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Investigating Public-Private Partnership's Potential for Innovation in the Romanian Agriculture

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Abstract

The Romanian agricultural sector has had a difficult history over the past 100 years. Economic and social issues in the sector have influenced significantly Romanian economic development, and continue to represent a huge challenge in the current changing economic and social context fraught with risks from climate and demographic change, to change triggered by geopolitical and geo-economic realignments inside and outside the European Union. The financial-economic crisis, the austerity, the subsequent pandemic and now the conflictual circumstances imply identifying resilient and smart solutions for all sectors, but especially for ensuring sustainable agricultural growth at the EU and each member-state's level.

In difficult periods, mobilizing stakeholders from the public and private sector to ensure financing through investments and subsidies, should focus on public-private partnerships as a tool and not an objective for developing a resilient and sustainable agricultural sector at the country and the EU-27 level. The present paper shows some of the issues and main objectives that should guide this type of partnership in agriculture aimed at innovation and delivering viable solutions for Romania's rural area. Some good practice examples are analysed, and proposals are made regarding general framework solutions for actually operationalizing the potential of innovation and sustainable, smart growth in agriculture.

By considering the public-private partnership as a systemic innovation policy tool, we aim to identify the best improvements that, from a holistic perspective, could give answers to most pressing challenges regarding financing, avoiding negative demographic change, and strengthening the competitiveness of the Romanian agricultural sector. The main issue to tackle is the institutional economic, and stakeholders' framework, for which the strength and weaknesses are identified, and policy improvements suggested.

The results show that Romania has potential to strengthen an innovative, smart, and green national agricultural sector if the right measures are taken and public-private partnerships in the sector are approached flexibly.

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1. Introduction

The agricultural sector at both national and European Union level was somewhat neglected as compared to the other industry sectors, despite having its own representative Directorate General, and being included specifically in the EU funding opportunities. However, climate change, biodiversity and food safety challenges, to which the pandemic, and the current conflictual situation at the EU borders contributed, shed new light on the importance of the sector, and the impact it might have on the economic, social and even political outlook at the EU-27 and at each member state level.

In this context, the Common Agricultural Policy (CAP) while maintaining its core goals of improved productivity, stable markets, and ensuring reasonable food prices, and at the same time increasing the living standards of farmers has also been increasingly more focused on the value of innovation in the sector, as it will become one of the necessary and required features for the next programming period, 2023-2027.

Innovation thus proves to be relevant not only for industries that become more and more dependent on high-tech technologies, digitalization, and automation, but also for technologizing, and improving productivity, competitiveness, and sustainability of the agricultural sector, with impact on both the economic and social dimensions.

Obviously, this means that the issues that must be dealt with at policy and strategic level become more complex and need holistic approaches, as they are of interest for economic, and non-economic stakeholders in all and each economy at European and world level (Knickel et al., 2009), while innovation means transitioning to more sustainable agriculture, that involves stakeholders from various other sectors (Beers et al. 2013; Hermans et al., 2015 and 2019). The complexity requiring the involvement of stakeholders from other industry sectors, considering the current volatile economic, social and political environment, suggests that public-private partnership might be one of the better solutions for Romania's agricultural sectors, but also at the EU-27 level.

However, as shown by a recent European Court of Accounts special report (2018), public-private partnerships continue to be regarded with scepticism in most EU countries, a fact that has to do with several factors that need to be addressed, from legal-institutional ones, to those related to increased costs during the development of the projects, delays, and risk-sharing. While the pre-pandemic perspective was rather negative, the pandemic period, and the current period of uncertainty, corroborated with increased needs of satisfying demands from ensuring the necessary food-safety at the EU and world level to those of reducing to a 'net-zero' the carbon footprint indicates that public-private partnership might still be a solution, if certain steps are taken and a reinterpretation of it especially from the institutional-legal perspective would be considered. For Romania, where the public-private partnership (PPP) is still at its beginning, and former experiences tend to continue discouraging such undertakings, it would be an opportunity to set the ground for new and innovative types of PPPs, which are instrumental and might even change the ranking of the country in terms of innovation.

