

DOI: <https://doi.org/10.32782/2524-0072/2022-37-1>

UDC 330.1:352:631.1

THE EUROPEAN EXPERIENCE OF THE SUSTAINABLE DEVELOPMENT OF THE AGRICULTURAL SECTOR IN RURAL AREAS

ЄВРОПЕЙСЬКИЙ ДОСВІД ЗАБЕЗПЕЧЕННЯ СТАЛОГО РОЗВИТКУ АГРАРНОГО СЕКТОРА СІЛЬСЬКИХ ТЕРИТОРІЙ

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The article examines the European experience of agricultural policy aimed at increasing productivity and production in general, helping to maintain ecosystems and strengthen the industry's ability to adapt to climate change, extreme weather, drought, floods and other disasters while gradually improving land quality, resources and soils. It is substantiated that since the main means of agriculture is land resources, the main practices of sustainable development of the industry are related to the ability to improve soil quality. The main types of soil degradation, their consequences and costs in the EU countries are identified. It is established that the framework and specific measures for the protection and restoration of soils, as well as ensuring their rational use in the EU is determined by the new EU Soil Strategy for 2030, which replaced the Soil Thematic Strategy (STS) in 2006. The new Strategy is based on several goals of the Green Agreement and the Sustainable Development Goals by 2030 and sets medium-term (2030) and long-term (2050) goals. The implementation of the Strategy envisages framework actions and implementation of specific policies in nine areas: organic content in soil and climate change; test-soil-for-free initiative; closed-loop economy and soil; organic farming, soil health and climate change; soil biodiversity for ecosystems and human health; prevention of soil contamination; reclamation of disturbed and contaminated lands; soil and digital agenda; soil monitoring. The main activators (drivers) of the Strategy are financing, management, promotion and participation in global actions, which are systematized by funding for sustainable management and restoration of soils at the EU level, institutions of management and restoration of soils in the EU, areas of promotion and participation in global actions on soils in the EU.

Keywords: European Union, sustainable development, agricultural sector, strategy, soil degradation, financing, management, institution.

У статті досліджено європейський досвід політики ведення сільського господарства, спрямованих на підвищення продуктивності та обсягів виробництва в цілому, що допомагають підтримувати екосистеми та зміцнюють здатність галузі до адаптації у змінах клімату, екстремальних погодних умов, посухи, повеней та інших катастроф з одночасним поступовим поліпшенням якості земельних ресурсів та ґрунтів. Обґрунтовано, що оскільки основним засобом сільського господарства є земельні ресурси, відтак, основні практики сталого розвитку галузі пов'язані з можливостями забезпечення підвищення якості ґрунтів. Визначено основні види деградації ґрунтів, їх наслідки та витрати в країнах ЄС. Встановлено, що рамки та конкретні заходи для захисту та відновлення ґрунтів, а також забезпечення їхнього раціонального використання в ЄС визначає нова Стратегія ЄС щодо ґрунтів на 2030 рік, яка з'явилась на зміну Тематичній стратегії ґрунтів (STS) 2006 року. Нова Стратегія ґрунтується на кількох цілях Зеленої угоди та Цілях сталого розвитку до 2030 року і визначає середньострокові (до 2030 року) та довгострокові (до 2050 року) цілі. Реалізація Стратегії передбачає рамкові дії та реалізацію конкретних політик за дев'ятьма напрямками: вміст органіки у ґрунті та зміна клімату; ініціатива «безкоштовна проба ґрунту» (test-soil-for-free); ґрунт та економіка замкнутого циклу; органічне землеробство, здоров'я ґрунту

та зміна клімату; біорізноманіття ґрунтів для екосистеми та здоров'я людини; запобігання забрудненню ґрунту; рекультивация порушених та забруднених земель; ґрунт і цифровий порядок денний; моніторинг ґрунту. Основними активаторами (драйверами) реалізації Стратегії визначено фінансування, управління, просування та участь у глобальних діях, які систематизовано за можливостями фінансування сталого управління та відновлення ґрунтів на рівні ЄС, інституціями управління та відновлення ґрунтів в ЄС, напрямами просування та участі у глобальних діях щодо ґрунтів в ЄС.

