

The Sustainable Use of Natural Resources in Rural Areas of Ukraine: The Governance Challenge

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Abstract

This article describes the evolution of the regulatory framework for sustainable development in Ukraine based on ratified international treaties and supports the formation of an appropriate legal framework and State policy. The formation of regulatory mechanisms for sustainable developmental goals in Ukraine are aimed at strengthening and ensuring the fair implementation of the citizen' rights as guaranteed by the Constitution of Ukraine. It also relates to the property rights of the Ukrainian people to land, its bowels, atmospheric air, water and other natural resources within the territory, the natural resources of the continental shelf and the exclusive (marine) economic zone, if the rural areas exist in coastal zones. Since the local officials play a key role in implementing sustainable practices in forestry, fisheries, water management, agriculture and tourism, they can execute capacity building, address the needs of various sectors, promote locally produced sustainable produce, implement incentive schemes, and enforce the regulations and management practices. They can also promote and propagate the economic benefits from the conserved resources to rural constituencies. The local governments can also better manage and mitigate the disasters through maintaining and restoring the ecosystems.

Keywords

Governance; Natural resources; Rural resources; Sustainable development

Introduction

The developed countries widely use sustainable development policy as a tool to national and regional development in order to increase competitiveness and innovation potential of the national economies. The achievements of mankind emphasize the degree of human dependence, despite all its significance and greatness, on the nature and natural resources. Therefore, the interaction of human society with nature came to the fore in the list of problems without which the continued existence and development of life on Earth is impossible. This is the result of the steady increase of human impact on nature resulting in the active developmental interventions causing degradation of standalone natural complexes and depletion of natural resources of the planet as a whole with deterioration of quality of all environmental parameters.

Therefore, use of natural resource in rural areas in a sustainable way is of crucial importance for agricultural development and rural poverty alleviation. Considering the newly introduced decentralization of local governance in Ukraine, efforts aimed at promoting sustainable resource use will be confronted with a number of major challenges in the near future. The sustainable development policy integrating use of natural resources in rural areas in Ukraine is at the initial stage of formation. This paper aims to explore how these natural resources could serve as a mean for sustainable development of rural areas in the future. This aim further guides the purpose and, direction of the study, and the research methodology. So, strategic discussion on development of Ukraine (conforming the European Union's directives) emphasizes the urgency of integrating/mainstreaming sustainable developmental into the use and management of natural resources in rural areas.

Methodology

This study is based on the literature encompassing the use of natural resources. Analytical methods of research including system analysis and synthesis for theoretical analysis of the natural resource management in rural areas were used. For the analysis of existing approaches of functional practice organizations and understanding the formation of sustainable natural resource in the regions, structural-logical method was used.

The authors have used philosophical, general and special research methods: historical and monographic analysis focusing the organizational and legal foundations of sustainable development in context of natural resources in rural areas, the state rural development policy, and the natural resource potential in rural areas. A comparative analysis was also done comparing the regulation of sustainable development in the member States of the European Union with that in highly developed countries with the possibility of its implementation in Ukraine. The systematic, structural and functional method was explored with the purpose of understanding the purpose, goals, objectives, principles and functions of the sustainable use of natural resources in rural areas of Ukraine. Different indicators on which assessment was based included organizational form of sustainable development, induction and deduction, the conceptual institutional approach and dialectical method.

Results and Discussion

Evolution of Regulatory Framework for Sustainable Development in Ukraine

The experience of many countries shows that the governments need to play crucial role in regulating the interactions between society and the nature; yet it is not adequately ensured to solve issues of environmental protection, sustainable development, and rational use of natural resources.