The paper is structured as follows: First, we provide the background on the development of agriculture and the rural areas of our country. Next, we discuss the overall PPP framework at national and EU-level, and bring arguments for revising the legal-institutional framework as to extend the meaning and use of PPPs for generating innovation in the Romanian agricultural sector, and identify some recent opportunities in this respect. Finally, we present some examples of how agriculture and innovation might become drivers for the specific aims of the Green Deal if brought together, based on some insights delivered by the Analysis of the Needs within the National Strategic Plan 2021-2027, and the National Program for Rural Development 2014-2020.

2. Background

2.1 Agriculture

Romania's agriculture has a rich history, characterized by many disruptions and distortions influencing the institutional economic, social and cultural development of the country in all economic and social sectors.

For the purposes of our paper, we divided the important historical stages into three large historical periods:

a) The period of the Great Unions and shifting to a modern capitalist economy, respectively, the period of constituting the Romanian modern state, covering the entire time from 1864 to 1921, when the national objectives of Greater Romania were achieved:

The first step in the agricultural development of the country was made by the Agrarian Reform of 1863/1864 based on the French model, which meant parting with the feudal system by secularizing the wealth of monasteries (1863) and land endowments for the peasants (1864). It is the beginning of the peasants' question in Romania (Zamfir et al., 2019), due to the fact that it failed the natural progress present in western economies regarding landownership, redistribution of lands, land endowment for peasants, etc. The Agrarian Reform of 1864 did not solve any of these issues, as it only attenuated some, as land was still in abundance. Nonetheless, it was the beginning of a new stage, triggering increases in the number of the rural population, and in time, land became insufficient, and thus, this reform generated a rather hybrid economic and social structure, becoming one of the reasons for the subsequent crises in the last half of the 19th century (Dobrogeanu-Gherea, 1910) and thus creating a new type of 'serfdom' specific to the country; *neoiobagia*. It is the time when the land begins its fragmentation based on inheritance rules, and researches show that by the end of the 19th century and the beginning of the 20th, 99% of the peasants who were farmers, represented less than half of total farmland as regards ownership, that is, there were 4171 owners totalling 54.7% from total farmland, while 920.939 peasants had properties that represented just 45.3% from total (Zamfir et al., 2019).

b) The interwar and first post-war period 1921-1948: accelerated industrialization fraught with economic, social, and political challenges 1921-1940; the communist system and the first signs of compromising free market, initiative, entrepreneurship in agriculture and industry.

While the poor peasants with incomes under 300 Lei per year represented 95.5% of farmer households, the middle and wealthy farmers had incomes varying between 300 and 10000 Lei and represented 4.3% of the farmer households, the rest being the upper-class (boyars) who had incomes above 10,000 Lei and represented 0.17% from farmer households. The conclusion is visible clearly: it is rather a feudalistic economy, not a capitalist one. The subsequent Agrarian Reform began in 1918 and was concluded in 1922. Its major objective was to cut down the numbers of great landowners, and to attenuate the social frictions generated by the peasants' circumstances. It failed, as one of the most important reasons was the excessive fragmentation of the land (Table 1).

Table 1. Size of properties, and weight of farming exploitations after the reform by 1922

Properties	Romania (1930) Households	Plot
Under 1 ha*	18,6%	1,6%
1–5 ha	56,6%	26,4%
Between 5–10 ha	16,9%	20,0%
10–50 ha	7,2%	19,8%
Over 50 ha	0,8%	32,2%

Source: V. Axenciuc, 1996, pp. 242-243, from C. Zamfir, *Istoria socială a României*, 2019 [*The social history of Romania*, 2019].

***** Farm workers, that is, peasants without land or very few persons from other categories that also had a small garden.

c) The communist period 1945-1990: the development under a new and imposed economic system, the massive collectivization, and disruption of free-market institutions, compromising relevant economic institutions that are increasingly relevant nowadays.

The situation did not improve after the Second World War, when the capitalist road to modernizing the country was disrupted. It is the period which is at the basis of some significant institutional economic issues that impact the agricultural sector up to present: it compromises important institutional factors such as ownership rights, how cooperatives are managed and profits are distributed, and even the notion of cooperative itself, which returns and may gain significance in the future regarding models of governance for the current period of 'disruptive' transitions (Menard, 2006). By the end of the collectivization process (1962), there were 6546 cooperatives and 3.194 thousand families in cooperatives. The process had, nevertheless, some beneficial results as it contributed to the sped-up modernization and incorporation of modern technologies (Table 2).