Ключові слова: Європейський Союз, сталий розвиток, аграрний сектор, стратегія, деградація ґрунтів, фінансування, управління, інституція.

Formulation of the problem. The European integration processes taking place in Ukraine and the deepening of cooperation with the EU countries provide a deeper understanding of the idea of Europe as a set of meanings, manual and guidelines for practical activities aimed at transforming modern public life according to European standards. In this regard, the experience of building and implementing the idea of Europe in Western and Ukrainian contexts is important. The explication of the complex of meanings that form the core, the so-called "untouched core" of this idea, is an important prerequisite for the effective functioning of the EU. A component of this core is the requirement of sustainable development of European societies, the analysis of the contextual conditionality of which is of fundamental importance for the development of an effective strategy for Ukraine's entry into Europe [1]. Ukraine's desire to integrate into the European community requires the development of measures and mechanisms for sustainable development of the Ukrainian countryside and the earliest possible decision-making in this area of human development of our country. Without overcoming the negative trends in the development of rural areas, where almost a third of Ukraine's population lives, our country will not be able to compete effectively with other countries. The low standard of living of the rural population threatens the outflow of the most active and able-bodied part of it to cities, intensifies external labor migration, which exacerbates the decline of rural areas [2]. The history of agrarian relations of Ukraine, analysis of current strategic plans and targeted state programs and regulations on their implementation shows that sustainable development of rural areas is identified with the development of the basic sector of the economy – agriculture. The logic is: the higher the pace of its development, the more money can be directed to the needs of the village. In practice, such expectations have not been confirmed. Due to the underestimation of rural areas as a strategic object of management, non-recognition of their multifunctional role in ensuring adequate living space, the prin-

ciples of sustainable development are violated [3]. The established trends of increasing unemployment in rural areas and the burden on natural resources, especially land, by large agricultural holdings, have led to lower living standards and depopulation of rural areas. Implementation of the principles and mechanisms of sustainable development of rural areas is possible only on the basis of broad implementation of European experience in the development of the agricultural sector.

Analysis of recent research and publications. The contribution to solving the problem of implementing the ideas of sustainable development and implementation of European experience in this issue at the national, regional and local levels was made by such domestic scientists as Kharchenko V. O. [1], Stehnei M. I. [2], Kononenko O. M. [3], Bila S. O. [4], Buryk Z. M. [5], Honchar O. M. [6], Kotykova O. I. [7], Markova N. S. [8], Matveieva O. Yu. [9], Melnyk L. H., Dehtiarova I. B. [10-11], Melnyshyn L. V. [12], Ruda M.V. [13], Yarmolenko Yu. O. [14] and others. At the same time, the issues of strategies and policies for the development of the agro-industrial sector as a prerequisite for sustainable rural development need further research.

Formulation of the goals of the article. Explore the European experience agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

Presentation of the main material of the study. The main means of agriculture is land resources. Therefore, the main practices of sustainable development of the industry are related to the ability to improve soil quality. Soils are critical ecosystems that provide valuable services such as food, energy and raw materials, carbon sequestration, water purification and filtration, nutrient regulation, pest management and recreation. Soil is therefore crucial for combating climate change, protecting human health, ensuring food security, preserving biodiversity and ecosys-

tems. Healthy soils are a key factor in achieving the goals of the European Green Agreement, such as climate neutrality, biodiversity restoration, zero pollution, sustainable food systems and a sustainable environment. At the same time, the level of soil degradation has increased significantly in recent decades, and if left unchecked, these processes will intensify. It should be emphasized that it is human activity that causes soil degradation. Climate change, as well as some extreme weather events that are becoming more frequent, will also have a negative impact on soil.

Soil degradation processes include: erosion, humus reduction, compaction, saliniza-

tion, landslides, pollution, pressurization and biodiversity loss (Figure 1). At the beginning of 2006, the total cost of soil degradation (excluding compaction, pressurization and biodiversity loss) was up to € 38 billion per year for the EU. These costs do not include damage to the ecological functions of the soil, as they cannot be quantified. Therefore, the real costs of soil degradation are likely to exceed the estimates given below.

