007-2020 periods were scrutinized in terms of sustainability in accordance with forestry sector, in Turkey.

Keywords: Forestry, policy, investment, sustainability

TÜRKİYE’DE SÜRDÜRÜLEBİLİR ORMAN YÖNETİMİNİN SAĞLANMASINA YÖNELİK KAMU POLİTİKALARI VE YATIRIMLAR

ÖZET: Ormancılık, ekosistemlerin yönetimini ve bu ekosistemden mal ve hizmetlerin katma değeri yüksek ürünlere dönüştürülmesini sağlayabilecek ciddi yatırım ve araştırma gerektiren önemli bir sektördür. Ayrıca ormancılık, madencilik, hayvancılık ve bitkisel üretimin yanı sıra çeşitli sektörler için kayda değer bir ekonomik potansiyele işaret etmektedir. Bu noktaya kadar mevcut çalışmada sürdürülebilir kalkınma hedefleri doğrultusunda Türkiye’de ormancılık sektörünün yakın vadedeki ilerleyişinin analiz edilmesi amaçlanmaktadır. Bu kapsamda, kaynakların sürdürülebilir kullanımı için ulusal kalkınma planlarının sektörel stratejisine yönelik çeşitli politika belgeleri incelenmiş ve 2007-2020 dönemindeki Türkiye’de ormancılık

sektöründeki yatırımlar sürdürülebilirlik eksenini açısından incelenmiştir.

Anahtar kelimeler: Ormanlık, politika, yatırım, sürdürülebilirlik

INTRODUCTION

Forests have three significant differences from other natural resources: “providing a range of benefits”, “range of different forest types” and “occupy land with an opportunity cost” as a complementary part of the terrestrial ecosystems. In addition to provisioning services, it provides regulating, supporting and cultural services. The forest covers 28.6 percent of Turkey’s surface area and constitutes 22.7 million hectares (TURKSTAT, 2019). Almost all the forests are owned by the state in Turkey, and planned and managed by the General Directorate of Forestry (GDF), the General Directorate for Combating Desertification and Erosion (GD-CDE), and the General Directorate of Nature Conservation and National Parks (GD-NCNP) affiliated to the Ministry of Agriculture and Forestry.

In addition to the defined responsibilities, these general directorates are also the external interface of the forestry sector in Turkey. For instance, GD-CDE is the coordinator unit of the United Nations Convention to Combat Desertification the Conference of the Parties (UNCCD COP) 12 in Ankara in Turkey and this general directorate followed the whole official process after that. Again, GD-CDE participates the United Nations Forestry Forum (UNFF) regularly as a delegate. Secondly, GD-NCNP is the focal point of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

There are around 7 million forest villagers in approximately 22,000 forest villages that live together with and benefit from forest resources in Turkey (GDF, 2020). Therefore, the improvement of the social conditions and economic structures of these forest villagers plays an active role in the production works, and is of great importance for the forestry sector. The products and services provided by forests have an important place not only for forest villagers but also for other segments of the society. Therefore, natural forests were used extensively and this problem has increased the demand for forest ecosystems with the increasing population trend.

All these developments reveal an urgent need to plan and operate the forest asset on a sustainable basis. This process, which started with the Rio Conference held in 1992, continued with the existence of the Rio Declaration, Agenda 21, Forest Principles, United Nations Framework Convention on Climate Change and Convention on Biological Diversity in the worldwide. Finally, the United Nations 2030 agenda and sustainable development goals (directly related with the land, climate change, poverty, and consumption) are seen as an important tool to achieve sustainability in the forestry sector. It was expected that this situation led to the emergence of the concept of Sustainable Forest Management (SFM).

When these improvements are evaluated in terms of Turkey, it seems that many important studies have been carried out. Initially, Turkey prepared 2000’s Forestry Strategy document for compatible with that of the European Forestry process. Then, Forestry Sector Analysis study was carried out with the support of the World Bank, and later National Forestry Program has been prepared by Food and Agriculture Organization (FAO). Importantly, the SFM criteria and indicators national set were determined in 2003 under the concept of SFM and put into practice in the following years. Subsequently, the two reports have been prepared in 2006 and

2008. Until 2017, Turkey had mostly emphasized on the capacity-building projects in the forestry sector before the update of the SFM criteria and indicators set successfully. Lastly, a report of the SFM criteria and indicators was published in 2019. This document mandates a sustainable and holistic forestry sector management in order to fulfill these established criteria and indicators.

