

# The contribution of European structural and investment funds to the strategic planning of sustainable development in the national forest parks of Greece

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**Abstract:** Sustainable development represents a crucial environmental policy framework in order to provide multiple benefits for climate, biodiversity and people. The National Forest Parks (NFP) represent protected areas with important forest diversity that play a critical role, both in reversing biodiversity loss and contributing to socio-economic development. The European Structural and Investment Funds (ESIF) pursue the preservation and improvement of the environment in the context of sustainable development. To date in Greece, 16 operational projects have been approved through two ESIFs and concern six NFPs which are supervised by Management Bodies. Critical Assessment of the projects and SWOT analysis for the six Management Bodies has also been implemented. These results highlight the existence of common sustainability goals, which focus on the protection of Natura 2000 sites and on preserving biodiversity, to financial support the NFPs with vehicles and IT equipment, rather than promote sustainability.

## 1. Introduction

The Forest sector is increasingly recognized for its role to face many sustainable development challenges, including to mitigate climate change and balance between human needs and biodiversity conservation goals. [1]; Some noteworthy sustainable forest actions are both to preventing the degradation of forest ecosystems, habitat loss and deforestation and to contribute to enhancing biodiversity and habitat restoration [2].

The European Union (EU) has introduced three funding opportunities related to agriculture and forestry; the Horizon 2020, program and the European structural and investment funds (ESIF) [3]. The ESIFs contain five funds: a) the Cohesion fund (CF) that supports funding in transport and environmental projects in countries where the gross national income (GNI) per inhabitant is less than 90% of the EU average; in including Greece, b) the European regional development fund (ERDF) which promotes balanced development in the different regions of the EU, c) the European social fund (ESF), which has as its main aim, to support employment, d) the European agricultural fund for rural development (EAFRD) which focuses on resolving the particular challenges facing the rural areas of the EU, and e) the European maritime and fisheries fund (EMFF), that promotes the adoption of sustainable fishing practices and ways of improving the quality of life along European coasts [4].

'Regional development' is aiming for the financial development of the different areas of a country through advanced planning [5]. So, Regional Policy is the EU's main investment policy. This targets all regions and cities in the EU to support job creation, economic growth, business competitiveness,



sustainable development and improve the quality of life. The Regional Policy is delivered through two main funds: The Cohesion Fund (CF) and the European Regional Development Fund (ERDF) [6]. However, for planning sustainable development in protected areas, it is necessary, both to monitor habitats and species and evaluate the past management projects and their results [7].

The institution of the National Forest Parks (NFP) responds simultaneously to protecting forest resources and promoting economic development [8], especially because of their complex environments [9]. In fact, NFPs not only provide tourism opportunities [10] but have also created a great deal of promotion of 'Regional development' [8]. Still, the NFPs need to solve important issues, for instance poor financing, understaffing [11] and generally, to be better organized. Especially in Greece, the institution of NFPs began in 1938 [9], and since the Law 996/1971, Greece has established 10 NFPs, whose protection and control is regulated by the Presidential Decree of 67/1981 [9]. Along with these numerous laws, management and administration have proven necessary [12], these are supervised by Management Bodies (MB) according to the Law 4519/2018. Supervision of Security, Monitoring and Information-Awareness are the principal actions of its staff, nonetheless, NFP development presents unbalanced regional distribution [13].

The purpose of this paper is to identify CFs and ERDFs which support the NFPs in Greece, to assess if there are common goals and actions specializing in promoting sustainable development, and to see if there are differences and difficulties in absorbing funds and also their total progress both in assigned projects and payments. The final goal of the study is to understand the advantages and disadvantages of the implementation of project funded by either CF or ERDF and examine which of them could more easily boost sustainable development in the 10 NFPs in Greece.