The data show that most of the costs are borne by society in the form of infrastructure damage due to landslides, increased need for medical care for people affected by soil pollution

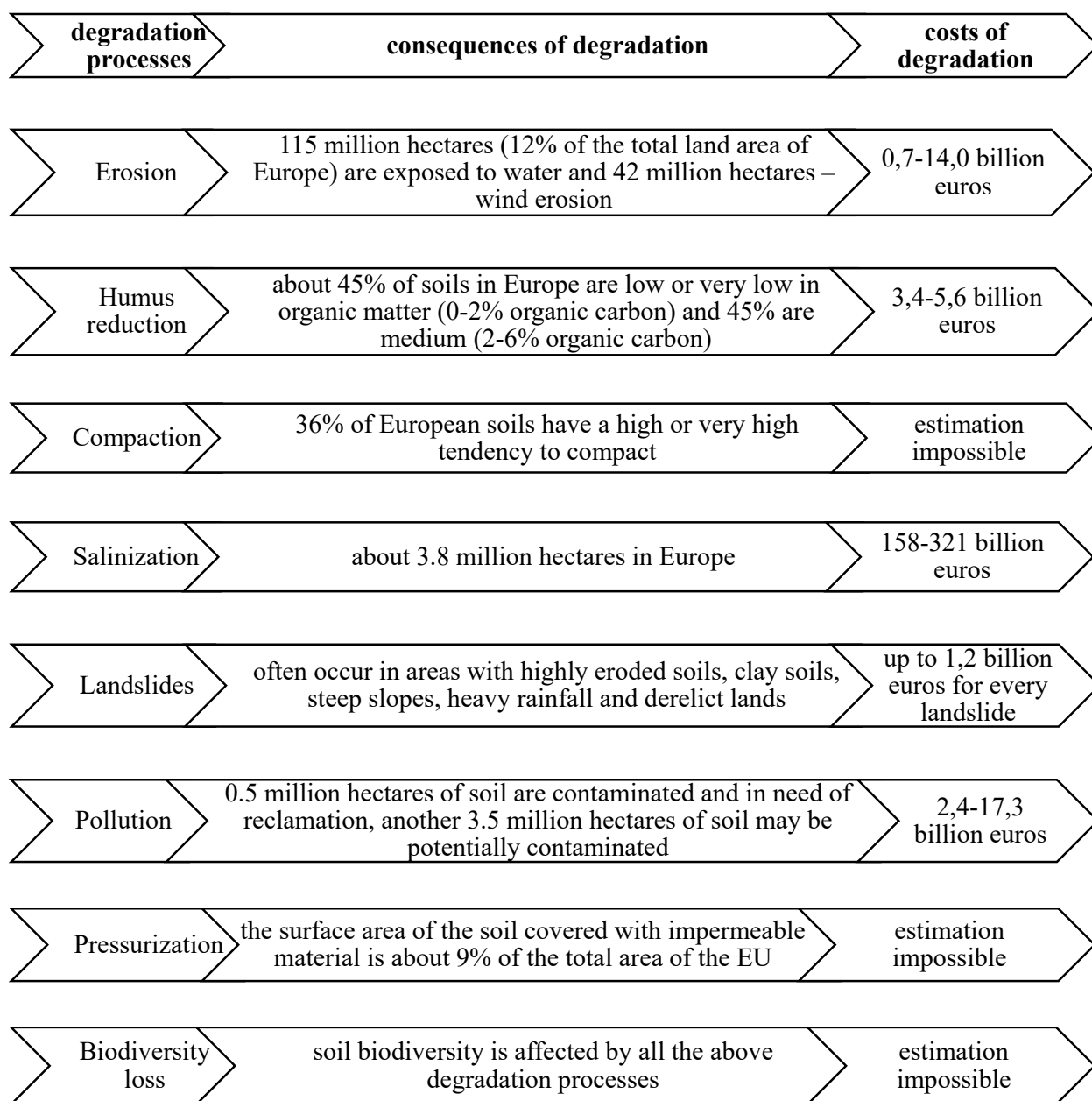


Figure 1. Soil degradation processes, their consequences and costs in EU countries

Source: summarized to EU data (https://ec.europa.eu/environment/soil/three_en.htm)

and in need of treatment of landslide-contaminated water, waste disposal, land reclamation, food security and costs associated with soil ecosystem functions.