In this paper, we aim to show the current situation of Turkish forestry sector. While doing this, we thought that the link between policies, public investments and related Sustainable Development Goals (SDGs) should be given in an interactive manner. Since, all processes have clearly shown that this would only be achieved by means of the SFM that accounts for SDGs and coordinately programs determination and implementation of the correct policies regarding the sector and making the necessary investment.

Steering Regulations For The Forestry Sector In Turkey

The main reason for preparing this review is to present the general view of the forestry sector from the scope triangle of policy, investment and sustainability in Turkey. In order to be able to fully cover this perspective in the review fully, we analyzed i) the place and importance of the forestry sector in the national development plans and other policy documents, ii) the general trend of the forestry sector in public investments, taking into account the last three development plans periods (2007-2023), iii) the place of the forestry sector through the concept of the sustainability.

Policies

Sustainability of the forest resources with economic, social, biological and recreational benefits is seen as an important wealth value in terms of countries' development goals and policies. Therefore, the place and importance of the forestry sector in development plans and other sectoral policy documents were in detail touched upon. Although Turkey has totally 11 development plans with a 5 year-span prepared so far, including the 1st Development Plan (1963-1967) till the Eleventh Development Plan (2019-2023), we have analyzed last three plan periods, 15 years of time in our review to better comprise recent developments in policy making for the area of forestry in Turkey.

Development Plans

The common goal in the developing countries with limited resources is to ensure balanced, sustainable and rapid development, and for this reason, the development plans have been prepared for many years to attain pre-determined objectives within a detailed 5-year program (SPO, 2001). In general, the development plans contain policies for all economic sectors including the forestry sector. Thus, they provide sheer volume of analytical documents for historical development of planning with policies, priorities and targets related to forestry and forest resource management to make an in-depth review in a timely manner. The policies of the forestry sector in the development plans of the last three 5-year periods (2007-2023) and their links with the Sustainable Development Goals (SDGs) are given in the Table 1.

Table 1. The link between the development plans and sustainable development goals

Ninth Development Plan (2007-2013)			
Policy number	Policy	Specialization commission report /Working group report	Sustainable DevelopmentGoals (SDGs)
508.	- Considering the balance of protection and use, combating the forest fires and pests, conservation of gene resources and biodiversity, development of non-wood products and services and ecotourism are aimed.	Forestry specialization commission report (2007-2013)	SDG.15 (Life on land) SDG.13 (Climate action)
509.	- It is important to carry out industrial and soil conservation afforestation and rehabilitation works, development of special afforestation and raising public awareness on these issues.	Forestry specialization commission report (2007-2013)	SDG.15 (Life on land) SDG.13 (Climate action)
Tenth Development Plan (2014-2018)			
Policy number	Policy	Specialization commission report &Working groupreport	Sustainable DevelopmentGoals (SDG)
775.	- In addition to increasing afforestation studies and rehabilitation activities, combating forest fires and pests will also be improved.	Sustainable forest management specialization commission report (2014-2018)	SDG.15 (Life on land) SDG.13 (Climate action)
776.	- While ensuring efficiency in the production and marketing of wood and non-wood forest products, a management approach that takes into account all functions of forests will be taken as basis.	Sustainable forest management specialization commission report (2014-2018)	SDG.15 (Life on land) SDG.11(Sustainable cities and communities) SDG.12 (Responsible consumption and production)
Eleventh Development Plan (2019-2023)			
Policy number	Policy	Specialization commission report &Working groupreport	Sustainable DevelopmentGoal (SDG)
415.	-The contribution of forests to the economy will be increased through sustainable forest management.	Forestry and forest products working group report (2019-2023)	SDG.15 (Life on land) SDG.11 (Sustainable cities and communities) SDG.13 (Climate action)
415.1.	-“National Forest Inventory” study will be completed.	Forestry and forest products working group report (2019-2023)	SDG.15 (Life on land) SDG.13 (Climate action) SDG.11 (Sustainable cities and communities)
415.2.	-The capacity to combat diseases, pests and wildfires in forestry will be strengthened.	Forestry and forest products working group report (2019-2023)	SDG.15 (Life on land) SDG.13 (Climate action)
415.3.	-The support provided for forest villagers will be maintained within certain programs, and professionalization will be raised through training activities.	Forestry and forest products working group report (2019-2023)	SDG.1 (No poverty) SDG.4 (Quality education) SDG.15 (Life on land)

