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REGENERATIVE AGRICULTURE AS A FACTOR OF ECONOMIC SUSTAINABILITY: PERSPECTIVES AND CHALLENGES IN EUROPEAN CONTEXT

Ivana Filipović
Faculty of Economics, University of Niš, Serbia
✉ ivana.filipovic@eknfak.ni.ac.rs
ORCID: 0000-0002-8594-6887

Sonja Jovanović
Faculty of Economics, University of Niš, Serbia
✉ Sonja.jovanovic@eknfak.ni.ac.rs
ORCID: 0000-0003-0937-9195

Zorana Kostić
Faculty of Mechanical Engineering, University of Niš, Serbia
✉ zorana.stankovic@masfak.ni.ac.rs
ORCID: 0000-0001-8974-3916

Abstract: *The growth of the world's population and the increase in food and energy consumption bring agricultural production to an unfavourable situation. The problem stems from the need for rapid growth in food production, which takes place through specialized operations of the conventional way of agricultural production. However, conventional agricultural production entails negative impact on natural resources and represents a huge challenge for the future sustainability of food production. In order for agricultural production not to be at a traditional crossroads, in recent years, a transition to an alternative approach has been advocated. Regenerative agriculture is an approach based on the sustainable use of natural resources without harmful effects on the environment by relying significantly less on production inputs (chemicals and machinery). The subject of the paper is the analysis of the economic effects of the application of regenerative agricultural practices in Europe with a special focus on its long-term benefits. The research includes economic indicators such as productivity, profitability of agricultural practices, costs and benefits of introducing regenerative methods, as well as the impact on rural development. The goal of the research is to determine how regenerative agriculture can contribute to the economic sustainability of the agricultural sector in Europe.*

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1. Introduction

In the last few decades, two simultaneous trends with the potential to threaten social, economic and ecological sustainability have been taking place with much attention, namely the growth of the world population and agricultural production. The world population, which numbered around 8.06 billion in 2023 (World Bank, 2024), continues to grow rapidly and it is expected to continue growing in the coming decades at a progressively slower pace. According to the United Nations projections, the global population could increase to nearly 11 billion by the end of the 21st century. Adding about 83 million people per year, the global population would stabilise around the year 2100, which would end the current era of rapid growth that began around 1800 in some regions, that is, in the middle of the 20th century on a global level (United Nations, 2021). Agricultural production is increasing at the same time as the world's population grows to meet the increased global demand for food, together with rising incomes and opportunities to buy more. Along with expanding and diversifying the goals of the agricultural production system to meet demand, the ultimate goal remains the sustainable security of food production. In this sense, a critical question that constantly arises is whether agricultural production systems, especially in developing countries, can continue to meet their goals sustainably. Due to the various pressures imposed on agricultural production, efforts are being made to switch to more sustainable ways of food production.

The conventional method of agricultural production, which has been applied for many years, can no longer be acceptable in the future due to its serious consequences for nature. This is mainly due to the fact that more than half of the global agricultural land is already degraded (Glover et al., 2010). In addition, conventional agriculture causes the loss of biodiversity, the destruction of natural habitats, soil degradation and the depletion of natural resources (Miralles-Wilhelm & Iseman, 2021).

In order to avoid destructive phenomena caused by the conventional way of agricultural production, two scenarios are possible. The first scenario aims at further intensification of scientific and technological agricultural research. More precisely, the application of the second green revolution implies the application of high technology in agriculture. The focus is on technological interventions to support plant growth, use degraded land to increase food production while preventing the further loss of biodiversity and the destruction of natural habitats. The second scenario aims at a radical transition to agricultural practices based on nature. There are many types of nature-based farming systems: agroecology, organic farming, ecology-based farming, agroforestry, permaculture, and others. One of the agricultural systems based on nature that has been increasingly mentioned in the literature in recent years is regenerative agriculture, which focuses on soil fertility, not plant growth (Gremmen, 2022).

In accordance with the aspirations of the second scenario and the ever-present turning of agricultural practices towards achieving the long-term sustainability of food production, the subject of this scientific work is the analysis of the economic effects of the application of regenerative agricultural practices in Europe. The aim of the research is to determine how regenerative agriculture can contribute to the economic sustainability of the agricultural sector in Europe.