For the first time in Ukrainian legislation, the term "sustainable development" was mentioned in the Resolution of the Verkhovna Rada of Ukraine adopted in 1998 "On the Main Directions of Ukraine's State Policy in the Field of Environmental Protection, Use of Natural Resources and Environmental Safety".¹ Through this Resolution, it was planned to create a system of State management of the use of natural resources, and regulation of anthropogenic impact on the environment. In addition, one of the main tasks was to establish proper coordination for the rational use of natural resources while taking into account the environmental factors². State Strategy for Regional Development 2020³ determined that sustainable development is the provision of inexhaustible, economical and efficient use of energy, material, natural and other resources to meet the needs of the current generation when taking into account the interests of future generations.

At the same time, it is noted that the main principles of State environmental policy are (1) maintaining the climate not posing risks to human health and enabling well-being of the environment; (2) achieving the Sustainable Development Goals (SDGs) being proposed by the United Nations Summit on Sustainable Development 2015; (3) promoting balanced (sustainable) development by balancing the development (economic, environmental, social) in accordance with the principles of balanced (sustainable) development. It is expected that by 2030 Ukraine should implement a system of effective governance to ensure the balanced use of natural resources, taking into account the need to provide them to future generations.⁴ Through the Decree of the President of Ukraine (2019), the Ukrainian state supported the United Nations resolution and demonstrated the unwavering determination to work for the achievement of the Millennium Development Goals.⁵

At the present, as against the set objectives, opportunities to ensure sustainable development, the sustainable use of natural resources in rural areas, and the improvement of living standards of residents are not enough. This is a systematic failure to implement target programs having large number of goals, objectives, and measures at times conflicting with each other. Such program documents create virtually the entire range of problems in the realization of set goals that cannot be solved in 5 to 10 years owing to the socio-economic situation in the country. When developing such programs, the principle of focus should be followed. It means there should be key directions coupled with sufficient financing for proposed activities.

Rethinking development in sustainability terms also means linking the global and local use of natural resources. Where many households are using natural resources in an unsustainable way, the associated costs and externalities can spill over to the neighboring villages and towns, downstream dwellers, or to distant continents through airborne pollutants or through the movement of water. Sustainable development is one of the optimization models for the response of the governance systems to external challenges. In view of this, the adoption of the principles of sustainable development is one of the objective needs of modern societies, and, therefore, a priority of government agencies. In order to achieve sustainable development, States must eliminate or modify all principles and measures that do not promote sustainable development. With this in mind, the latest concepts and technologies for achieving the goals of a sustainable society should be developed. That is why the new criterion for the governance in the context of sustainable rural development should be developed to promote the sustainable use and management of natural resources.

¹ Verkhovna Rada of Ukraine (2019). The Law of Ukraine "About the Basic principles (strategy) of the state ecological policy of Ukraine for the period till 2030", Vidomosti Verkhovnoi Rady Ukrainy, vol. 16, art. 70.ol. 38—39, art. 248.

² Ibid.

³ Cabinet of Ministers of Ukraine (2014). Resolution "State strategy of regional development for the period up to 2020", Government courier, 03.09.2014, 160.

⁴ Verkhovna Rada of Ukraine (2019). The Law of Ukraine "About the Basic principles (strategy) of the state ecological policy of Ukraine for the period till 2030", Vidomosti Verkhovnoi Rady Ukrainy, vol. 16, art. 70.

⁵ Decree of the President of Ukraine (2019), "About the Goals of sustainable development of Ukraine for the period up to 2030", [Online], available at: <https://www.president.gov.ua/documents/7222019-29825>.

Table 1: Green growth indicators for Ukraine

<i>Indicator</i>	2010	2015	2018	2019	2020
	<i>Land resources*</i>				
Land area of the country (x 10 ³ ha)	60,354.8	60,354.9	60,354.9	60,354.9	60,354.9
Area of agricultural land	41,596.4	41,511.7	41,489.3	41,329.0	41,310.9
Arable land area	32,478.4	32,531.1	32,544.2	32,698.5	32,757.3
Area of hayfields and pastures	7,899.5	7,848.3	7,820.9	7,577.0	7,534.2
Area of forests and other wooded areas	10,591.9	10,630.3	10,674.9	10,685.6	10,686.8
<i>Water resources**</i>					
Volume of water intake, million m ³	14,846	9,699	11,296	11,111	9,952
including freshwater	13,916	9,109	10,705	10,596	9,459
Volume of water intake per person, m ³	323.6	226.4	267.2	264.4	238.4
including freshwater	303.4	212.6	253.3	252.1	226.6
Consumption, million m ³	9,817	7,125	7,363	7,318	7,238
percent by 2010	100.0	72.6	75.0	74.5	73.7