415.4.	-In order to meet the wooden raw material needs, industrial plantations will be facilitated with fast-growing species.	Forestry and forest products working group report (2019-2023)	SDG.11 (Sustainable cities and communities) SDG.12 (Responsible consumption and production) SDG.15 (Life on land)
415.5.	-The use of wood will be expanded and standards will be set.	Forestry and forest products working group report (2019-2023)	SDG.11(Sustainable cities and communities) SDG.12 (Responsible consumption and production)

It is understood that the forestry sector is handled in more general lines in the Ninth Development Plan (SPO, 2007a) and all development plans prepared before. The subjects covered are mostly the same as the projects carried out in the investment program. Considering the Tenth Development Plan, it is seen that the concept of “sustainability” is brought to the fore (MoD, 2013). Unlike the other previous two development plans, the Eleventh Development Plan included much more forestry sector objectives and the term of sustainability (SBO, 2019). In addition to the development plans, both “Specialization Commission Report” and “Working Group Report” evaluate the past plan period practices as well and make a wide range of recommendations for the future plan period in terms of internal policies, programs and projects (SPO, 2001).

The Ninth Development Plan Forestry Specialization Commission Report (2007-2013) issued the fact that forests produce economic goods consisting of wood raw materials and non-wood forest products, and ecological and social functions and services (SPO, 2007b). It was also important that ecosystem-based management was emphasized for the first time in the report and was aimed to organize and implement participatory forest management plans by this approach. The second important determination regarding the report, the concept of sustainability was in the first instance appeared and emphasized in the content of the document.

The Tenth Development Plan Sustainable Forest Management Specialization Commission Report (2014-2018) was the first document that included the concept of sustainability in both its title and content (MoD, 2014). The main emphasis of this report was the forests had ecological and socio-cultural functions as well as wood raw material production. Also within the scope of the commission report, sustainable forest management covered the forest sector with taking into account the forestry works in protected areas, forest villages and project activities aimed at combating desertification and erosion.

Last report to be mentioned is the Eleventh Development Plan Forestry and Forest Products Working Group Report (2019-2023). The main difference of this document from the other two documents is that it was less in number but prepared with an expert-oriented team. Additionally, the fictional focus of the report was SDGs, and the concept of Sustainable Land Management (SLM) was expressed here for the first time. Again in the report, policy recommendations were among the issues developed; ecosystem services, forest problems of the products industry, R&D, evaluation of non-wood forest products and forestry villagers were included. A matrix was created for each of these issues and policy recommendations were made (SBO, 2018).

Other Policy Documents

Besides the development plan and the commission reports written within this scope, the sectoral policy reports are also prepared by the public institutions operating in the forestry sector. The first of these is the documents prepared by The Forestry and Water Council. The Council is one of the highest authoritative establishment and second meeting of this authority was held in 2017. The issues of “water”, “forestry”, “climate and meteorology”, “nature conservation and biodiversity” and “combating desertification and erosion” were discussed by the working groups in this meeting. All the issues discussed were made into a document and shared with the public (MoFWA, 2017). When this report was analyzed, it was understood that sustainability was on the main axis.

A strategic management approach has been adopted as a requirement of a transparent public structure. It is more sensitive to the increasing societal demands, attaches importance to participation, has determined its goals and priorities, and is accountable and transparent. Remarkably, Law No. 5018 constitutes the legal infrastructure of strategic planning in Turkey. In this context, public administrations prepare their strategic plans within the framework of established procedures and principles.

The strategic plans and action plans directly related to and guiding the development of the forestry sector are presented in Table 2, detailing policy reports, associated policies and initiated public investment projects on the basis of these documents. In Table 2., almost all of the projects were related to the activities routinely carried out by the forestry organization. Solely, Murat River Watershed Rehabilitation Project (MRWRP) and Çoruh River Watershed Rehabilitation Project are the foreign investment projects and the integrated resource management approach is taken as basis in these projects.