## 2. Methods and Materials

The following NFPs studied: the Ainos National Park; the Parnassos National Park; the Parnitha National Park; the Oitis valley, Sperchios and Maliakos Gulf National Park; the Olympus National Park and the Samaria-Western Crete National Park. The research includes assessment of their organizational activities, examining the progress of using the CFs and ERDFs and the promoted operational projects.

The list of operational projects through the CFs and ERDFs that concern NFPs in Greece is found on the NSRF (National Strategic Reference Framework) website: <https://www.espa.gr/en/pages/OperationsList.aspx>. The list contains the transactions that joined until 31.12.2020 [14]. All assigned projects and payments funded by CFs and ERDFs for the examining NFPs are available online on the public website Diavgeia <https://diavgeia.gov.gr/> [15] and were examined. For entering data, the operation names/code of the CFs and ERDFs (or MIS) were used. Table 1 presents the examining operational projects.

**Table 1.** The examining ESIFs per NFP and the MIS code.

ESIFs / NFP	Ainos	Parnassos	Parnitha	Oitis	Olympus	Samaria
CFs	5033022	5032966	5033697	5032589 <sup>a</sup>	5033173 <sup>b</sup>	5033240
	5007956				5045632	
ERDFs	5033680	-	-	-	5045450	5007763
	5033723				5047225	

<sup>a</sup>This MIS relates to two CFs.

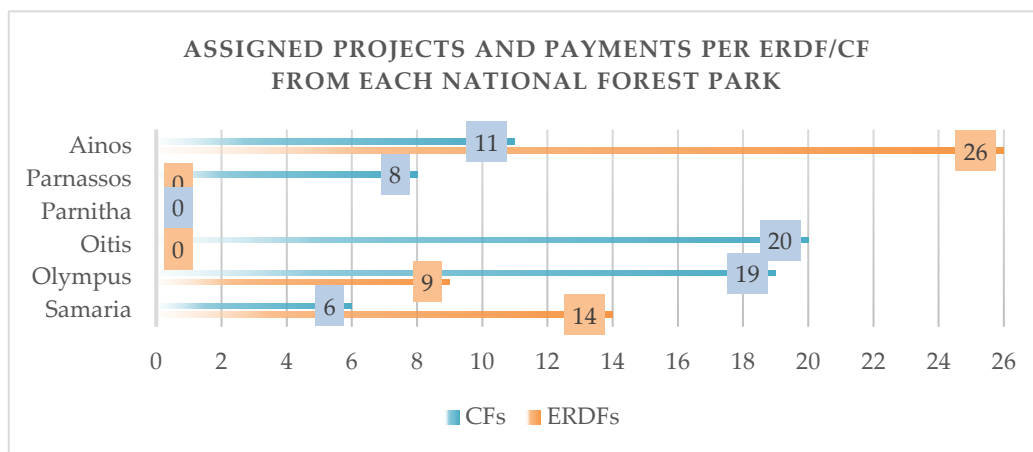
<sup>b</sup>This MIS relates to three CFs.

Strategic planning is a key to successful management through developing, implementing, and assessing decisions so that an organization can achieve its goals. SWOT Analysis is a valuable technique that presents general solutions and is used for both strategic management and decision making in organizations. This analysis technique is used to achieve the long-term goals of an organization since it is helping decision makers to uncover opportunities to take advantage. It concerns

two approaches; in fact, SWOT analysis, described as ‘Two-by-Two Matrix’, with both internal (strength and weakness) and external factors (opportunities and threat) [16]. SWOT Analysis of the six examining NFPs has been implemented.

### 3. Results

In total, the survey concluded the examination of nine CFs supporting six NFPs that concerned 64 actions [13] and of seven ERDFs relating to 49 actions and financial supported three NFPs, all of them also supported by CFs. According to the findings for the examination of 16 ESIFs (CFs and ERDFs) on Figure 1, in total, 37 assigned projects and payments were implemented by the Ainos NFP; 28 by the Olympus NFP; 20 by the Samaria NFP and the Oitis NFP; eight by the Parnassos NFP and zero by the Parnitha NFP.