Sources: State Service of Ukraine on Geodesy, Cartography and Cadastre; State Agency of Water Resources of Ukraine

In accordance with the principles and indicators of sustainable development, the key content points embedded on the interface of management entities and the systemic foundation for implementing sustainable development of natural resources in rural areas are identified taking the form of a logical-structural matrix⁶ of management functions. While summarizing modern research approaches and concepts evolved by the world community, it is assumed that the balanced (sustainable) development of natural resources in rural areas should be understood as rural development, which ensures the rational use and reproduction of its natural replenishment potential. As a result, there has to be a reshaping and development of the quality of human resources, full and productive deployment of the able-bodied rural population, improving the quality of life in rural areas; and diversification and efficiency of the rural economy. The fundamental difference between the concept of sustainable development and traditional views and practices of management is an integrated approach to development as a holistic process applied in sustainable development. Therefore, it is basically a concept integrating the development and use of natural resources in rural areas.

Food and Agriculture Organization (FAO) and Sustainable Development

One of the FAO's three global goals is the sustainable management and utilization of natural resources to benefit present and future generations. National institutions and development organizations can play a major role in promoting sustainability and resource conservation strategies. In particular, proper education, training, and orientation of, and effective information dissemination to the stakeholders are essential on the environment and sustainable development. This will form the critical foundation for perception, attitude and behavior of rural households towards nature and its significance to mankind for the attainment of the national development goals of the country (FAO, 1992).

FAO defines agricultural development as the management and conservation of the natural resource base. New technology is used to achieve continued satisfaction of human needs for present and future generations. Sustainable agriculture conserves land, water, and plant and animal genetic resources, and is

⁶ Sustainable Development Goal indicators website. URL: <https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/>.

environmentally non-degrading, technically appropriate, economically viable and socially acceptable. This will contribute to all four pillars of food security in a sustainable way (FAO, 1996; Guiné *et al.*, 2021).

Since 2012, FAO has been revived by cutting bureaucracy and enhancing transparency and reorganized to pursue more effectively its main goal of ending world hunger. In 2012, FAO launched the strategic thinking process giving rise to new framework that defines FAO's work in 5 trans-sectoral Strategic Objectives (SOs)⁷ and 2 cross-cutting themes (gender and governance). These represent the renewed ambition and purpose of FAO to help member countries make the transition towards sustainable food and agriculture ensuring world food security while promoting the sustainable use, conservation and management of natural resources and ecosystem services (FAO, 2014). These 5 Strategic Objectives provide a holistic vision of agriculture and natural resources and the synergies, which ensure food security and make agriculture part of the solution to achieve sustainable development. Although the synergies among these 5 strategic objectives are important, Strategic Objective 2 ("Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner") and Strategic Objective 5 ("Increase the resilience of livelihoods to threats and crises") are more closely linked to addressing the environmental, natural resources and climate change challenges.

Natural Resource Management in Rural Areas

However, many issues can and should be addressed at the local level. The principle of harmonious balanced sustainable development is most objectively implemented through local authorities, and the policy of environmental protection, ensuring sustainable development, and maintaining natural resources, is implemented through the system of local management. That is why local authorities are given priority as a managerial mechanism for the interaction of society and nature. Based on the actual values of regional indicators and its comparison with the values of the relevant national indicators, an analysis was made with the outcome of identified current areas of regional development [locally known as 'Sustainable Development Goal of Ukraine⁸ – 2020'].