The European Commission is developing appropriate policies and strategies to ensure that soil degradation is overcome and prevented from spreading in the future. Thus, in 2006 the Soil Thematic Strategy (STS) was adopted, aimed at protecting soils in EU countries by preventing further degradation, preserving soil functions and restoring degraded soils. The STS was accompanied by a proposal for a Soil Framework Directive and an impact assessment. The new EU Soil Strategy for 2030 (hereinafter referred to as the Strategy) sets the framework and specific measures for the protection and restoration of soils, as well as ensuring their rational use. It sets out visions and goals for achieving healthy soils by 2050 with concrete actions by 2030.

The new Strategy is based on several goals of the Green Agreement and the Sustainable Development Goals until 2030 and defines medium-term (until 2030) and long-term (until 2050) goals (Figure 2).

The implementation of the Strategy envisages framework actions and implementation of specific policies in nine areas: organic content in soil and climate change; test-soil-for-free initiative; closed-loop economy and soil; organic farming, soil health and climate change; soil biodiversity for ecosystems and human health; prevention of soil contamination; reclamation of disturbed and contaminated lands; soil and digital agenda; soil monitoring (Figure 3).

The strategy is based on the policies of the European Green Agreement and sets out key goals and objectives for the medium and long term. In accordance with the vision and goals, the necessary actions are being developed, which should be implemented in the short and medium term to achieve the goals of the tasks. The main activators (drivers) of the Strategy implementation are financing, management, promotion and participation in global actions.

Financing. Soil degradation not only exacerbates climate change and biodiversity loss, but also threatens the economy. This process is accompanied by risks and costs that are not usually properly reflected in the price of goods and services. Investing in soil health has eco-

