

ARTICLE 7: The Impact of Climate Change on European Agriculture: Challenges and Solutions

1. Introduction

Climate change refers to long-term changes in temperatures and weather patterns. These changes can be natural, due to variations in solar activity or large volcanic eruptions. But since the 19th century, human activities have been the main driver of climate change, mainly due to the burning of fossil fuels such as coal, oil and gas.

The adverse effects of climate change are already being felt across Europe. Extreme weather events, including recent heat waves in many parts of the EU, are already causing economic losses to farmers and the EU agricultural sector. Future climate change could also have some positive effects due to longer growing seasons and more suitable growing conditions, but these effects will be offset by an increase in extreme events that negatively affect the sector.

The purpose of this article is therefore to provide an in-depth insight into how climate change is severely affecting agriculture in Europe and to highlight how innovative initiatives can offer practical and sustainable solutions to mitigate these challenges.

2. The impact of climate change on European agriculture

Agriculture is one of the sectors worst-affected by climate change. Europe's farmers are already suffering under increasing heat, drought and flooding - the same impacts some green policies are attempting to prevent.

Climate change has intensified extreme weather conditions in Europe, significantly affecting agriculture. Rising temperatures and erratic rainfall have resulted in a decline in agricultural production. For example, olive oil production in the EU reached an all-time low in the 12 months ending June 2023 due to drought in Europe's main producers.

Soil degradation and water scarcity are growing problems. According to the European Environment Agency (EEA), crop and livestock production is expected to decline significantly in southern Europe due to the negative effects of climate change, which could lead to land abandonment.

3. Challenges for farmers

European farmers face multiple challenges due to climate change, including rising production costs, decreasing quality and quantity of agricultural products and the need to adapt their farming practices to the new climatic conditions.

- **Extreme Weather Events:** Extreme weather events, such as heatwaves, droughts, and floods, are causing significant economic losses. For example, in the hottest year on record to date, Italian farmers warned that unusually warm and dry weather was destroying their crops. Extreme heatwaves have caused large-scale crop damage and livestock losses.
- **Water Scarcity:** Water scarcity is already affecting farmers in drought-prone Mediterranean regions. Italy, one of the hardest-hit countries, faced one of its most severe droughts in 2022. In Spain, the government has indicated that more than a fifth of the land is at high risk of becoming infertile.

- Pests and Diseases: Climate change is also exacerbating the emergence of new pests and diseases. For example, rice farmers in Spain have seen their yields reduced by a fungus after the EU banned the pesticide they used to prevent it.

4. Proposed solutions

Given the many challenges that climate change imposes on European agriculture, various solutions have been identified and proposed to mitigate its effects and adapt agricultural practices to the new climatic conditions. Some of these are presented below:

- Improved Farming Practices: According to the EEA report, it is crucial that future EU policies facilitate and accelerate the transition to more sustainable farming practices. Adaptation measures such as the introduction of climate-adapted crops, improved irrigation techniques, field margins and agroforestry, crop diversification and precision farming are suggested.
- Supporting Policies: The EU adaptation strategy is a key driver for adaptation actions in Europe. Integration of adaptation into various EU policies, including the Common Agricultural Policy (CAP), is essential. However, adaptation at farm level is often not implemented due to lack of funding, political support and access to technical expertise.
- Restructuring the Food System: To reduce greenhouse gas emissions, Europe needs to restructure its food system. This includes improvements in fertiliser use, manure management efficiency and animal productivity through breeding. A change in consumer behaviour is also needed, such as eating less meat and reducing food waste.
- Funding and Support: The EU should prioritise funding for adaptation measures through the implementation of the CAP. It is essential to improve the effective use of already available adaptation measures, which will help preserve local ecosystems and biodiversity.

5. Conclusion

Climate change presents significant challenges for agriculture in Europe, including extreme weather events, water scarcity and emerging pests and diseases. However, by implementing supportive policies, improving farming practices and restructuring the food system, it is possible to mitigate these impacts. Adapting to these new realities is crucial to ensure a sustainable future for European agriculture.

6. Sources

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