Table 2: Share of energy produced from renewable sources to the total final energy consumption, %

Target value set for 2020 = 11.0%

2015	2016	2017	2018	2019
5.0	5.9	6.7	7.0	8.1

Table 3: Energy intensity of GDP (primary energy consumption per unit of GDP) in kg of oil equivalent per USD 1 by PPP (purchasing power parity)⁹ 2011

Target value set for 2020 = 0.200

2015	2016	2017	2018	2019
0.187	0.192	0.177	0.179	0.165

Table 4: Resource intensity of GDP (ratio of consumed volumes of natural resources, waste generated and pollutant emissions to GDP), % to 2015 level

Target value set for 2020 = 90.0

<i>Resource intensity of GDP:</i>	2015	2016	2017	2018
GDP energy intensity	100.0	102.3	94.7	95.3

⁷ The Director-General's Medium-Term Plan 2018-21 and Programme of Work and Budget 2018-19 (2017). FAO. Available online: <https://www.fao.org/3/ms278e/ms278e.pdf>.

⁸ Sustainable Development Goal Ukraine – 2020: Monitoring report, available online at: <https://www.ukrstat.gov.ua/>

⁹ GDP for the PPP is published for the data of the World Bank, which repaired from 2019 by the publication of the tribute for the prices of the PPP in the international dollars of 2017. Afterward, the relevant data for previous years have been reviewed.

GDP material intensity	100.0	100.0	98.2	97.2
GDP carbon intensity	100.0	105.8	85.1	83.8
GDP water intensity	100.0	98.2	91.6	95.2
GDP waste intensity	100.0	92.5	111.6	104.0

Table 5: Area of land used for organic production, in 10³ hectares

Target value set for 2020 = 500.0

2015	2016	2017	2018	2019
410.55	381.2	289.0	309.1	468.0

Table 6: Area of agricultural land of extensive use (hayfields, pastures), in 10³ hectares

Target value set for 2020 = 8.389.3

2015	2016	2017	2018	2019
7,848.3	7,840.5	7,833.8	7,820.8	7,534.2

Table 7. Area of the nature reserve fund in mountainous regions, thousands of hectares

Target value set for 2020 – 905.30

2015	2016	2017	2018	2019
656.72	657.15	658.80	659.24	683.80

An assessment of the progress of achieving the Sustainable Development Goals in each of the regions of Ukraine (UNDP, 2019) reveal that not all 17 global and national sustainable development goals will be equally relevant at the regional level. Specific priorities for sustainable development of regions and territorial communities should be determined based on the current issues within the four components of sustainable development - economic, social, environmental and institutional-political.

Various institutions play a key role in both natural resource degradation, and sustainable use and preservation of resources. Local governments, local self-governance bodies, non-governmental organizations, and other actors at the local level have can encourage sustainable practices by:

- Providing advisory services: Farmers may not be aware of land-use alternatives. Agricultural extension services can help create awareness and access to alternatives to develop the land management practices.
- Creating incentives for maintaining ecosystem services across scales. Where public benefits are local, such as local climate regulation, recreation and health, there is a rationale for local governments to invest in providing these services. Where the benefits accrue at macro level, policy makers have a role to play as intermediaries by supporting farmers in negotiations with distant stakeholders.
- Enhancing coordination: Improving ecosystem services often requires collective action. Farmers can support biodiversity conservation by limiting agricultural land use or providing wildlife corridors. Europe has implemented payment schemes based on keeping land in 'good agricultural and environmental condition'.

Recognising the multiple values of wetlands is critical to its maintenance and sustainable management. A further attractive option is the support to community forestry. While not always a success story in many regions of the world, this management option has enabled securing benefits for local communities together with conserving forests and biodiversity. Moreover, tourism can be developed by different departments of policy, planning and management with the active involvement of local people. Recognizing and capturing the value of nature's ecosystem services present opportunities for both local development and the enhancement of quality of life. Because the ecosystems play a key role in people's lives and livelihoods, it

is important to integrate ecosystem services in decision making. Process (Singh *et. al.*, 2012).