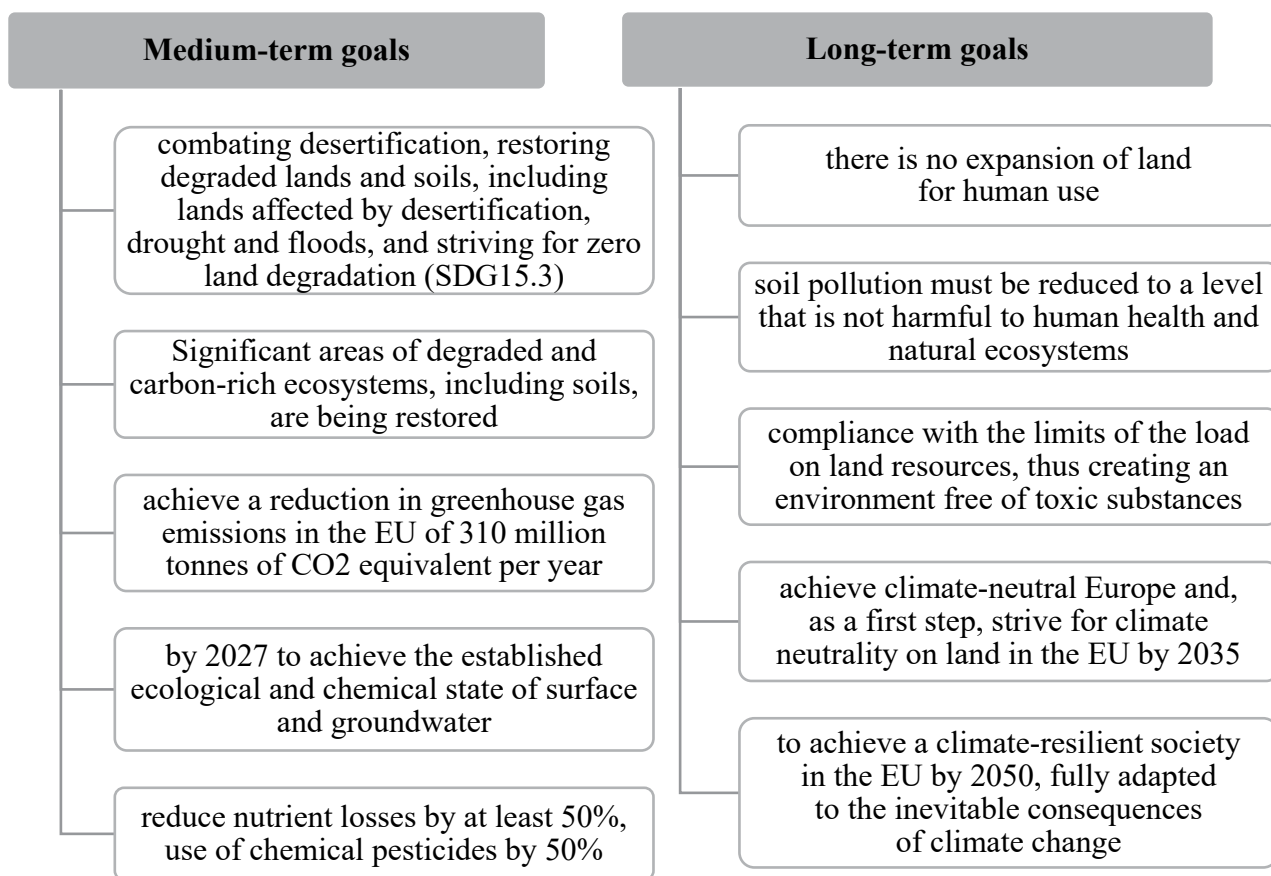


Figure 2. Medium- and long-term goals of the Strategy

Source: summarized to EU data (https://ec.europa.eu/environment/strategy/soil-strategy_en)