Table 2. Changes in technology, human resources and investments

Years	Tractors (thou.)	Combines (thou.)	Experts		Irrigated land (thou. ha)	Investments/year thou. USD
			Tertiary education (thou.)	Upper secondary education (thou.)		
1950	14	0,0	3,3	3,1	43	45
1960	44	3,3	5,3	5,9	138	355
1970	107	23,7	16,4	12,8	665	858
1980	147	56,8	26,4	20,9	2048	1828

Source: V. Axenciuc, 2000, p. 155.

Over the entire communist period, despite investments from 1950 to 1989, the agricultural sector remained behind investments in industry at national level, and it failed to close the gap as compared with the agricultural sector from western countries. Investments in agriculture varied between 10.6% in 1950 to only 17.0% in 1989, much below the shares for industry for the same period 43.6% (1950) and 43.7% in 1989, a fact signalling the downward slope of the last year of communism, as industrial investments decreased constantly as of 1980, when they peaked by 50.9% (Murgescu, 2010, p. 338).

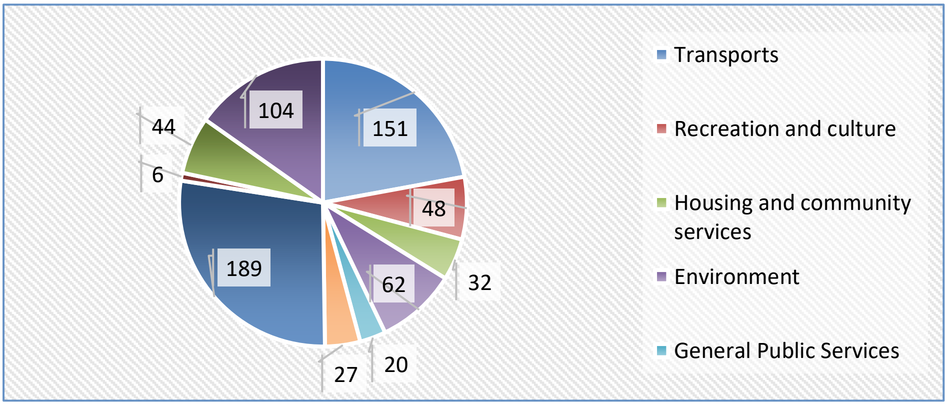
2.2 Public-Private Partnerships: Theory and Main Findings

Public-private partnerships are defined largely as a long-term contract between a private and a government entity for providing/supplying goods/assets, and public services, and in which the private partner assumes considerable risks, and the management responsibility, the remuneration being correlated with the performance (OECD, 2017). This general definition identifies and aims to cover the various legislative-institutional frameworks governing public-private partnerships. From legal perspective, this type of partnership occurs either in the framework of civil law, for most of the European countries, or according to common law, hence also a multitude of other definitions that might be encountered, and which show, finally, that public-private partnership should not be necessarily linked to concession, and that it might be reinterpreted so as to provide for (contractual or other arrangements) opportunities that would gain on multiple dimensions: interorganizational relationships, cooperation, shared investment objectives, risk-sharing, etc. This means creating a more flexible and agile legislative-institutional framework for public-private partnerships, which again, could turn into a useful tool, and not objective in generating the outcomes aimed by the EU Green Deal Agenda, and especially in providing a more competitive and agile framework for improving overall sustainability and resilience in times of multiple risks, from climate, to demographic, social, and even political ones.

The need for reviewing the overall framework of the public-private partnership is substantiated by legislative initiatives in several EU-27 countries as, among others, in Germany (2017), France (2015 and 2016), Italy (2016). A particular case of interest is the Netherlands, a country which has used public-private partnerships extensively, including in agriculture by creating a favorable eco-system for agricultural innovation based on such partnerships (Hermans et al., 2019, Job et al., 2022).

On sectors, we noticed that most projects were in education (189), followed by transports (151) and healthcare (Figure 1), indicating the essential role played by education for the current stage in the development of the knowledge economy and society.

Figure 1. Total number of EU public-private partnership projects on sectors, 2010-2020



Source: Author's processing after European Investment Bank (2022), EPEC database, https//data.eib.org./epec.

