"Benefits and synergies in tackling climate change from the implementation of the Common Agricultural Policy and other measures in the agricultural sector - proposal of policies and measures for Greece"

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Introduction

This study aims to contribute to the consolidation of the EU's new environmental and climate strategies for Agriculture under the European Green Deal by proposing certain interventions to address the impact of Climate Change on Greek Agriculture, which are eligible for funding by the new Common Agricultural Policy (CAP) 2021-2027, through its "green architecture", as well as increased synergies with other EU funding instruments.

Methodology

Diagnostic analysis of the interaction of Greek Agriculture with Climate Change, evaluation of the previous implementation of the CAP and identification of its needs while seeking to identify the appropriate national strategy and to formulate the necessary interventions in order to fulfil the environmental and climate objectives of the new CAP, utilizing its main resources as well as synergies with other financial instruments and tools.

Results

A. The effects of Climate Change are becoming increasingly intense and damaging, affecting human activity, both economic and social. Agriculture is the most exposed and vulnerable sector to these effects, with farmers experiencing severe losses in their production yields and changes in the way they work and manage their farms and natural resources.

B. The effects of climate change on the country's most important high-productivity agricultural areas, Central and Eastern Macedonia, Thessaly and Western Peloponnese, are attributed to the significant moisture deficit and the reduction in water reserves due to reduced rainfall and rising temperatures, especially during the summer months. Basic crops, such as vine, olive, wheat, fruit and vegetables, will be affected in the future, differentiating their yield and areas of prosperity according to the conditions.

C. CAP's reform towards increased environmental care and overall climate awareness is strengthened over time and is now becoming "*irreversible*" through the ambitious EU Strategies about *"Farm to Fork" and "Biodiversity*" under the European Green Deal, which set out the terms of agriculture's green transformation.

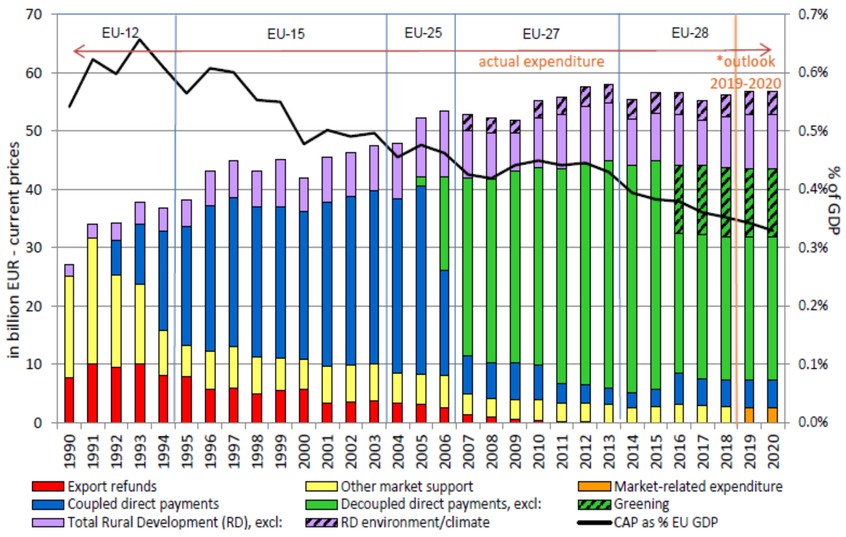

Figure. 1 The green shift of the CAP (expenditure) in line with its revisions (1990-2020)

Source: EC, https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/cap-expenditure-graph3_en.pdf

D. Total greenhouse gas emissions from agriculture decreased by 23.26% between 1990 and 2018. The greatest burden is caused by emissions of methane (CH4) and nitrous oxide (N2O), whose main sources are the intestinal fermentation processes of animals and the use of synthetic fertilisers, respectively.

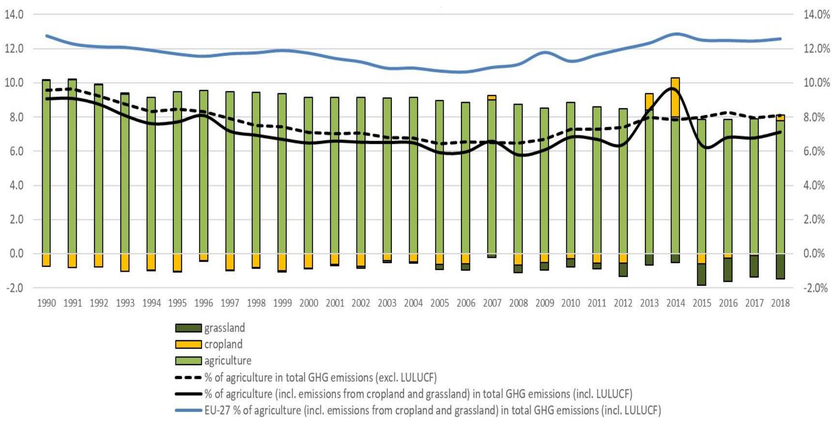

Figure. 2 Total greenhouse gas emissions from agriculture in Greece (in Mt CO2 eq.) 1990-2018

Source: EEA, EUROSTAT, SWD(2020) 372 final

E. Significant pressure is exerted by Greek agriculture on Greece's natural resources, with the greatest risks from climate change being found in the quantity and quality of irrigation water and soil erosion.