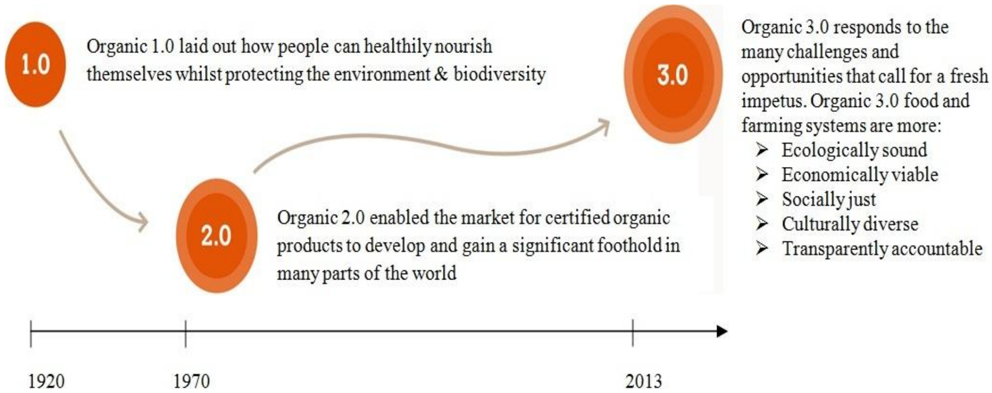
2. Key future model – Organic 3.0

The world's population relies on agricultural production to provide food and other products such as textiles and body care products to meet the most basic human needs. Unfortunately, hunger, food insecurity and obesity threaten billions of people across the planet. The most commonly applied agricultural practice, centuries ago, significantly contributed to the deterioration of the environment and the emergence of climate changes, but its application concerning the principles of sustainable development can be a source of solutions to former problems.

Far-reaching changes in agriculture are needed without delay if future generations are to have equal or improved conditions for prosperity. The positive and multiple environmental, social and economic benefits of truly sustainable agriculture can significantly reduce current problems and help to respond as adequately as possible to the prevailing challenges. The principles of health, ecology, equity and care can be used to shape any agricultural practices and ecosystems, whether they provide food, textiles, body care products, energy or other products. These principles alone are the basis for the implementation of the Organic 3.0 concept.

In 2013, the International Food and Agriculture Organization (IFOAM) presented the Organic 3.0 concept, which represents the third phase in the development of the organic production model. The overall goal of Organic 3.0 is to enable the wide acceptance of sustainable agricultural systems and markets based on organic principles and imbued with innovation, progressive improvement towards the best agricultural practice, transparent integrity, inclusive cooperation, holistic systems and fair prices (Arbenz et al., 2016). Organic 3.0 expands participation options and positions the organic production model as a modern, innovative agricultural system that holistically integrates ecology, economy, society, culture and responsibility at the local and regional levels. The values of the Organic 3.0 concept are reflected in the regeneration of resources, responsibility in production, and sufficiency for consumption, along with the ethical and spiritual development of human values, practices and habits, with the ultimate goal of initiating social development.

Figure 1. Three phases of organic production model



Source: Author`s presentation according to Arbenz, M. et al. (2016)

At the core of the Organic 3.0 concept are living relationships between consumers and producers, highlighting the multiple benefits of organic agriculture to overcome the enormous challenges the planet faces. The forerunner of this concept is Organic 2.0, created in the seventies of the 20th century, with a focus on clearly defining minimum requirements and organic product claims, Organic 3.0 shifts the centre of gravity of the conceptualization towards the entire system of agricultural production. The achievements and approaches of the first two phases (Organic 1.0 and Organic 2.0) of the development of the organic production model have not been abandoned; Organic 3.0 retains the basic original concept of Organic 1.0 and expands the progress made within Organic 2.0 (Figure 1)