Table 2. National policy documents and linked projects of the forestry sector

Policy document	Policies	Projects
Turkey's National Forestry Program (2004-2023)	- to develop the existing forests. - to ensure ecological, economic, social and cultural multidimensional benefits from the forests at all levels providing the sustainability.	- Afforestation and soil conservation project, -Forest conservation and firefighting project, -Seedling production project, -Forest cadastre project, -Widespread use of wood project, -Çoruh River Watershed Rehabilitation Project, -Murat River Watershed Rehabilitation Project (MRWRP).
The National Strategy and Action Plan to Combat Desertification (2019-2030)	- to mitigate against the side effects of aridity, desertification and the land degradation, - to balance conservation with efficient land use objectives.	- Afforestation and soil conservation project, -Seedling production project, - Combating desertification and erosion project, -Soil organic carbon project, -Land degradation neutrality (LDN) project.

Climate Change Action Plan (2011-2023)	<ul style="list-style-type: none"> - to determine of sink potential and cost analysis in the forestry sector, - to identify the socio-economic impacts of climate change on forest villagers and the effects of climate change on forest fires. 	<ul style="list-style-type: none"> -Forest villages survey planning project, -Preparation of flood risk management plans project, - Forest protection and firefighting project,
Turkey Climate Change Strategy (2010-2023)	<ul style="list-style-type: none"> - to evaluate the effects of climate change on the Turkish forests, - to develop and disseminate efforts to combat desertification and erosion. 	<ul style="list-style-type: none"> -Combating desertification and erosion project, -Soil organic carbon project, -Land degradation neutrality (LDN) project.
National Rural Development Strategy (2014-2020)	<ul style="list-style-type: none"> - to protect the forest ecosystems and ensuring sustainable use of forest resources are identified among the priorities. 	<ul style="list-style-type: none"> - Afforestation and soil conservation project, -Forest villages survey planning project.
National Watershed Management Strategy Document (2014-2023)	<ul style="list-style-type: none"> - to stop the natural resource and environmental degradation process in the water collection basins of our country for years, - to protect and improve the efficiency and quality of soil, underground and surface water resources, - to ensure the protection and improvement of the fauna and flora in the basin, development of non-wood forest product. 	<ul style="list-style-type: none"> - Murat River Watershed Rehabilitation Project (MRWRP), - Çoruh River Watershed Rehabilitation Project, -Preparation of flood risk management plans project.

More specifically, the World Bank (WB) analytically prepared a sectorial document of “Turkey: Forestry Policy Note” in 2017, based upon previous studies in the forestry. This document is noteworthy to have an outside perspective about Turkey’s forestry sector. The main purpose of the document was to be a strategic guide to help determine this sector targets (World Bank Group, 2017).

Investments

Forestry sector investments are evaluated under the total budget of the agricultural sector in Turkey. All of these investments consist of the public allocations. Sub-sectors of the agricultural sector are irrigation, crop production, livestock and aquaculture besides the forestry. Considering the investment value of these sub-sectors within the agriculture sector on a yearly basis, the irrigation has the highest share due to irrigation dam constructions. The general status of the forestry sector is given in Figure 1.

Figure 1 graphs a bar chart having shown a general trend of the forest public investments since the Ninth Development Plan Period (2007-2013). The first serious leap coincided with the preparation of the Tenth Development Plan period in 2012. Another important reason for this increase is the diversification and increase in investment need due to the SFM approach. Forestry investments, which show an increasing trend in general, encountered a small decrease in 2019. The main justification for this is that the government implemented austerity measures in all public investments that year.