However, if we consider the allocated amounts, we notice that the highest values were for transports' 90.192 billion euro, followed by healthcare 19.091 billion euro, and education with 14.888 billion euro (EIB, 2022). This is relevant and it might also be one of the reasons for the increased scepticism, as many of the projects in transports and healthcare recorded higher costs and delays, against the original provisions of the respective contracts.

The period 2016-2020 could be regarded as one of the most challenging, as public-private partnerships are subjected to reviews of the legal-institutional framework, of the various types, forms, and dimensions they could gain, so that we might consider that the 'market' for public-private partnerships is still in development, and might have a long way to reach its maturity.

The pandemic of 2020 has emphasised the significance of public-private partnerships, as the evolution in the first half clearly indicates the trend of greenfield, and brownfield initiatives in the fight against the Covid-19 pandemic.

Currently, the main debates are focused on the main reasons for dysfunctions of the public-private partnership framework, and among the most interesting ones, are the institutional economic indicators that might contribute to an overall improved ecosystem for it respectively the institutional economic indicators regarding the financial autonomy of sub-national authorities, trust in official economic information, transparency of economic policies, level of corruption, efficiency of fiscal administration, and transparency in the field of public acquisitions. To these, other indicators might be added, for instance, the capacity of building clusters, the cooperation between universities and the private sector, human resources in science and technology, investments in research-development and innovation, as all these might create a more complete image about the interventions required for improving, expanding, rendering more flexible and agile public-private partnerships, in brief, for changing them into an actual tool in ensuring a climate favourable to change, to innovation, competitiveness, and sustainability for all economic sectors, including agriculture.

3. Public-Private Partnership's Potential for Innovation in Agriculture in Romania

Economic institutions take shape based on the interaction of endogenous and exogenous processes, and depend on hundreds and even thousands of years to be assimilated/embedded in society and culture, others, respectively, the 'rules of the game' (North, 1990) have a time horizon from 10 to 100 years, and on them depends the institutional environment of the countries expressed in constitutions, laws, bills, property rights, judicial system, etc., while shorter time horizons of 1 to 10 years refer to governance, and the formal and informal networks work in managing transaction costs. All these depend on how resources are allocated and the process of allocating resources, either tangible or intangible, is ongoing with no definite time horizons (Williamson, 1985; Voigt, 2013).

In Romania, a country which did not finish building and consolidating strong economic and social institutions in the shift from an agrarian land to a modern industrialised one, and where the disruption generated by the communist ruling even distorted some of the economic institutions relevant for public-private partnerships, making use of them as tools is almost inexistent over the entire period as of 1990 up to 2021. This is particularly relevant, if we consider that from a historical perspective, the first economic and social institutions were created in agriculture, with the emergence of the first generations of permanent settlements and tended crops. Therefore, if we aim to transform public-private partnership into a tool for innovation in agriculture, we should consider as relevant how this could be applied considering the current situation in the Romanian agricultural sector.

A caveat is here necessary: we do not insist on the huge legislative body, but mention that reviewing the public-private partnership legislation is necessary, in particular for making it flexible, and encompassing more types of public-private partnerships. Moreover, it would be necessary to remove all overlaps with the Law of Concessions, and other provisions that do not clearly help in understanding the difference between public-private partnership and the legislation regarding public acquisitions.

Innovation is currently essential for ensuring economic growth, competitiveness, sustainability and resilience, and public-private partnership in agriculture might contribute to achieving some of the main objectives of this sector, from among which we mention promoting a smart, resilient, and diversified agricultural sector by providing assured and stable incomes to farmers, increasing the value added of the agricultural output, increasing the digitalisation level in the agro-food sector and in the rural area. Another main objective would be strengthening the socio-economic structure of rural areas by increasing quality of life, the numbers of youth involved in the agro-food sector and non-agricultural sector in the rural area, increasing the degree of using new technologies in the agro-food sector, and contributing to improving the demographic structure in the rural areas, including here the development of human resources that are attracted to work in the rural area based on new work typologies in accordance with the needs of an agricultural sector in full process of adjusting to the technologized and digitalized economy (Lumea Satului [Village's World], 2020).