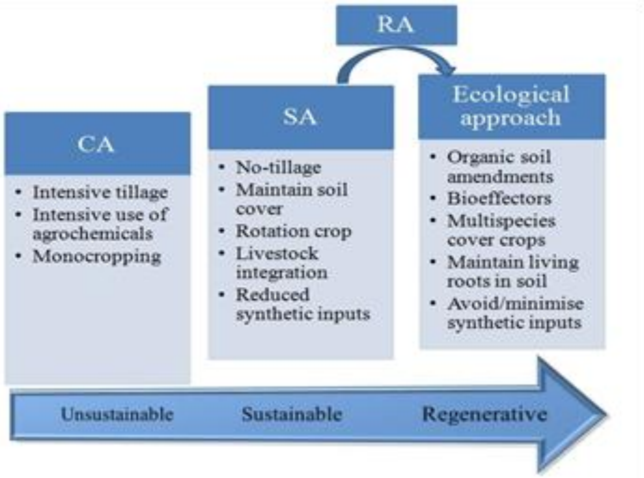
The Organic 3.0 concept includes a strategy of dynamic and continuous improvement. The organic narrative of Organic 3.0 deepens from the previously achieved certified agricultural production (Organic 2.0) into the smartest, most authentic and completely regenerative way of producing and consuming food, ecological textiles and natural body care products. The basis of the concept is "the more, the better" approach, which aims to increase the relevance and credibility of not only the organic niche but also, in general, the integral part of society (Leu, 2020). Closely aligned with the basic principles of sustainable agriculture and the characteristics of the Organic 3.0 concept, a system of agricultural production has been developed that affects the improvement of the resources it uses, instead of destroying or depleting them. In fact, it is about regenerative agriculture.

3. Regenerative agriculture

At a time when the world's population is facing significantly more environmental, social and economic problems, it is not enough for agricultural systems to be sustainable. Understanding sustainability only as meeting the needs of the present generation without compromising future generations' ability to meet their own needs, probably is not a concept that is acceptable in the future. The reason for this is the increasingly pronounced global warming, climate change, uncertainty in food production, pandemics, migration crises, increasing poverty, the collapse of entire ecosystems and the unsustainable use of natural resources. Therefore, the concept of regeneration is much more than the concept of sustainability (Figure 2).

The regenerative agriculture movement originated in the 1980s, but in the recent years has grown into a veritable “soil revolution” as producers and consumers increasingly support regenerative products (Montgomery, 2017). The concept was formed at the United Nations climate change meeting in New York in 2014. The gathering recognized the need for a concept that would not only "sustain" dysfunctional approaches to food production that destroy and deplete resources, but rather improve and regenerate the resources they use. Therefore, regenerative agriculture is seen as a holistic, systems approach to agriculture that encourages continuous innovation for ecological, social, economic, and spiritual well-being (Francis & Harwood, 1985). Robert Rodale is the creator of the concept and defined regenerative agriculture as „one that, at increasing levels of productivity, increases our land and soil biological production base. It has a high level of built-in economic and biological stability. It has minimal to no impact on the environment beyond the farm or field boundaries. It produces foodstuff free from biocides. It provides for the productive contribution of increasingly large numbers of people during a transition to minimal reliance on non-renewable resources“ (Rodale, 1983).

Figure 2. Conceptualization of Regenerative Agriculture in relation to sustainability levels



Source: Author`s presentation according to Musto et al. (2023)

Regenerative agriculture, while lacking a universally agreed-upon definition and encompassing various components, is generally characterized by two key features. First, it focuses on the restoration of soil health, particularly enhancing soils' ability to capture and store carbon, which is essential for mitigating climate change. “The consequences of climate change in agriculture are observed through their effects on plants and animals, leading to functional shifts and alterations in their abundance and distribution.” (Martić Bursać et al. 2024) Second, it aims to reverse the ongoing loss of biodiversity. These two elements are central to the concept of regenerative agriculture.

System-based regenerative agriculture meets the need to produce adequate food, with the necessity of restoring the environment, making agriculture the solution, not the cause of problems in the environment (Lal, 2020b). Concerning the above, regenerative agriculture is a set of approaches that emphasise and maximise the natural beneficial interactions between soil and plants, relying less on external inputs and taking advantage of ecological agricultural practices (Perry, 1995). It has been proposed as an alternative means of food production that can have lower, or even net positive environmental and social impacts (Rhodes, 2017). At the same time, regenerative agriculture is the latest phase in the sustainable agriculture movement (Merfield, 2019). It claims to be at its core intended to improve soil health or restore highly degraded land, which symbiotically improves water quality, vegetation and soil productivity. As well as regenerative agriculture improves and maintains soil health by restoring its carbon content, which in turn improves productivity, contrary to conventional agriculture (Newton et al., 2020). It encompasses a wide range of agricultural practices, which aim to restore and sustainably manage soil through the sequestration of organic carbon in the soil.