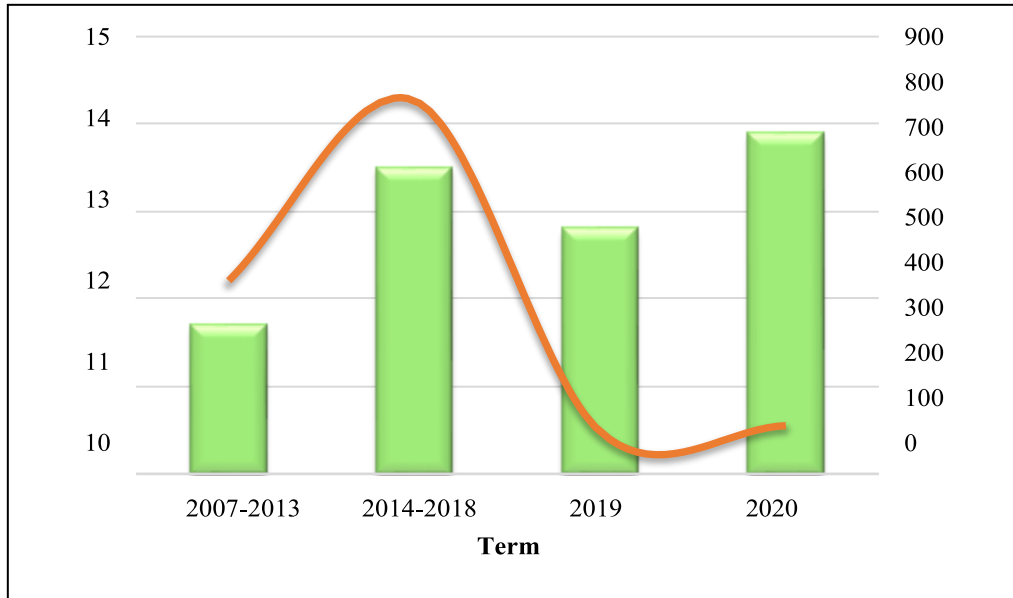


Figure 1. Percentage of the forestry public investments in the total agricultural public investments (Official Gazette, 2020a)

Despite all these developments, it is observed that forestry follows a trend above the Tenth Development Plan period level with an increase of 1.1% in 2020. On the other hand, the general trend of the forestry sector as a cash investment from 2007 to 2020 is illustrated in Figure 2.

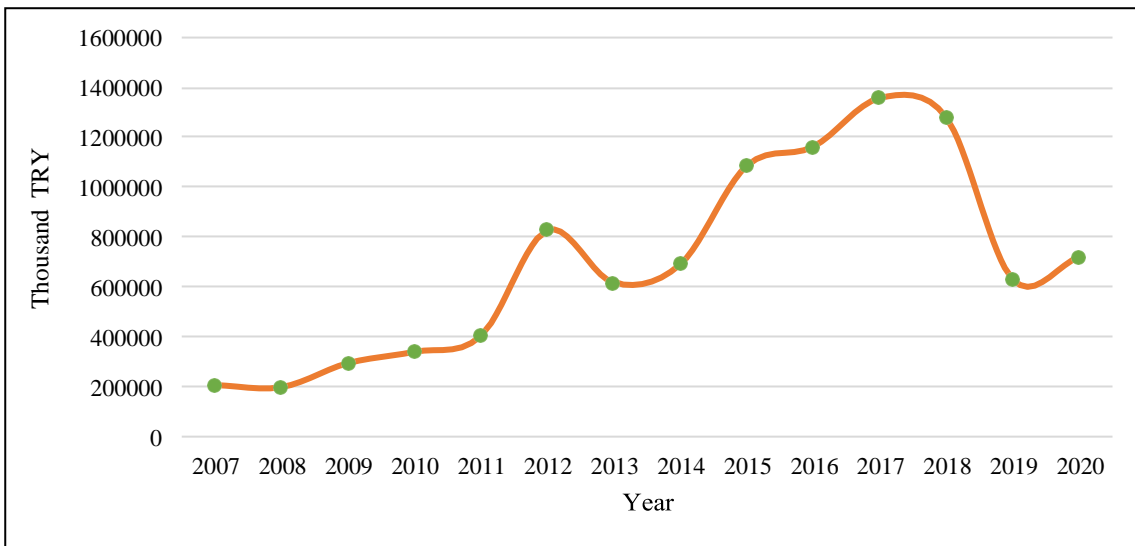


Figure 2. Public investments of forestry in turkey (2007-2020) (Official Gazette, 2020a)

When the projects for the forestry sector are examined in the investment program, the projects are seen as general projects that meet the sector needs at first glance. However, as we get into the details of the projects, it is seen that some of the studies carried out directly serve the SFM approach. The details of the main projects of these projects are presented in Table 3.