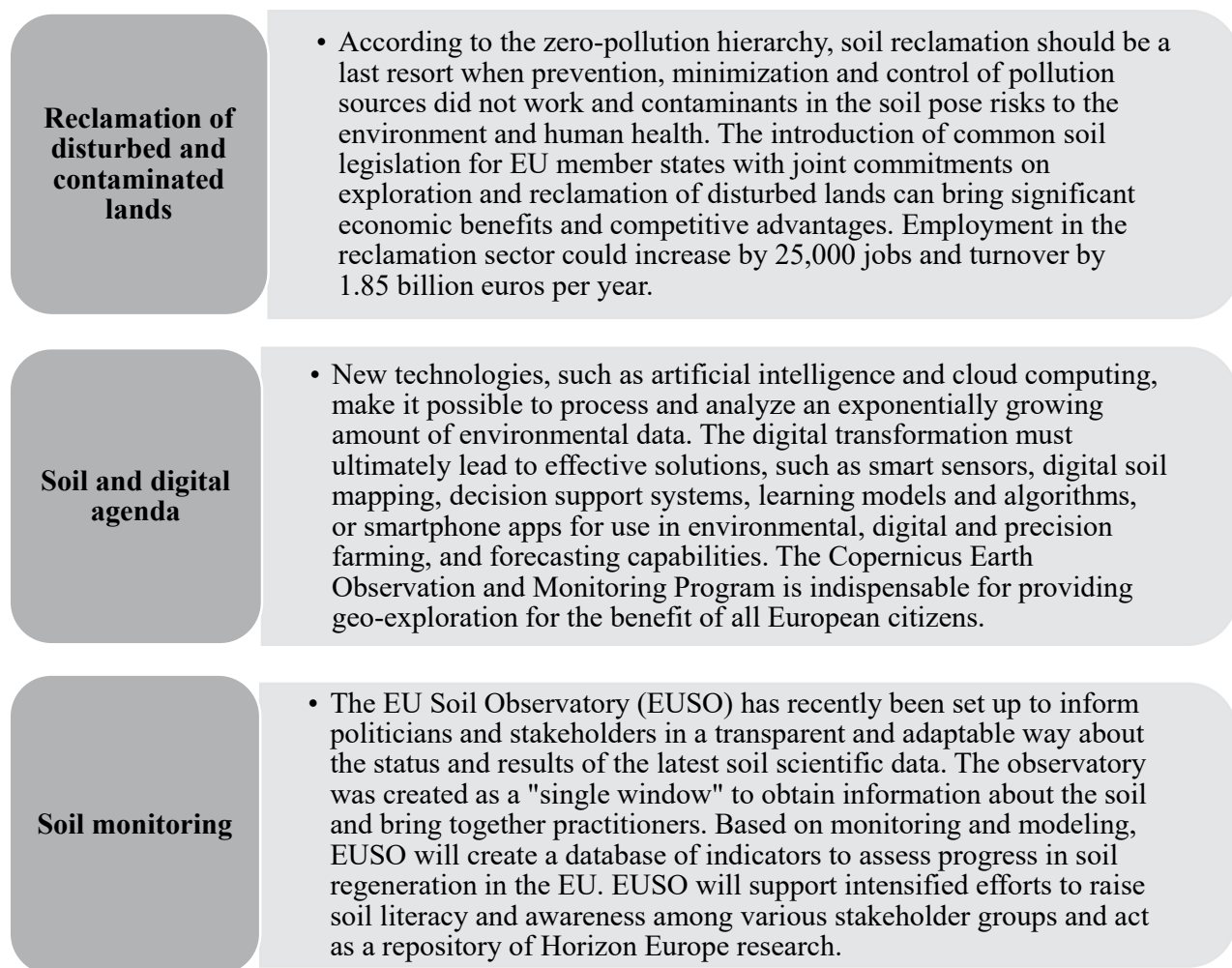


Figure 3. Directions for implementation of the Strategy (part one)

Source: summarized to EU data (https://ec.europa.eu/environment/strategy/soil-strategy_en)

conomic sense and brings several concomitant benefits and long-term benefits to the economy, society and the environment. Financing of sustainable management and restoration of soils in the EU will take place in several areas (Figure 5).

LIFE helps protect, restore and improve the environment, including soils. It financially supports the development and demonstration of innovative solutions to achieve EU soil policy objectives, and on the other hand, the development, implementation, monitoring and execution of relevant environmental policies. LIFE is expected to be a catalyst for the widespread use of successful technical and policy solutions to prevent and restore soil degradation. The call for proposals is held annually on the basis of the priorities set out in the Multiannual Work Program.

The Common Agricultural Policy, with an annual budget of € 55.7 billion in 2021, promotes

sustainable rural development by increasing the competitiveness of agriculture and forestry, ensuring sustainable management of natural resources and soils, and balanced territorial development of the rural economy. Specific priorities and activities are determined by national and regional authorities in rural development programs.

The European Regional Development Fund (ERDF) and the Cohesion Fund, with a total budget of € 234 billion, aim to strengthen the EU's economic, social and territorial cohesion by supporting the transition to a greener and carbon-free Europe. Financing is aimed at protecting nature, biodiversity and green infrastructure, including in cities, as well as the rehabilitation of disturbed lands. Member States and regional authorities set priorities for their territory in the programs. The ERDF also supports cross-border, transnational and interregional cooperation programs.



Figure 4. Directions for implementation of the Strategy (part two)

Source: summarized to EU data (https://ec.europa.eu/environment/strategy/soil-strategy_en)

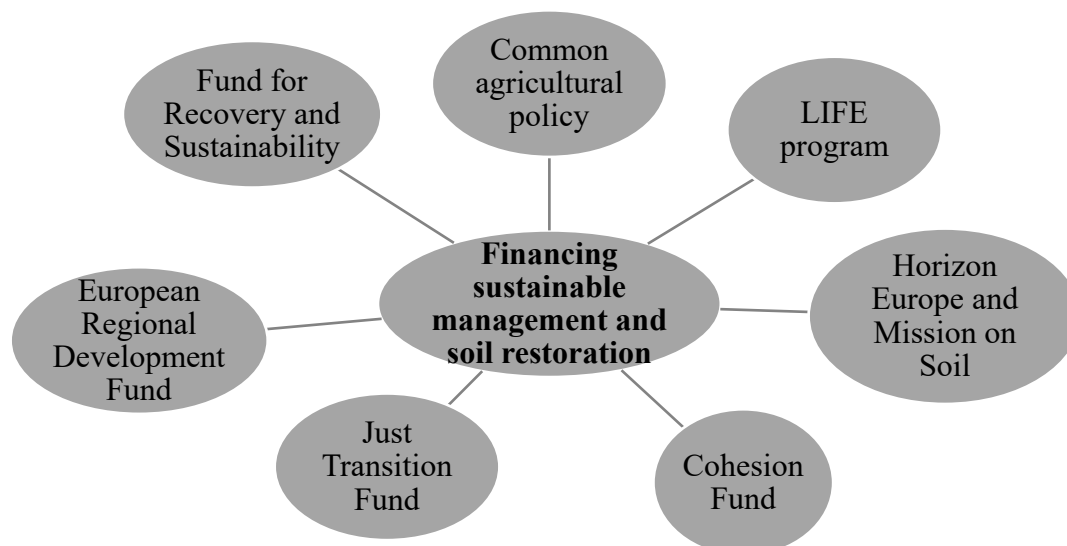


Figure 5. Opportunities for financing sustainable management and soil restoration at EU level