Regenerative agriculture aims to work the soil in harmony with nature. It improves the soil by using technologies that regenerate and revitalize the soil and the environment. The primary goal of regenerative agriculture is to increase the level of organic matter in the soil. Therefore, the overarching goal is to create, support and maintain the natural biogeochemical cycle and interdependence in order to improve the sustainability of agricultural and food systems (Lacanne & Lundgren, 2018). Considering the objectives of regenerative agriculture, it leads to multiple positive outcomes such as: 1) better resistance to extreme weather conditions; 2) increased soil efficiency in water retention; 3) less disease due to beneficial pathogens controlling soil biota and 4) increased availability of nutrients needed by plants, animals and humans (Rodale Institute, 2018).

The significance of regenerative agriculture is that it ensures sustainability through recycling and conserving water and nutrients. The reduced depletion of natural resources resulting from the application of regenerative agriculture increases the provision of services to ecosystems and local economies. Another important requirement for regenerative agriculture is the integration of agricultural processes for environmental management, which is crucial for a sustainable future of food production and security (McLennon et al., 2021).

Following on from the goals of regenerative agriculture, it applies the concept of "more from less" in production: less land area, less chemical input, less water use, less greenhouse gas emissions, less risk of land degradation and less use of energy-based inputs (McAfee, 2019). The idea is to preserve land and natural resources, with food waste and environmental degradation being characterized as "crimes against nature." In this sense, the green revolution of the XXI century is based on regenerative agriculture, as the most acceptable and suitable agricultural system for nature and the living beings in it.

Agricultural practices such as crop rotation, cover crops, and livestock integration are generally considered "good agricultural practice" and remain an integral part of conventional agriculture, which is also applied in regenerative agriculture. Practices characteristic of regenerative agriculture are permaculture, which has rather limited application for the production of many agricultural products, while minimal or no tillage, composting, carbon sequestration and the application of organic material increase total microbial biomass. The aspiration is to establish a mutual relationship between plants and soil through these practices in that the soil feeds the plants and the plants feed the soil (Quarles, 2018). All these contribute to carbon sequestration and retention of atmospheric carbon dioxide in soil organic matter (Lorenz & Lal, 2012).

Regenerative agriculture focuses on the soil, not the seed, and is based on the premise that "the health of soil, plants, animals, and people is one and indivisible" (Howard & Howard, 2010). In the current context of climate change and environmental conservation, it is appropriate to expand the concept by accepting the stated premise of the indivisibility and unity of soil, plant, animal, human and environmental health. The expanded concept, based on the realization of living soil, is precisely reflected in regenerative agriculture.

3. Economical implications and challenges of regenerative agriculture in Europe

While regenerative agriculture is often discussed in terms of environmental and ecological benefits, its economic effects are increasingly becoming a focal point of academic and policy discussions (Table 1). The economic benefits of applying regenerative agriculture derive from the environmental benefits achieved. The environmental benefits of regenerative agriculture, in addition to mitigating climate change, include improved soil health and fertility, increased biodiversity on land, water and air, better water quality and its rational use, as well as successfully coping with extreme weather events.

Table 1. The economic effect of regenerative agriculture

Effects	Important components
Reducing production costs	no-till farming, reducing synthetic inputs
Increasing profitability	increasing yields, reducing irrigation, improving crop resilience
Productivity	healthier soil → more productive land more resistant crops →increasing yields
Income	crop climate resistance, increasing yields, carbon credits
Subsidies production	carbon sequestration, environmentally friendly
Revitalizing rural economies	increasing farm profitability, creating new jobs, keeping young people in rural areas
Increasing investments	↑aspiration to invest in sustainable business

Source: Author`s presentation

One of the most widely cited economic advantages of regenerative agriculture is the potential for reducing input costs. Several studies have found that regenerative practices, like no-till farming and reduced synthetic inputs (e.g. fertilisers and pesticides), lower production costs. For example, Pimentel et al. (2005) demonstrated that integrated pest management and reduced chemical inputs result in significant savings for farmers. Likewise, Duffy (2017) found that regenerative systems often lead to lower costs for inputs such as herbicides and fertilisers, translating into improved profit margins for farmers.