Table 3. Public investment projects related directly sustainability (Official Gazette, 2020b)

Project name: Combating erosion and land degradation neutrality (GDF)		
Period	2020 investment (TRY)	Related SDG
2018-2021	101.706.000	SDG.15 (Life on land) SDG.13 (Climate action)
Project name: Combating desertification and erosion (GD-CDE)		
Period	2020 investment (TRY)	Related SDG
2020-2022	2.650.000	SDG.15 (Life on land) SDG.13 (Climate action)
Project name: Dissemination of the use of wood (GDF)		
Period	2020 investment (TRY)	Related SDG
2018-2020	800.000	SDG.11 (Sustainable cities and communities) SDG.12 (Responsible consumption and production) SDG.15 (Life on land)
Project name: Forest protection and firefighting (GDF)		
Period	2020 Investment (TRY)	Related SDG
2020-2020	55.830.000	SDG.15 (Life on land) SDG.13 (Climate action)
Project name: Land degradation neutrality (GD-CDE)		
Period	2020 Investment (TRY)	Related SDG
2018-2022	50.000	SDG.15 (Life on land) SDG.13 (Climate action)

* 1 TRY to USD = 0.137810 US Dollars on 7 February, 2021.

Table 3. reveals the forestry projects in respect of their period, 2020 budget and linkage of the SDGs. To be more specific, the highest investment (101.706.000 TRY/ 14.418.615 USD) was in “Combating erosion and land degradation neutrality project”. By the project, it was aimed to create a model on the determination, planning and decision-making of Land Degradation Neutrality (LDN) targets at the national level, and in this context, demonstration practices have been initiated in the Upper Sakarya Basin in Turkey. Secondly, dissemination of the use of wood project is the first project implemented within the scope of the Eleventh Development Plan studies. To go into details, it was the only project based on the SDG.11 (Sustainable cities and communities) and SDG.12 (Responsible consumption and production) unlike the other projects.

Sustainability

Until this section, the relationship of forestry public policies and investments with sustainability has been examined. Now, the concept of the SFM, which is aimed to be achieved with these instruments, will be focused on. However, before moving on to the SFM, it would be appropriate to mention about sustainable development and its related goals. The sustainable development is an inclusive set, taking into account the individual capacities, development levels, national policies and priorities of each country (Topçu, 2017). SDG have been prepared taking into account the Millennium Development Goals (MDGs) which have been committed to fulfill by the whole world until 2015. Essentially, SDGs are 17, but solely 10 of these (SDG.1, SDG.2, SDG.3, SDG.5, SDG.6, SDG.11, SDG.12, SDG.12, SDG.13, SDG.14, and SDG.15) are focused directly or indirectly related with the forestry sector.

Assessing the sustainability of forest management is a complex undertaking, as it requires the qualification and combination of very different types of information on all aspects of the forest

management, and comparing the data (UN, 2013). Managing the forest assets more effectively and efficiently and meeting the goods and services needs of the society also highlights the SFM. According to the United Nations Forestry Forum (2007), SFM is defined as a dynamic and developing concept aimed at preserving and improving the economic, social and environmental values of all forests for the benefit of present and future generations. SFM is a conservation and use of the forests by conserving and improving multi-faceted forest values and functions (MoFWA, 2015). As a result of this understanding and approach, the need to determine SFM criteria and indicators is on the agenda. They are of special importance in these processes, which aim to prevent deforestation and maintain forests' ecological, economic and socio-cultural functions.

The SFM studies were carried out by defining 6 criteria and 28 indicators in GDF and affiliated Forest Management Directorates in 2004. These studies were expanded by GDF and the United Nations Development Programme (UNDP) in 2017 into the National Sustainable Forest Management Criteria and Indicator Set Determination Project. For this purpose, the National Sustainable Forest Management Criteria and Indicator Set, which includes national criteria and indicators regarding the existence and management of forest resources of our country, has been determined.

CONCLUSION

Turkey has quite challenging goals regarding the sustainability of the forest ecosystem. In order to achieve this, implementing the appropriate forestry policies, providing the sufficient investments and considering the sustainability are essential. In the same way, the SFM is important in these processes, which aim to prevent deforestation and maintain the ecological, economic and social functions of forests for present and future generations. Our research is highlighted that policies and the investment required by these policies do not consider without sustainability for the protection and effective management of forest assets. In this context, it is observed that the share of the forestry sector in the total agriculture sector has increased within the budget possibilities since this concept entered into development plans.

AUTHOR CONTRIBUTIONS

Pinar Topcu: Designing the research, writing and reviewing the manuscript, obtaining the materials for conducting the research. **Gunay Erpul:** Writing and reviewing the manuscript and supervising. **Selen Deviren Saygin:** Writing and reviewing the manuscript and supervising.

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