From the perspective of institutional economic indicators, Romania has compared with other EU-countries, on a scale from 0 to 4, where 0 is worst and 4 is best, most challenges as regards financial autonomy of sub-national authority where it ranks 1.50, compared with Germany (3.0), or Poland (2.50), while Hungary is below Romania (0.50), just like Greece (1.0), Austria (0.50). Portugal is ranked at 2.00, according to data from 2012, while for the same indicator, in 2016 Romania registers a decrease in ranking to 1.00, the same as Spain from 2.50 in 2012, to 2.00 in 2016, while Hungary increases performance and leaps to 2.00 in 2016, France and Germany remain constant by 3.0. As regards trust in official economic information, and transparency of economic policies, Romania is at par with the other countries, respectively Germany, France, Poland, Portugal, Greece, etc. as all of them have slight variations between 3.0 and 4.0 on the scale. Also, regarding public acquisitions transparency, the situation is comparable. Nonetheless, a concerning factor is the level of corruption, where Romania has a considerable drop, signalling an increased perception about high corruption, as the value drops from 3.25 in 2012 which means mild corruption to 0.25 indicating concerning corruption (data from Institutional Profile Database, CEPII).

Other such indicators worth considering for public-private partnership as an innovation tool in the agricultural sectors are the capacity of public-private cooperation, where Romania has a very low capacity in both years with available data (2012 and 2016), registering even a drop from 2.33 to 1.67, whereas other countries improved their capacity in this respect.

The pandemic period showed the capacity for taking initiative, and the year 2020, was taken a decisive step as the collaboration basis was laid between the League of Agricultural Producers Association from Romania and the Academy of Agricultural and Forestry Sciences "Gheorghe Ionescu-Sisesti" with the aim of pooling together resources and providing mutual support in the challenges generated by the new Common Agricultural Policy, and the pandemic and post-pandemic context.

Considering the aims and the transition from a mostly traditional and lagging agriculture to the new technologized and digitalized agriculture, according to our view, we consider that the holistic approach for ensuring the change of public-private partnership into an innovation tool in agriculture from a systemic perspective should begin by establishing the rules of the game, contributing to creating a formal and informal operational institutional framework. The first condition is to establish who is relevant and should take the lead, according to the objectives of the partnership. For instance, there are cases where the public authority should take the lead, when the initiatives refer to policy development, legislative issues, ensuring the necessary governmental agencies, and support organisations, while the private, entrepreneurial partner should take the lead in practical projects that aim to combine mixed-goals, for instance increasing agricultural output, while also obtaining profits from other related activities, for instance setting up small-scale energy generating facilities in the rural areas, while the education and research-development system should take lead in realizing technological and digital solutions and innovations for the rural area and for improving farming activities. A possible framework should also be considered with respect to the management, control, and risk-sharing capacities of each of the partners, and also applying the 'test before invest' principle by developing pilot-projects that would also encourage small farmers to pool together their resources in cooperatives, or other association alternatives for increasing the potential of the agricultural sector in Romania.

4. Conclusions

The public-private partnership solution needs a changed perspective from legal-institutional, economic, and social viewpoint not only in Romania, but also at the EU-27 level. Evidence is the few data available about such partnerships and the increased concerns about its use, while best practice examples, in particular for the agricultural sector, like the Netherlands, are barely reproduced or tested.

The required interventions, for changing public-private partnerships into an effective systemic tool of innovation for the Romanian agricultural sector, would be providing an improved framework for cooperation in a clear and transparent framework, improving the perception about corruption, improving trust and confidence in governmental economic/social information, encouraging the development of start-ups and SMEs tailored for the needs of the rural area and of the agro-food sector, etc.

Some effective measures would be reviewing and improving contract laws and frameworks, by rendering them more flexible, and improving on the definition of public-private partnership, in the spirit of the OECD broad definition, and extending its operation – at least at national level – so as to eliminate overlaps with the procurement/acquisitions law, as a first step. A necessary secondary step would be to extend its sphere, from limited strictly to concession, to something more, and setting up the framework for innovative cooperation between interested stakeholders from the agricultural sector and from other complementary (possibly) industrial sectors that use the goods provided by the agricultural sector in their manufacturing processes, for finished or semi-finished food- and other types of goods.

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