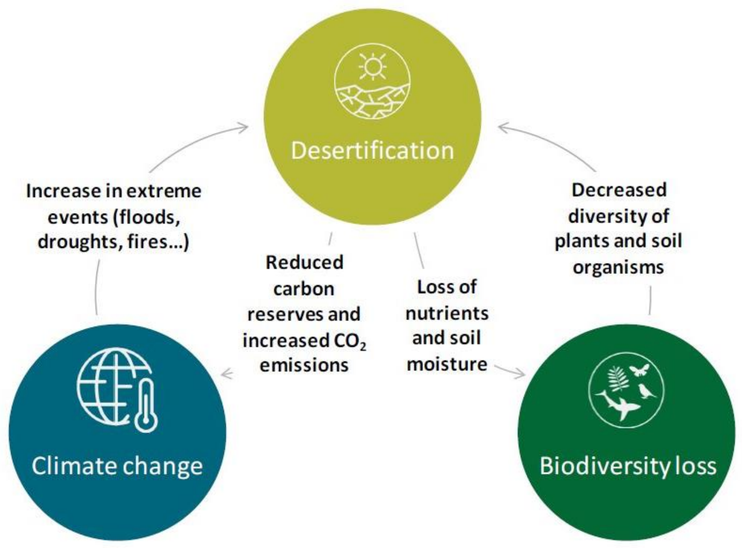

Figure. 3 Relationship between desertification, biodiversity loss and climate change

Source: European Court of Auditors, Special Report No 33, Combating desertification in the EU: a growing threat in need of more action

F. The use of renewable sources in Greek agriculture for energy production is low compared to the EU. This creates a definite margin for improvement, given in particular the high energy-producing potential of our country (solar-wind).

G. The evaluation of the previous implementation of the CAP's environmental and climate measures showcased significant problems in the initialisation and implementation phases of the planned interventions.

H. The "green transition" of Greek agriculture should be done in a balanced, fair and gradual manner by combining economic, environmental and social sustainability.

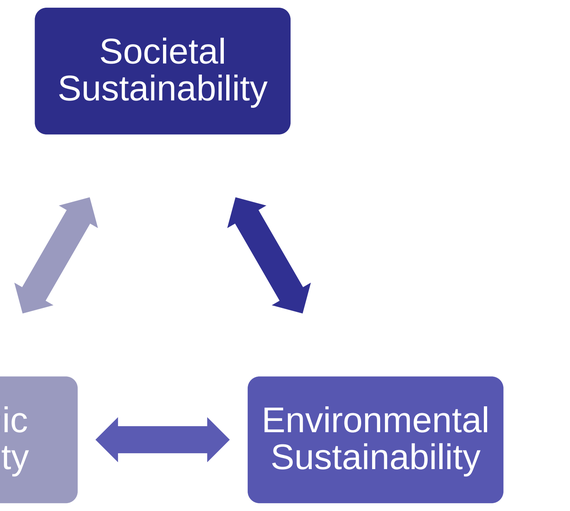

Figure. 4 The three interrelated objectives of the CAP

I. The integrated design of policy measures and interventions by general and specific objectives of the new CAP to address the effects of climate change requires broader reforms, synergies and a change in the overall production culture.

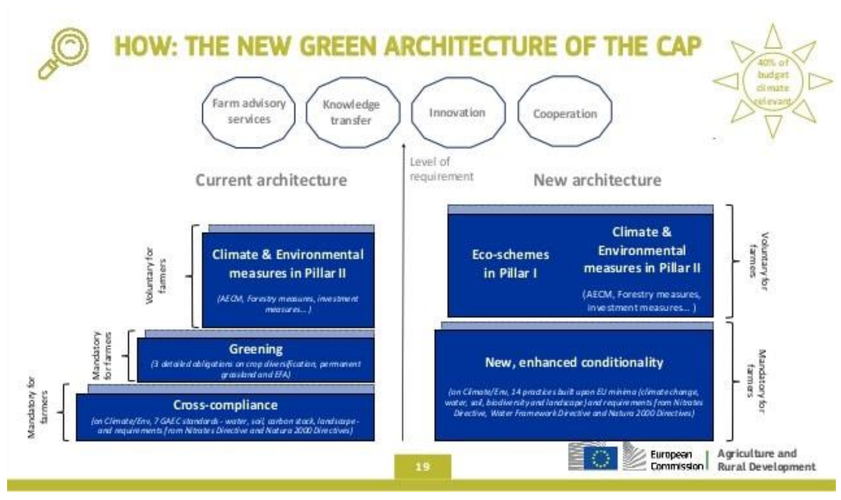

Figure. 5 The new "Green Architecture" of CAP

Source: EC, SWD(2018) 301 final - Impact Assessment, DG AGRI

Conclusions

New and important prospects are being developed for the Greek agriculture sector in the direction of adopting a National Strategy for Environment and Climate. These will enable it to take advantage of the proposed measures and actions under the new CAP and the strategies of the Green Deal. The overall aim is to promote a new, more sustainable, green and resilient agri-food development model, which will build on knowledge, innovation and digital technologies in conjunction with the country's comparative advantages, such as its rich biodiversity, its significant energy potential, agriculture's inter-branch links with tourism, culture, rural tradition and heritage.

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