Regenerative agriculture has also been shown to improve farm profitability in the long run. Gliessman (2016) and Giller et al. (2015) argue that through better soil health and resilience, regenerative practices can lead to higher yields over time, especially during periods of drought or climate variability. As soils improve, they store more water, reducing the need for irrigation and improving crop resilience, which can reduce financial risks associated with crop failure. For instance, medium-sized farms adopting regenerative techniques can expect initial profits of €20,000–€30,000 in the first year, with annual profits increasing to €55,000–€75,000 in subsequent years. Regenerative farming is up to 60% more profitable after six years (Kurth et al., 2023).

Estimates from the Food and Land Use Coalition suggest that a transition to regenerative agriculture could contribute up to $1.2 trillion to the global economy by 2030. Over the past year, five pilot farms in France have conducted experiments using a no-deep soil tillage method across three distinct potato varieties. These trials led to an approximate 11% increase in yield, along with a notable proportion of significantly larger potatoes (Goffart et al., 2022).

The relationship between soil health and long-term agricultural productivity is a major component of regenerative agriculture's economic impact. Healthy soils increase water retention, reduce erosion, and boost nutrient cycling, which ultimately can lead to more productive land. Regenerative practices such as cover cropping and crop rotation significantly improve soil organic matter, thereby enhancing soil fertility and increasing farm productivity in the long run (Lal, 2020a). Additionally, Baumgarten et al. (2021) suggest that farms adopting regenerative techniques can see enhanced crop resilience and higher yields, which translate into better economic returns.

Regenerative agriculture's ability to mitigate climate-related risks provides significant economic value. Regenerative practices reduce vulnerability to climate extremes such as droughts and floods (Shennan, 2008). Farms that invest in improving soil organic matter through regenerative practices tend to exhibit greater drought resilience, which can stabilize yields in the face of climate variability. Moreover, regenerative agriculture's focus on carbon sequestration in soil not only helps combat climate change, but also can generate additional income through carbon credits, creating new revenue streams for farmers (Kissinger et al., 2021).

The literal meaning of "regeneration" is aligned with the concept of soil resistance to climate change. Regenerative agriculture represents the transition to climate-smart agricultural practices that mitigate climate change and facilitate adaptation to it (Gosnell et al., 2011). In this sense, regenerative agriculture aims to reverse global climate change (Ikerd, 2021), i.e. the impacts of greenhouse gas emissions can be controlled through conscious guidance of climate practices. According to estimates, annual, regenerative agricultural production could reduce 14.5 to 22 gigatons of carbon dioxide by 2050 (Project Drawdown, 2020). More precisely, regenerative agriculture is associated with claims that it has the potential to mitigate climate change (Kastner, 2016) with the possibility of sequestering more than 100% of current annual carbon dioxide emissions by switching to widely available and cheaper regenerative agriculture practices (Rodale Institute, 2014). For instance, pilot programs company Bayer has demonstrated that regenerative practices can reduce agriculture's carbon footprint by up to 56% in Poland and 65% in the UK. Additionally, integrating livestock with crop production has been shown to store about one-third more carbon in the soil compared to crop-only systems, while also promoting greater biodiversity (Hartmann, 2024). The World Economic Forum estimates that if a fifth of farmers in the European Union adopted regenerative farming techniques, greenhouse gas emissions from agriculture could be 6% lower a year by 2030 (WEF,2022). It is clear that regenerative agriculture, as a diverse portfolio of practices that can be adapted to specific regions and crop types, can and should play a major role in the fight against climate change. (Teal et al., 2022).

While regenerative practices can offer long-term economic benefits, the transition from conventional to regenerative farming can be financially burdensome for farmers. The initial cost of transitioning, such as investment in new equipment, education, and changes to land management practices, can be prohibitive. Moyer et al. (2020) discuss the financial barriers of adopting regenerative agriculture, noting that while farmers may experience reduced costs in the long term, the upfront expenses can be a significant hurdle. In many cases, access to credit or government subsidies is essential to support the transition. The income from leasing and service provision, such as Agri-PV installations, is especially valuable during the transition phase, helping to compensate for revenue that may be lost during the early stages of transformation.