Source: summarized to EU data (https://ec.europa.eu/environment/strategy/soil-strategy_en)

With a total budget of € 17.5 billion, the Just Transition Fund enables regions and people to address the social, economic and environmental consequences of the transition to a climate-neutral economy. Investments in soil regeneration, land reclamation and redevelopment projects are eligible if they help to achieve climate neutrality, such as the rehabilitation of former decommissioned coal mines.

The Recovery and Sustainability Fund provides € 672.5 billion in loans and grants, in particular to support member states transitioning to a green economy. One of the key requirements of the Fund's regulations is that 37% of the funds allocated in each recovery and sustainability plan must support climate goals. In addition to achieving the climate goals, the activities supported by the fund will also ensure progress towards other environmental goals, such as reducing air pollution, promoting a closed-loop economy, restoring and protecting biodiversity.

Horizon Europe is an EU funding program for research and innovation with a total budget of € 95.5 billion. It supports the development of knowledge to address global challenges and European industrial competitiveness. Cluster 6 Horizon Europe (Food, Bioeconomy, Natural Resources, Agriculture and the Environment) offers special opportunities for research and innovation related to soil. Key benchmarks are defined in the strategic plan, and specific priorities are defined in the work programs. Calls for proposals are announced on specific topics.

Management. Current soil management in the EU includes the following platforms and networks (Figure 6).

Promoting and participating in global action. At the international level there is a growing understanding of the problem of land and soil degradation, as well as the need to preserve and restore them. This evolution is reflected in the agenda of several international conventions and UN agencies (Figure 7) and is expected to have a major impact on the soil policies of the European Union and its Member States.

Conclusions. Giving the soil the same level of protection as air, water and the marine environment, and giving the same attention to soil dwellers that we pay to terrestrial biodiversity, is a challenge. To succeed in this matter, it is necessary to implement a number of strategic and tactical tasks. These necessary frameworks, policies and procedures have already been set out in the EU's 2030 Soil Strategy. Successful implementation of the Strategy in Ukraine requires inclusive and broad governance mechanisms at the national and global levels and opens the way for Ukraine to make ambitious and necessary changes.

Acknowledgments. This study is prepared as part of the implementation of the grant "The European experience of forming a food security system based on principles of sustainable agricultural land use development". This study was supported in part by the Erasmus SUPPA program – Jean Monnet Associations Application No 611556-EPP-1-2019-1-UA-EPPJMO-SUPPA.

Expert Group of the commission for the implementation of the 7th EAP provisions on soil protection (EU Soil Expert Group)

- established in 2015 to exchange views between Member States on soil quality through a targeted and proportionate approach based on risk assessment within the legal framework

European Environment Information and Observation Network (EIONET) is a partner network of the European Environment Agency (EEA)

- EIONET brings together experts from national institutions and other bodies involved in environmental information; it also includes seven European thematic centers (ETC) which deal with specific environmental issues. EIONET is a key player in providing comprehensive soil information from EU Member States, which will create an adequate policy monitoring tool to implement the Strategy and achieve the set goals.