Trends of Practice Organizations

It is worth mentioning the research on the role of natural resources in sustainable rural livelihoods conducted in the western Balkans by the Norwegian Institute for Nature Research (NINA). That results show that migration of people from rural to urban areas has been the outcome of a collapse of basic services in rural areas, an increase in the age of the population, and increasing social, political and economic marginalization, unemployment and widespread poverty. The most important issue is no access of local people to their local resources and their no control over resources. The research also emphasized passive or dubious role played by various institutions (both formal and informal) in regulating people's access to the resources. These natural resources could serve as a platform for sustainable development of rural resources in the future.

European Parliament's November II plenary session in Strasbourg determined that EU would spend its budget on the common agricultural policy (CAP). Following a joint debate, EU Members adopted (after lengthy negotiations between the co-legislators) three agreements to reform EU farm policy during budgetary period of 2021-2027 multi-annual financial framework (MFF). Given the fact that time was consumed to reach these agreements, the new reforms should come into effect since 1 January 2023, with a temporary extension currently in place for 2021 and 2022 spending. The first file relates to the new requirement for each EU Member State to draw up a CAP strategic plan, setting out exactly how they will use the CAP to support farmers, agricultural market and rural development. This new delivery model should provide greater flexibility and subsidiarity, and is expected to better align CAP spending with EU environmental and climate priorities. Members then adopted an agreement on the CAP horizontal regulation focusing financing, management and monitoring rules that reflect Parliament's proposal to create a stronger crisis reserve and to create clarity of tasks in the governance system. Finally, Members agreed a reform proposal of the common market organisation in agriculture, which can govern production of and trade in agricultural products. European Parliament has ensured that the reform leads to a more agile agricultural market and protects our natural resources.¹⁰

Research by the World Resources Institute (1992) has described how urban populations use natural resources to sustain their livelihoods. Critical connections are obvious in following five areas:

- employment and income; Within the informal sector, natural resource-related activities are important. Even in formal-sector employment, natural resources are important because the economies of the poorest African, Caribbean and Pacific (ACP) countries are much dependent on agriculture, forestry and fisheries to provide raw material to their small industrial base.
- migration, remittances and investments; Rapid urbanization in ACP countries is due largely to rural-urban migration, meaning that many people living in developing country cities retain close links with rural areas.
- consumption and expenditure;
- environment, energy and pollution; There is also a significant relationship between the physical environment and health indicators.
- politics and institutions (Gordon *et.al.*, 2000).

¹⁰ European Parliamentary Research Service, available at: <https://epthinktank.eu>.

Conclusion

Sustainable natural resource use in rural areas is of crucial importance for agricultural development and rural poverty alleviation. Sustainable natural resource management systems improve agricultural productivity, conservation of ecosystem functions and enhance the livelihoods of rural families. Sustainable and equitable use of natural resources facilitate transformation of crop, livestock and irrigation sectors into efficiently managed, highly productive systems that sustainably reduce rural poverty by combining livelihood development with natural resources management and biodiversity conservation. It also includes promotion of the integrated watershed management and desertification control by means of participatory forest, land and water management planning based on sustainable land use principles in agriculture, forestry and land management. Thus, the efficient use and management of natural resources in rural areas contributes to sustainable development. One of the important dimensions of sustainable development policy is the involvement of local authorities and local-self governance institutions. Local governance plays a key role in implementing sustainable practices in rural areas.

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Authors' Declarations and Essential Ethical Compliances

Authors' Contributions (in accordance with ICMJE criteria for authorship)

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Conceived and designed the research or analysis	Yes	Yes
Collected the data	Yes	No
Contributed to data analysis & interpretation	Yes	Yes
Wrote the article/paper	Yes	No
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