**Figure 1.** Assigned projects and payments per CF/ERDF from each NFP.

Numerous differences are found between the starting operation dates, three operational projects, funded through CFs, began in 01-01-2020 while the others have been funded since 01-01-2019. In contrast, for the examining of ERDFs, one project started in 2018, three in 2019 and three in 2020. Each examining CF has the 31-12-2023 as the operation end date, whereas six of the examining ERDFs will end between 2022 and 2023, and only one project has already finished. The funding is achieved through their MBs submission of funding proposals. For each operation project the MBs must have interest-free and zero bank accounts in order to be credited and manage the subsidized program with the respective funds.

Another fundamental difference between the examining CFs and ERDFs is that ERDFs are separated according to their inner scope, such as a) protection, b) environmental awareness and c) supply of support equipment, while, the CFs are correlated to management actions for habitats and species. Along with these, CFs concerned with the same beneficial name have the same code MIS, while each ERDF has a different code. So, it is important to mention that the CF is addressed to all regions, while the ERDF divides funding according to the development of the regions (i.e. depending on whether the region belongs to less developed areas, transition regions or more developed regions). For instance, the ERDF of Olympus (MIS 5033173) relates to three CFs and the funds are divided between the Western Macedonia region, the Central Macedonia region and the Thessalia region.

Another difference is the name of the category of intervention for the operation; all the CFs focus on Act 085-Protecting and enhancing biodiversity, nature conservation and green infrastructure; however only three, which examine the ERDFs of the Olympus NFP, relate to Act 086-Protection,

restoration and sustainable use of Natura 2000 sites. So, 18.75% of the examining operational projects only relate to sustainable use of Natura 2000 sites.

In particular, the actions through the CFs are subdivided into four packages (P): P1. Actions relating to ‘transport infrastructure, environment and sustainable development’; P2. Scientific documentation and networking; P3. Monitoring actions and technical or non-technical studies; P4. Management actions to assist species and habitats’ conservation status [13]. In contrast, the ERDFs fund projects are related mostly to the procurement of electronic equipment, supply of 4x4 vehicles, clothing and footwear, management actions for fauna and their habitats, and the financing of local information and information support.

With regard to economic perspectives, the co-financing rate for the CF is 85%, while for the ERDF is 80%. The examining projects funded through the CFs will benefit 2974144 euro (€), from 983600 € (MIS 5032589) for the Oitis NFP concerning two CFs, to 1000000 € (MIS 5032966, 5033697 and 5033173) for the Parnassos NFP, the Parnitha NFP and the Olympus NFP accordingly, while projects supported by the ERDFs will get funds up to 2889973 € from 95900 € (MIS 5033723- the Ainos NFP) to 828439 € (MIS 5007763) for the Samaria NFP.

Assigned projects and payment are another important issue which presents differences between the CFs and ERDFs. For example, the NFP of Parnitha, which despite the zero payments and assigned projects, has published competitions four times that did not emerge in assignments. In CFs, the Olympus and Oitis NFPs have proved to be more active in publishing competitions [13], whereas in ERDFs, the Ainos and Samaria NFPs are the most active in publishing competitions, in comparison to the other examining NFPs.

**Table 2.** Absorption rate (%) for the examining funds per NFP.

NFP / ESIFs	CFs - MIS	CF absorption rate (%) <sup>a</sup>	ERDFs - MIS	ERDF absorption rate (%)
Ainos	5033022	14.29%	5007956	34.2%
			5033680	30.17%
			5033723 <sup>b</sup>	96.46%
Parnassos	5032966	13.42%	-	
Parnitha	5033697	0%	-	
Oitis	5032589 <sup>c</sup>	12.23%	-	
Olympus	5033173 <sup>d</sup>	16.32%	5045632	100%
			5045450	37.01%
			5047225	0%
Samaria	5033240	5.46%	5007763 <sup>e</sup>	49.2%
Average		10.3%		49.58%

<sup>a</sup> Results by Zikouli A, Andreopoulou Z and Tsitsoni T 2021 Evaluating operational projects supported by Cohesion Funds for the National Forest Parks of Greece.