During the initial years of adopting regenerative practices, there may be a period of yield instability or lower-than-expected crop production. Farmers may face a temporary decline in yields as they transition to practices like no-till farming, as soils need time to recover and stabilize (Kremen et al., 2012). This period of lower yields can impact the economic viability of regenerative practices for some farmers. Miller et al. (2021) echo these concerns, noting that while soil health improves over time, it may take several years before yield improvements become evident.

Once regenerative agriculture practices are effectively implemented, research conducted in the United States on wheat production has shown that these methods can either sustain or enhance crop yields. This results in a return on investment ranging from 15-20% and yields profits up to 120% higher than those achieved through conventional farming practices. Such findings suggest that regenerative agriculture not only benefits environmental sustainability, but also proves economically advantageous for farmers (Petry et al., 2023).

The economic success of regenerative agriculture is also influenced by access to markets that value products grown using sustainable practices. Regenerative agriculture may not be economically viable for farmers if they do not have access to premium markets or sufficient compensation for the environmental services they provide (Lovell et al., 2020). In other words, without proper financial incentives, farmers might not see enough economic benefit to adopt these practices. Meanwhile, Wolfe et al. (2020) highlight the crucial role of education and extension services in ensuring farmers have the necessary knowledge to implement regenerative practices successfully. Without these supports - market incentives and proper knowledge, the full economic potential of regenerative agriculture might not be achieved.

The role of government policies in supporting the transition to regenerative agriculture is critical. Smith et al. (2021) highlight the importance of policy interventions, such as subsidies, tax incentives, and cost-sharing programs, to help farmers bear the transition costs. Governments can also play a significant role by facilitating access to information, research, and development, which can accelerate the adoption of regenerative practices.

In the U.S., for example, the Natural Resources Conservation Service (NRCS) offers financial incentives for farmers adopting conservation practices under the Environmental Quality Incentives Program (EQIP), which helps offset the costs of transitioning to regenerative techniques. Similarly, the EU Common Agricultural Policy (CAP) includes support for agri-environmental measures that promote regenerative practices like crop rotation, organic farming, and soil conservation.

Financial analyses suggest that approximately €24 billion in public and private funds are available to support the transition to regenerative practices in Europe (WBCSD, 2024). However, challenges remain in aligning funding and incentives to effectively address farmers' financial needs during this transition. The European regenerative agriculture market is experiencing substantial growth, with projections indicating a Compound Annual Growth Rate (CAGR) of 14.1% from 2023 to 2029 (Kuhn et al.,2024). Within this context, Germany is poised to establish itself as a leading player in the European regenerative agriculture market, with projections indicating a substantial market value of $329.3 million by 2029. The United Kingdom is expected to experience a notable compound annual growth rate (CAGR) of 13.1% from 2023 to 2029, while France is anticipated to achieve an impressive CAGR of 14.9% over the same timeframe (Research and Markets, 2023). Europe is globally the second-largest region in terms of market share of regenerative agriculture in 2023 (29%), with North America leading at 37%. The Asia-Pacific region holds a slightly smaller market share of regenerative agriculture compared to Europe in 2023, while other regions have significantly lower participation.

Another avenue for promoting the economic benefits of regenerative agriculture is through market-based incentives such as eco-labelling, carbon credits, and premium pricing. Rigby et al. (2020) argue that certification programs such as the Regenerative Organic Certified (ROC) label can provide farmers with higher prices for their products, helping to offset the initial costs of adopting regenerative practices. Farms with organic certification, which often incorporate regenerative components, account for less than 10% of production in Europe (EASAC, 2022). Additionally, carbon markets, which compensate farmers for carbon sequestration in soils, represent a growing area of economic potential for regenerative agriculture.