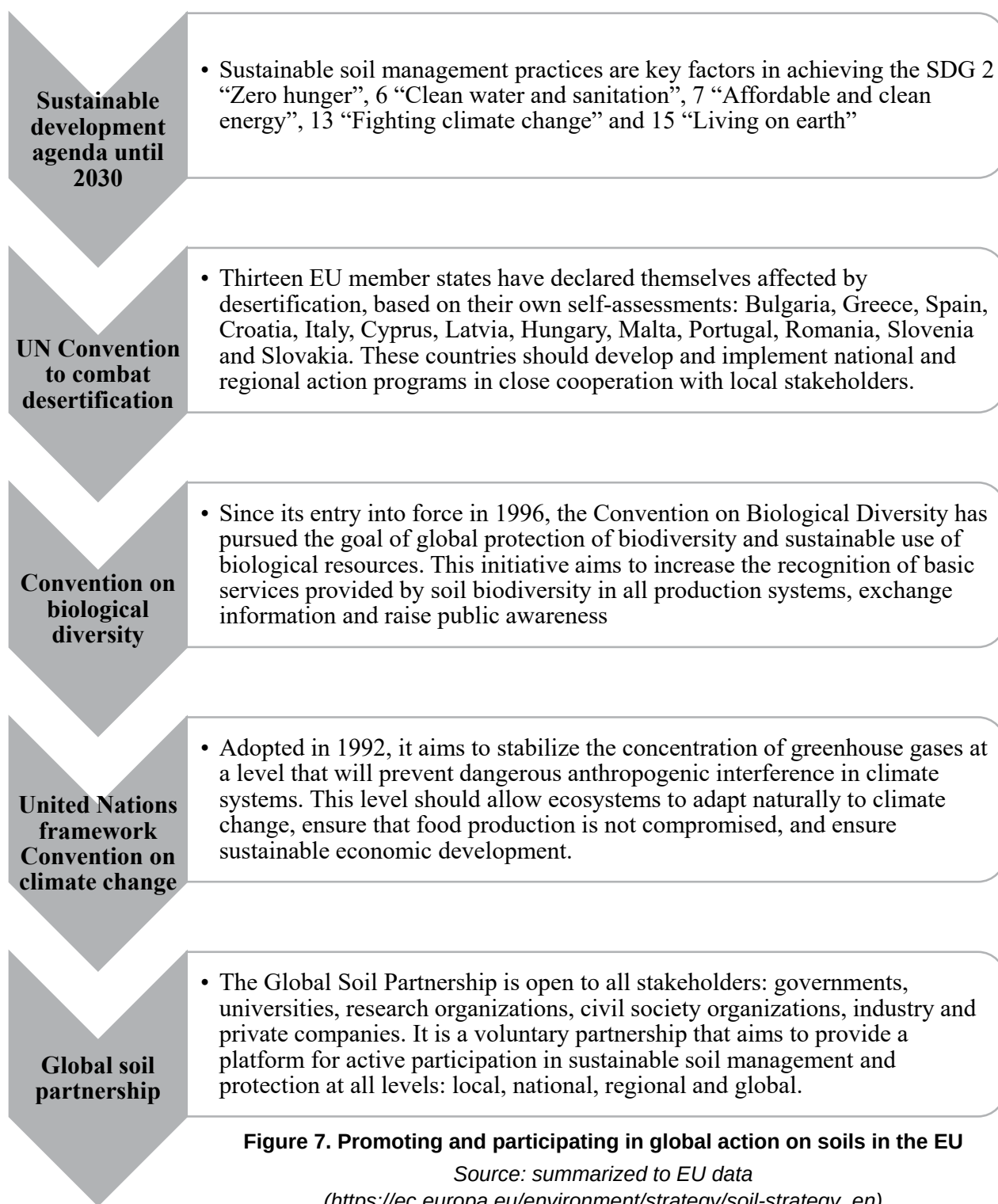
**European Soil Partnership (ESP)
Ukrainian Soil Partnership (USP)**

- The ESP is a regional structure of the FAO Global Soil Partnership. ESP works closely with FAO's regional offices and establishes an interactive consultation process with national soil partnerships. The Ukrainian Soil Partnership Association, established and represented on November 28, 2019 within the subregional Eurasian Soil Partnership (EASP) and the European Soil Partnership (ESP), will act as a single national platform for dialogue and cooperation between the parties at the national level. The partnership was founded by 7 national institutes, which are leading institutions in the field of soil monitoring. The goal of the Association is to support and promote sustainable management of soil and land resources to ensure food security, as well as adaptation and mitigation of climate change, which will contribute to achieving regional and global common goals by implementing the principles of the Global Soil Partnership

European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL)

- IMPEL consists of public authorities that implement and enforce environmental law. IMPEL promotes the exchange of knowledge and best practices, develops guidance documents and coordinates actions between Member States

Figure 6. The system of institutions for soil management and restoration in the EU
Source: summarized to EU data (https://ec.europa.eu/environment/strategy/soil-strategy_en)



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