<sup>b</sup> This operational project finished by 31-12-2020.

<sup>c</sup> This MIS relates to two CFs, in total 983.365 €

<sup>d</sup> This MIS relates to three CFs, in total 1.000.000 €

<sup>e</sup> Only operational project that started in 2018.

Another important aspect is that the Olympus NFP, because of its use of six ESIFs, has not yet published any competition for the ERDF with MIS 5047225 focusing on environmental awareness for example, the preparation of educational material, school updates and the organization of informative events. Nonetheless the other two ERDFs have been used smoothly and especially the MIS 5045632 with 100% fund absorption, this fund plays a fundamental role since through it the Olympus NFP now have unmanned aerial vehicles (drones) a multimedia application system and an audio tour systems for

visitors (groups and individuals), all of which certainly will enhance environmental awareness actions through the less active ERDF (MIS 5047225).

**Table 3.** Promoted projects and payments for CF/ERDF per NFP.

NFP / ESIFs	CFs <sup>a</sup>	ERDFs
Ainos	drone, strategic study for light pollution, inflatable boat Oceanic RIB 640	4x4 vehicle, IT equipment, infokiosks, construction of a wooden observatory
Parnassos	IT equipment, management actions for protection of wild fauna	-
Parnitha	(proposed actions) monitoring study of reserving status of bird fauna	-
Oitis	photographic equipment, power fences, bird fauna' ringing equipment, management action for protection of wolves	-
Olympus	4X4 vehicle, Ground Temperature Sensors	IT equipment, drones, audio tour systems for visitors, management equipment for bats
Samaria	4X4 vehicle, annual subscription for organizations, monitoring study of pine diseases	digital photos, IT equipment, monitoring of forests and terrestrial habitat types

<sup>a</sup> Results by Zikouli A, Andreopoulou Z and Tsitsoni T 2021 as mentioned before.

Table 3 presents the most important operational programs and payments supported by CF and ERDF for each NFP. Therefore, through this assessment, mirror projects and payments correlate to the promotion of sustainable development since most of them address main problematic sectors like the lack of IT equipment, drones and vehicles.

In evaluating each examining NFP, we have concluded; see Figure 2 that shows the advantages of their organizational states (strength and opportunities) and the issues (weakness and threats) that should be analyzed in order to enhance their effectiveness in promoting habitat and species protection and sustainable use of Natura 2000 regions.



**Figure 2.** Swot analysis for the examining NFPs in Greece.

#### 4. Discussion

The examining actions, to be financed by the CFs and ERDFs; aim mostly to support the administration and organization of the NFPs and a few to improve the conservation status of the habitats and species of Directives 92/43/EEC and 2009/147/EC. All projects to be funded by the CFs, relate to protecting and enhancing biodiversity, nature conservation and green infrastructure, while only three ERDFs related to the restoration and sustainable use of Natura 2000 sites. For the six examining NFPs, fund absorption of ERDFs is higher (49.58%) relating to CFs (10.3%), but this may be mainly because most of the operation projects beginning earlier than the examining CFs; only one ERDF and one CF have zero progress.

#### 5. Conclusion

We conclude that a NFP in Greece could apply for either a CF or ERDF fund, with supporting 85% and 80% accordingly, since through both European funds the NFP can not only solve previous financial issues, but also promote actions for sustainable development. The majority of payments prove that the major financial difficulties experienced by the NFPs in Greece are caused by basic shortages in equipment and vehicles. In order to achieve the sustainable development of Natura 2000 regions, it is first necessary to address the lack of IT equipment and personnel, secondly expand collaboration with institutions and universities and thirdly boost environmental awareness in order to achieve sustainable use of these bio-unique regions.

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