On a macro level, regenerative agriculture has the power to drive rural economic development. There is a concept of regenerative economies that goes beyond agriculture and includes a larger food supply network. The very idea of regenerative agriculture is to generate life and wealth through linking processing, infrastructure, distribution and food supply (Soloviev & Landua, 2016). Regenerative agriculture has the potential to revitalize rural economies by increasing farm profitability, creating jobs in agroecological research, and attracting investment in sustainable businesses. Schreefel et al. (2020) suggest that by adopting regenerative agriculture, rural areas can diversify their economies, reduce dependence on subsidies, and create a more resilient food system. Boulanger et al. (2021) further argue that regenerative agriculture can help retain young people in rural areas, who are often attracted by the prospect of more sustainable, diversified, and profitable farming systems.

4. Conclusion

The literature highlights that regenerative agriculture has the potential to provide substantial economic advantages, such as lower input costs, increased profitability through improved soil health and climate resilience, and the creation of new market opportunities. However, the economic shift towards regenerative agriculture presents several challenges, including significant initial investment requirements, yield uncertainties during transition phases, and the necessity for robust policy support. To fully realize the economic benefits of regenerative agriculture, targeted policy interventions, market incentives, and educational initiatives will be crucial in assisting farmers throughout the transition process.

It is important to emphasize that although the initial costs of transitioning to regenerative agriculture may be high, the long-term benefits, such as increased resilience to climate change, reduced water and energy costs, and more stable yields, can significantly outweigh the initial expenditures. Given that regenerative agriculture has the potential to remove carbon dioxide from the atmosphere and sequester it in the soil, which is urgently needed, is considered one of the leading agricultural systems in the fight against climate change and the preservation of soil health. In this context, economic sustainability may be more long-term, even in cases where short-term yields are not optimal. In addition to the direct economic benefits for farmers, regenerative agriculture can offer broader economic advantages for society, such as reduced costs for land remediation, the preservation of biodiversity and ecosystems, and a reduction in pressure on the healthcare sector through a decreased use of chemicals and pesticides.

Policy measures and incentives play a crucial role in guiding the agricultural sector toward the adoption of regenerative practices. In order to facilitate the transition to regenerative agriculture, it is essential to provide financial support, a favourable regulatory framework, and a conducive environment that reduces barriers to the transition process. Additionally, knowledge exchange and capacity building are key elements for the successful implementation of regenerative practices. This includes sharing best practices, providing training on sustainable agricultural techniques, and fostering collaboration among farmers, researchers, and policymakers. By enhancing farmers' access to relevant information and practical tools, the effectiveness and sustainability of regenerative agriculture can be significantly improved. Furthermore, continuous research and innovation in agricultural practices are necessary to further refine techniques, mitigate risks, and ensure that regenerative agriculture remains economically viable and environmentally beneficial in the long term.

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PAMETAN URBANI RAZVOJ KAO OKVIR REGENERATIVNE EKONOMIJE

Apstrakt: *Rast svetske populacije i povećanje potrošnje hrane i energije dovode poljoprivrednu proizvodnju u nepovoljan položaj. Problem proizlazi iz potrebe za brzim rastom proizvodnje hrane, koji se ostvaruje kroz specijalizovane operacije konvencionalnog načina poljoprivredne proizvodnje. Međutim, konvencionalna poljoprivredna proizvodnja ima negativan uticaj na prirodne resurse i predstavlja veliki izazov za buduću održivost proizvodnje hrane. Kako poljoprivredna proizvodnja ne bi ostala na tradicionalnoj raskrsnici, poslednjih godina se zagovara prelazak na alternativni pristup. Regenerativna poljoprivreda je pristup zasnovan na održivom* *korišćenju prirodnih resursa bez štetnih efekata po životnu sredinu, uz znatno manje oslanjanje na proizvodne inpute (hemikalije i mehanizaciju). Predmet rada je analiza ekonomskih efekata primene regenerativnih poljoprivrednih praksi u Evropi, sa posebnim fokusom na njihove dugoročne koristi. Istraživanje obuhvata ekonomske pokazatelje kao što su produktivnost, profitabilnost poljoprivrednih praksi, troškovi i koristi uvođenja regenerativnih metoda, kao i uticaj na ruralni razvoj. Cilj istraživanja je da se utvrdi kako regenerativna poljoprivreda može doprineti ekonomskoj održivosti poljoprivrednog sektora u Evropi.*

Ključne reči: *Regenerativna poljoprivreda, održivost, ekonomske koristi, Evropa, životna sredina, klimatska neutralnost.*